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SITE ASSESSMENT REPORT FOR BUILDING 7125 MCCOY ANNEX NTC ORLANDO FL
1/1/1999
HARDING LAWSON ASSOCIATES

SITE ASSESSMENT REPORT

**BUILDING 7125
McCOY ANNEX**

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/137

Prepared by:

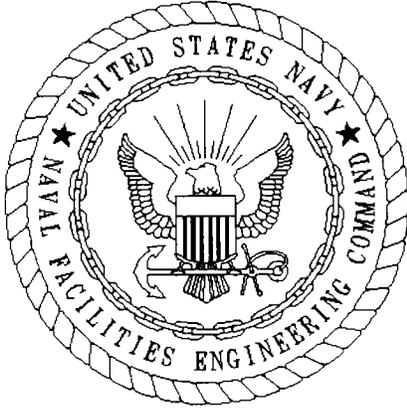
**Harding Lawson Associates
2590 Executive Center Circle, East
Tallahassee, Florida 32301**

Prepared for:

**Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418**

Nick Ugolini, Code 1843, Engineer-in-Charge

January 1999



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

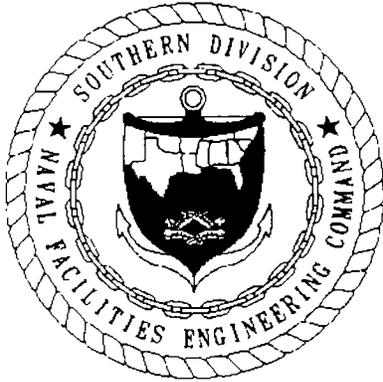
The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/137 are complete and accurate and comply with all requirements of this contract.

DATE: January 11, 1999

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Manuel Alonso, 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 State and local storage tank regulations as they pertain to the locations of each naval facility.

The UST program includes the following activities:

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

The Southern Division, Naval Facilities Engineering Command manages the UST program, and the Florida Department of Environmental Protection oversees the Navy UST program at the Naval Training Center (NTC), Orlando, Florida.

In addition to the UST program, NTC, Orlando, in conjunction with the Department of the Navy, has instituted several programs to address the requirements of Base Realignment and Closure (BRAC). BRAC Cleanup Teams composed of representatives from the Navy, as well as Federal and State regulatory agencies, have been formed to address the multitude of issues surrounding base closure and to enhance environmental decision making at BRAC installations where property will be available for transfer to the community. This team approach is intended to foster partnering, accelerate the environmental cleanup process, and expedite timely, cost-effective, and environmentally responsible disposal and reuse decisions.

At NTC, Orlando, the BRAC process includes the evaluation of the environmental condition of the property to ensure the suitability of transfer, reuse, or lease.

Questions regarding the UST program at the NTC, Orlando should be addressed to Mr. Nick Ugolini, Code 1843, at (843) 820-5596.

EXECUTIVE SUMMARY

Harding Lawson Associates (HLA) has been authorized by Southern Division, Naval Facilities Engineering Command to prepare site assessment reports for petroleum-impacted sites discovered during the Base Realignment and Closure Tank Management Plan implementation at the Naval Training Center, Orlando, McCoy Annex property in Orange County, Florida. This Site Assessment Report (SAR) has been prepared to evaluate soil and groundwater conditions at the Bachelor Enlisted Quarters, Building 7125.

This site assessment has been conducted following the guidelines contained in Section 62-770.600, Florida Administrative Code (FAC). A brief summary of the assessment results is provided below.

1. One 1,500-gallon underground storage tank (UST) and one 500-gallon aboveground storage tank (AST) stored heating fuel at Building 7125. The UST was removed on November 13, 1996, by the Navy Public Works Center (PWC), Pensacola. During the removal of the 1,500-gallon UST, a soil sample collected from the excavation pit reported petroleum-impacted soil. Soil samples from three locations near the former AST also indicated petroleum contamination. Approximately 5 to 10 cubic yards of petroleum-impacted soil were removed from the excavation and transported to a thermal treatment facility. PWC Pensacola submitted a Tank Closure Assessment Report (TCAR) in February 1997. The TCAR recommended the preparation of a SAR.
2. Site assessment activities were conducted by HLA from April 28, 1998, to December 2, 1998. Three piezometers (PZ-1 through PZ-3) were installed on April 28, 1998, to assess groundwater flow direction. On May 5 and 6, 1998, soil borings were completed with a TerraProbeSM in the vicinity of the former tank areas to assess the extent of petroleum-impacted soil. Evidence of petroleum-impacted soil was detected in the soil borings. Soil samples were collected on May 12, 1998 and shipped to Savannah Laboratories and Environmental Services, Inc., to confirm organic vapor analyzer screening results.
3. On July 2, 1998, five shallow monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) were installed to assess the horizontal extent of dissolved petroleum hydrocarbon contamination in the shallow aquifer. The shallow monitoring wells were installed to a depth of 12 feet below land surface.
4. On July 14, 1998, groundwater samples collected from the monitoring wells indicated dissolved petroleum hydrocarbon contamination exceeding Chapter 62-770, FAC, Cleanup Target Levels (CTLs) present in MW-1, MW-4 and MW-5. In addition, free-floating petroleum product was measured in MW-1 on September 3, October 5, and October 26, 1998. Free-floating petroleum product was measured in MW-5 on October 5, 1998. Free-floating petroleum product was measured in PZ-2 on September 3, October 5, and October 26, 1998.

5. On September 22 and 23, 1998, four monitoring wells (MW-6 through MW-9), one deep well (DW-1) and one deep lithologic soil boring (SL-1) were installed on site to determine the vertical and horizontal extent of dissolved petroleum hydrocarbon present in the groundwater. The shallow monitoring wells were installed to a depth of 12 feet below land surface. The deep well was installed to a depth of 30 feet below land surface.
6. On October 6, 1998, groundwater samples were collected from MW-6 through MW-9 and DW-1. Contaminant concentrations of ethylbenzene, total xylenes, total recoverable petroleum hydrocarbons, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene were detected above laboratory detection limits in MW-6 and DW-1; however, at concentrations below Chapter 62-770, FAC CTLs.
7. On September 25, 1998 six additional piezometers (PZ-4 through PZ-9) were installed to further delineate the extent of free-floating product at the site. Measurable amounts of free-floating product were not identified at these six piezometer locations.
8. Groundwater flow direction was determined to be from east to west with a hydraulic gradient of 1.88×10^{-3} feet per foot. The average hydraulic conductivity value is estimated to be 0.80 feet per day (ft/day). The groundwater flow velocity for the site is estimated to be 4.30×10^{-3} ft/day (1.57 feet per year). The transmissivity for the site is estimated to be 250 gallons per day per foot.
9. No active potable water wells are located within a one mile radius of this site.
10. The worst-case scenario of the mass distribution of hydrocarbons at the site has been estimated to be approximately 2,750 kilograms (kg) of hydrocarbons sorbed to the soil, 16.32 kg of hydrocarbons dissolved in the groundwater, and approximately 2,928 gallons of free-floating product.
11. HLA recommends that a remedial action plan be prepared for this site.

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Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AST	aboveground storage tank
bls	below land surface
CAR	contamination assessment report
EDB	ethylene dibromide
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FL-PRO	Florida-Petroleum Residual Organic
ft/day	feet per day
ft/ft	feet per foot
GCTL	groundwater cleanup target level
gpd/ft	gallons per day per foot
gpd/ft ²	gallons per day per foot squared
HLA	Harding Lawson Associates
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
µg/l	micrograms per liter
NTC	Naval Training Center
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbon
ppm	parts per million
PVC	polyvinyl chloride
PWC	Public Works Center
SAR	site assessment report
SCTL	soil cleanup target level
SM	service mark
TCAR	tank closure assessment report
TOC	top of casing
TRPH	total recoverable petroleum hydrocarbons
USEPA	U. S. Environmental Protection Agency
UST	underground storage tank
VOA	volatile organic aromatic

1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

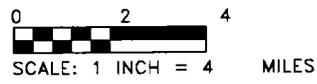
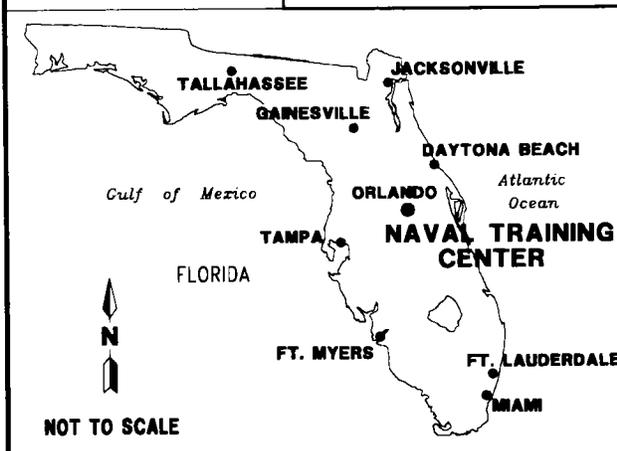
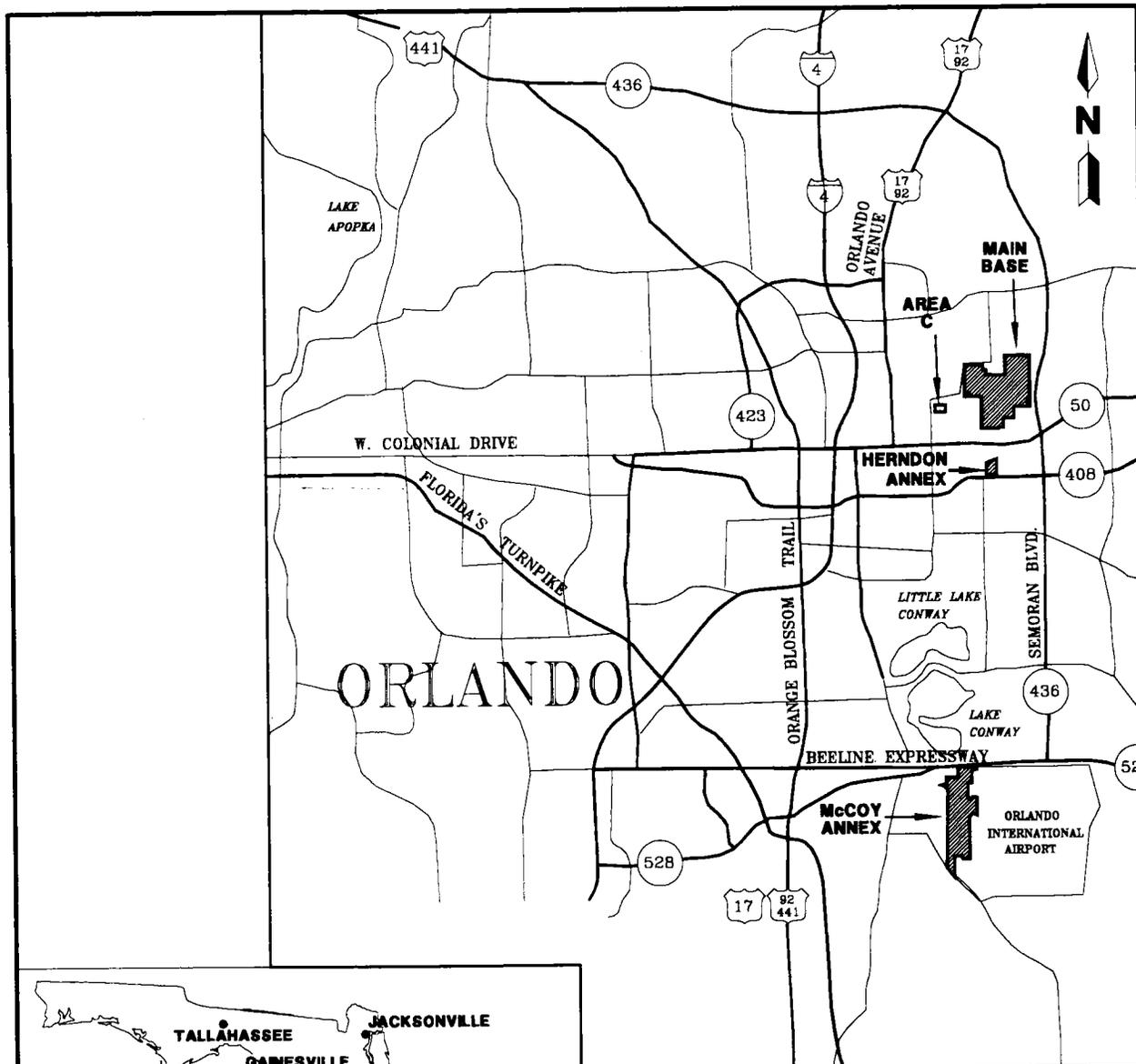
Building 7125 (Housing Office) is located outside the boundary of the Naval Training Center (NTC), McCoy Annex, off of Daetwyler Drive in Orange County, Florida. Figure 1-1 shows the site location and a map of the surrounding area. The site lies within the northwest part of Section 32, Township 23 South and Range 30 East, as shown on the Pine Castle, Florida, U.S. Geological Survey Quadrangle Map. Figure 1-2 is the topographic map of the site and surrounding area.

Building 7125 is a two-story building constructed of concrete block. This 23,248-square-foot building was constructed in 1952, and has been used solely as a housing facility. The property was owned and operated by the U.S. Navy and occupied by the Navy Construction Battalion from 1968 to 1993. Prior to 1968, the Air Force owned and operated the property as a maintenance shop. Based on a review of aerial photographs, the property was undeveloped prior to construction of the building in 1952. Photographs of the site that show existing physical features are included in Appendix A, Site Photographs.

Two petroleum storage tank systems previously operated at Building 7125. Both storage tank systems were located north of the building. The storage tank systems consisted of a 1,500-gallon underground storage tank (UST) and associated piping that stored heating fuel and a 500-gallon aboveground storage tank (AST) that also stored heating fuel. The tank systems were associated with the Building 7125 heating system. The locations of the former petroleum storage tank systems are shown on Figure 1-3, Site Plan.

The 500-gallon AST was removed on October 17, 1996, and the 1,500-gallon UST was removed on November 13, 1996, by the Navy Public Works Center (PWC) Pensacola. Soil samples were collected from each former tank location and screened with an organic vapor analyzer (OVA). Evidence of petroleum impact to the soil was detected at both locations. Groundwater analysis was not conducted during the tank closure activities. A Tank Closure Assessment Report (TCAR) was submitted by PWC Pensacola in February 1997. The TCAR recommended the preparation of a Site Assessment Report (SAR). A copy of the TCAR is included in Appendix B, TCAR.

This SAR summarizes the data gathered during the site assessment activities at Building 7125, which were performed by Harding Lawson Associates (HLA). General information such as regional physiography, geology, hydrogeology, investigative methodologies, and procedures are included in the NTC, Orlando, McCoy Annex, Contamination Assessment Report (CAR) (ABB Environmental Services, Inc. [ABB-ES], 1996).



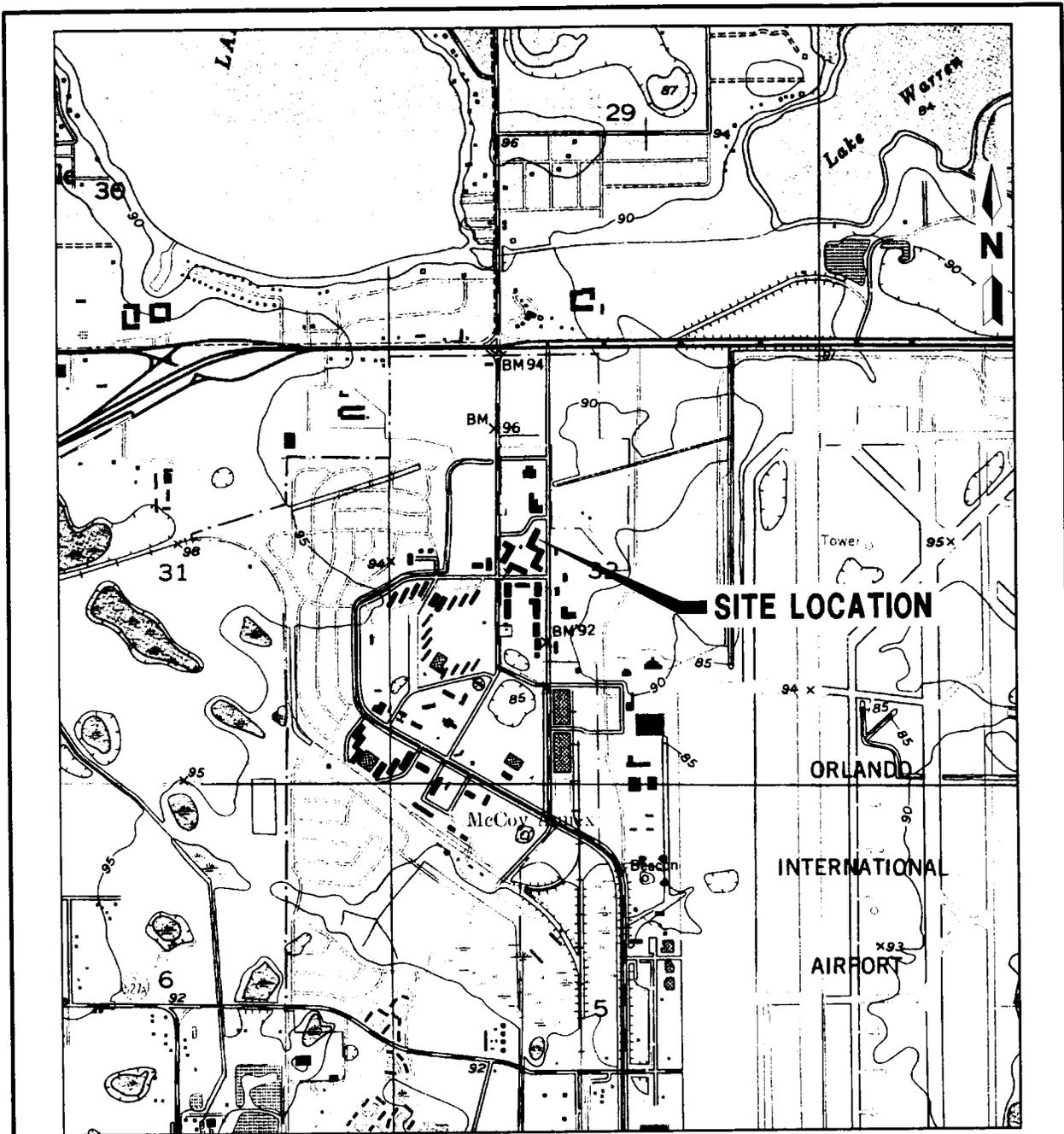
**FIGURE 1-1
SITE LOCATION MAP**



**SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX**

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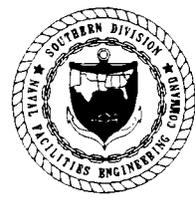
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 National Geodetic Vertical Datum of 1929
 1953. Photo revised 1980

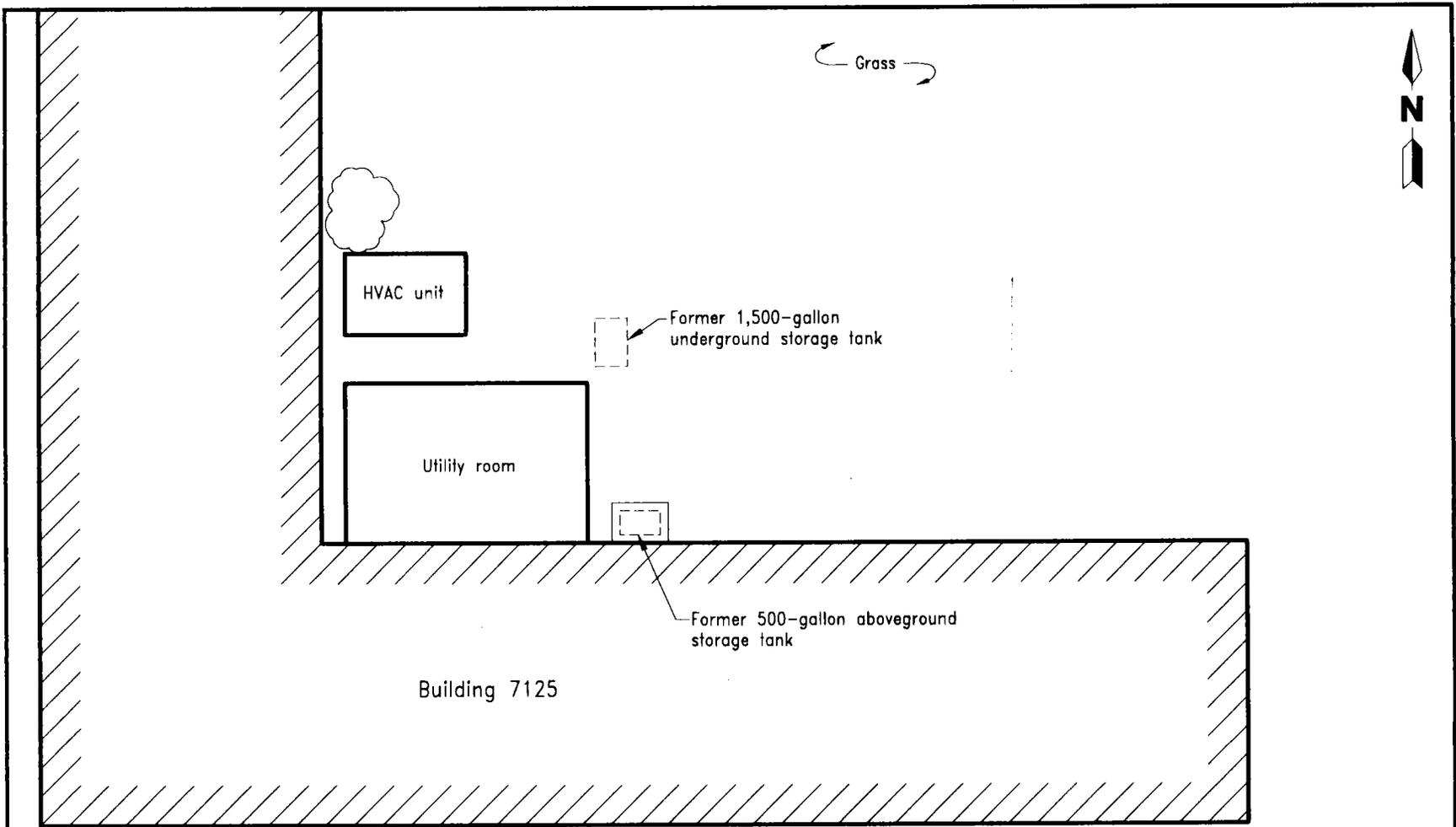
SOURCE: U.S.G.S. Topographic map, Pine Castle quadrangle, Orange County, Florida, 7.5 Minute Series

**FIGURE 1-2
 TOPOGRAPHIC MAP**



**SITE ASSESSMENT REPORT
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 NAVAL TRAINING CENTER
 ORLANDO, FLORIDA**

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LEGEND
HVAC Heating, ventilation and air conditioning

0 10 20
SCALE: 1 INCH = 20 FEET

**FIGURE 1-3
SITE PLAN**



**SITE ASSESSMENT REPORT
BUILDING 7125
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ORLANDO, FLORIDA**

2.0 SITE ASSESSMENT METHODOLOGY

2.1 SOIL BORING PROGRAM. In order to assess if petroleum-impacted soil exists on site and to determine the optimal locations for collection of soil samples for laboratory analysis, twenty-three soil borings (SB-1 through SB-23) were completed at Building 7125. A TerraProbeSM was used on May 5 and 6, 1998, to collect soil samples for screening using an OVA. Figure 2-1 shows the soil boring and sampling locations. The borings were completed into the water table, which was encountered at approximately five feet below land surface (bls), to determine soil lithology in the vicinity of the former tank systems.

Sixty-nine soil samples were collected from the twenty-three soil borings for OVA screening and three soil samples were collected, packed on ice, and shipped to Savannah Laboratories and Environmental Services, Inc., for analysis. The soil samples for OVA field screening were collected at 0 to 2 feet, 2 to 4 feet, and 4 to 6 feet bls. Headspace organic vapor readings were measured for all soil screening samples by placing the soil sample in a 16-ounce glass jar and using a calibrated OVA, Foxboro 128 equipped with a flame ionization detector, following procedures outlined in Section 62-770.200, Florida Administrative Code (FAC). Carbon filters were utilized to differentiate total hydrocarbon response from naturally occurring methane gas. Filtered and unfiltered readings were obtained from two separate jars. All sampling and analysis was performed in accordance with HLA's FDEP-approved Comprehensive Quality Assurance Plan. A soil lithologic boring (SL-1) was completed using a truck mounted drill rig to a depth of 35 feet bls (Figure 2-1).

2.2 SOIL SAMPLING PROGRAM. In order to confirm and characterize petroleum impact to soil, three soil samples (SS-1, SS-2, and SS-3) were collected for laboratory analysis on May 12, 1998. The soil samples were selected to correspond to high, medium, and low OVA results obtained during field screening. The soil samples were packed on ice and shipped to Savannah Laboratories and Environmental Services, Inc., of Savannah, Georgia, for analysis. The soil samples were analyzed using U.S. Environmental Protection Agency (USEPA) Methods 8020, 8310, and total recoverable petroleum hydrocarbons (TRPH) using the Florida-Petroleum Residual Organics (FL-PRO).

2.3 MONITORING WELL INSTALLATION PROGRAM. Three piezometers (PZ-1 through PZ-3) were installed to a depth of approximately 8 feet bls on April 28, 1998, to assess groundwater flow direction at the site.

Five shallow monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) were installed at the site on July 2, 1998, and four shallow monitoring wells and one deep well (MW-6, MW-7, MW-8, MW-9 and DW-1) were installed on September 22 and 23, 1998. Monitoring well locations are shown on Figure 2-2. The shallow wells were installed using hollow-stem auger drilling techniques to a depth of 12 feet bls. A typical shallow monitoring well construction detail is provided on Figure 2-3. Each shallow well was constructed with 10 feet of 2-inch-diameter 0.010-inch slotted well screen coupled to 2 feet of 2-inch Schedule 40 solid polyvinyl chloride (PVC) pipe. This assembly was placed in the borehole so that the screen

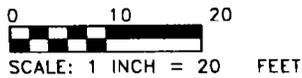
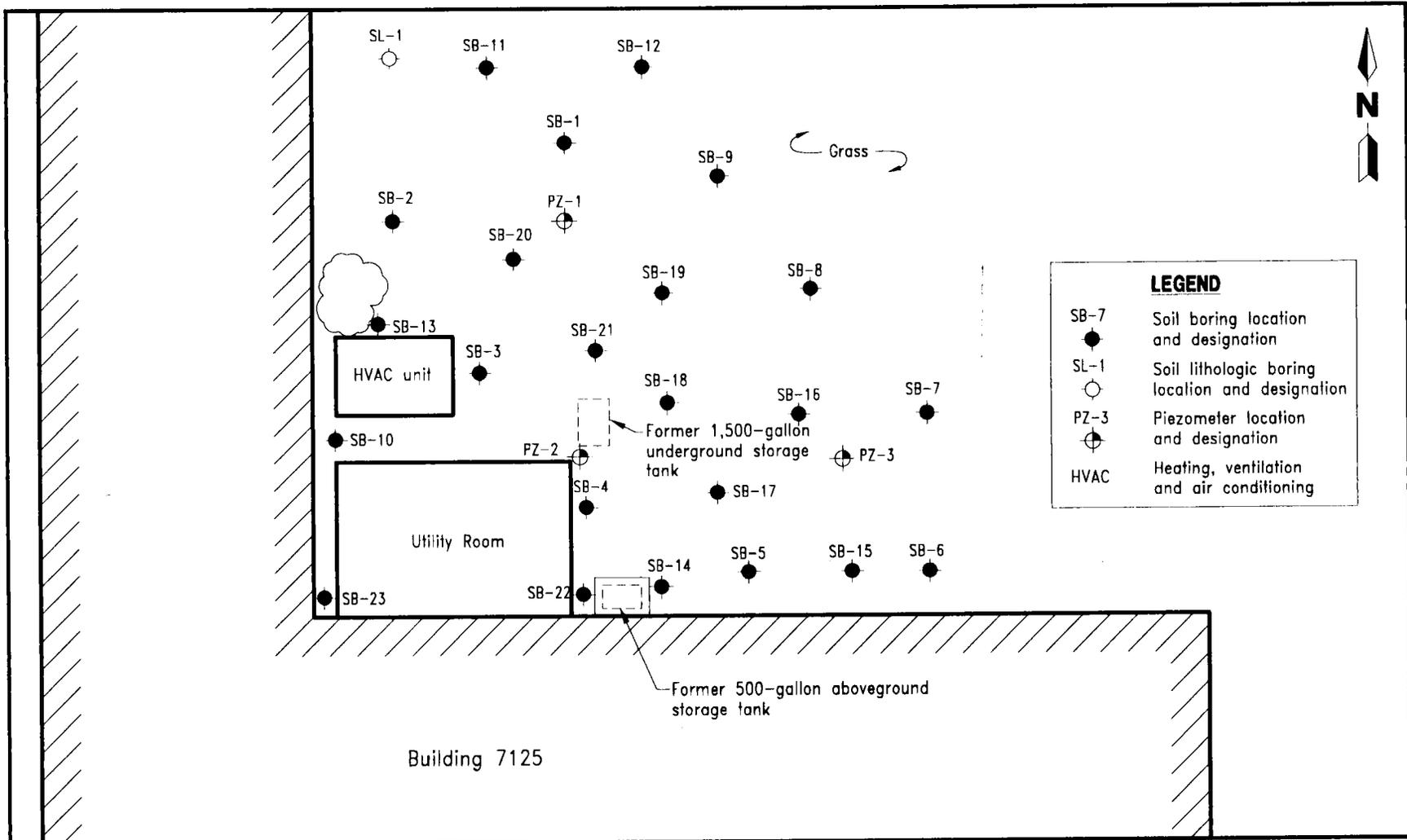
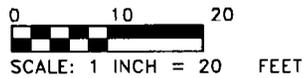
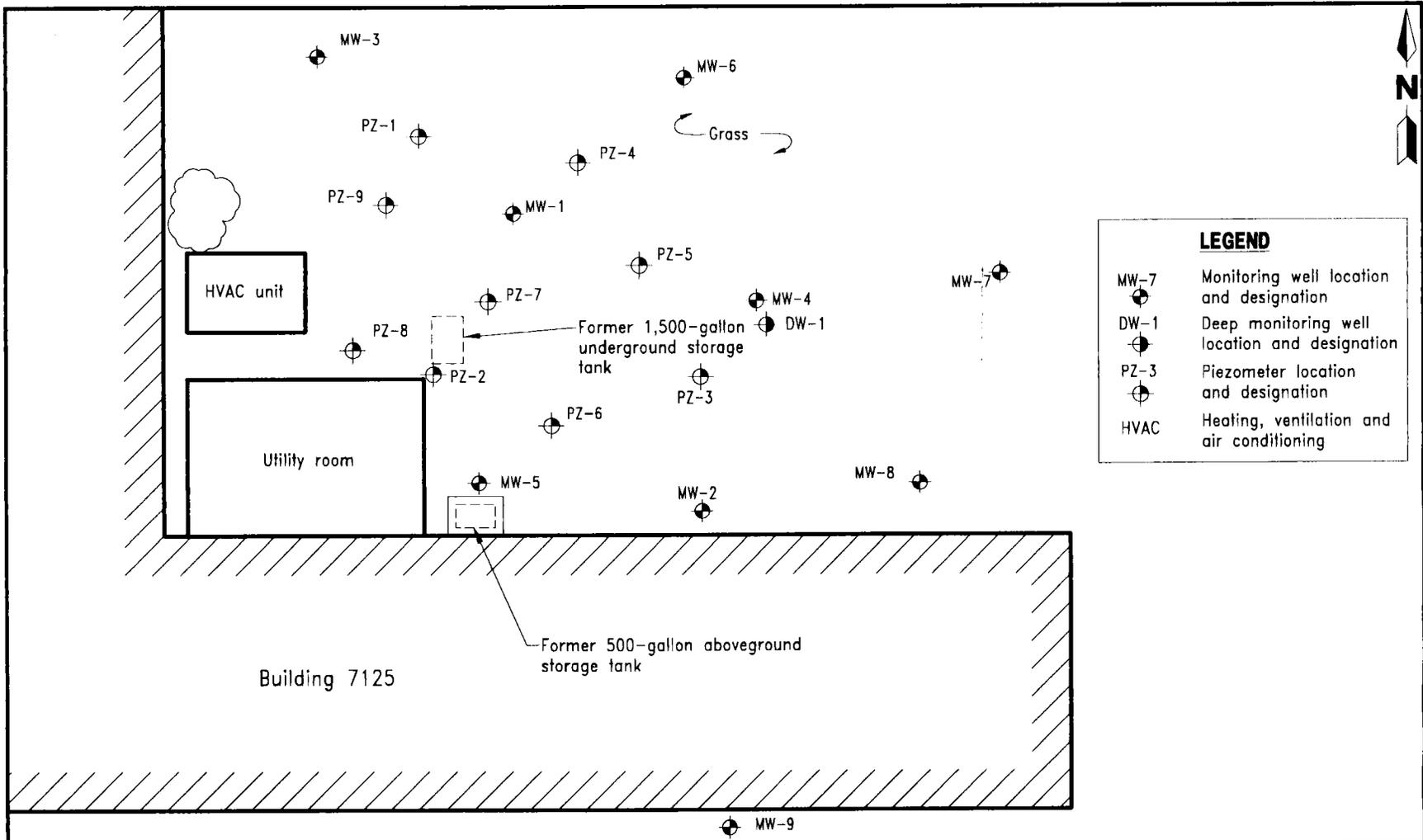


FIGURE 2-1
SOIL BORING LOCATION PLAN
MAY 5 AND 6, 1998



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**FIGURE 2-2
MONITORING WELL LOCATION PLAN**



**SITE ASSESSMENT REPORT
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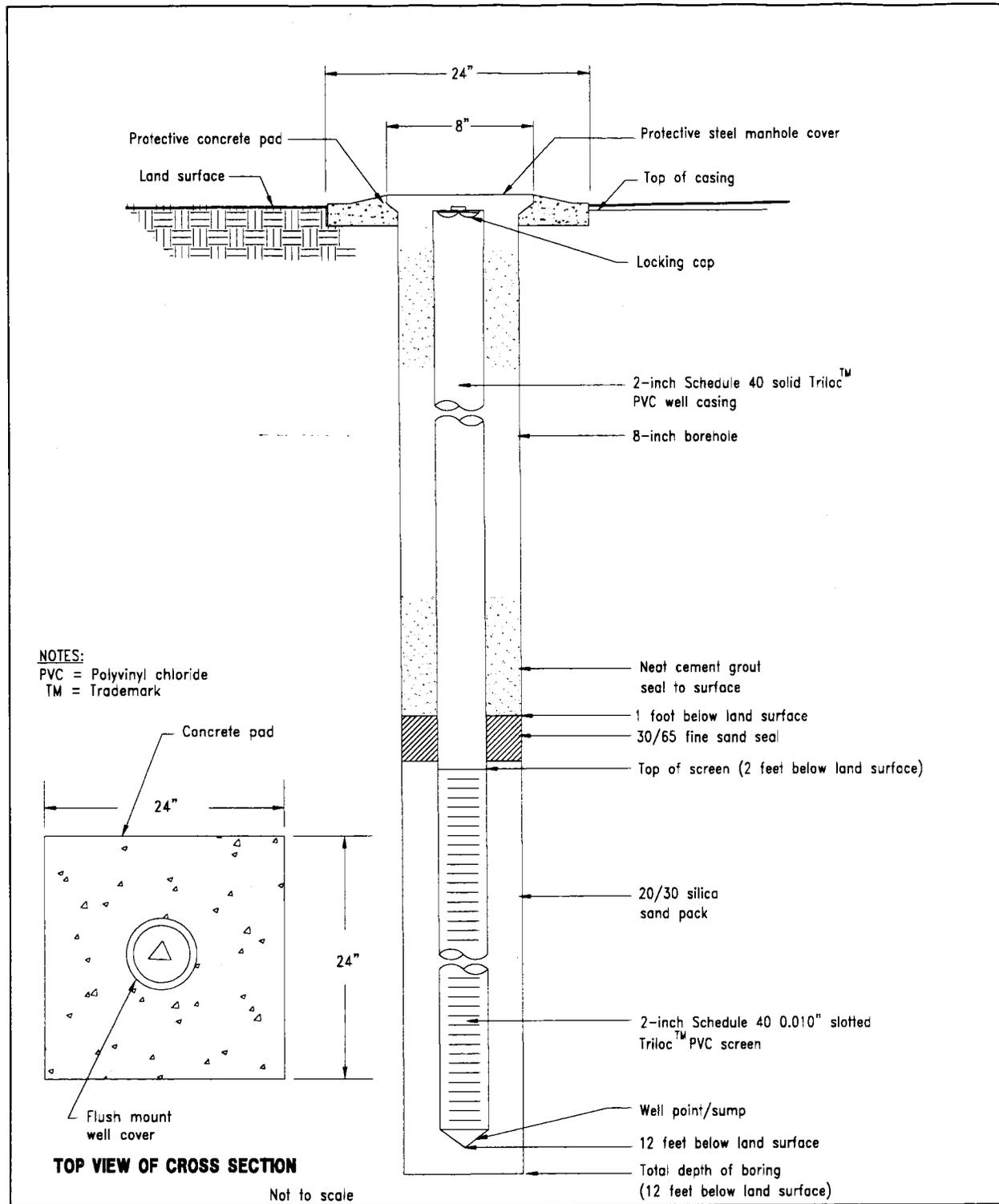


FIGURE 2-3
TYPICAL SHALLOW MONITORING WELL
CONSTRUCTION DETAIL



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interval is located at a depth that encompasses seasonal water table fluctuations. The annular space between the screen and the borehole was filled with 20/30-grade silica sand to 1.0 foot above the screened interval and a 0.5-foot fine sand (30/65-grade) seal was placed on top of the filter pack. The remaining annular space was sealed to grade with neat cement grout mixture.

The deep well was installed using mud-rotary techniques to a depth of 30 feet bls. A typical deep monitoring well construction detail is provided on Figure 2-4. The deep groundwater monitoring well was constructed with 5 feet of 2-inch-diameter 0.010-inch slotted well screen coupled to 25 feet of 2-inch Schedule 40 solid PVC. This assembly was installed through 20 feet of 6-inch-diameter PVC surface casing cemented in place. The annular space between the screen and the borehole was filled with 20/30-grade silica sand to 2 feet above the screened interval, and a 2-foot fine sand (30/65-grade) seal was placed on top of the filter pack. The remaining annular space was sealed to grade with neat cement grout mixture. A summary of the well construction details is presented in Table 2-1, and Appendix C, Well Construction Details, contains the well completion logs provided by the drilling subcontractor.

**Table 2-1
Groundwater Monitoring Well Construction Data Summary**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Well Number	Date Installed	Total Depth (feet bls)	Well Diameter (inches)	Screened Interval (feet bls)	Slot Size (inches)
MW-1	7/2/98	12	2	2 to 12	0.01
MW-2	7/2/98	12	2	2 to 12	0.01
MW-3	7/2/98	12	2	2 to 12	0.01
MW-4	7/2/98	12	2	2 to 12	0.01
MW-5	7/2/98	12	2	2 to 12	0.01
MW-6	9/22/98	12	2	2 to 12	0.01
MW-7	9/22/98	12	2	2 to 12	0.01
MW-8	9/22/98	12	2	2 to 12	0.01
MW-9	9/22/98	12	2	2 to 12	0.01
DW-1	9/23/98	30	2	25 to 30	0.01

Note: bls = below land surface.

All monitoring wells were completed flush mount with surface grade concrete pads, and locking well caps were installed to conform with standards outlined in Chapter 40C-3, FAC. Each monitoring well was developed by pumping until clear and free of sediment. Thorough field decontamination procedures were strictly enforced to prevent possible cross contamination between field monitoring points. All drilling equipment, including drilling rods, bits, and hollow-stem auger, was thoroughly decontaminated between each well installation.

On September 25, 1998, piezometers (PZ-4, PZ-5, PZ-6, PZ-7, PZ-8, and PZ-9) were hand augered on site to depths of approximately 7.5 feet bls to further delineate the extent of free product.

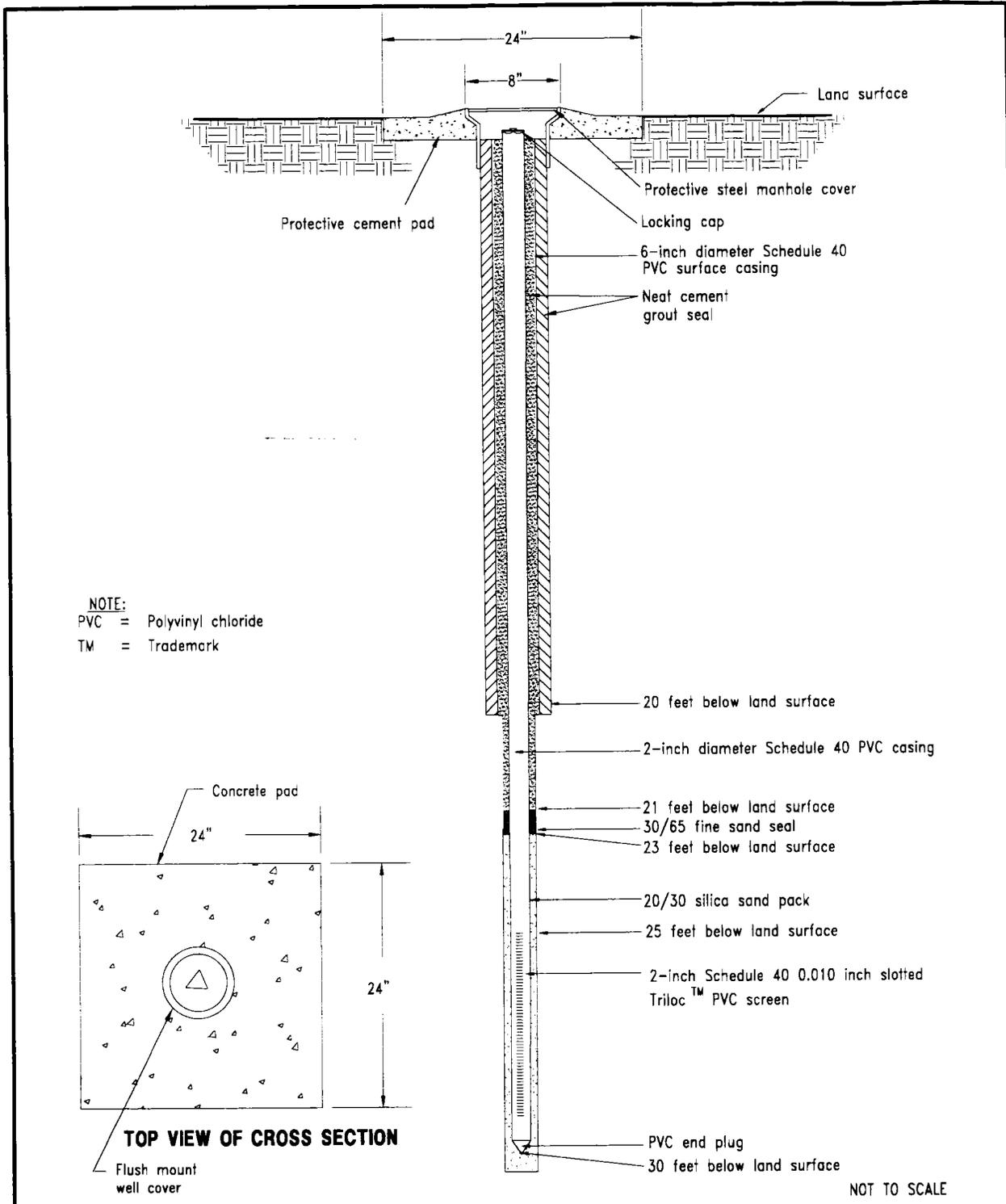


FIGURE 2-4
TYPICAL DEEP MONITORING WELL
CONSTRUCTION DETAIL



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2.4 GROUNDWATER SAMPLING PROGRAM. Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 on July 14, 1998, and from monitoring wells MW-6, MW-7, MW-8, MW-9, and DW-1 on October 6, 1998. The samples were packed on ice and transported to Savannah Laboratories and Environmental Services, Inc., of Savannah, Georgia, for analysis. Groundwater samples collected from all monitoring wells were analyzed for the sampling requirements established in Chapter 62-770, FAC, for sites with petroleum discharges defined under the Kerosene Analytical Group, which includes the following USEPA Methods: 504 (ethylene dibromide [EDB]), 601 (volatile halocarbons), 602 (volatile organic aromatics [VOA]), 239.2 (total lead), 610 (polynuclear aromatic hydrocarbons [PAHs]), and TRPH using the FL-PRO.

2.5 GROUNDWATER ELEVATION SURVEY. The elevation and slope of the water table was calculated using the field-surveyed top-of-well casing data for each monitoring well and correlating the elevation data to a common datum. On May 5, July 14, September 3, October 5, and October 26, 1998, depth to groundwater was measured from the top-of-casing (TOC) to the nearest hundredth of a foot in each of the piezometers and monitoring wells with an electronic water-level indicator. The groundwater depths were subtracted from the TOC elevation to obtain relative water table elevations. The wells were checked for the presence of free product by visual inspection of groundwater samples taken from each well and the use of an oil-water interface probe.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 SITE STRATIGRAPHY. For purposes of this investigation, site stratigraphy and aquifer evaluation were limited to the surficial aquifer beneath the site. The soil profile for the Building 7125 site is based on visual examination of soil samples collected from soil borings and drill cuttings obtained during this investigation. A typical stratigraphic soil profile consists of tan to black fine-grained sand down to a depth of 30 feet bls and tan to green clayey sand to 35 feet bls. The soil profile is based upon the lithologic soil boring (SL-1), piezometers, and monitoring wells. Lithologic logs for the monitoring wells and the hand-augered borings installed during this investigation are included as Appendix D, Lithologic Logs.

3.2 SITE HYDROGEOLOGY AND GROUNDWATER FLOW DIRECTION. Groundwater elevations across the site were calculated by measuring water levels on May 5, July 14, September 3, October 5, and October 26, 1998, in site monitoring wells and by surveying the relative TOC elevations. The hydraulic gradient across the site was calculated by measuring the change in elevation head between monitoring wells MW-3 (upgradient well) and MW-2 (downgradient well) and dividing this head difference by the horizontal distance between these two wells. The scaled horizontal distance is 80 feet, and the change in elevation head between the wells, as measured on October 26, 1998, was 0.15 foot. The calculated hydraulic gradient is equal to 1.88×10^{-3} feet per foot. The site groundwater flow direction, based on the water table surface contour maps, is from east to west. Table 3-1 is a summary of groundwater elevation data for the May 5, July 14, September 3, October 5, and October 26, 1998, sampling events. Figures 3-1, 3-2, and 3-3 are the water table contour maps for September 3, October 5, and October 26, 1998.

3.3 AQUIFER CHARACTERISTICS. Rising-head aquifer slug tests were performed on monitoring wells MW-4, MW-7, and DW-1 using a Hermit 1,000C data logger and a 10 pounds-per-square-inch pressure transducer. The slug tests were performed to estimate a representative hydraulic conductivity for the underlying aquifer. The field data were resolved via AQTESOLV (Geraghty & Miller, 1989), an analytical computer program, using the Bouwer and Rice (1976) method for unconfined aquifers. The results of the slug tests indicated a hydraulic conductivity value of 0.22 feet per day (ft/day) for DW-1, 0.60 ft/day for MW-4, and 1.59 ft/day for MW-7. The average hydraulic conductivity value is estimated to be 0.80 ft/day. Copies of the computer-generated graphical representations are contained in Appendix E, Slug Test Data.

Once the hydraulic conductivity, hydraulic gradient, and effective porosity of an aquifer are known, groundwater flow velocity can be calculated from the relationship:

$$V = K \times i / n \quad (1)$$

**Table 3-1
Groundwater Elevation Summary**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Well Number	Date	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (feet)	Top-of-Casing Elevation (feet)*	Water-Level Elevation (feet)*
MW-1	05/05/98	NA	NA	NA	96.47	NA
	07/14/98	--	5.00	--		91.47
	09/03/98	3.51	3.87	0.36		92.87**
	10/05/98	3.19	4.13	0.94		93.05**
	10/26/98	4.32	5.61	1.29		91.83**
MW-2	05/05/98	NA	NA	NA	96.44	NA
	07/14/98	--	5.11	--		91.33
	09/03/98	--	3.59	--		92.85
	10/05/98	--	3.35	--		93.09
	10/26/98	--	4.55	--		91.89
MW-3	05/05/98	NA	NA	NA	96.95	NA
	07/14/98	--	5.46	--		91.49
	09/03/98	--	4.01	--		92.94
	10/05/98	--	3.72	--		93.23
	10/26/98	--	4.91	--		92.04
MW-4	05/05/98	NA	NA	NA	96.76	NA
	07/14/98	--	5.34	--		91.42
	09/03/98	--	3.95	--		92.81
	10/05/98	--	3.70	--		93.06
	10/26/98	--	4.85	--		91.91
MW-5	05/05/98	NA	NA	NA	96.65	NA
	07/14/98	--	5.26	--		91.39
	09/03/98	--	3.73	--		92.92
	10/05/98	3.47	3.48	0.01		93.18**
	10/26/98	--	4.68	--		91.97
MW-6	10/05/98	--	3.39	--	96.47	93.08
	10/26/98	--	4.58	--		91.89
MW-7	10/05/98	--	3.47	--	96.46	92.99
	10/26/98	--	4.62	--		91.84
MW-8	10/05/98	--	3.63	--	96.64	93.01
	10/26/98	--	4.79	--		91.85
MW-9	10/05/98	--	3.87	--	96.91	93.04
	10/26/98	--	5.08	--		91.83

See notes at end of table.

**Table 3-1 (Continued)
Groundwater Elevation Summary**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Well Number	Date	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (feet)	Top-of-Casing Elevation (feet)*	Water-Level Elevation (feet)*
DW-1	10/05/98	--	3.62	--	96.67	93.05
	10/26/98	--	4.75	--		91.92
PZ-1	05/05/98	--	8.20	--	100.00	91.80
	07/14/98	--	8.51	--		91.49
	09/03/98	--	7.07	--		92.93
	10/05/98	--	6.76	--		93.24
	10/26/98	--	7.96	--		92.04
PZ-2	05/05/98	--	7.15	--	98.91	91.76
	07/14/98	--	7.38	--		91.53
	09/03/98	5.84	6.42	0.58		92.93**
	10/05/98	5.57	6.26	0.69		93.17**
	10/26/98	6.86	7.52	0.66		91.89**
PZ-3	05/05/98	--	7.23	--	98.94	91.71
	07/14/98	--	7.50	--		91.44
	09/03/98	--	6.10	--		92.84
	10/05/98	--	5.84	--		93.10
	10/26/98	--	7.01	--		91.93
PZ-4	10/05/98	--	6.09	--	99.32	93.23
	10/26/98	--	7.35	--		91.97
PZ-5	10/05/98	--	7.49	--	100.82	93.33
	10/26/98	--	8.69	--		92.13
PZ-6	10/05/98	--	6.64	--	99.84	93.20
	10/26/98	--	7.87	--		91.97
PZ-7	10/05/98	--	7.59	--	100.96	93.37
	10/26/98	--	8.01	--		92.95***
PZ-8	10/05/98	--	8.44	--	101.85	93.41
	10/26/98	--	NA	--		NA
PZ-9	10/05/98	--	6.62	--	99.83	93.21
	10/26/98	--	7.82	--		92.01

Notes: * Referenced to arbitrary datum.

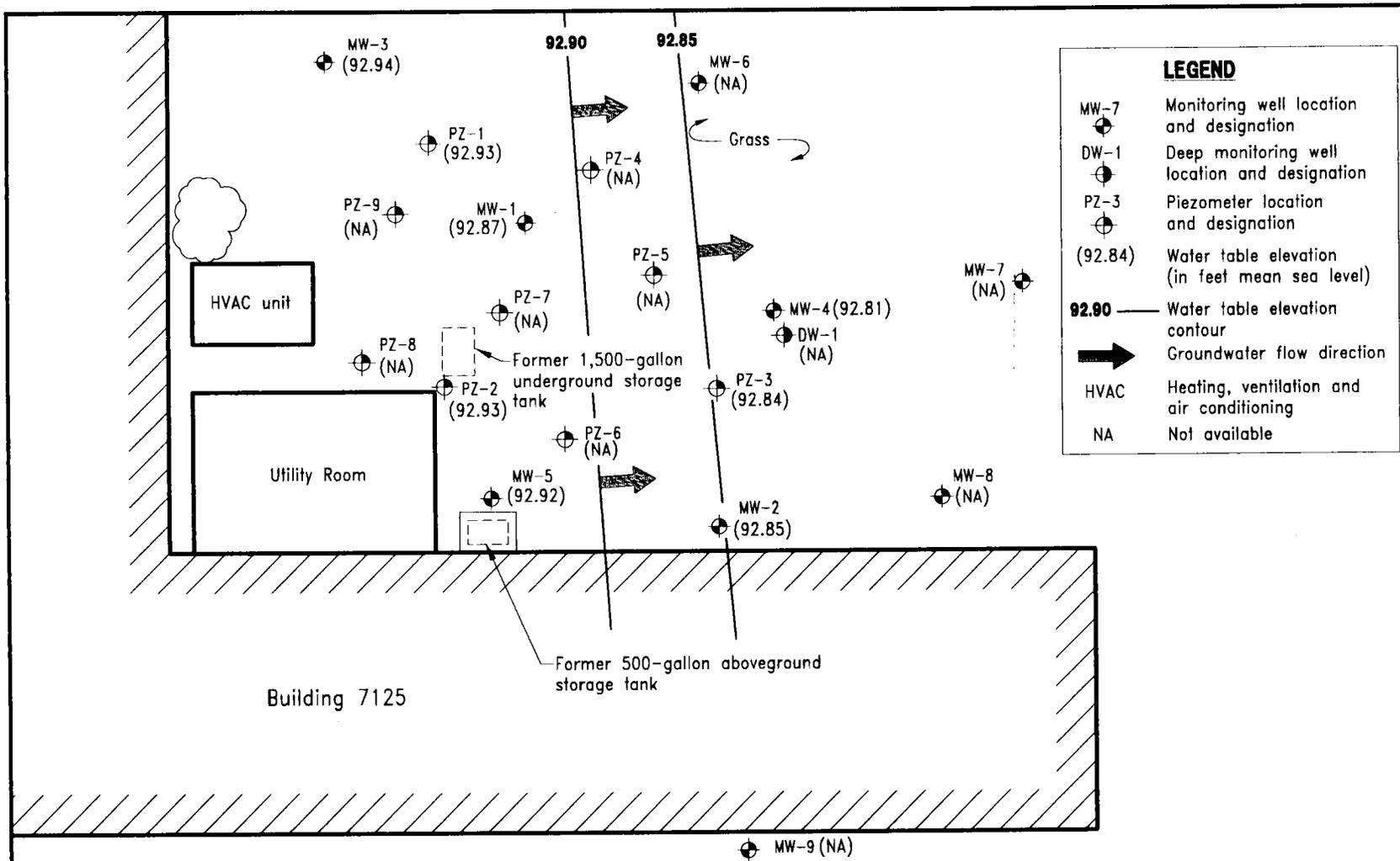
** Corrected for free product (product thickness x 0.75 - depth to water = corrected depth to water).

*** Petroleum sheen noted.

ft btoc = feet below top of casing

NA = not available.

-- = not applicable.



LEGEND	
	MW-7 Monitoring well location and designation
	DW-1 Deep monitoring well location and designation
	PZ-3 Piezometer location and designation
(92.84)	Water table elevation (in feet mean sea level)
92.90	Water table elevation contour
	Groundwater flow direction
HVAC	Heating, ventilation and air conditioning
NA	Not available

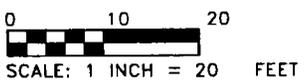
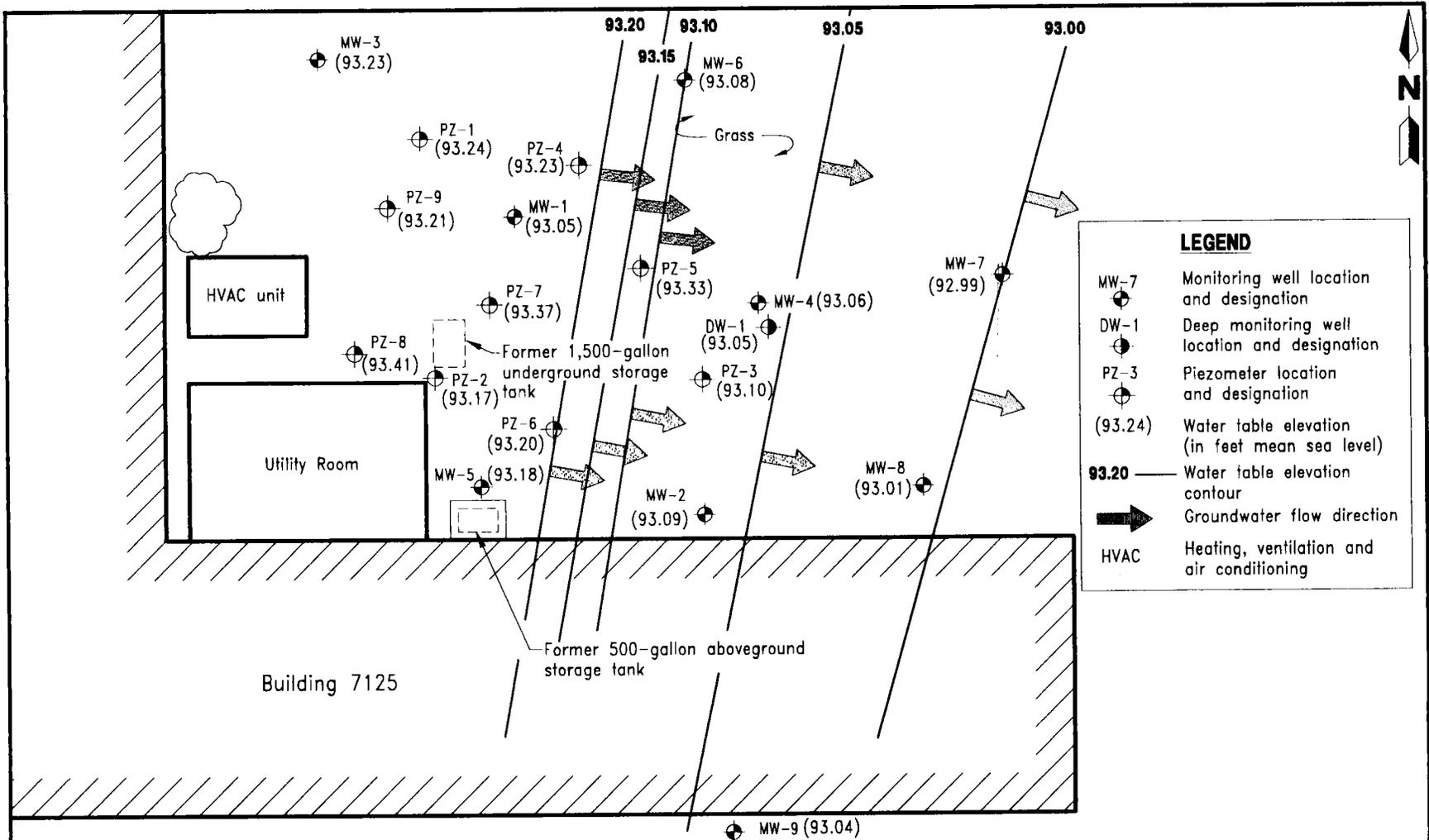


FIGURE 3-1
WATER TABLE ELEVATION
CONTOUR MAP
SEPTEMBER 3, 1998



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA



LEGEND

- MW-7 Monitoring well location and designation
- DW-1 Deep monitoring well location and designation
- PZ-3 Piezometer location and designation
- (93.24) Water table elevation (in feet mean sea level)
- 93.20 — Water table elevation contour
- Groundwater flow direction
- HVAC Heating, ventilation and air conditioning

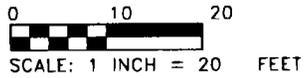
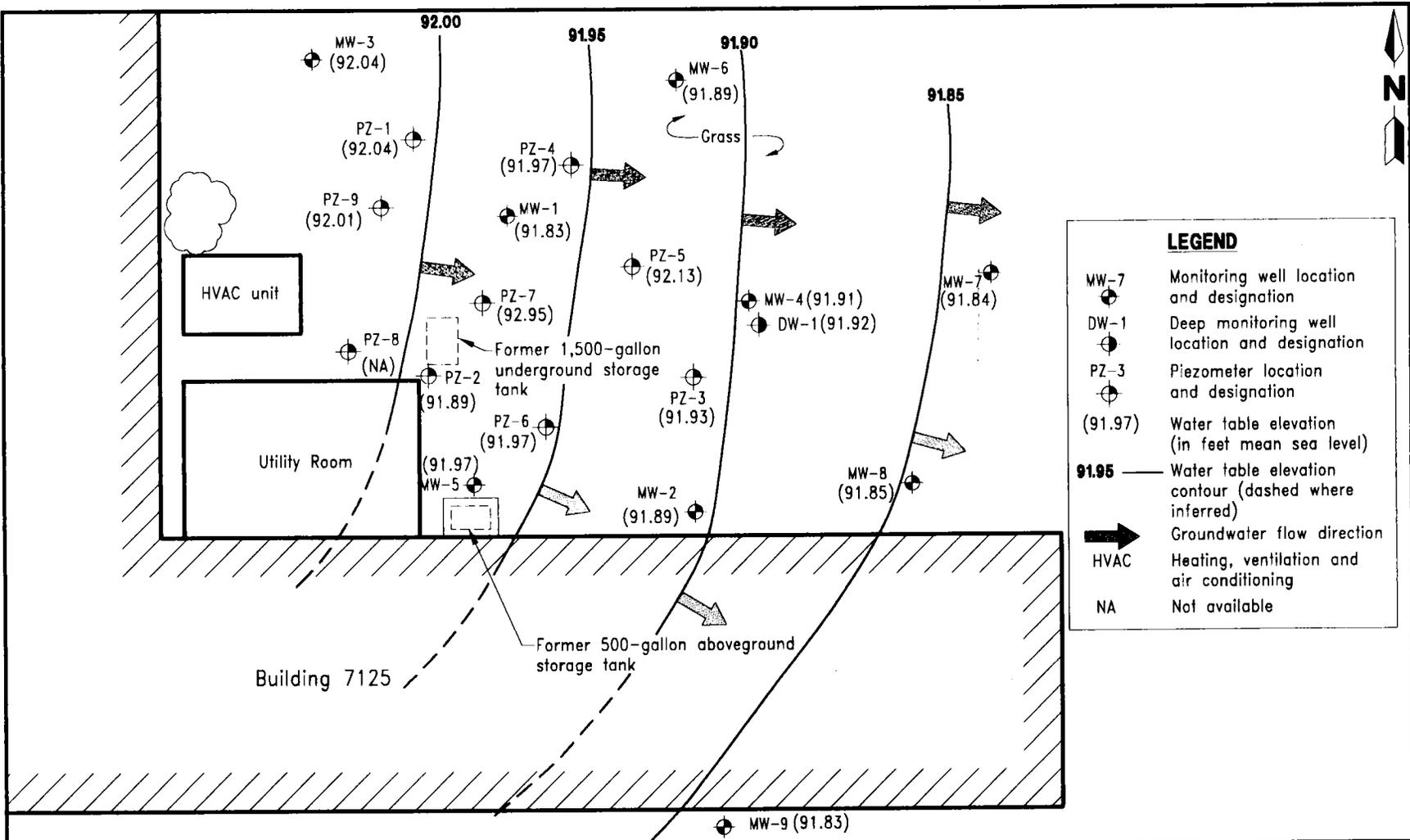


FIGURE 3-2
WATER TABLE ELEVATION
CONTOUR MAP
OCTOBER 5, 1998



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA



LEGEND

- MW-7 Monitoring well location and designation
- DW-1 Deep monitoring well location and designation
- PZ-3 Piezometer location and designation
- (91.97) Water table elevation (in feet mean sea level)
- 91.95 — Water table elevation contour (dashed where inferred)
- Groundwater flow direction
- HVAC Heating, ventilation and air conditioning
- NA Not available

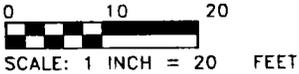


FIGURE 3-3
WATER TABLE ELEVATION
CONTOUR MAP
OCTOBER 26, 1998



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

where:

V = velocity of groundwater flow in ft/day,
K = hydraulic conductivity in ft/day,
i = hydraulic gradient in feet per foot (ft/ft) (unitless), and
n = effective porosity in percent.

Because the predominant lithology underlying the site is fine-grained sand, an effective porosity of 35 percent or 0.35 was estimated for the underlying aquifer (Driscoll, 1986). The mean hydraulic conductivity calculated for the site is 0.80 ft/day, and the hydraulic gradient is 1.88×10^{-3} ft/ft. By substituting these values into the above equation, a groundwater flow velocity of 4.30×10^{-3} ft/day (1.57 feet per year) is estimated for the site.

Transmissivity of the shallow aquifer underlying the site can be estimated from the relationship:

$$T = K \times H \quad (2)$$

where:

T = transmissivity in gallons per day per foot (gpd/ft)
K = Hydraulic conductivity in gallons per day per foot squared (gpd/ft²),
and
H = saturated thickness of the aquifer in feet.

After converting hydraulic conductivity to units of gpd/ft² and using the average saturated thickness of the aquifer (42 feet), a transmissivity value of 250 gpd/ft is estimated for the site. Storativity and specific yield for the aquifer underlying the site can be estimated at 0.2 and 10 to 30 percent, respectively (Driscoll, 1986).

3.4 POTABLE WELL SURVEY. A potable well survey for the surrounding area is included in the McCoy Annex CAR (ABB-ES, 1996). There are two inactive, potable wells within a 1-mile radius of the site, including WW-3 (900 feet south-southwest) and WW-4 (1,000 feet southeast). Three potable wells located within a 1-mile radius of the site were abandoned on August 17, 1997, including WW-2 (350 feet southwest), WW-1 (500 feet northwest), and WW-5 (0.3 mile northeast). In addition, one irrigation well, WW-6, is located 0.4 mile towards the northeast. See Figure 5-1, Potable and Irrigation Well Locations, of the McCoy Annex CAR (ABB-ES, 1996).

3.5 SURFACE WATER. There are no surface water bodies in the vicinity of the site. The nearest standing water is located in the drainage ditch approximately 150 feet east of the site. Surface water flow in the ditch is from north to south.

4.0 SITE ASSESSMENT RESULTS

4.1 SOIL CONTAMINATION. Twenty soil borings (SB-1 through SB-20) were advanced using a TerraProbeSM on May 5 and 6, 1998. Soil borings SB-21 through SB-23 were completed using a stainless-steel hand auger on May 12, 1998. Figure 2-1 shows the soil boring locations. Sixty-nine soil samples were collected at discrete intervals for OVA analysis. A summary of OVA results is presented in Table 4-1.

Petroleum-impacted soil was encountered in soil borings SB-1 (12 parts per million [ppm], 55 ppm, and 48 ppm from the respective 0 to 2 feet bls, 2 to 4 feet bls and the 4 to 6 feet bls sampling intervals), SB-3 (40 ppm from 2 to 4 feet bls and 440 ppm from 4 to 6 feet bls), SB-4 (50 ppm from 2 to 4 feet bls); SB-5 (18 ppm, 65 ppm and 90 ppm from the respective 0 to 2 feet bls; 2 to 4 feet bls and the 4 to 6 feet bls sampling intervals), SB-13 (40 ppm at 2 to 4 feet bls and 65 ppm at 4 to 6 feet bls), SB-14 (66 ppm at 2 to 4 feet bls and 61 ppm at 4 to 6 feet bls), SB-16 (86 ppm, 225 ppm and greater than 660 ppm from the respective 0 to 2 feet bls; 2 to 4 feet bls and 4 to 6 feet bls sample intervals), SB-17 (25 ppm, 230 ppm, and 312 ppm from the respective 0 to 2 feet bls; 2 to 4 feet bls and the 4 to 6 feet bls sampling intervals), SB-18 (40 ppm, 240 ppm, and 330 ppm from the respective 0 to 2 feet bls; 2 to 4 feet bls and 4 to 6 feet bls sampling intervals), SB-19 (132 ppm, 304 ppm, and 470 ppm in the respective 0 to 2 feet bls; 2 to 4 feet bls and the 4 to 6 feet bls sampling intervals), SB-20 (30 ppm, 37 ppm, and 202 ppm in the respective 0 to 2 feet bls; 2 to 4 feet bls and 4 to 6 feet bls sampling intervals), SB-21 (20 ppm at 2 to 4 feet bls), and SB-22 (45 ppm at 2 to 4 feet bls and 225 ppm at 4 to 6 feet bls).

Three composite soil samples were collected for laboratory analysis, including SS-1 (SB-19 from 2 to 4 feet bls), SS-2 (SB-14 from 2 to 4 feet bls), and SS-3 (SB-11 from 2 to 4 feet bls). The soil samples were analyzed by an off-site laboratory using USEPA Methods 8020 and 8310 and TRPH using the FL-PRO. Laboratory analytical results indicate the presence of several compounds at concentrations above the State of Florida Soil Cleanup Target Levels (SCTLs), including TRPH (SS-1, 14,000 milligrams per kilogram [mg/kg] and SS-2, 5,700 mg/kg) and benzo(a)pyrene (SS-1, 0.55 mg/kg). A summary of the soil laboratory analytical results is presented in Table 4-2. The laboratory detection limit for dibenz(a,h)anthracene was above the State of Florida SCTLs for industrial facilities (0.5 mg/kg) in SS-1.

4.2 FREE-PRODUCT OCCURRENCE. On July 2, 1998, monitoring wells MW- 1 through MW-5 were installed on site to determine the extent of petroleum impact near the former UST and AST locations. On September 3, 1998, approximately 0.36 foot of free product was measured in monitoring well MW-1 and 0.58 foot of free product was measured in piezometer PZ-2. On September 22, 1998, shallow groundwater monitoring wells MW-6 through MW-9 were installed to further delineate the extent of free product. On September 23, approximately 0.66 foot of free product was measured in PZ-2. In order to further delineate the extent of free product in the vicinity of MW-1 and PZ-2, six additional piezometers (PZ-4 through PZ-9) were installed on September 25, 1998. PZ-4 was installed approximately 10 feet

**Table 4-1
Summary of Organic Vapor Analyses**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Hand-Auger Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
SB-1	0 to 2	12	<1	12	No petroleum odor, no staining.
	2 to 4	55	<1	55	Slight petroleum odor.
	4 to 6	80	32	48	Strong petroleum odor.
SB-2	0 to 2	1	<1	1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-3	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	40	<1	40	Slight petroleum odor.
	4 to 6	950	510	440	Strong petroleum odor.
SB-4	0 to 2	<1	<1	<1	Strong petroleum odor.
	2 to 4	50	<1	50	Strong petroleum odor.
	4 to 6	>1000	>1000	>1	Strong petroleum odor.
SB-5	0 to 2	18	<1	18	Moderate petroleum odor.
	2 to 4	65	<1	65	Strong petroleum odor.
	4 to 6	100	10	90	Strong petroleum odor.
SB-6	0 to 2	1	<1	1	Slight petroleum odor.
	2 to 4	<1	<1	<1	Slight petroleum odor.
	4 to 6	<1	<1	<1	Slight petroleum odor.
SB-7	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-8	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.

See notes at end of table.

**Table 4-1 (Continued)
Summary of Organic Vapor Analyses**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Hand-Auger Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
SB-9	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-10	0 to 2	2	<1	2	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-11	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-12	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	20	12	8	No petroleum odor, no staining.
SB-13	0 to 2	2	<1	2	No petroleum odor, no staining.
	2 to 4	48	8	40	Slight petroleum odor.
	4 to 6	110	45	65	Slight petroleum odor.
SB-14	0 to 2	8	<1	8	Slight petroleum odor.
	2 to 4	68	2	66	Slight petroleum odor.
	4 to 6	85	24	61	Moderate petroleum odor.
SB-15	0 to 2	<1	<1	<1	No petroleum odor, no staining.
	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.

See notes at end of table.

**Table 4-1 (Continued)
Summary of Organic Vapor Analyses**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Hand-Auger Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
SB-16	0 to 2	96	10	86	Strong petroleum odor.
	2 to 4	270	45	225	Strong petroleum odor.
	4 to 6	> 1000	340	> 660	Strong petroleum odor.
SB-17	0 to 2	25	< 1	25	Moderate petroleum odor.
	2 to 4	260	30	230	Moderate petroleum odor.
	4 to 6	330	18	312	Strong petroleum odor.
SB-18	0 to 2	40	< 1	40	Moderate petroleum odor.
	2 to 4	240	< 1	240	Strong petroleum odor.
	4 to 6	570	240	330	Strong petroleum odor.
SB-19	0 to 2	140	8	132	Moderate petroleum odor.
	2 to 4	310	6	304	Strong petroleum odor.
	4 to 6	730	260	470	Strong petroleum odor.
SB-20	0 to 2	30	< 1	30	Slight petroleum odor.
	2 to 4	37	< 1	37	Slight petroleum odor.
	4 to 6	220	18	202	Strong petroleum odor.
SB-21	0 to 2	< 1	< 1	< 1	No petroleum odor, no staining.
	2 to 4	20	< 1	20	Slight petroleum odor.
	4 to 6	> 1000	> 1000	> 1	Slight petroleum odor.
SB-22	0 to 2	< 1	< 1	< 1	No petroleum odor, no staining.
	2 to 4	45	< 1	45	Moderate petroleum odor.
	4 to 6	300	75	225	Strong petroleum odor.
SB-23	0 to 2	< 1	< 1	< 1	No petroleum odor, no staining.
	2 to 4	< 1	< 1	< 1	No petroleum odor, no staining.
	4 to 6	< 1	< 1	< 1	No petroleum odor, no staining.

Notes: bls = below land surface.
ppm = parts per million.
SB-1 = TerraProbeSM soil boring designation.
< = less than.
< 1 = nondetectable limit for organic vapor analyzer.
> = greater than.

**Table 4-2
Summary of Soil Laboratory Analytical Results**

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Direct Exposure Soil Cleanup Target Levels ¹		Soil Sample/Sample Date		
	Residential	Industrial	SS-1 05/12/98	SS-2 05/12/98	SS-3 05/12/98
Benzene	1.1	1.5	<0.027	<0.027	<0.0054
Toluene	300	2,000	<0.027	<0.027	<0.0054
Ethylbenzene	240	240	0.32	0.029	<0.0054
Total xylenes	290	290	1.1	0.18	<0.0054
MTBE	350	6,100	<0.27	<0.27	<0.054
TRPH	350	2,500	14,000	5,700	<11
Acenaphthene	2,300	22,000	<2.7	<1.1	<0.054
Acenaphthylene	1,100	11,000	<1.1	<0.43	<0.022
Benzo(a)pyrene	0.1	0.5	0.55	<0.087	<0.0043
Benzo(g,h,i)perylene	2,300	45,000	<0.54	<0.22	<0.011
Benzo(b)fluoranthene	1.4	5	0.77	<0.087	<0.0043
Benzo(k)fluoranthene	15	52	<0.86	<0.087	<0.0043
Chrysene	140	490	1.0	<1.0	<0.0043
Benzo(a)anthracene	1.4	5.1	<1.6	<0.69	<0.0043
Fluoranthene	2,800	45,000	<5.5	<1.1	<0.011
Fluorene	2,100	24,000	2.8	<0.22	<0.011
Indeno(1,2,3-cd)pyrene	1.5	5.2	<0.54	<0.22	<0.011
Dibenz(a,h)anthracene	0.1	0.5	< 0.54	<0.22	<0.011
Naphthalene	1,000	8,600	<1.1	<0.43	<0.022
Phenanthrene	1,900	29,000	4.4	<0.43	<0.0043
Anthracene	19,000	290,000	<0.86	<0.087	<0.0043
Pyrene	2,200	40,000	<2.5	<1.1	<0.011

¹ Cleanup target levels for residential and industrial exposure as defined in Table IV of Chapter 62-770, Florida Administrative Code.

Notes: All concentrations in milligrams per kilogram.
Bold indicates contaminant is above the State of Florida Cleanup Target Levels.

< = less than.

MTBE = methyl tert-butyl ether.

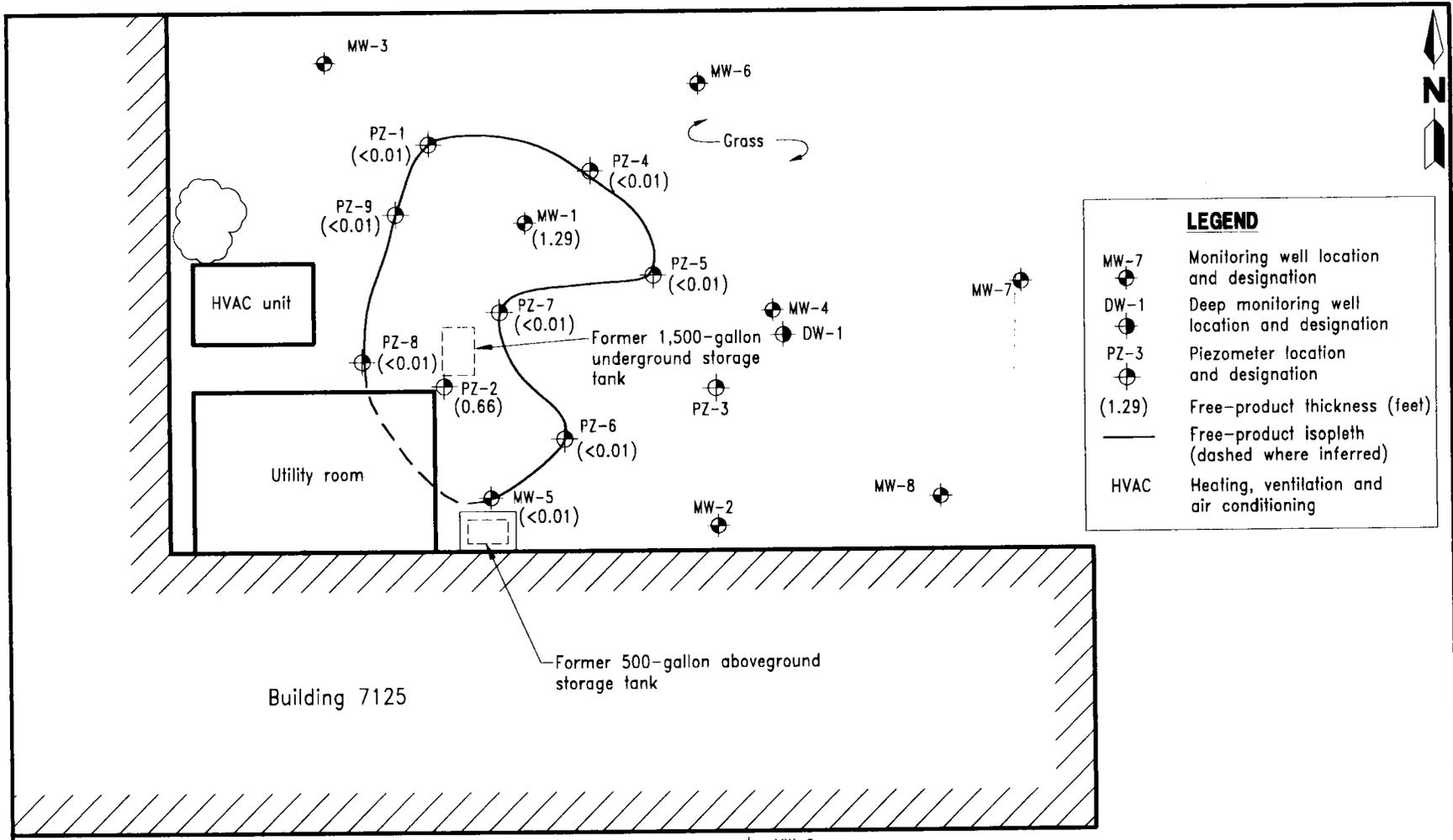
TRPH = total recoverable petroleum hydrocarbons (by Florida-Petroleum Residual Organics analysis).

<0.54 = laboratory detection limits above the State of Florida Cleanup Target Levels.

north-northeast of MW-1, PZ-5 was installed approximately 13 feet south-southeast of MW-1, PZ-6 was installed approximately 12 feet south-southeast of PZ-2, PZ-7 was installed between MW-1 and PZ-2 near the northeast corner of the former UST location, PZ-8 was installed northwest of PZ-2, and PZ-9 was installed approximately 8 feet northeast of the northeast corner of the former HVAC unit located west of MW-1. On October 5, 1998, approximately 0.01 foot of product was measured in MW-5, 0.94 foot of product was measured in MW-1, and approximately 0.69 foot of product was measured in PZ-2. Free-product measurements conducted on October 26, 1998, reported approximately 1.29 feet of product in MW-1 and 0.66 foot of product in PZ-2. Based on the October 26, 1998 data, the area of measurable free product is approximately 1,020 square feet, and the porosity is approximately 0.35 (Driscoll, 1986). Using these values, the estimated total volume of free-floating product is 391 cubic feet (2,928 gallons). Free-product measurements are summarized on Table 3-1, Groundwater Elevation Summary, and October 26, 1998, free-product thicknesses are presented on Figure 4-1, Free-Product Delineation Map.

4.3 GROUNDWATER CONTAMINATION. Five shallow monitoring wells (MW-1 through MW-5) were installed at the site on July 2, 1998, and four shallow monitoring wells and one deep well (MW-6 through MW-9, and DW-1) were installed on September 22 and 23, 1998. These monitoring wells were installed to determine the direction of groundwater flow and the vertical and horizontal extent of dissolved petroleum hydrocarbon contamination. Monitoring well locations are shown on Figure 2-2.

Groundwater samples were collected from monitoring wells MW-1 through MW-5 on July 14, 1998. Groundwater samples were analyzed for Chapter 62-770, FAC Kerosene Analytical Group parameters, which include the following USEPA Methods: 504 (EDB), 601 (volatile halocarbons), 602 (VOA), 239.2 (total lead), 610 (PAHs), and TRPH using the FL-PRO. Laboratory analytical results indicate the presence of several compounds at concentrations exceeding Chapter 62-770, FAC, Groundwater Cleanup Target Levels (GCTLs) including TRPH (21 milligrams per liter [mg/l] and naphthalene (210 micrograms per liter [$\mu\text{g}/\text{l}$] in MW-1. Laboratory analytical results for MW-4 reported concentrations of ethylbenzene (63 $\mu\text{g}/\text{l}$), total xylenes (240 $\mu\text{g}/\text{l}$), TRPH (36 mg/l), and naphthalene (140 $\mu\text{g}/\text{l}$) exceeding the State of Florida GCTLs. Laboratory analytical results for MW-5 reported concentrations of ethylbenzene (40 $\mu\text{g}/\text{l}$), total xylenes (110 $\mu\text{g}/\text{l}$) and TRPH (8.4 mg/l) exceeding the State of Florida GCTLs. On October 6, 1998, groundwater samples were collected from MW-6 through MW-9, and deep well DW-1. Several contaminant concentrations were detected above laboratory detection limits in MW-6 and DW-1; however, at levels below Chapter 62-770, FAC, GCTLs. MW-6 reported concentrations of ethylbenzene (4.1 $\mu\text{g}/\text{l}$), total xylenes (8.7 $\mu\text{g}/\text{l}$), TRPH (1.7 mg/l), naphthalene (5.1 $\mu\text{g}/\text{l}$), 1-methylnaphthalene (6.2 $\mu\text{g}/\text{l}$) and 2-methylnaphthalene (7.9 $\mu\text{g}/\text{l}$). DW-1 reported concentrations of ethylbenzene (6.2 $\mu\text{g}/\text{l}$), total xylenes (4.6 $\mu\text{g}/\text{l}$), TRPH (0.52 mg/l), naphthalene (14 $\mu\text{g}/\text{l}$), 1-methylnaphthalene (7.0 $\mu\text{g}/\text{l}$), and 2-methylnaphthalene (8.8 $\mu\text{g}/\text{l}$). The laboratory detection limits for indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene exceeded the State of Florida GCTLs of 0.2 $\mu\text{g}/\text{l}$ in all of the analyzed groundwater samples. Water sampling log forms are included in Appendix E. Laboratory analytical reports are included in Appendix F, and results are summarized in Table 4-3. Groundwater contaminant maps for naphthalene, TRPH, and ethylbenzene/total xylenes are presented on Figures 4-2, 4-3, and 4-4, respectively.



LEGEND	
MW-7	Monitoring well location and designation
DW-1	Deep monitoring well location and designation
PZ-3	Piezometer location and designation
(1.29)	Free-product thickness (feet)
—	Free-product isopleth (dashed where inferred)
HVAC	Heating, ventilation and air conditioning

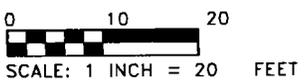


FIGURE 4-1
FREE PRODUCT DELINEATION MAP
OCTOBER 26, 1998



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Table 4-3
Summary of Groundwater Analytical Results

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770, FAC, Target Cleanup Levels (ppb)	Monitoring Well/Sample Date							
		MW-1 7/14/98	MW-1 DL 7/14/98	MW-2 7/14/98	MW-3 7/14/98	MW-4 7/14/98	MW-4 DL 7/14/98	MW-5 7/14/98	MW-5 DL 7/14/98
Benzene	1*	<1	NA	<1	<1	<5	NA	<2	NA
Toluene	40*	<1	NA	<1	<1	32	NA	<2	NA
Ethylbenzene	30*	2.9	NA	1.4	<1	63	NA	40	NA
Total xylenes	20*	2.1	NA	5.6	<2	240	NA	110	NA
MTBE	35	<10	NA	<10	<10	<50	NA	<20	NA
1,2-Dibromoethane (EDB)	0.02*	<0.020	NA	<0.020	<0.020	<0.020	NA	<0.020	NA
Total lead	15*	<5	NA	<5	<5	<5	NA	<5	NA
TRPH (mg/l)	5	21	NA	0.93	<0.3	36	NA	8.4	NA
Acenaphthene	20	15Y	<20	<1	<1	2.8X	<20	5.5Y	<20
Acenaphthylene	210	34E	<20	2	<1	19	<20	12	<20
Benzo(a)pyrene	0.2*	<0.2	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Benzo(g,h,i)perylene	210	<0.5	<10	<0.5	<0.5	<0.5	<10	<0.5	<10
Benzo(b)fluoranthene	0.2	<0.2	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Benzo(k)fluoranthene	0.5	<0.2	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Chrysene	5	<0.2	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Benzo(a)anthracene	0.2	<0.2	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Fluoranthene	280	0.62X	<10	<0.5	<0.5	<0.5	<10	<0.5	<10
Fluorene	280	13EY	<10	0.99X	<0.5	5.2X	<10	5.5Y	<10
Indeno(1,2,3-cd)pyrene	0.2	<0.5	<10	<0.5	<0.5	<0.5	<10	<0.5	<10
Dibenz(a,h)anthracene	0.2	<0.5	<10	<0.5	<0.5	<0.5	<10	<0.5	<10
Naphthalene	20	180E	210	2.0X	<1	130E	140	5.2	<20

See notes at end of table.

Table 4-3 (Continued)
Summary of Groundwater Analytical Results

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770, FAC, Target Cleanup Levels (ppb)	Monitoring Well/Sample Date							
		MW-1 7/14/98	MW-1 DL 7/14/98	MW-2 7/14/98	MW-3 7/14/98	MW-4 7/14/98	MW-4 DL 7/14/98	MW-5 7/14/98	MW-5 DL 7/14/98
Phenanthrene	210	8.6E	12	<0.2	<0.2	0.99X	<4	0.89X	<4
Anthracene	2,100	0.94X	<4	<0.2	<0.2	<0.2	<4	<0.2	<4
Pyrene	210	<0.5	<10	<0.5	<0.5	<0.5	<10	<0.5	<10
1-Methylnaphthalene	NA	190E	190	2.9	<1	100E	110	81E	85X
2-Methylnaphthalene	NA	190E	140	2.5	<1	120E	140	25X	32
1,2-Dichloroethane	3*	<1	NA	<1	<1	<5	NA	<2	NA
Chloroform	NA	<1	NA	<1	<1	<5	NA	<2	NA

See notes at end of table.

Table 4-3 (Continued)
Summary of Groundwater Analytical Results

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770, FAC, Target Cleanup Levels (ppb)	Monitoring Well/Sample Date						
		MW-6 10/6/98	MW-7 10/6/98	MW-8 10/6/98	MW-9 10/6/98	DW-1 10/6/98	RB-1 7/14/98	RB-2 10/6/98
Benzene	1*	<1	<1	<1	<1	<1	<1	<1
Toluene	40*	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	30*	4.1	<1	<1	<1	6.2	<1	<1
Total xylenes	20*	8.7	<2	<2	<2	4.6	<1	<2
MTBE	35	<10	<10	<10	<10	<10	<10	<10
1,2-Dibromoethane (EDB)	0.02*	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total lead	15*	<5	<5	<5	<5	<5	11	11
TRPH (mg/l)	5	1.7	<0.3	<0.3	<0.3	0.52	<0.3	<0.3
Acenaphthene	20	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	210	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	0.2*	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(g,h,i)perylene	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(k)fluoranthene	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chrysene	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)anthracene	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluoranthene	280	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	280	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	20	5.1	<1	<1	<1	14	<1	<1

See notes at end of table.

Table 4-3 (Continued)
Summary of Groundwater Analytical Results

Site Assessment Report
Building 7125, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770, FAC, Target Cleanup Levels (ppb)	Monitoring Well/Sample Date						
		MW-6 10/6/98	MW-7 10/6/98	MW-8 10/6/98	MW-9 10/6/98	DW-1 10/6/98	RB-1 7/14/98	RB-2 10/6/98
Phenanthrene	210	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Anthracene	2,100	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pyrene	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Methylnaphthalene	NA	6.2	<1	<1	<1	7.0	<1	<1
2-Methylnaphthalene	NA	7.9	<1	<1	<1	8.8	<1	<1
1,2-dichloroethane	3*	<1	<1	<1	<1	<1	<1	<1
Chloroform	NA	<1	<1	<1	<1	<1	<1	2.7

Notes: All concentrations in micrograms per liter, unless otherwise noted.
Bold indicates contaminant is above State of Florida Cleanup Target Levels.

FAC = Florida Administrative Code.

ppb = parts per billion.

DL = sample had to be diluted to quantify polynuclear aromatic hydrocarbon compounds.

* = as provided in Chapters 62-520 or 62-550, FAC.

< = less than.

NA = not available.

MTBE = methyl tert-butyl ether.

EDB = ethylene dibromide.

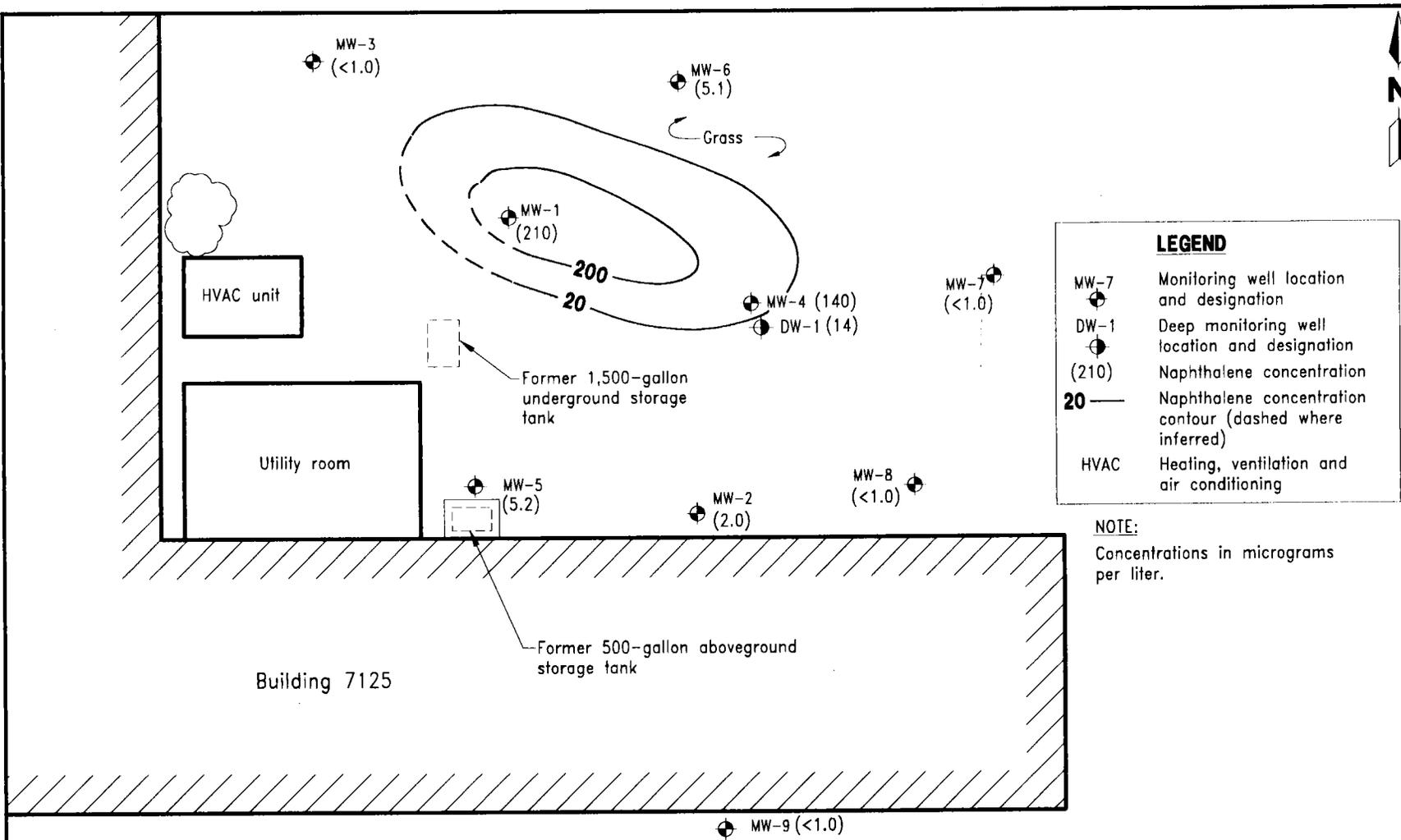
TRPH = total recoverable petroleum hydrocarbons (reported as Florida-Petroleum Residual Organics).

mg/l = milligrams per liter.

X = less than 40 percent RPD relative percent difference, lower value reported.

E = over liner calibration - had to be diluted.

Y = no confirmation due to interference of fluorescent column.



LEGEND

	MW-7	Monitoring well location and designation
	DW-1	Deep monitoring well location and designation
(210)		Naphthalene concentration
20		Naphthalene concentration contour (dashed where inferred)
	HVAC	Heating, ventilation and air conditioning

NOTE:
Concentrations in micrograms per liter.

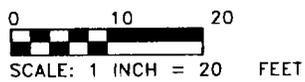


FIGURE 4-2
NAPHTHALENE CONCENTRATION CONTOUR MAP
JULY 14 AND OCTOBER 6, 1998



SITE ASSESSMENT REPORT
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ORLANDO, FLORIDA

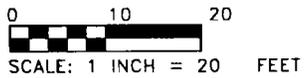
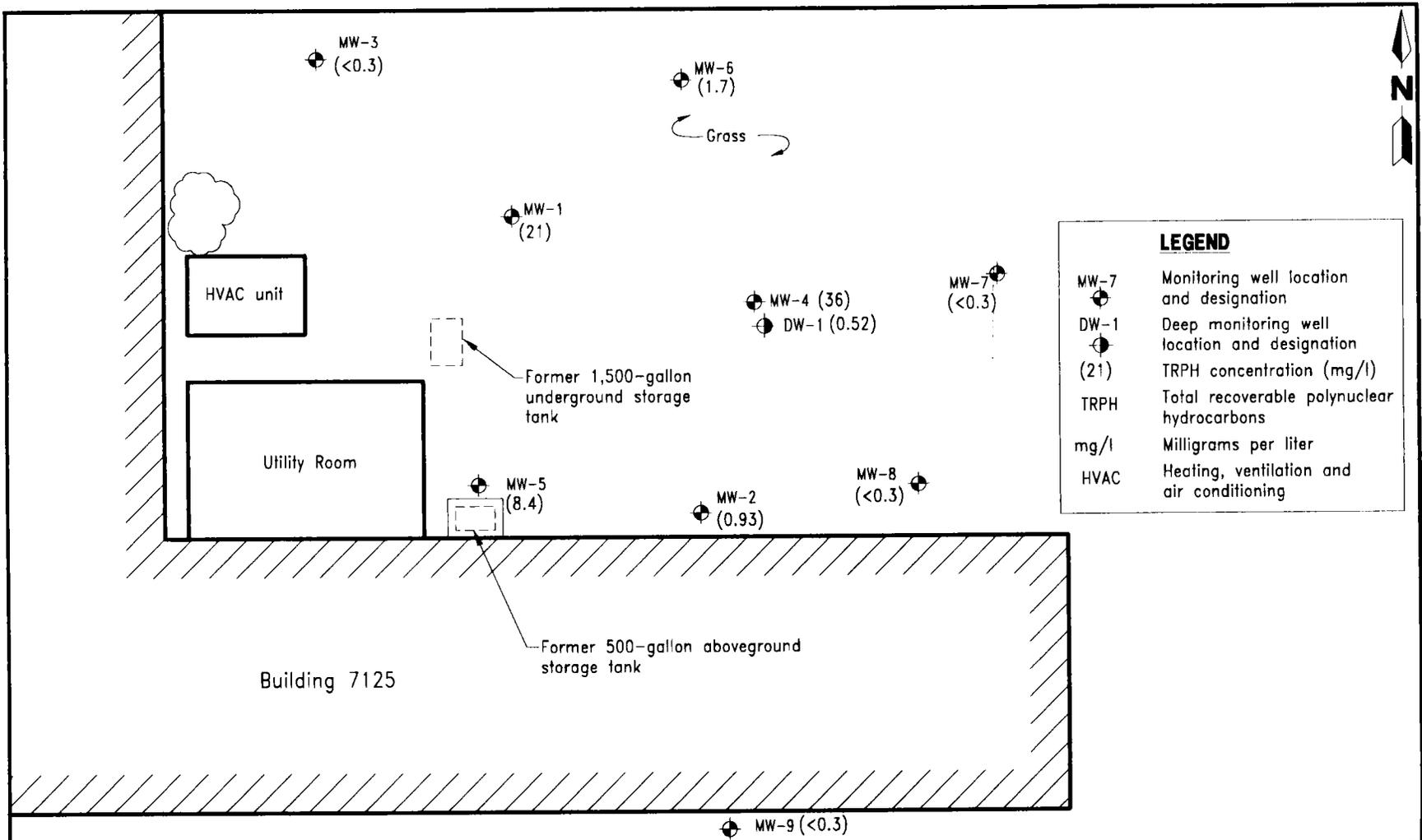


FIGURE 4-3
TRPH CONCENTRATION MAP
JULY 14 AND OCTOBER 6, 1998



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NAVAL TRAINING CENTER
ORLANDO, FLORIDA

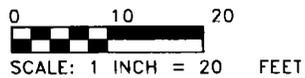
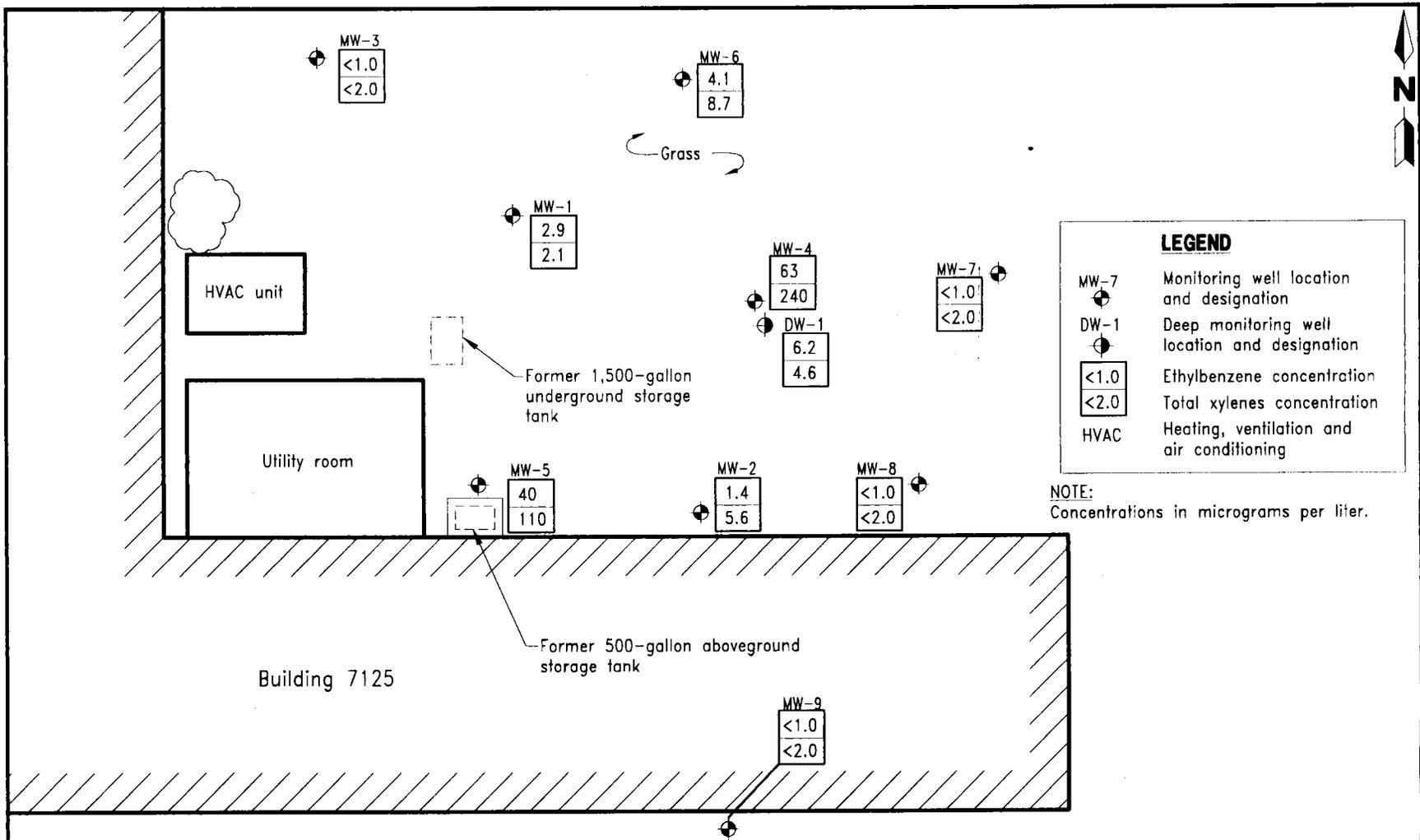


FIGURE 4-4
ETHYLBENZENE/TOTAL XYLENES
CONCENTRATION MAP
JULY 14 AND OCTOBER 6, 1998



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

5.0 SOURCE OF HYDROCARBONS

5.1 HYDROCARBON TYPE AND MASS DISTRIBUTION. The hydrocarbon type reportedly stored in the 1,500-gallon UST and the 500-gallon AST at Building 7125 was heating fuel. The laboratory analytical data and the type of product previously stored on site support this assessment. Based on the findings of this investigation, the petroleum mass is found sorbed to the soil in the unsaturated zone, found dissolved in groundwater and found as free-floating product.

A worst-case scenario was used to determine the approximate amount of petroleum mass sorbed to the soil in the unsaturated zone, which was found dissolved in the groundwater and found as free product at the site. Values and calculations used to determine the mass distribution of hydrocarbons at the site are provided in Appendix H, Hydrocarbon Mass Distribution Calculations.

Based upon actual data obtained during the SAR, there is approximately 2,750 kg of hydrocarbons sorbed to the soil, 16.32 kg of hydrocarbons dissolved in the groundwater, and approximately 2,928 gallons of free-floating product.

5.2 SOURCE OF HYDROCARBON. The suspected source of the small amounts of hydrocarbons in the soil and groundwater is from the former 1,500-gallon UST and the 500-gallon AST. Petroleum discharges could be attributed to overfill or small spills while filling the tanks.

5.3 MECHANISM OF TRANSPORT. The drainage ditch, located approximately 150 feet east of the site, appears to influence the direction of groundwater flow in the surficial aquifer in the area. There are no significant slopes in the area.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Laboratory analytical results indicate there is petroleum-impacted soil and groundwater above State of Florida Cleanup Target Levels at the Building 7125 site. In addition, free-floating petroleum product has been identified in an area of approximately 1,020 square feet.

Based in the findings of this SAR, HLA recommends that a remedial action plan be prepared for the site.

7.0 PROFESSIONAL REVIEW CERTIFICATION

This document, *Site Assessment Report, Building 7125, McCoy Annex, Naval Training Center, Orlando, Florida*, has been prepared under the direction of a Professional Geologist registered in the State of Florida. The work and professional opinions rendered in this report were conducted or developed in accordance with commonly accepted procedures consistent with applicable standards of practice. 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 that 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 report meets the criteria set forth in Chapter 492 of the Florida Statutes with regard to good professional practices as applied to Chapter 62-770, FAC. This SAR was developed for the Building 7125 site at the McCoy Annex, NTC, Orlando, in Orlando, Florida, and should not be construed to apply to any other site.

Manuel Alonso
Professional Geologist
P.G. No. 0001256

Date

REFERENCES

- ABB Environmental Services, Inc. 1996. *Contamination Assessment Report, McCoy Annex, Naval Training Center, Orlando, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (February).
- Bouwer, H., and Rice. 1976. "A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with completely or Partially Penetrating Wells." *Water Resources Research* 12:423-28.
- Driscoll, F.G. 1986. *Groundwater and Wells*. 2nd ed. St. Paul, Minnesota: Johnson Filtration Systems, Inc.
- Geraghty & Miller. 1989. AQTESOLV Software, Geraghty & Miller Modeling Group.
- Navy Public Work Center, Environmental Department. 1997. *Closure Assessment Report, Aboveground/Underground Storage Tanks, Building 7125, Naval Training Center, McCoy Annex, Orlando, Florida*. Prepared for SOUTHNAVFAC-ENGCOM, North Charleston, South Carolina (February).

APPENDIX A
SITE PHOTOGRAPHS



3. Former AST and UST areas at Building 7125. View towards the south.



4. Former UST area and monitoring well MW-1 at Building 7125. View towards the east.



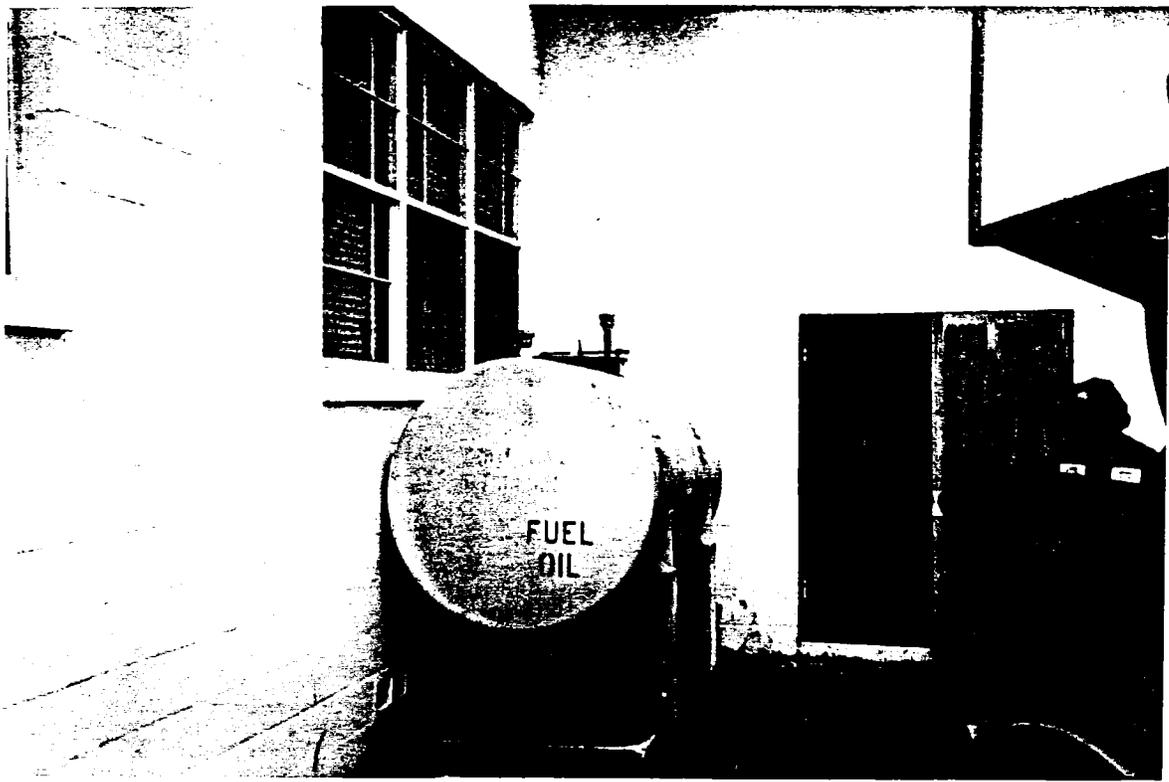
1. Former AST area and monitoring well MW-5 at Building 7125. View towards the southwest.



2. Former AST and UST areas at Building 7125. View towards the west.

APPENDIX B

TANK CLOSURE ASSESSMENT REPORT



APPLICATION FOR CLOSURE OF POLLUTANT STORAGE TANK SYSTEM

Provide the facility information requested below.

FDEP Facility # Non-Regulated Facility Name U. S. Navy

Facility Location McCoy Annex, Building 7125

Property Owner Commander, Naval Training Center

Property Owner Address Code 010E, 1350 Grace Hopper Ave, Orlando, FL 32813-8405

Phone (407) 646-4663

Method of Tank Closure Removal

Pollutant Storage Systems Specialty Contractor (PSSSC) who will be on site supervising closure activities. Attach copy of PSSSC license.

Individual Licensed as PSSSC N/A PSSSC # N/A

Firm U.S. Navy - Public Works Center (PWC)

Address 310 John Tower Road, Pensacola, FL 32508

Indicate the firm (s) that will degas, remove, and transport the tank(s), and the method of degassification.

Degassification Method Air Eduction

Firm Removing Tanks U.S. Navy - Public Works Center (PWC)

Contact Mr. Paul Semmes, P.E. Phone (904) 293-0635

Firm Transporting Tanks U. S. Navy - Public Works Center (PWC)

Contact Mr. Paul Semmes, P.E. Phone (904) 293-0635

Firm Receiving Tanks for Ultimate Disposal U.S. Navy - DRMO

Contact Mr. Edward Walker Phone (407) 646-4420

Indicate the laboratory that will conduct groundwater analysis.

Contracted Laboratory U.S. Navy - PWC Phone (904) 452-4728

Contact Mr. Joe Moore FDEP QA/QC 920121G

Indicate firm(s) transporting and disposing of contaminated soils.

Firm Transporting Soils C. A. Meyer

Contact Mr. Frank Cox Phone (407) 849-0770

Firm Remediating/Disposing Soils C. A. Meyers

Contact Mr. Frank Cox Phone _____

Disposal/Remediation Method Thermal Treatment

Indicate the firm(s) that will transport and ultimately dispose of residual product and sludge from the tanks.

Firm Transporting Residual Product and Sludge International Oil Service

Contact Mr. Garry Allen Phone (800) 282-9585

Firm Receiving/Disposal Residual Product and Sludge International Oil Service

Contact Mr. Garry Allen Phone (800) 282-9585

Indicate the firm and names of personnel that will conduct field sampling.

Contracted Firm U.S. Navy - Public Works Center (PWC)

Contact Mr. Paul Semmes, P.E. Phone (904) 293-6800

Person (s) Sampling Mr. Paul Semmes, P.E.

Equipment used for soil screening (Specific Make and Model) Organic Vapor Analyzer

(OVA) Thermo Environmental (680 HVM) equipped w/Flame Ionization Detector (FID).



Florida Department of Environmental Protection

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

DEP Form # 62-761.800(5)
Underground Storage Tank Installation
Form Title: Removal Form for Certified Contractors
Effective Date: December 16, 1990
DEP Application No. (Filed as by DEP)

Underground Storage Tank Installation and Removal Form
For Certified Contractors

Pollutant Storage Systems Contractor as defined in Section 489.105, Florida Statutes (certified contractors as defined in Section 62-761.200, Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the storage tank system(s) located at the address listed below was performed in accordance with Department Reference Standards.

General Facility Information

- 1. DEP Facility Identification No.: Non-Regulated
2. Facility Name: US Navy-Naval Training Ctr Telephone: (407) 646-4663
3. Street Address (physical location): Building 7125, Naval training Center (McCoy Annex)
4. Owner Name: Commander, Naval Training Telephone: (407) 646-4663
5. Owner Address: Code 010E, 1350 Grace Hopper Avenue, Orlando, Florida 32813-8405
6. Number of Tanks: a. Installed at this time b. Removed at this time One (1)
7. Tank(s) Manufactured by: Unknown
8. Date Work Initiated: 13 November 1996 9. Date Work Completed: 13 November 1996

Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirements by placing an (X) in the appropriate box.

- 1. The tanks and piping are corrosion resistant and approved for use by State and Federal Laws.
2. Excavation, backfill and compaction completed in accordance with NFPA (National Fire Protection Association) 30(96), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-94 and the manufacturers' specifications.
3. Tanks and piping pretested and installed in accordance with NFPA 30(96), API 1615, PEI/RP100-94 and the manufacturers' specifications.
4. Steel tanks and piping are cathodically protected in accordance with NFPA 30(96), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturers' specifications.
5. Tanks and piping tested for tightness after installation in accordance with NFPA 30(96) and PEI RP100-94.
6. Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 62-761.640, Florida Administrative Code (F.A.C.)
7. Spill and overflow protection devices installed in accordance with Section 62-761.500, F.A.C.
8. Secondary containment installed for tanks and piping as applicable in accordance with Section 62-761.500, F.A.C.

Please Note: The numbers following the abbreviations (e.g. API 1615) are publication or specification numbers issued by these institutions.

Underground Pollutant Tank Removal Checklist

- 1. Closure assessment performed in accordance with Section 62-761.800, F.A.C.
2. Underground tank removed and disposed of as specified in API 1604 in accordance with Section 62-761.800, F.A.C.



Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage tank system closure assessment was performed in accordance with Rule 62-761.800(3) or 62-762.800(3), Florida Administrative Code.

Please Print or Type
Complete All Applicable Blanks

1. Date 24 February 1997
2. DEP Facility ID Number: Non-Regulated 3. County Orange
4. Facility Name: US Navy - Naval Training Center (McCoy Annex)
5. Facility Owner: Commander, Naval Training Center (Code 010E)
6. Facility Address: Building 7125 (McCoy Annex)
7. Mailing Address: 1350 Grace Hopper Avenue, Orlando, Florida 32813-8405
8. Telephone Number: (407) 646-4663 9. Facility Operator: Mr. Mark Zill
10. Are the Storage Tank(s): (Circle one or both) A. Aboveground or B. Underground
11. Type of Product(s) Stored: Heating Fuel
12. Were the Tank(s): (Circle one) A. Replaced B. Removed C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks closed: Two 14. Age of Tanks: Unknown

Facility Assessment Information

- | Yes | No | Not
Applicable | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 1. Was a Discharge Reporting Form submitted to the Department?
If yes, When: <u>11/20/97</u> Where: <u>OCHD</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 2. Is the depth to ground water less than 20 feet? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Are monitoring wells present around the storage system?
If yes, please specify <input type="checkbox"/> Vapor Monitoring <input type="checkbox"/> Water Monitoring |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Is there free product present in the monitoring wells or within the excavation? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. Were the petroleum hydrocarbon vapor levels in the soil greater than 500 parts per million for gasoline?
Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input type="checkbox"/> Soil sample(s) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene?
Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input type="checkbox"/> Soil sample(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels?
(See target levels on reverse side of this form and supply laboratory data sheet(s). |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. Are any potable wells located within 1/4 of a mile radius of the facility? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 10. Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 12. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples. |

Summary of OVA Readings

Closure Assessment Report Aboveground/Underground Storage Tanks Building 7125 Naval Training Center McCoy Annex Orlando, Florida

Hand Auger Sample No.	Depthh (Feet)	Unfiltered (ppm)	Filtered (ppm)
SS-1	1	<1	<1
	3	55	16
SS-2	1	<1	<1
	2	<1	<1
SS-3	1	<1	<1
	3	232	78
SS-4	6	1532	1367

Readings for unfiltered samples are total hydrocarbon readings including methane; readings for filtered samples are methane only.

Notes: ppm = parts per million.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
DOC IDENT	RI FROM	M AS	STOCK NUMBER	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER	REQUISITIONER	DATE	SERIAL	SUPPLY SERV	SUPPLEMENTARY ADDRESS	SIGNAL	FUND	DISTRIBUTION	PROJECT	PRIORITY	REQ'D DEL DATE	ADVICE	RI	UNIT PRICE	DOLLARS	CTS																																																									
A5JQ63S	(9670,00)	SCRAP	FA 60031	N05928	6325	0550	28	S/R/T	N/A	HEX	\$10000.00	100.00																																																																			
SHIPPED FROM	PUBLIC WORKS DEPARTMENT	UTC 0101C BLDG 2025	ORLANDO FL 32813-8405	SHIP TO	DRMO SY 2354	Orlando	BLDG 1991	FL	PATRIOT AFB FL 32926	MARK FOR	PROJECT	SCRAP METAL	TOTAL PRICE	DOLLARS	CTS																																																																
WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CODE	UFC	NMFC	FREIGHT RATE	DOCUMENT DATE	MAT COND	QUANTITY																																																																					
AA 1771804.82M4	250	065928	D 068566	2D	63250550	L10555	065928	7-18-07	60031																																																																						
SUBSTITUTE DATA (ITEM ORIGINALLY REQUESTED)	FREIGHT CLASSIFICATION NOMENCLATURE																																																																														
	SCRAP METAL, PETROLEUM PRODUCT STORAGE TANKS AND PIPING																																																																														
ITEM NOMENCLATURE																																																																															
TANKS WERE STEAM CLEANED AND TRIPLE RINSED																																																																															
SELECTED BY AND DATE	TYPE OF CONTAINER(S)	TOTAL WEIGHT	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																											
TANK ENDS REMOVED TO PREVENT REUSE AS STORAGE TANK	2	EST 23000	11-25-96	11-22-96																																																																											
NO OF CONTAINER(S)	TOTAL CUBE	WAREHOUSED BY AND DATE	WAREHOUSE LOCATION	ID																																																																											
Tanks removed: 109-4, 131, 208, 218-B, 304, 310, 311, 313, 2005, 2049, 2409, 2411, 2421, 2426, 7107, 7121, 7121-A, -B, 7125-A, -B, 7180, 7184-A, 7203-A, 7234, 7239-A, 7241-1, 7246, 7284, BV-2			JC 12-2-96	HZBLD7182, HZBLD1104, HZBLD2816, HZBLDG137 A, SCL E I C 2																																																																											
ORIGINATING OFFICE	DATE SHIPPED	BY	BY	BY																																																																											
21, 3, 7246, BV-2		MARK S. ZILL	Edward H Walker	EDWARD H. WALKER																																																																											
TRANSPORTATION CHARGEABLE TO	14 BLADING, AWB, OR RECEIVER'S SIGN (VID DATE)	ENVIRONMENTAL MANAGEMENT	15 RECEIVER'S DOCUMENT NUMBER	PROPERTY MANAGEMENT																																																																											

INTERNATIONAL OIL SERVICE

TRANSPORTATION AND
RECEIVING MANIFEST

DIV. OF INTERNATIONAL PETROLEUM CORP.
STATE CERTIFIED RECYCLER, TRANSPORTER AND COLLECTION FACILITY

EPA I.D. No. FLD 065680613
SO 29-181143

LAD 092096106

MOD 981114051
LA I.D. No. GT-186

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IDENTIFICATION

United Trans. Co. Inc. Date Shipped *11-15-97*
 GENERATOR/SHIPPER
2000 W. ASH BLVD Time *OIL*
 ADDRESS
 CITY STATE ZIP Phone
PO Box 17870 *Portland, OR*

SOURCE TYPE	DESCRIPTION AND CLASSIFICATION Proper Shipping Name, Class and Identification Number C.F.R. 172.101, 172.202, 172.203	UN No. or NA No.	EXEMPTION OR NO LABELS REQUIRED	FLASH POINT (°F/°C) WHEN REQ'D
CO/A (Used Oil)	Fuel Oil Packaging Group III Combustible Liquid	1993	<i>94B</i>	<i>23 > 60°</i>
<i>PO # 16514 97 in 7019</i>				
SPECIAL HANDLING INSTRUCTIONS END USE CODE MINI/SR		EMERGENCY RESPONSE NUMBER 1-800-282-9585		

CERTIFICATION
This is to certify under penalty of law that the above-named materials have not been mixed with hazardous waste and are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the U.S. Environmental Protection Agency.

X *[Signature]* 11-15-97
 GENERATOR'S SIGNATURE DATE
[Signature]
 TRANSPORTER No. 2 SIGNATURE & DATE
 SIGNATURE DATE

GROSS GALLONS *2400.00*
 DEDUCTIONS *200.00*
 NET GALLONS *2200.00*
 PRICE PER GALLON *1400.00*
 FREIGHT *11*
 TOTAL

96-PC 16276

MANIFEST DOCUMENT NO.
White - Original Yellow - Receiving Facility
prestige printing pp-2004R 1095 25281-A0

CASH CHARGE (INVOICE TO FOLLOW)
 Pink - Transporter G'rod - Generator

**NON-HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.
Not Required

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address
**COMMANDER NAVAL TRAINING CENTER 1350 GRACE HOPPER AVE
CODE 010E ATTN: MARK ZILL ORLANDO FL 32813**

LOAD # 05

4. Generator's Phone (**407**) **646-4663**

5. Transporter 1 Company Name
C.A. MEYER

6. US EPA ID Number
Not Required

TRUCK # 284

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
**C.A. MEYER PAVING & CONSTRUCTION CO.
14023 Tiny Morse Bl'vd
Clermont, Florida 32711**

10. US EPA ID Number
Not Required

A. Transporter's Phone **407-849-0770**

B. Transporter's Phone

C. Facility's Phone
(407) 377-3777

11. Waste Shipping Name and Description

12. Containers No.	13. Total Quantity	14. Unit Wt/Vol

a. **Non-Hazardous Petroleum Contaminated Soil**

1	TRK	
---	-----	--

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

***US EPA ID# Not Required. Non-Hazardous Waste**

15. Special Handling Instructions and Additional Information

Transporter hereby certifies that all of the material in this load was placed on my truck at the address referenced above. Nothing has been added to this load after departure from address listed above.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name <i>[Signature]</i>	Signature <i>[Signature]</i>	Month Day Year <i>[Signature]</i>
--	---------------------------------	--------------------------------------

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name ERRY HARRIS	Signature <i>[Signature]</i>	Month Day Year 02/11/97
--	---------------------------------	-----------------------------------

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
--------------------	-----------	----------------

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
--------------------	-----------	----------------

GENERATOR

TRANSPORTER

FACILITY

CERTIFICATE OF DECONTAMINATION

It is hereby certified that the following Storage Tanks have been decontaminated by PWC
Pensacola AST/UST Storage System Tank Team:

NTC ORLANDO

BLDG 109	BLDG 208
BLDG 218	BLDG 304
BLDG 311	BLDG310
BLDG 313	BLDG 2005
BLDG 2049	BLDG 2409
BLDG 2411	BLDG 2426
BLDG 2421	BLDG 131

McCOY ANNEX

BLDG 7264	BLDG 7239-A
BLDG 7185 - 1,2	
BLDG 7121 - 1,2,3,4	
BLDG 7241 - 1,2,3	
BLDG 7246	BLDG 7180
BLDG 7203	BLDG 7203-A
BLDG 7125	BLDG 7125-A
BLDG 7234	BLDG 7107

The Storage Tanks listed above have been triple rinsed and cleaned in accordance with
40 CFR 261.7(b)(3)(i) and have been rendered unuseable.

Signature 

ENVIRONMENTAL ENGINEER
Title

2/28/97
Date

APPENDIX C

WELL CONSTRUCTION DETAILS

WELL COMPLETION LOG

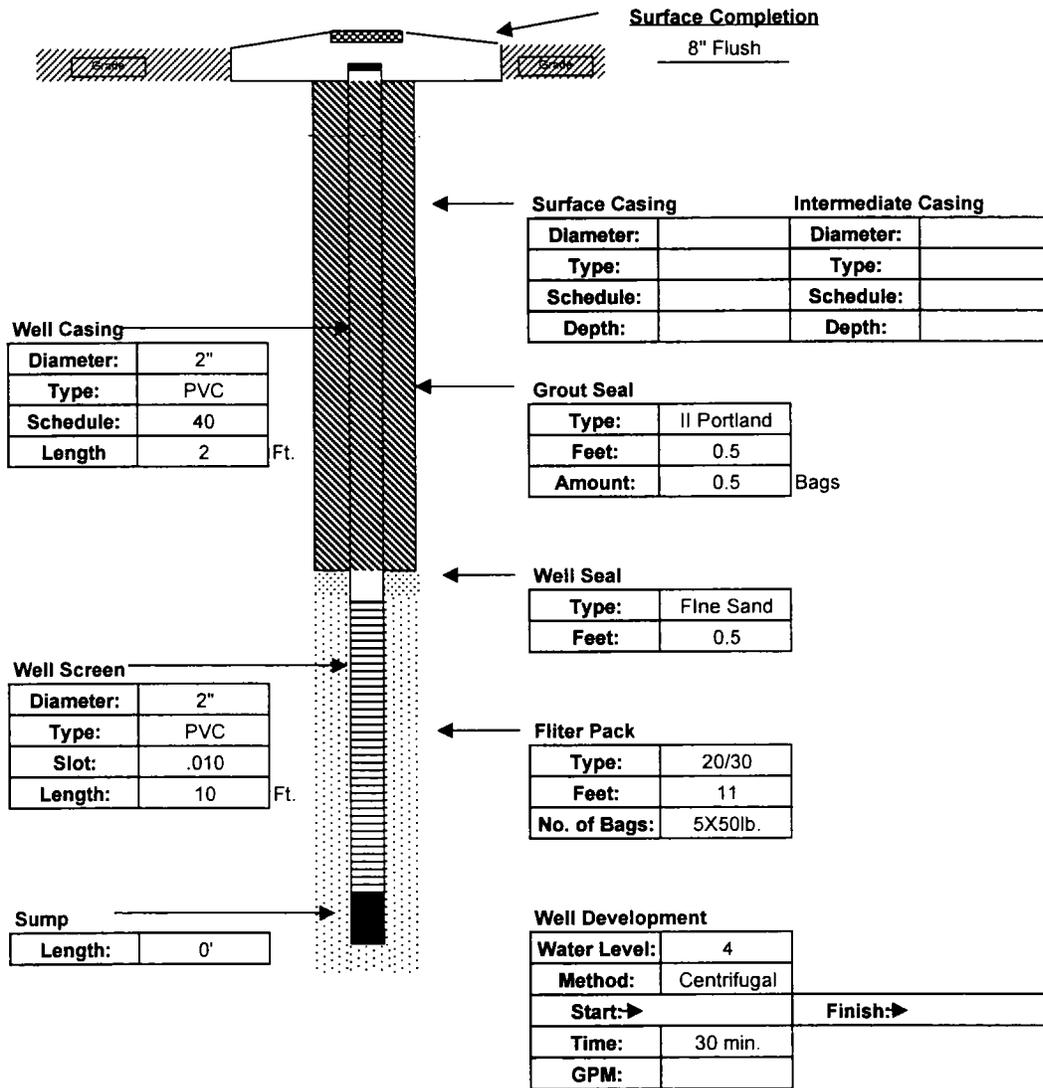
Water Mgmt. Dist.: St. Johns
 Permit Number: _____

Site Information:
 Name: NTC
 Address: McCoy Annex
 C,S,Z: Orlando, Florida
 S/T/R: _____

Work Order: 6424
 Type of Well: Monitoring
 Well Number: 7125 MW-1
 Method Used: 4.25" HSA
 Borehole Dia. 6"

Client / Consultant Information
 Consultant: Harding Lawson Associates
 Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6424
Completion:	07/02/98
Driller:	Jeff Ziegler
Lead Hand:	Otis Johnson
3rd Man:	Robbie
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: -

Work Order: 6424

Type of Well: Monitoring

Well Number: 7125 MW-2

Method Used: 4.25" HSA

Borehole Dia. 6"

Site Information:

Name: NTC

Address: McCoy Annex

C,S,Z: Orlando, Florida

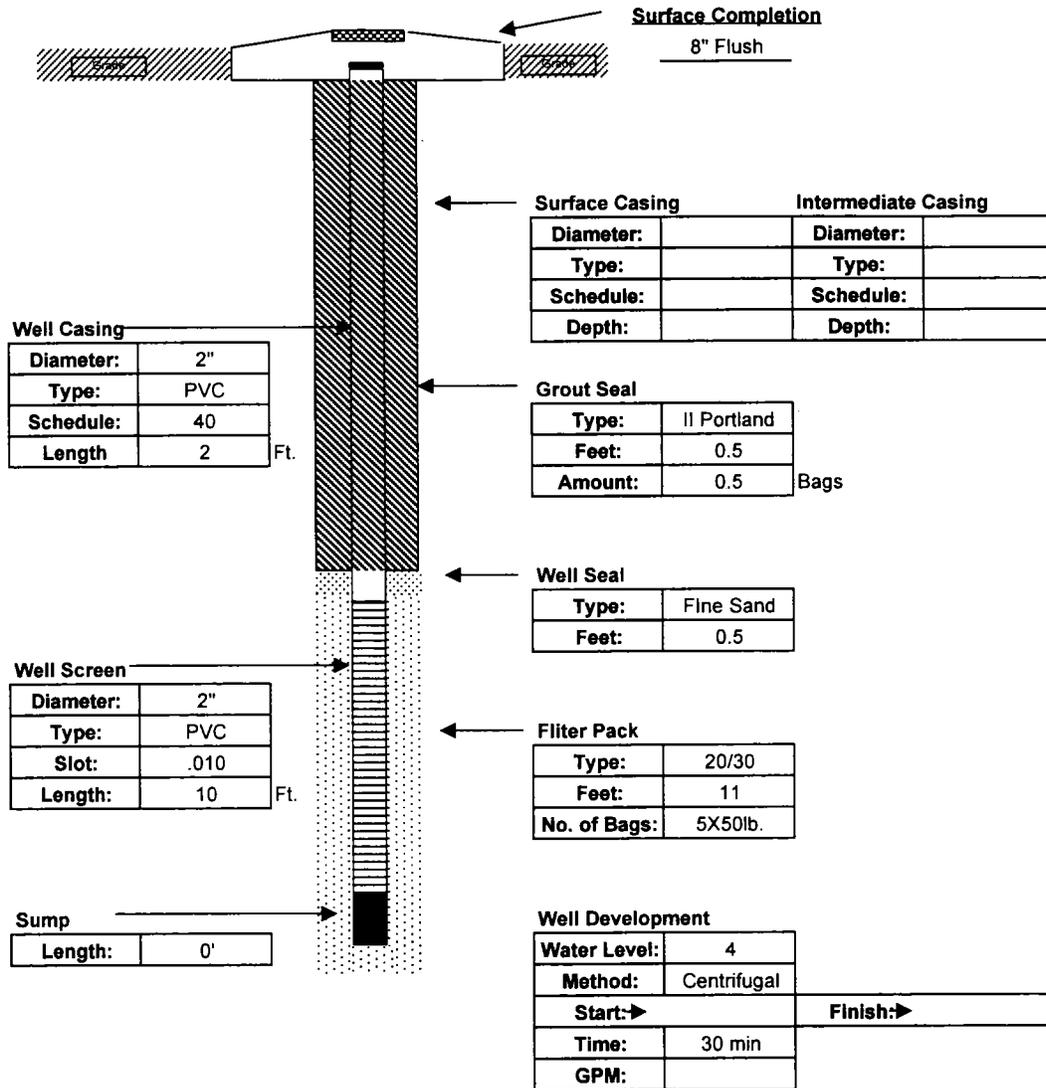
S/T/R: -

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6424
Completion:	07/02/98
Driller:	Jeff Ziegler
Lead Hand:	Otis Johnson
3rd Man:	Robbie
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: _____

Work Order: 6424

Type of Well: Monitoring

Well Number: 7125 MW-3

Method Used: 4.25" HSA

Borehole Dia. 6"

Site Information:

Name: NTC

Address: McCoy Annex

C,S,Z: Orlando, Florida

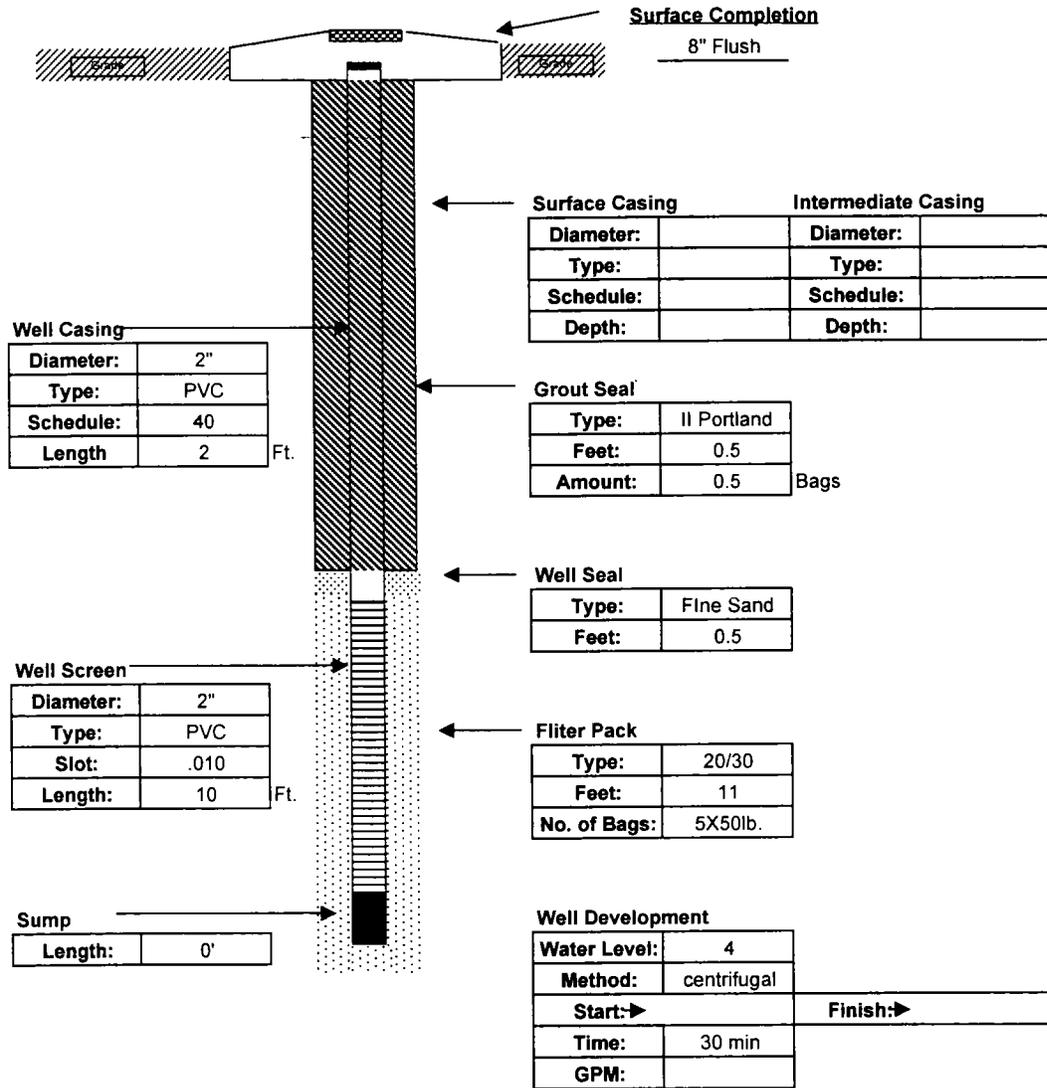
S/T/R: _____

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6424
Completion:	07/02/98
Driller:	Jeff Ziegler
Lead Hand:	Otis Johnson
3rd Man:	Robbie
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: _____

Work Order: 6424

Type of Well: Monitoring

Well Number: 7125 MW-4

Method Used: 4.25" HSA

Borehole Dia. 6"

Site Information:

Name: NIC

Address: McCoy Annex

C,S,Z: Orlando, Florida

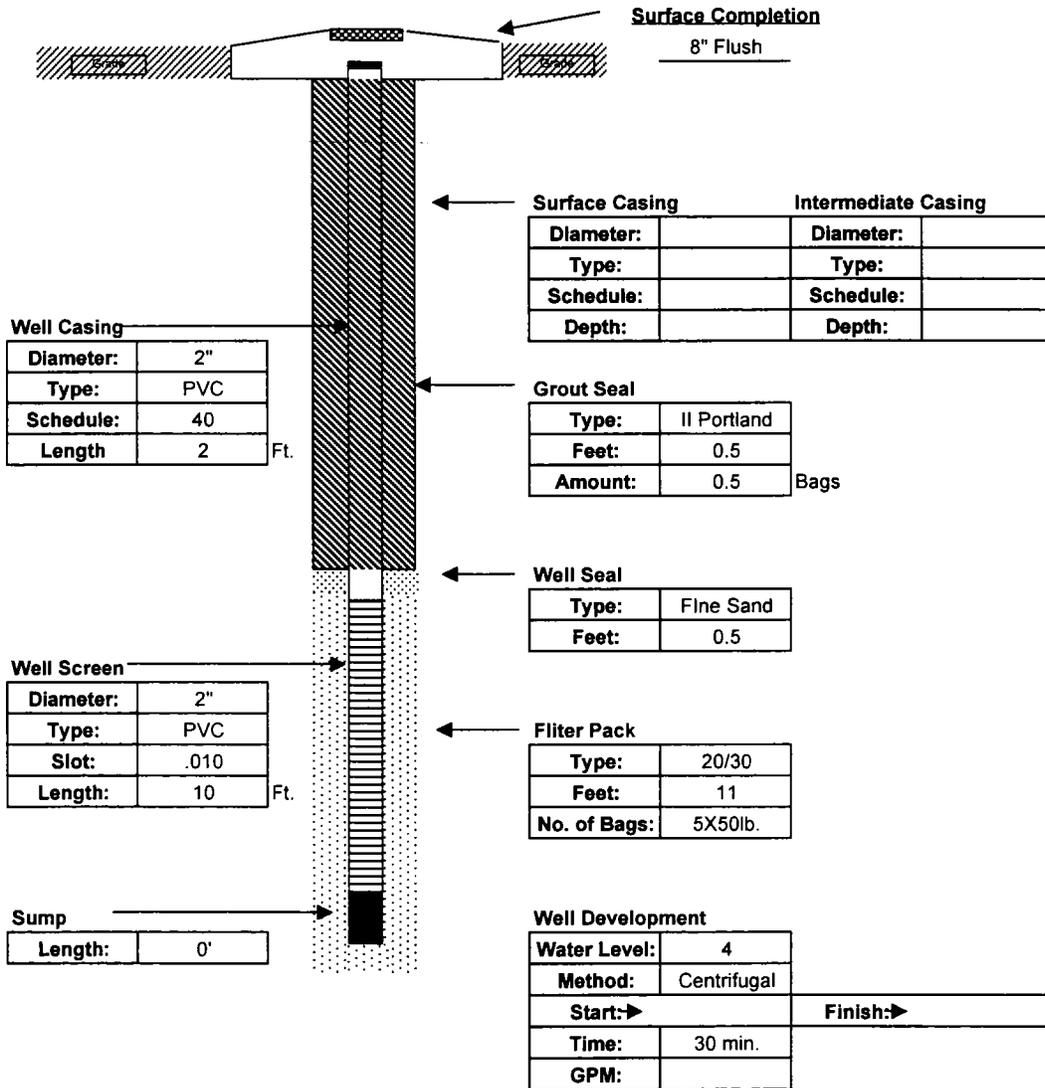
S/T/R: _____

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Length:	2 Ft.

Surface Casing		Intermediate Casing	
Diameter:		Diameter:	
Type:		Type:	
Schedule:		Schedule:	
Depth:		Depth:	

Grout Seal

Type:	II Portland
Feet:	0.5
Amount:	0.5 Bags

Well Seal

Type:	Fine Sand
Feet:	0.5

Well Screen

Diameter:	2"
Type:	PVC
Slot:	.010
Length:	10 Ft.

Filter Pack

Type:	20/30
Feet:	11
No. of Bags:	5X50lb.

Sump

Length:	0'
---------	----

Well Development

Water Level:	4
Method:	Centrifugal
Start: →	Finish: →
Time:	30 min.
GPM:	

Contractor Information

Contractor #	6424
Completion:	07/02/98
Driller:	Jeff Ziegler
Lead Hand:	Otis Johnson
3rd Man:	Robbie
Drill Rig:	B-59

Company: Groundwater Protection, Inc.

Address: 4315 S.W. 34th Street

C,S,Z: Orlando, Florida 32811

Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: -

Work Order: 6424
 Type of Well: Monitoring
 Well Number: 7125 MW-5
 Method Used: 4.25" HSA
 Borehole Dia. 6"

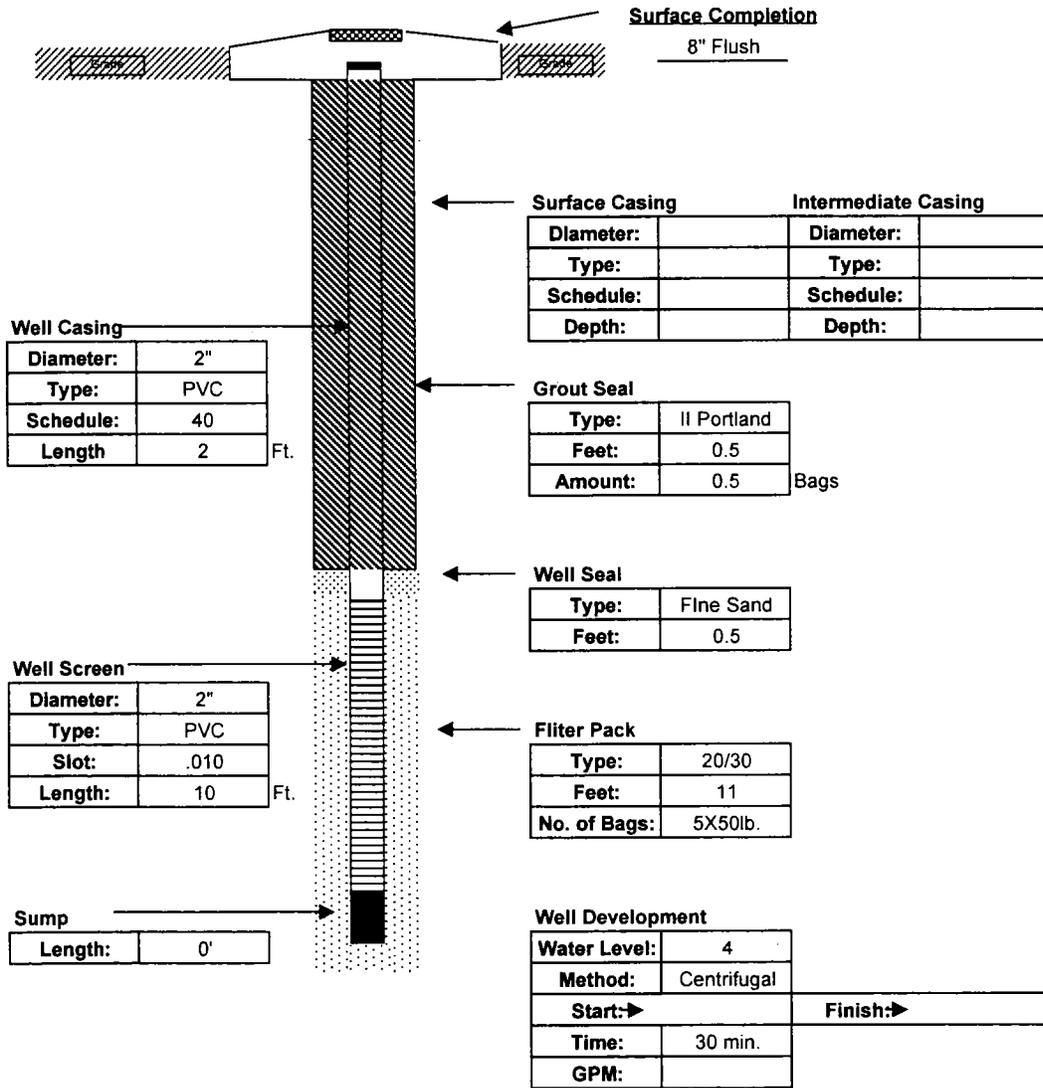
Site Information:

Name: NTC
 Address: McCoy Annex
 C,S,Z: Orlando, Florida
 S/T/R: -

Client / Consultant Information

Consultant: Harding Lawson Associates
 Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6424
Completion:	07/02/98
Driller:	Jeff Ziegler
Lead Hand:	Otis Johnson
3rd Man:	Robbie
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: -

Work Order: 6460
 Type of Well: Monitoring
 Well Number: 7125 MW-6
 Method Used: 4.25" HSA
 Borehole Dia.: 6"

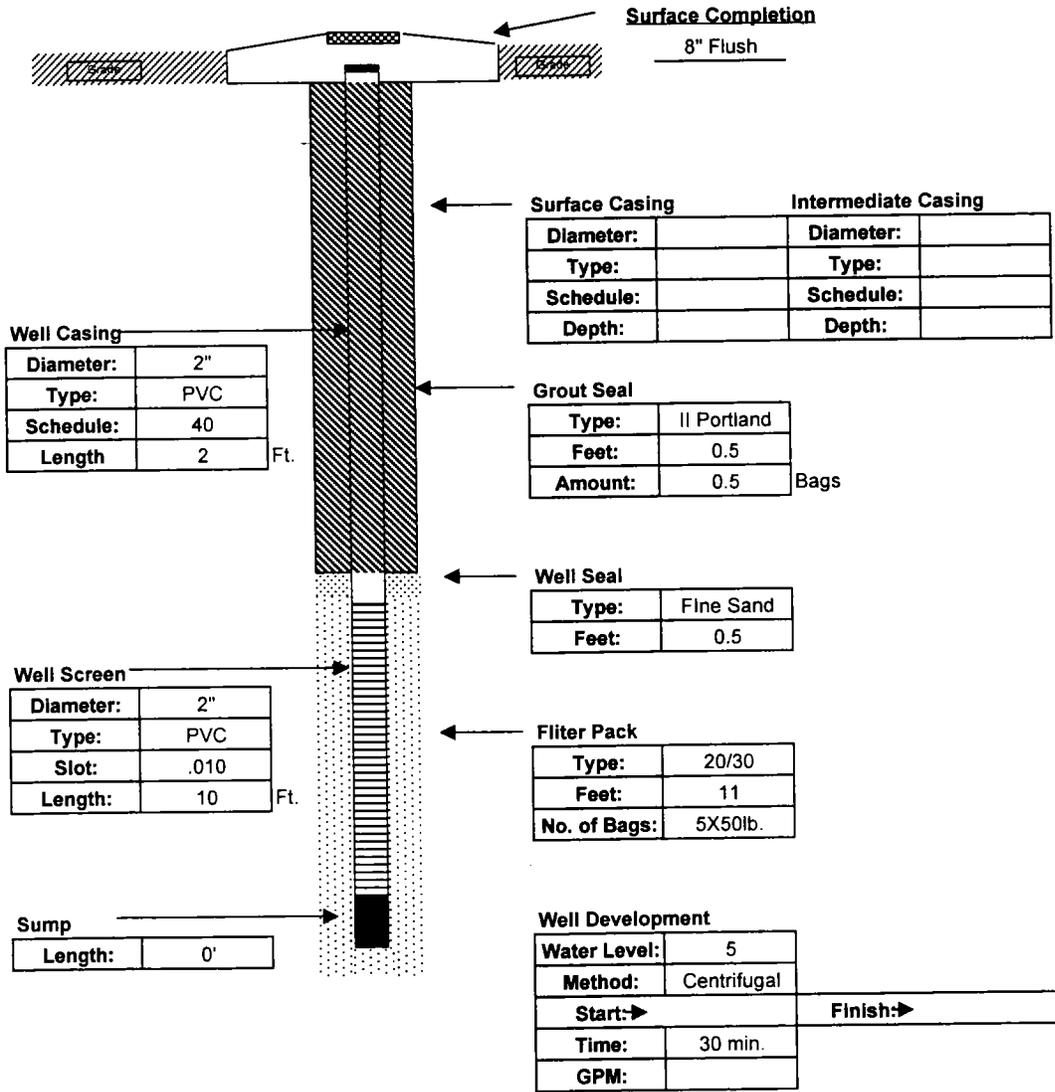
Site Information:

Name: NTC
 Address: McCoy Annex
 C,S,Z: Orlando, Florida
 S/T/R: -

Client / Consultant Information

Consultant: Harding Lawson Associates
 Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6460
Completion:	09/22/98
Driller:	James Hinst
Lead Hand:	Otis Johnson
3rd Man:	David Berry
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: _____

Work Order: 6460

Type of Well: Monitoring

Well Number: 7125 MW-7

Method Used: 4.25" HSA

Borehole Dia. 6"

Site Information:

Name: NTC

Address: McCoy Annex

C,S,Z: Orlando, Florida

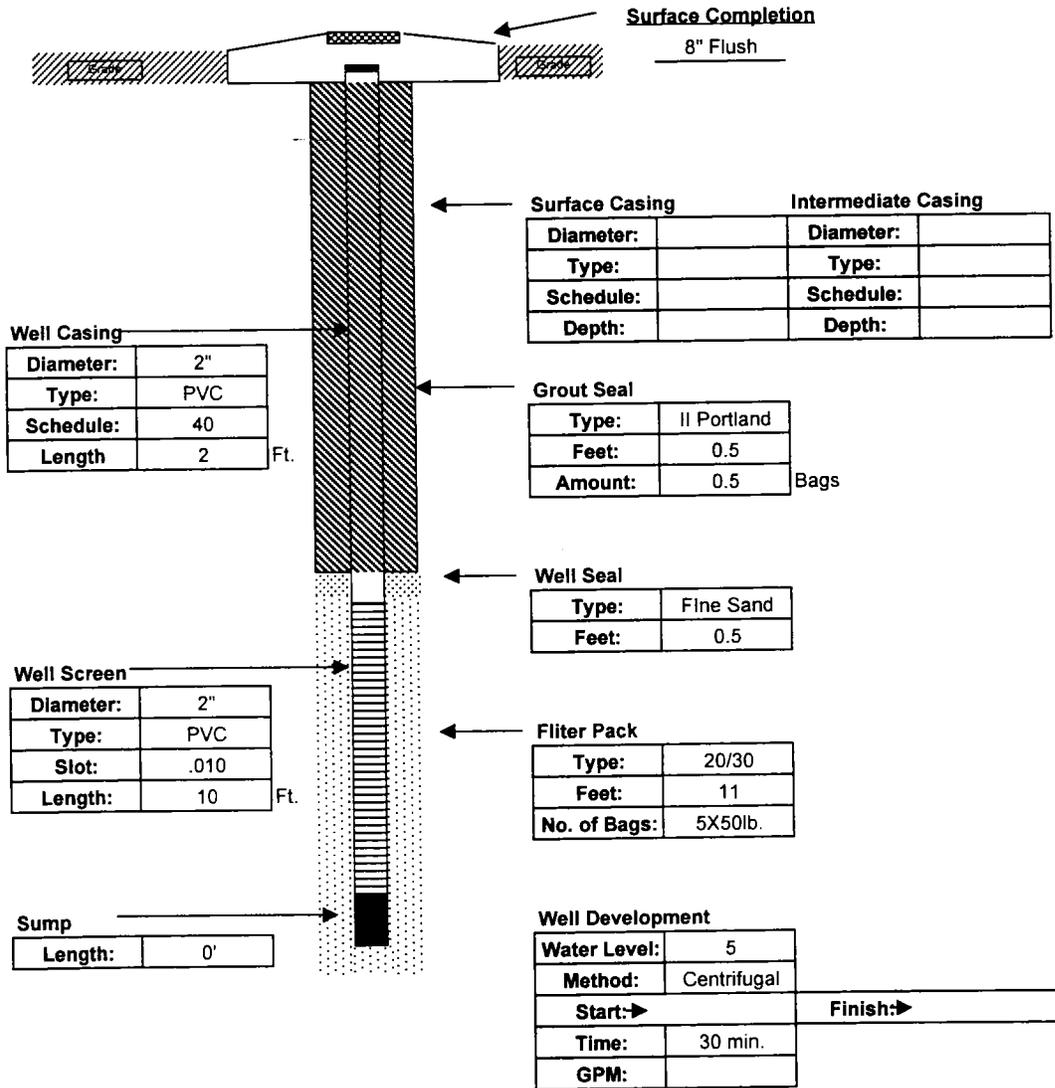
S/T/R: _____

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6460
Completion:	09/22/98
Driller:	James Hinst
Lead Hand:	Otis Johnson
3rd Man:	David Berry
Drill Rig:	B-59

Well Development

Water Level:	5
Method:	Centrifugal
Start: →	Finish: →
Time:	30 min.
GPM:	

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: _____

Work Order: 6460

Type of Well: Monitoring

Well Number: 7125 MW-8

Method Used: 4.25" HSA

Borehole Dia. 6"

Site Information:

Name: NTC

Address: McCoy Annex

C,S,Z: Orlando, Florida

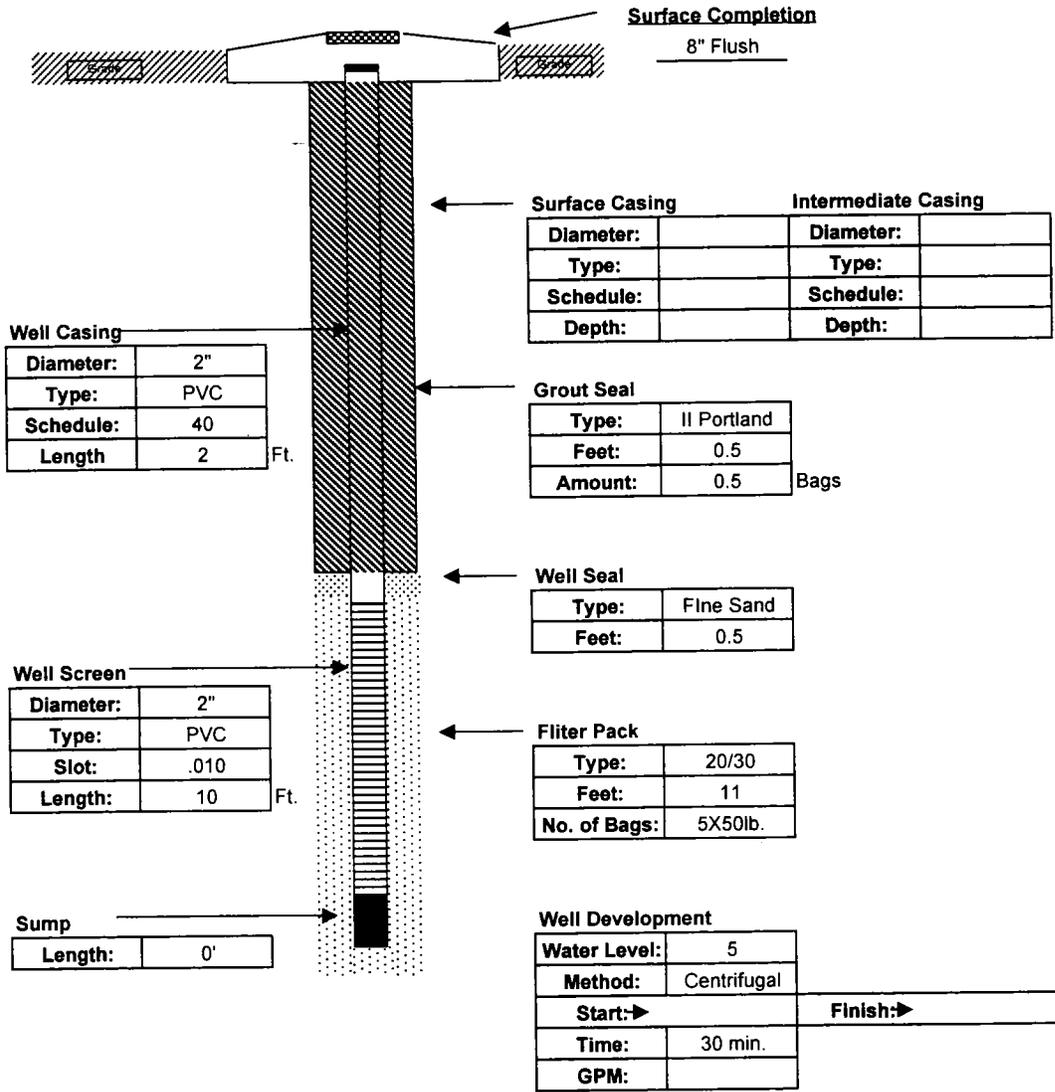
S/T/R: -

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donek

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Length:	2 Ft.

Surface Casing		Intermediate Casing	
Diameter:		Diameter:	
Type:		Type:	
Schedule:		Schedule:	
Depth:		Depth:	

Grout Seal

Type:	II Portland
Feet:	0.5
Amount:	0.5 Bags

Well Seal

Type:	Fine Sand
Feet:	0.5

Well Screen

Diameter:	2"
Type:	PVC
Slot:	.010
Length:	10 Ft.

Filter Pack

Type:	20/30
Feet:	11
No. of Bags:	5X50lb.

Sump

Length:	0'
---------	----

Well Development

Water Level:	5
Method:	Centrifugal
Start: →	Finish: →
Time:	30 min.
GPM:	

Contractor Information

Contractor #	6460
Completion:	09/22/98
Driller:	James Hinst
Lead Hand:	Otis Johnson
3rd Man:	David Berry
Drill Rig:	B-59

Company: Groundwater Protection, Inc.

Address: 4315 S.W. 34th Street

C,S,Z: Orlando, Florida 32811

Phone/FAX: (407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

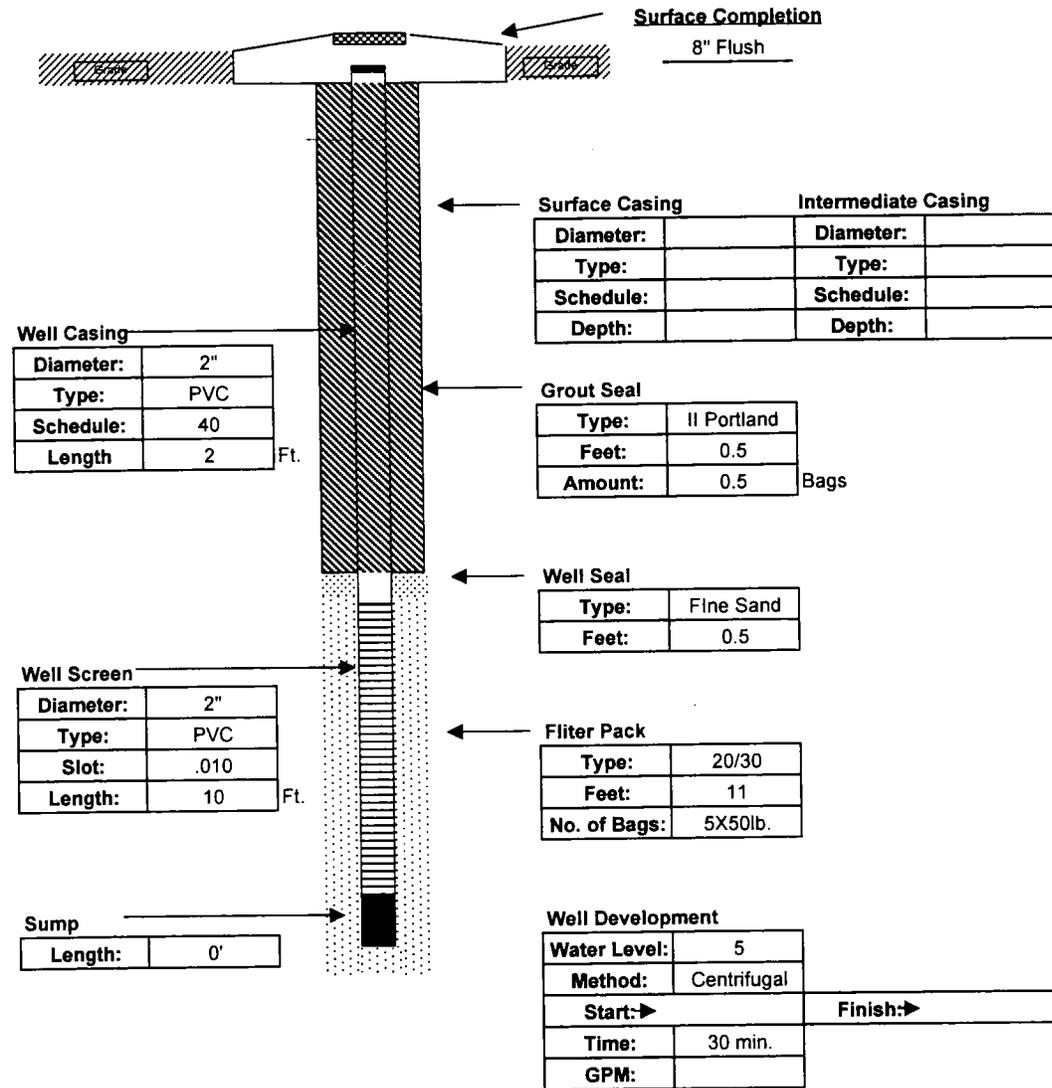
Water Mgmt. Dist.: St. Johns
 Permit Number: _____

Work Order: 6460
 Type of Well: Monitoring
 Well Number: 7125 MW-9
 Method Used: 4.25" HSA
 Borehole Dia. 6"

Site Information:
 Name: NTC
 Address: McCoy Annex
 C,S,Z: Orlando, Florida
 S/T/R: _____

Client / Consultant Information
 Consultant: Harding Lawson Associates
 Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	12	10	2	0.5	5X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		0.5	← Feet →	11	0.5



Contractor Information

Contractor #	6460
Completion:	09/22/98
Driller:	James Hinst
Lead Hand:	Otis Johnson
3rd Man:	David Berry
Drill Rig:	B-59

Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns

Permit Number: -

Work Order: 6460

Type of Well: Monitoring

Well Number: 7125 DW-1

Method Used: Mud Rotary

Borehole Dia. 10"

Site Information:

Name: NTC

Address: McCoy Annex

C,S,Z: Orlando, Florida

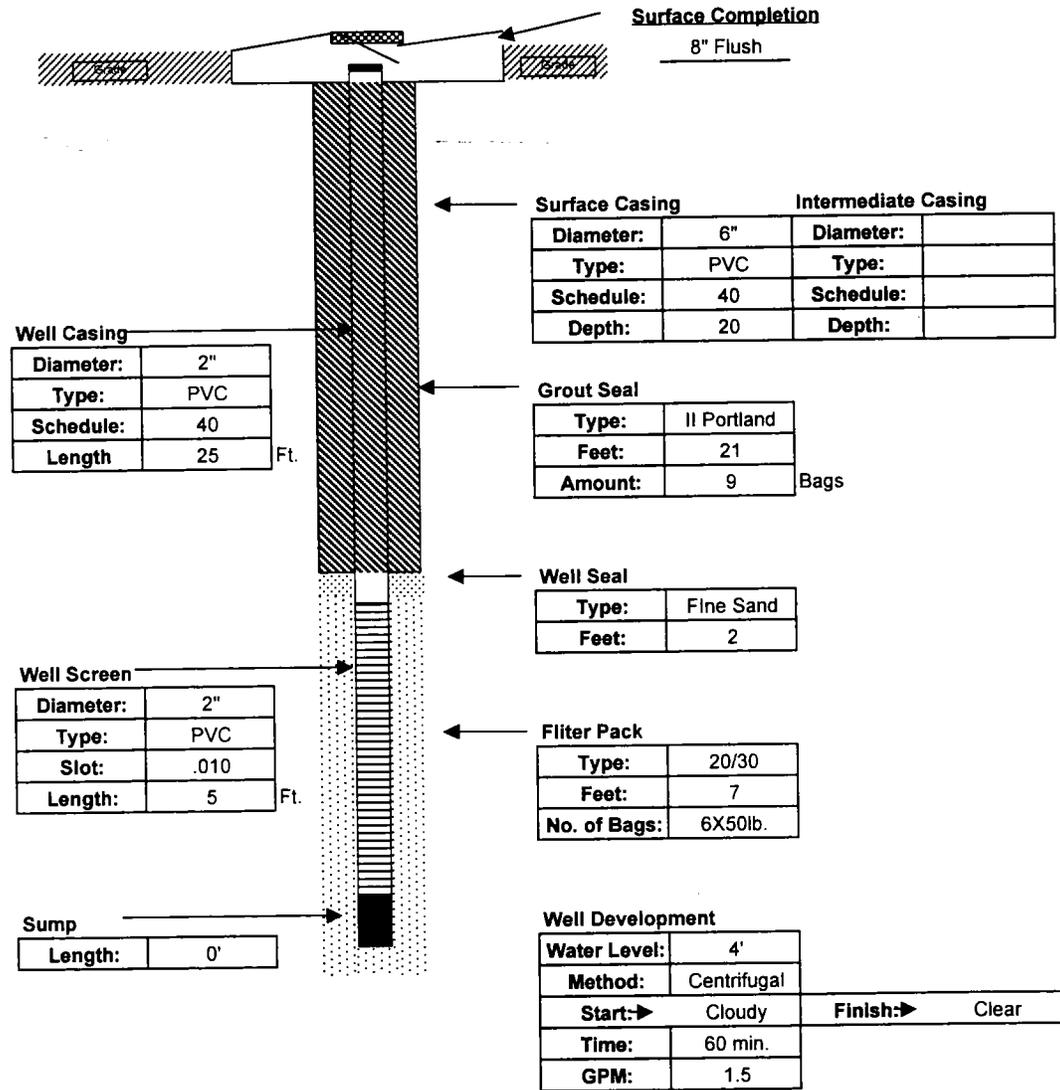
S/T/R: -

Client / Consultant Information

Consultant: Harding Lawson Associates

Field Rep: Scott Donelick

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	30	5	25	9	6X50lb.	20/30	Fine Sand
40	← Schedule	Slot Size: →	.010		21	← Feet →	7	2



Contractor Information

Contractor #	6460
Completion:	09/23/98
Driller:	James Hinst
Lead Hand:	Otis Johnson
3rd Man:	David Berry
Drill Rig:	B-59

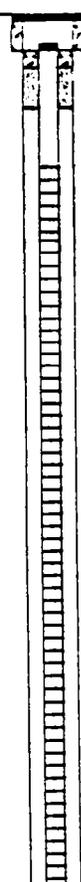
Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

APPENDIX D
LITHOLOGIC LOGS

TITLE: NTC, ORLANDO, BUILDING 7125		LOG of WELL:	BORING NO. SL-1
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-C5	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 9-22-98	COMPLTD: 9-22-98
METHOD: H.S.A	CASE SIZE: NA	SCREEN INT.: NA FEET	PROTECTION LEVEL: 0
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 3 FEET.	DPH TO 74.5 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: NA	SITE: Building 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-5'				SAND, fine grained, Black to gray, no odor, moist to wet, wet at 4.5 BLS		SP		
5-15'				Same as above		SP		
15-17'				SAND, fine grained, grey to black, no odor, saturated		SP	2, 3, 4, 5	
20-22'				Same as above, minor clay & silt		SP	3, 4, 5, 7	
25-27'				Same as above, tan color, no odor		SP	8, 7, 6, 8	
30-31'				SAND, medium to coarse, grained, poorly sorted, tan		SP	8, 6, 5, 5	
31-32'				CLAYEY SAND, fine grained ~ 30% clay, greenish-gray		SC		
35-37'				SAND, fine to medium grained tan to greenish tan		SP	5, 3, 3, 3	

TITLE: NTC, ORLANDO		LOG of WELL: MW-1	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 85 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist, Strong odors		SP		
4-12'				Same as above, wet at 5' BGS; Strong odors		S		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-2	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENCOM		PROJECT NO: Z547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO VS FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist slight to moderate odor		SP		
4-12'				Same as above, wet at 5' BES				
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-3	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM			PROJECT NO: 2547-15
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO VS FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, black to gray, moist (slight odor)		SP		
4'-12'				Same as above, wet at 5' BGS.		SP		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-4	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH.: 12 FEET.	DPTH TO ∇ FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7125	

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist Slight to moderate odor		SP		
4-12'				Same as above, wet at 5' BGS				
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: Mw-5	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: D
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 85 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4				SAND, fine grained, Black to gray, moist, slight to moderate odor		SP		
4'-12'				Same as above, wet at 5' BGS		SP		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-6	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 4-22-98	COMPLTD: 9-22-98
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 35 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 4-23-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				Sand, fine grained, Black to gray, moist, no odor		SP		
4-12'				Same as above, wet at 5' BGS		SF		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-7	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 9-22-98	COMPLTD: 9-22-98
METHOD: 4.25 INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO VS FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 9-23-98	SITE: BUILDING 7125	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist		SP		
4-12'				Same as above, wet at 5' BGS		SP		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-8	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 9-22-98	COMPLTD: 9-22-98
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-1/2 FEET	PROTECTION LEVEL: D
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 85 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 9-23-98	SITE: BUILDING 7125	

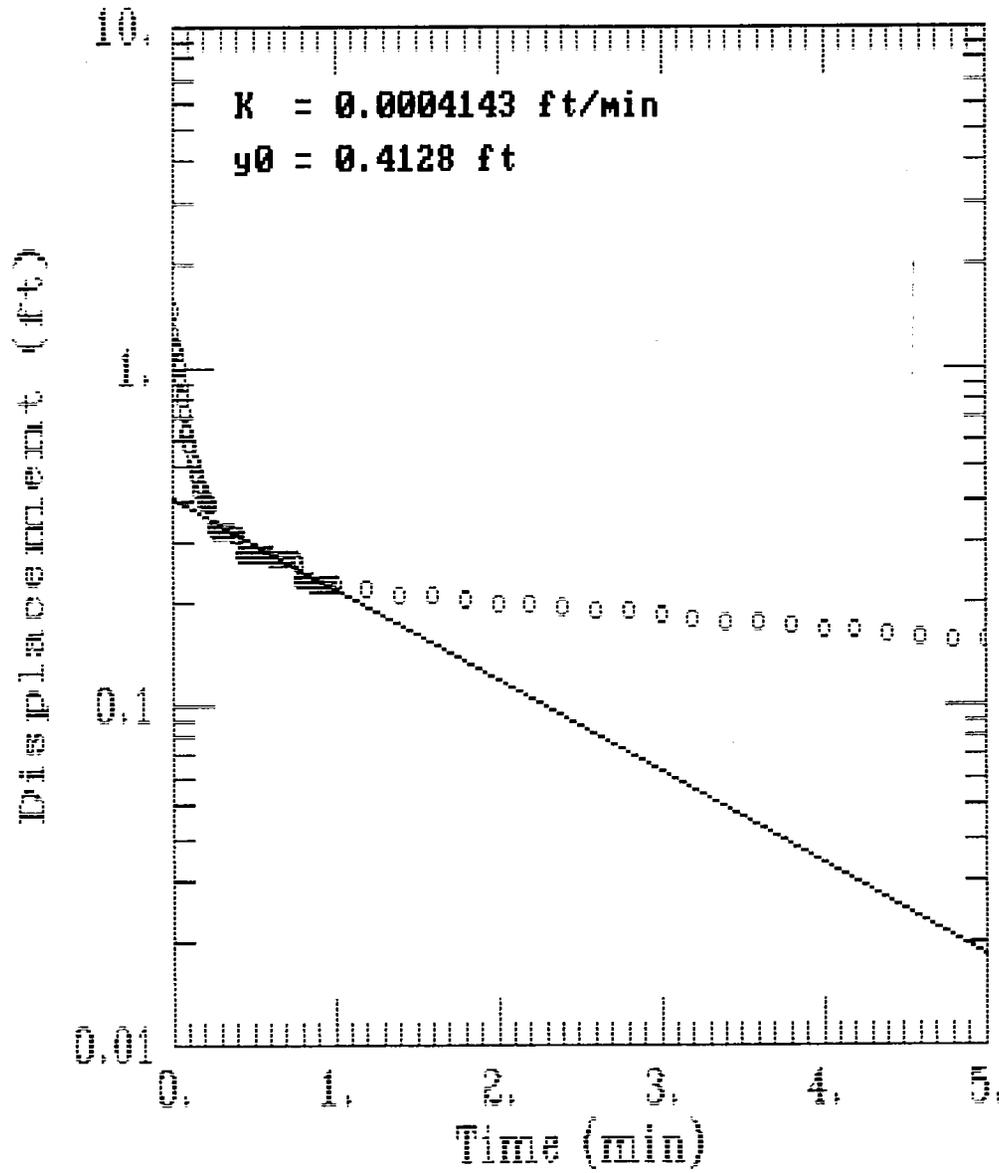
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist		SP		
4-12'				Same as above, Wet at 5' BGS.		SP		
5								
10								
15								
20								

TITLE: NTC, ORLANDO		LOG of WELL: MW-9	BORING NO.
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 9-22-98	COMPLTD: 9-22-98
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 2-12 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 8 5 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 9-23-98	SITE: BUILDING 7125	

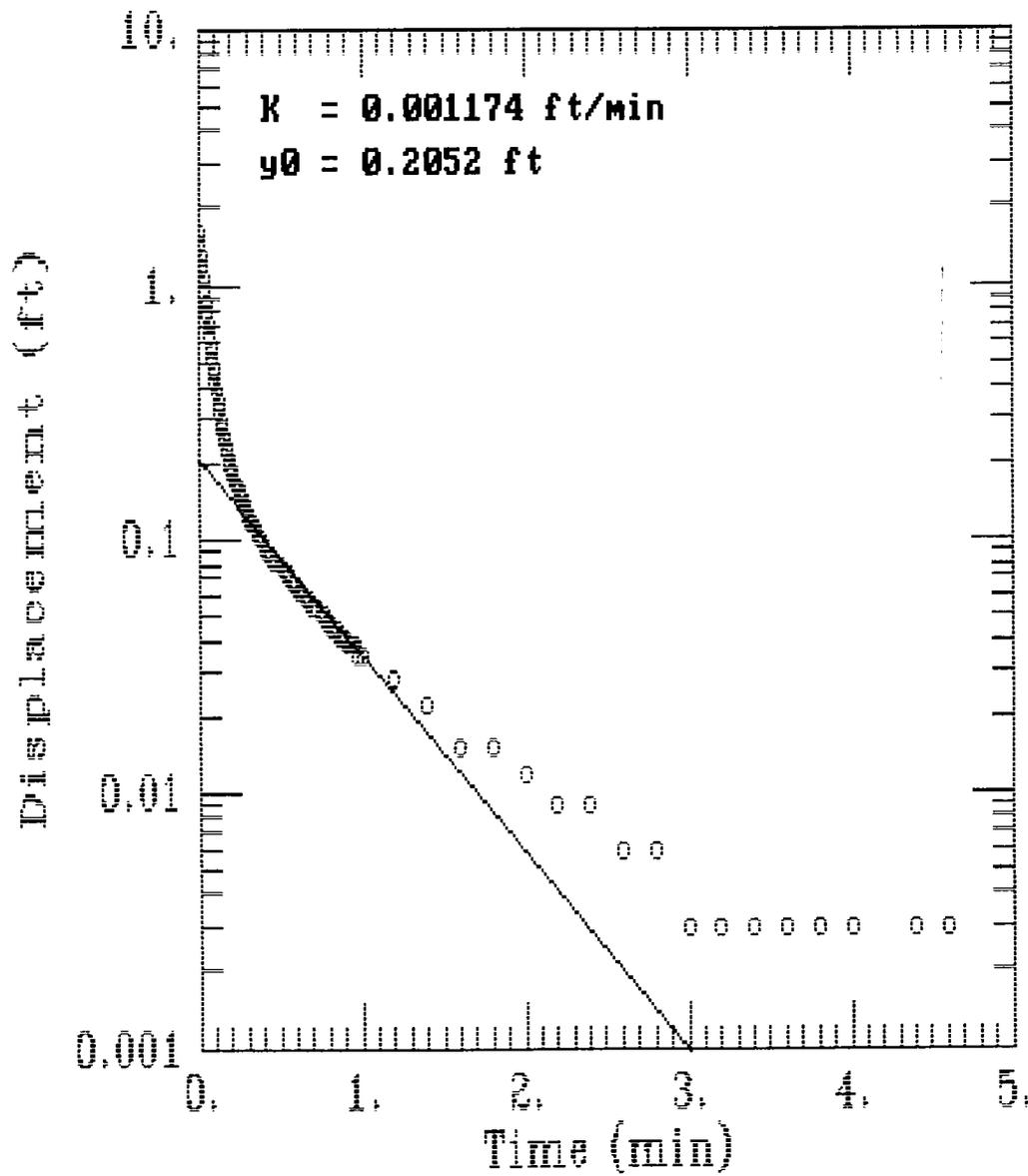
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0-4'				SAND, fine grained, Black to gray, moist		SP		
4'-12'				Same as above, Wet at 5' BGS		SP		
5								
10								
15								
20								

APPENDIX E
SLUG TEST DATA

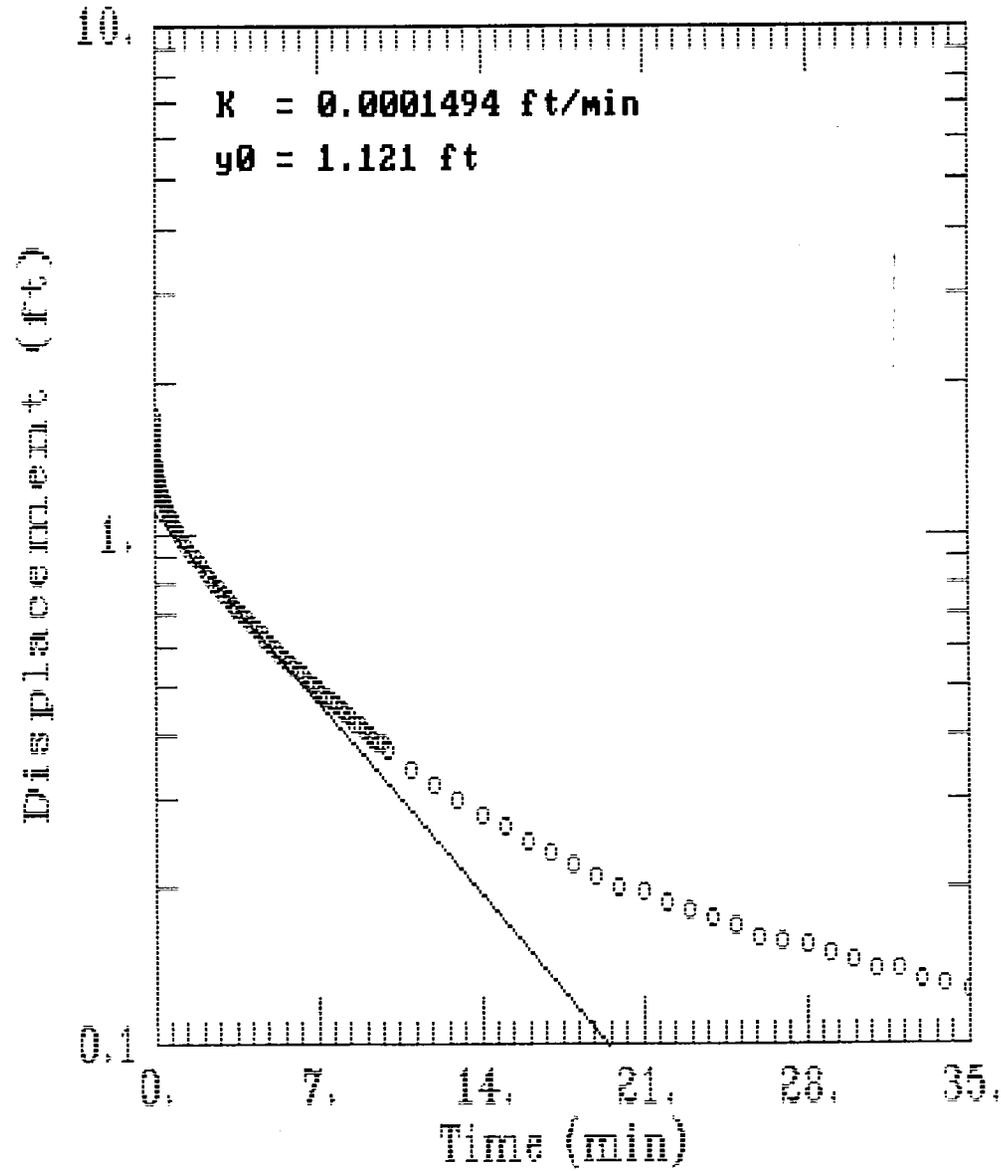
7125 MW 4 Slug Out 1



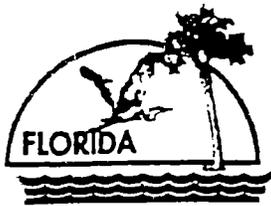
7125 MW 7 Slug Out 1



7125 DW 1 Slug Out



APPENDIX F
WATER SAMPLING LOG FORMS



DEP Form # 62-770.900(3)
 Form Title: Petroleum or Petroleum Products
Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: <u>MW-1</u>	SAMPLE ID:	DATE: <u>7/14/98</u>
SITE NAME: <u>Building 7125</u>		SITE LOCATION:	

PURGE DATA								
WELL DIAMETER (in): <u>2</u>	TOTAL WELL DEPTH (ft): <u>12</u>	DEPTH TO WATER (ft): <u>5.00</u>	WELL CAPACITY (gal/ft): <u>0.16</u>					
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = $(12 - 5.00) \times 0.16 = 1.12$								
PURGE METHOD: <u>Peristaltic Pump</u>				PURGING INITIATED AT: <u>0934</u>		PURGING ENDED AT: <u>1015</u>		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal):	
					COLOR	ODOR	APPEARANCE	OTHER
		<u>6.24</u>	<u>25</u>	<u>540</u>	<u>clear</u>	<u>slight</u>		<u>Turbidity 5.66</u>
		<u>6.08</u>	<u>25</u>	<u>550</u>	<u>"</u>			<u>5.10</u>
		<u>6.11</u>	<u>25</u>	<u>550</u>	<u>"</u>			<u>4.26</u>
		<u>6.11</u>	<u>25</u>	<u>550</u>	<u>"</u>			<u>3.11</u>

SAMPLING DATA							
SAMPLED BY / AFFILIATION: <u>HLA</u>				SAMPLER(S) SIGNATURE(S):			
SAMPLING METHOD(S):				SAMPLING INITIATED AT: <u>1015</u>		SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N	
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH		

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.



DEP Form # 62-770,900(3)
 Form Title: Petroleum or Petroleum Products
 Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-2	SAMPLE ID:	DATE: 7/14/98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA							
WELL DIAMETER (in):	2	TOTAL WELL DEPTH (ft):	12	DEPTH TO WATER (ft):	5.11	WELL CAPACITY (gal/ft):	0.16
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = $= (12 - 5.11) \times 0.16 = 1.10$							
PURGE METHOD: Peristaltic Pump				PURGING INITIATED AT: 1019		PURGING ENDED AT: 1047	
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (umhos)	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):	OTHER
		6.08	25	60	CLEAR		Turbidity 34.5
		6.14	25	65	"		30.2
		6.16	25	60	"		22.5
		6.17	25	60	"		18.50

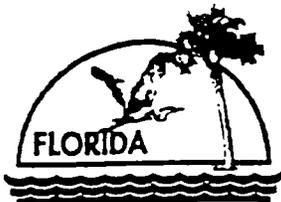
SAMPLING DATA						
SAMPLED BY / AFFILIATION: HLA				SAMPLER(S) SIGNATURE(S):		
SAMPLING METHOD(S):				SAMPLING INITIATED AT: 1047		SAMPLING ENDED AT:
FIELD DECONTAMINATION: Y N		FIELD-FILTERED: Y N		DUPLICATE: Y N		
SAMPLE CONTAINER SPECIFICATIONS		SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)		

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.



DEP Form # 62-770,900(3)

Form Title: Petroleum or Petroleum Products

Water Sampling Log

Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: Mw-4	SAMPLE ID:	DATE: 7/14/98
SITE NAME: Building 7125	SITE LOCATION:		

PURGE DATA								
WELL DIAMETER (in):	2	TOTAL WELL DEPTH (ft):	12	DEPTH TO WATER (ft):	5.34	WELL CAPACITY (gal/ft):	0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = $= (12 - 5.34) \times 0.16 = 1.07$								
PURGE METHOD: Peristaltic Pump			PURGING INITIATED AT: 1022			PURGING ENDED AT: 1122		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal):	
					COLOR	ODOR	APPEARANCE	OTHER Turbidity
		5.47	25	1670	clear	Strong	foamy	12.50
		5.62	25	1670				10.11
		5.64	25	1650				8.50
		5.66	25	1650				9.62
		5.67	25	1650				6.50

SAMPLING DATA								
SAMPLED BY / AFFILIATION: HLA					SAMPLER(S) SIGNATURE(S):			
SAMPLING METHOD(S):					SAMPLING INITIATED AT: 1122		SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N		
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH			

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.



DEP Form # 62-770.900(3)
 Form Title: Petroleum or Petroleum Products
 Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-5	SAMPLE ID:	DATE: 7/14/94
SITE NAME: Building 7125	SITE LOCATION:		

PURGE DATA								
WELL DIAMETER (in):	2	TOTAL WELL DEPTH (ft):	12	DEPTH TO WATER (ft):	5.26	WELL CAPACITY (gal/ft):	0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY =								
= (12 - 5.26) x 0.16 = 1.08								
PURGE METHOD: Peristaltic Pump			PURGING INITIATED AT: 1128			PURGING ENDED AT: 1209		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (umhos)	PURGE RATE (gpm):	COLOR	ODOR	TOTAL VOLUME PURGED (gal):
		5.99	25	520		clear	moderate	foamy
		6.08	25	500				12.40
		6.10	25	510				9.82
		6.12	25	510				6.41
								6.40

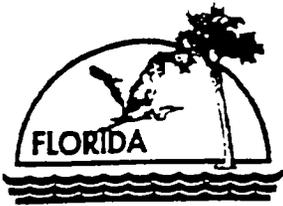
SAMPLING DATA								
SAMPLED BY / AFFILIATION: HLA				SAMPLER(S) SIGNATURE(S):				
SAMPLING METHOD(S):				SAMPLING INITIATED AT:			SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N		
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH			

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.



DEP Form # 62-770,900(3)
 Form Title: Petroleum or Petroleum Products
 Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-6	SAMPLE ID:	DATE: 10/6/98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA								
WELL DIAMETER (in):	2	TOTAL WELL DEPTH (ft):	12	DEPTH TO WATER (ft):	3.45	WELL CAPACITY (gal/ft):	0.16	
$1 \text{ WELL VOLUME (gal)} = (\text{TOTAL WELL DEPTH} - \text{DEPTH TO WATER}) \times \text{WELL CAPACITY} =$ $= (12 - 3.45) \times 0.16 = 1.37$								
PURGE METHOD: Peristaltic Pump				PURGING INITIATED AT: 11:16		PURGING ENDED AT: 12:45		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	★ pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):	~ 21	
					COLOR	ODOR	APPEARANCE	OTHER <i>Turb. & T</i>
Int	-	NT	26	150				7200
1.82	2.5	11	27	130				130
3.65	5.0	11	28	120				106
6.60	9.0	11	26	110				54
10.95	15	11	NT	NT				42
12.41	17	11	NT	NT				32
15.33	21	11	NT	NT				17.5

SAMPLING DATA							
SAMPLED BY / AFFILIATION: HLA				SAMPLER(S) SIGNATURE(S):			
SAMPLING METHOD(S):				SAMPLING INITIATED AT: 1300		SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N	
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH		

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.

★ = pH meter not working correctly
 NT = Reading not taken



DEP Form # 62-770.900(2)
 Form Title: Petroleum or Petroleum Products
 Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-7	SAMPLE ID:	DATE: 10/6/98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA									
WELL DIAMETER (in): 2		TOTAL WELL DEPTH (ft): 12			DEPTH TO WATER (ft): 3.54			WELL CAPACITY (gal/ft): 0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = = (12 - 3.54) x 0.16 = 1.35									
PURGE METHOD: Peristaltic Pump					PURGING INITIATED AT: 1330			PURGING ENDED AT: 1515	
WELL VOLS. PURGED		CUMUL. VOLUME PURGED (gal)	★ pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): ~45	
						COLOR	ODOR	APPEARANCE	OTHER Turbidity
Int		-	NT	26	70				1601
5.19		7.0	"	26	90				7200
11.11		15	"	26	100				7200
18.52		25	"	28	100				42
22.22		30	"	28	100				42
93		35	"	NT	NT				26
22.33		45	"	NT	NT				★★

SAMPLING DATA									
SAMPLED BY / AFFILIATION: HLA					SAMPLER(S) SIGNATURE(S):				
SAMPLING METHOD(S):					SAMPLING INITIATED AT: 1530			SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH				

REMARKS:
 MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)
 WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.
 = pH meter not working correctly
 ★★ = Turbidity meter not working correctly
 NT = Reading not taken



DEF Form # 62-770 900(3)

Form Title: Petroleum or Petroleum Products

Water Sampling Log

Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-8	SAMPLE ID:	DATE: 10/6/98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA									
WELL DIAMETER (in): 2		TOTAL WELL DEPTH (ft): 12			DEPTH TO WATER (ft): 3.70			WELL CAPACITY (gal/ft): 0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = $= (12 - 3.70) \times 0.16 = 1.33$									
PURGE METHOD: Peristaltic Pump				PURGING INITIATED AT: 1459			PURGING ENDED AT: 1550		
WELL VOLS. PURGED		CUMUL. VOLUME PURGED (gal)	★ pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal): - 10		OTHER
						COLOR	ODOR	APPEARANCE	Turbidity
0.75		1.0	NT	26	100				28
1.50		2.0	"	26	90				NT **
3.76		5.0	"	26	80				NT **
7.52		10.0	"	26	80				NT **

SAMPLING DATA									
SAMPLED BY / AFFILIATION: HLA					SAMPLER(S) SIGNATURE(S):				
SAMPLING METHOD(S):					SAMPLING INITIATED AT: 1600			SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH				

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.

★ = pH meter not working correctly
 ** = Turbidity meter not working correctly
 NT = Reading Not Taken



DEP Form # 62-770-900(7)

Form Title: Petroleum or Petroleum Products

Water Sampling Log

Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: MW-9	SAMPLE ID:	DATE: 10/6/98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA									
WELL DIAMETER (in): 2		TOTAL WELL DEPTH (ft): 12			DEPTH TO WATER (ft): 3.95			WELL CAPACITY (gal/ft): 0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY = $(12 - 3.95) \times 0.16 = 1.29$									
PURGE METHOD: Peristaltic Pump				PURGING INITIATED AT: 1611			PURGING ENDED AT: 1650		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	* pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): ~6.0		OTHER**
					COLOR	ODOR	APPEARANCE	Turbidity	
	0.5	NT	27	150	CLEAR				NT
	1.0	-	27	160					-
	3.0	-	27	160					-
	4.5	-	27	145					-
	5.5	-	27	145					-
	6.0	-	27	145					-

SAMPLING DATA									
SAMPLED BY / AFFILIATION: HLA					SAMPLER(S) SIGNATURE(S):				
SAMPLING METHOD(S):					SAMPLING INITIATED AT: 1700			SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)		FINAL pH			

REMARKS:

MATERIAL CODES: AG - AMBER GLASS; CG - CLEAR GLASS; HDP - HIGH DENSITY POLYETHYLENE; O - OTHER (SPECIFY)

WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.

. = pH meter not working correctly
 ** = Turbidity meter not working correctly
 N.T. = Not Taken



DEP Form # 62-770 900(3)
 Form Title: Petroleum or Petroleum Products
 Water Sampling Log
 Effective Date: _____

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: DW-1	SAMPLE ID:	DATE: 10 / 6 / 98
SITE NAME: Building 7125		SITE LOCATION:	

PURGE DATA								
WELL DIAMETER (in):	2	TOTAL WELL DEPTH (ft):	29.85	DEPTH TO WATER (ft):	3.69	WELL CAPACITY (gal/ft):	0.16	
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY =								
- (29.85 - 3.69) x 0.16 = 4.19								
PURGE METHOD: Peristaltic Pump				PURGING INITIATED AT: 1052		PURGING ENDED AT: 1425		
				PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): ~ 50		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH*	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER TURBIDITY
Int	-	NT	25	750	Green/Brown			> 200
2.39	10	"	24	285				> 200
4.77	20	"	26	220				> 200
7.16	30	"	25	165				> 200
9.55	40	"	25	145				140
10.74	45	"	26	135				140
11.46	48	"	26	135				140

SAMPLING DATA							
SAMPLED BY / AFFILIATION: HLA				SAMPLER(S) SIGNATURE(S):			
SAMPLING METHOD(S):				SAMPLING INITIATED AT: 1430		SAMPLING ENDED AT:	
FIELD DECONTAMINATION: Y N			FIELD-FILTERED: Y N			DUPLICATE: Y N	
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH		

REMARKS:

MATERIAL CODES: AG = AMBER GLASS; CG = CLEAR GLASS; HDP = HIGH DENSITY POLYETHYLENE; O = OTHER (SPECIFY)
 WELL CAPACITY: 1.25" = 0.06 gal/ft; 2" = 0.16 gal/ft; 4" = 0.65 gal/ft; 6" = 1.47 gal/ft; 8" = 2.61 gal/ft; 12" = 5.88 gal/ft

NOTE: this does not constitute all the information required by Chapter 62-160, F.A.C.

* = pH meter not working correctly.

NT = Reading not taken

APPENDIX G

GROUNDWATER AND SOIL LABORATORY ANALYTICAL REPORTS

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-1			S884201-1-			S884201-2			S884201-3		
	Site	7125		7125			7125			7125		
Locator	080GM101/7125MW-1			080GM101/7125MW-1			080GM201/7125MW-2			080GM301/7125MW-3		
Collect Date:	14-JUL-98			14-JUL-98			14-JUL-98			14-JUL-98		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
EPA 601												
Bromodichloromethane	1 U		ug/l	1	-				1 U		ug/l	1
Bromoform	5 U		ug/l	5	-				5 U		ug/l	5
Bromomethane	1 U		ug/l	1	-				1 U		ug/l	1
Carbon tetrachloride	1 U		ug/l	1	-				1 U		ug/l	1
Chlorobenzene	1 U		ug/l	1	-				1 U		ug/l	1
Chloroethane	1 U		ug/l	1	-				1 U		ug/l	1
2-Chloroethylvinyl ether	10 U		ug/l	10	-				10 U		ug/l	10
Chloroform	1 U		ug/l	1	-				1 U		ug/l	1
Chloromethane	1 U		ug/l	1	-				1 U		ug/l	1
Dibromochloromethane	1 U		ug/l	1	-				1 U		ug/l	1
1,2-Dichlorobenzene	1 U		ug/l	1	-				1 U		ug/l	1
1,3-Dichlorobenzene	1 U		ug/l	1	-				1 U		ug/l	1
1,4-Dichlorobenzene	1 U		ug/l	1	-				1 U		ug/l	1
Dichlorodifluoromethane	1 U		ug/l	1	-				1 U		ug/l	1
1,1-Dichloroethane	1 U		ug/l	1	-				1 U		ug/l	1
1,2-Dichloroethane	1 U		ug/l	1	-				1 U		ug/l	1
1,1-Dichloroethene	1 U		ug/l	1	-				1 U		ug/l	1
Cis/Trans-1,2-Dichloroethene	1 U		ug/l	1	-				1 U		ug/l	1
1,2-Dichloropropane	1 U		ug/l	1	-				1 U		ug/l	1
cis-1,3-Dichloropropene	1 U		ug/l	1	-				1 U		ug/l	1
trans-1,3-Dichloropropene	1 U		ug/l	1	-				1 U		ug/l	1
Methylene chloride	5 U		ug/l	5	-				5 U		ug/l	5
1,1,2,2-Tetrachloroethane	1 U		ug/l	1	-				1 U		ug/l	1
Tetrachloroethene	1 U		ug/l	1	-				1 U		ug/l	1
1,1,1-Trichloroethane	1 U		ug/l	1	-				1 U		ug/l	1
1,1,2-Trichloroethane	1 U		ug/l	1	-				1 U		ug/l	1
Trichloroethylene	1 U		ug/l	1	-				1 U		ug/l	1
Trichlorofluoromethane	1 U		ug/l	1	-				1 U		ug/l	1
Vinyl chloride	1 U		ug/l	1	-				1 U		ug/l	1
EPA 602												
Benzene	1 U		ug/l	1	-				1 U		ug/l	1
Toluene	1 U		ug/l	1	-				1 U		ug/l	1
Ethylbenzene	2.9		ug/l	1	-				1.4		ug/l	1
Xylenes (total)	2.1		ug/l	2	-				5.6		ug/l	2
Methyl tert-butyl ether	10 U		ug/l	10	-				10 U		ug/l	10
EPA 504												
1,2-Dibromoethane (EDB)	.02 U		ug/l	.02	-				.02 U		ug/l	.02
PAH COMPOUNDS												
Acenaphthene	15 Y		ug/l	1	20 U		ug/l	20	1 U		ug/l	1
Acenaphthylene	34 E		ug/l	1	20 U		ug/l	20	2		ug/l	1
Anthracene	.94 X		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2
Benzo(a)anthracene	.2 U		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2
Benzo(a)pyrene	.2 U		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2
Benzo(b)fluoranthene	.2 U		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2
Benzo(g,h,i)perylene	.5 U		ug/l	.5	10 U		ug/l	10	.5 U		ug/l	.5
Benzo(k)fluoranthene	.2 U		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2
Chrysene	.2 U		ug/l	.2	4 U		ug/l	4	.2 U		ug/l	.2

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-1	S884201-1-	S884201-2	S884201-3
Site	7125	7125	7125	7125
Locator	080GM101/7125MW-1	080GM101/7125MW-1	080GM201/7125MW-2	080GM301/7125MW-3
Collect Date:	14-JUL-98	14-JUL-98	14-JUL-98	14-JUL-98

	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Dibenzo(a,h)anthracene	.5	U	ug/l	.5	10	U	ug/l	10	.5	U	ug/l	.5	.5	U	ug/l	.5
Fluoranthene	.62	X	ug/l	.5	10	U	ug/l	10	.5	U	ug/l	.5	.5	U	ug/l	.5
Fluorene	13	EY	ug/l	.5	10	U	ug/l	10	.99	X	ug/l	.5	.5	U	ug/l	.5
Indeno(1,2,3-cd)pyrene	.5	U	ug/l	.5	10	U	ug/l	10	.5	U	ug/l	.5	.5	U	ug/l	.5
1-Methylnaphthalene	190	E	ug/l	1	190	U	ug/l	1	2.9	U	ug/l	1	1	U	ug/l	1
2-Methylnaphthalene	180	E	ug/l	1	140	U	ug/l	1	2.5	U	ug/l	1	1	U	ug/l	1
Naphthalene	180	E	ug/l	1	210	U	ug/l	1	2	X	ug/l	1	1	U	ug/l	1
Phenanthrene	8.6	E	ug/l	.2	12	U	ug/l	.2	.2	U	ug/l	.2	.2	U	ug/l	.2
Pyrene	.5	U	ug/l	.5	10	U	ug/l	10	.5	U	ug/l	.5	.5	U	ug/l	.5
LEAD																
Lead	.005	U	mg/l	.005	-				.005	U	mg/l	.005	.005	U	mg/l	.005
Flo Pro																
Petroleum Range Organics (F1-P)	21		mg/l	.3	-				.93		mg/l	.3	.3	U	mg/l	.3

U = NOT DETECTED J = ESTIMATED
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
 R = RESULT IS REJECTED AND UNUSABLE

BUILDING 7125
NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-4	S884201-4-	S884201-5	S884201-5-
Site	7125	7125	7125	7125
Locator	080GM401/7125MW-4	080GM401/7125MW-4	080GM501/7125MW-5	080GM501/7125MW-5
Collect Date:	14-JUL-98	14-JUL-98	14-JUL-98	14-JUL-98
	VALUE QUAL UNITS DL			

EPA 601										
Bromodichloromethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Bromoform	25 U	ug/l	25	-		10 U	ug/l	10	-	
Bromomethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Carbon tetrachloride	5 U	ug/l	5	-		2 U	ug/l	2	-	
Chlorobenzene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Chloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
2-Chloroethylvinyl ether	50 U	ug/l	50	-		20 U	ug/l	20	-	
Chloroform	5 U	ug/l	5	-		2 U	ug/l	2	-	
Chloromethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Dibromochloromethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,2-Dichlorobenzene	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,3-Dichlorobenzene	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,4-Dichlorobenzene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Dichlorodifluoromethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,1-Dichloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,2-Dichloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,1-Dichloroethene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Cis/Trans-1,2-Dichloroethene	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,2-Dichloropropane	5 U	ug/l	5	-		2 U	ug/l	2	-	
cis-1,3-Dichloropropene	5 U	ug/l	5	-		2 U	ug/l	2	-	
trans-1,3-Dichloropropene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Methylene chloride	25 U	ug/l	25	-		10 U	ug/l	10	-	
1,1,2,2-Tetrachloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Tetrachloroethene	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,1,1-Trichloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
1,1,2-Trichloroethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Trichloroethylene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Trichlorofluoromethane	5 U	ug/l	5	-		2 U	ug/l	2	-	
Vinyl chloride	5 U	ug/l	5	-		2 U	ug/l	2	-	
EPA 602										
Benzene	5 U	ug/l	5	-		2 U	ug/l	2	-	
Toluene	32	ug/l	1	-		2 U	ug/l	2	-	
Ethylbenzene	63	ug/l	1	-		40	ug/l	1	-	
Xylenes (total)	240	ug/l	2	-		110	ug/l	2	-	
Methyl tert-butyl ether	50 U	ug/l	50	-		20 U	ug/l	20	-	
EPA 504										
1,2-Dibromoethane (EDB)	.02 U	ug/l	.02	-		.02 U	ug/l	.02	-	

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-4	S884201-4-	S884201-5	S884201-5-					
Site	7125	7125	7125	7125					
Locator	080GM401/7125MW-4	080GM401/7125MW-4	080GM501/7125MW-5	080GM501/7125MW-5					
Collect Date:	14-JUL-98	14-JUL-98	14-JUL-98	14-JUL-98					
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

PAH COMPOUNDS	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
Acenaphthene	2.8 X	ug/l	1	20 U	ug/l	20	5.5 Y	ug/l	1	20 U	ug/l	20
Acenaphthylene	19	ug/l	1	20 U	ug/l	20	12	ug/l	1	20 U	ug/l	20
Anthracene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Benzo(a)anthracene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Benzo(a)pyrene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Benzo(b)fluoranthene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Benzo(g,h,i)perylene	.5 U	ug/l	.5	10 U	ug/l	10	.5 U	ug/l	.5	10 U	ug/l	10
Benzo(k)fluoranthene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Chrysene	.2 U	ug/l	.2	4 U	ug/l	4	.2 U	ug/l	.2	4 U	ug/l	4
Dibenzo(a,h)anthracene	.5 U	ug/l	.5	10 U	ug/l	10	.5 U	ug/l	.5	10 U	ug/l	10
Fluoranthene	.5 U	ug/l	.5	10 U	ug/l	10	.5 U	ug/l	.5	10 U	ug/l	10
Fluorene	5.2 X	ug/l	.5	10 U	ug/l	10	5.5 Y	ug/l	.5	10 U	ug/l	10
Indeno(1,2,3-cd)pyrene	.5 U	ug/l	.5	10 U	ug/l	10	.5 U	ug/l	.5	10 U	ug/l	10
1-Methylnaphthalene	100 E	ug/l	1	110	ug/l	1	81 E	ug/l	1	85 X	ug/l	1
2-Methylnaphthalene	120 E	ug/l	1	140	ug/l	1	25 X	ug/l	1	32	ug/l	1
Naphthalene	130 E	ug/l	1	140	ug/l	1	5.2	ug/l	1	20 U	ug/l	20
Phenanthrene	.99 X	ug/l	.2	4 U	ug/l	4	.89 X	ug/l	.2	4 U	ug/l	4
Pyrene	.5 U	ug/l	.5	10 U	ug/l	10	.5 U	ug/l	.5	10 U	ug/l	10
LEAD												
Lead	.005 U	mg/l	.005	-			.005 U	mg/l	.005	-		
Fluoro Petroleum Range Organics (Fl-P)	36	mg/l	.3	-			8.4	mg/l	.3	-		

U = NOT DETECTED J = ESTIMATED
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 R = RESULT IS REJECTED AND UNUSABLE

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S886116-2	S886116-3	S886116-4	S886116-5
Site	7125	7125	7125	7125
Locator	080GM601 / 7125 MW-6	080GM701 / 7125 MW-7	080GM801 / 7125 MW-8	080GM901 / 7125 MW-9
Collect Date:	06-OCT-98	06-OCT-98	06-OCT-98	06-OCT-98
	VALUE QUAL UNITS DL			

	VALUE	QUAL UNITS	DL									
EPA 601												
Bromodichloromethane	1 U	ug/l	1									
Bromoform	5 U	ug/l	5									
Bromomethane	1 U	ug/l	1									
Carbon tetrachloride	1 U	ug/l	1									
Chlorobenzene	1 U	ug/l	1									
Chloroethane	1 U	ug/l	1									
2-Chloroethylvinyl ether	10 U	ug/l	10									
Chloroform	1 U	ug/l	1									
Chloromethane	1 U	ug/l	1									
Dibromochloromethane	1 U	ug/l	1									
1,2-Dichlorobenzene	1 U	ug/l	1									
1,3-Dichlorobenzene	1 U	ug/l	1									
1,4-Dichlorobenzene	1 U	ug/l	1									
Dichlorodifluoromethane	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/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									
Methylene chloride	5 U	ug/l	5									
1,1,2,2-Tetrachloroethane	1 U	ug/l	1									
Tetrachloroethene	1 U	ug/l	1									
1,1,1-Trichloroethane	1 U	ug/l	1									
1,1,2-Trichloroethane	1 U	ug/l	1									
Trichloroethylene	1 U	ug/l	1									
Trichlorofluoromethane	1 U	ug/l	1									
Vinyl chloride	1 U	ug/l	1									
EPA 602												
Benzene	1 U	ug/l	1									
Toluene	1 U	ug/l	1									
Ethylbenzene	4.1	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Xylenes (total)	8.7	ug/l	2	2 U	ug/l	2	2 U	ug/l	2	2 U	ug/l	2
Methyl tert-butyl ether	10 U	ug/l	10									
EPA 504												
1,2-Dibromoethane (EDB)	.02 U	ug/l	.02									

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S886116-2	S886116-3	S886116-4	S886116-5								
Site	7125	7125	7125	7125								
Locator	080GM601 / 7125 MW-6	080GM701 / 7125 MW-7	080GM801 / 7125 MW-8	080GM901 / 7125 MW-9								
Collect Date:	06-OCT-98	06-OCT-98	06-OCT-98	06-OCT-98								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

PAH COMPOUNDS

Acenaphthene	1 U	ug/l	1									
Acenaphthylene	1 U	ug/l	1									
Anthracene	.2 U	ug/l	.2									
Benzo(a)anthracene	.2 U	ug/l	.2									
Benzo(a)pyrene	.2 U	ug/l	.2									
Benzo(b)fluoranthene	.2 U	ug/l	.2									
Benzo(g,h,i)perylene	.5 U	ug/l	.5									
Benzo(k)fluoranthene	.2 U	ug/l	.2									
Chrysene	.2 U	ug/l	.2									
Dibenzo(a,h)anthracene	.5 U	ug/l	.5									
Fluoranthene	.5 U	ug/l	.5									
Fluorene	.5 U	ug/l	.5									
Indeno(1,2,3-cd)pyrene	.5 U	ug/l	.5									
1-Methylnaphthalene	6.2	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	7.9	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Naphthalene	5.1	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	.2 U	ug/l	.2									
Pyrene	.5 U	ug/l	.5									

LEAD

Lead	.005 U	mg/l	.005									
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Flo Pra

Petroleum Range Organics (Fl-P)	1.7	mg/l	.3	.3 U	mg/l	.3	.3 U	mg/l	.3	.3 U	mg/l	.3
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BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number: Site Locator Collect Date:	S886116-6 7125 080GD101 / 7125 DW-1 06-OCT-98			S882725-1 7125 080SS101/7125 SS-1 12-MAY-98			S882725-1* 7125 080SS101/7125 SS-1 12-MAY-98			S882725-2 7125 080SS201/7125 SS-2 12-MAY-98		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
PAH COMPOUNDS												
Acenaphthene	1 U	ug/l	1	2700 U	ug/kg	2700	11000 U	ug/kg	11000	1100 U	ug/kg	1100
Acenaphthylene	1 U	ug/l	1	1100 U	ug/kg	1100	4300 U	ug/kg	4300	430 U	ug/kg	430
Anthracene	.2 U	ug/l	.2	570 X	ug/kg	4	860 U	ug/kg	860	87 U	ug/kg	87
Benzo(a)anthracene	.2 U	ug/l	.2	1600 Y	ug/kg	4	980 X	ug/kg	4	690 Y	ug/kg	4
Benzo(a)pyrene	.2 U	ug/l	.2	550	ug/kg	4	860 U	ug/kg	860	87 U	ug/kg	87
Benzo(b)fluoranthene	.2 U	ug/l	.2	770	ug/kg	4	860 U	ug/kg	860	87 U	ug/kg	87
Benzo(g,h,i)perylene	.5 U	ug/l	.5	540 U	ug/kg	540	2200 U	ug/kg	2200	220 U	ug/kg	220
Benzo(k)fluoranthene	.2 U	ug/l	.2	280 X	ug/kg	10	860 U	ug/kg	860	87 U	ug/kg	87
Chrysene	.2 U	ug/l	.2	2200 Y	ug/kg	4	1000	ug/kg	4	940 Y	ug/kg	4
Dibenzo(a,h)anthracene	.5 U	ug/l	.5	540 U	ug/kg	540	2200 U	ug/kg	2200	220 U	ug/kg	220
Fluoranthene	.5 U	ug/l	.5	5500 X	ug/kg	10	4200 X	ug/kg	10	480 X	ug/kg	10
Fluorene	.5 U	ug/l	.5	2800	ug/kg	10	2200 U	ug/kg	2200	220 U	ug/kg	220
Indeno(1,2,3-cd)pyrene	.5 U	ug/l	.5	540 U	ug/kg	540	2200 U	ug/kg	2200	220 U	ug/kg	220
1-Methylnaphthalene	7	ug/l	1	-			-			-		
2-Methylnaphthalene	8.8	ug/l	1	-			-			-		
Naphthalene	14	ug/l	1	1100 U	ug/kg	1100	4300 U	ug/kg	4300	430 U	ug/kg	430
Phenanthrene	.2 U	ug/l	.2	4400	ug/kg	4	3000	ug/kg	4	180 X	ug/kg	4
Pyrene	.5 U	ug/l	.5	2500 X	ug/kg	10	1600 X	ug/kg	10	420 X	ug/kg	10
LEAD												
Lead	.005 U	mg/l	.005	-			-			-		
Flo Pro												
Petroleum Range Organics (F1-P)	.52	mg/l	.3	14000	mg/kg	10	-			5700	mg/kg	10

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BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number: S882725-2*
 Site 7125
 Locator 080SS201/7125 SS-2
 Collect Date: 12-MAY-98

S882725-3
 7125
 080SS301/7125 SS-3
 12-MAY-98

S884201-6
 7125
 080RB101/7125RB-1
 14-JUL-98

S886116-1
 7125
 080RB201 / 7125 RB-2
 06-OCT-98

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
EPA 601												
Bromodichloromethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Bromoform	-			-			5 U	ug/l	5	5 U	ug/l	5
Bromomethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Carbon tetrachloride	-			-			1 U	ug/l	1	1 U	ug/l	1
Chlorobenzene	-			-			1 U	ug/l	1	1 U	ug/l	1
Chloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
2-Chloroethylvinyl ether	-			-			10 U	ug/l	10	10 U	ug/l	10
Chloroform	-			-			1 U	ug/l	1	2.7	ug/l	1
Chloromethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Dibromochloromethane	-			-			1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	-			-			1 U	ug/l	1	1 U	ug/l	1
1,3-Dichlorobenzene	-			-			1 U	ug/l	1	1 U	ug/l	1
1,4-Dichlorobenzene	-			-			1 U	ug/l	1	1 U	ug/l	1
Dichlorodifluoromethane	-			-			1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
1,1-Dichloroethene	-			-			1 U	ug/l	1	1 U	ug/l	1
Cis/Trans-1,2-Dichloroethene	-			-			1 U	ug/l	1	1 U	ug/l	1
1,2-Dichloropropane	-			-			1 U	ug/l	1	1 U	ug/l	1
cis-1,3-Dichloropropene	-			-			1 U	ug/l	1	1 U	ug/l	1
trans-1,3-Dichloropropene	-			-			1 U	ug/l	1	1 U	ug/l	1
Methylene chloride	-			-			5 U	ug/l	5	5 U	ug/l	5
1,1,2,2-Tetrachloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Tetrachloroethene	-			-			1 U	ug/l	1	1 U	ug/l	1
1,1,1-Trichloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
1,1,2-Trichloroethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Trichloroethylene	-			-			1 U	ug/l	1	1 U	ug/l	1
Trichlorofluoromethane	-			-			1 U	ug/l	1	1 U	ug/l	1
Vinyl chloride	-			-			1 U	ug/l	1	1 U	ug/l	1
EPA 602												
Benzene	-			5.4 U	ug/kg	5.4	1 U	ug/l	1	1 U	ug/l	1
Toluene	-			5.4 U	ug/kg	5.4	1 U	ug/l	1	1 U	ug/l	1
Ethylbenzene	-			5.4 U	ug/kg	5.4	1 U	ug/l	1	1 U	ug/l	1
Xylenes (total)	-			5.4 U	ug/kg	5.4	2 U	ug/l	2	2 U	ug/l	2
Methyl tert-butyl ether	-			54 U	ug/kg	54	10 U	ug/l	10	10 U	ug/l	10
EPA 504												
1,2-Dibromoethane (EDB)	-			-			.02 U	ug/l	.02	.02 U	ug/l	.02

BUILDING 7125
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number: Site Locator Collect Date:	S882725-2*			S882725-3			S884201-6			S886116-1		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
PAH COMPOUNDS												
Acenaphthene	5400 U	ug/kg	5400	54 U	ug/kg	54	1 U	ug/l	1	1 U	ug/l	1
Acenaphthylene	2200 U	ug/kg	2200	22 U	ug/kg	22	1 U	ug/l	1	1 U	ug/l	1
Anthracene	430 U	ug/kg	430	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Benzo(a)anthracene	570 X	ug/kg	4	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Benzo(a)pyrene	430 U	ug/kg	430	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Benzo(b)fluoranthene	430 U	ug/kg	430	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Benzo(g,h,i)perylene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
Benzo(k)fluoranthene	430 U	ug/kg	430	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Chrysene	460 X	ug/kg	4	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Dibenzo(a,h)anthracene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
Fluoranthene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
Fluorene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
Indeno(1,2,3-cd)pyrene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
1-Methylnaphthalene	-			-			1 U	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	-			-			1 U	ug/l	1	1 U	ug/l	1
Naphthalene	2200 U	ug/kg	2200	22 U	ug/kg	22	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	430 U	ug/kg	430	4.3 U	ug/kg	4.3	.2 U	ug/l	.2	.2 U	ug/l	.2
Pyrene	1100 U	ug/kg	1100	11 U	ug/kg	11	.5 U	ug/l	.5	.5 U	ug/l	.5
LEAD												
Lead	-			-			.011	mg/l	.005	.011	mg/l	.005
Flo Pro												
Petroleum Range Organics (Fl-P)	-			11 U	mg/kg	11	.3 U	mg/l	.3	.3 U	mg/l	.3

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BUILDING 7125 -- HITS TABLE --
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-1	S884201-1-	S884201-2	S884201-3								
Site	7125	7125	7125	7125								
Locator	080GM101/7125MW-1	080GM101/7125MW-1	080GM201/7125MW-2	080GM301/7125MW-3								
Collect Date:	14-JUL-98	14-JUL-98	14-JUL-98	14-JUL-98								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

EPA 601												
Chloroform	- U	ug/l	1	-			- U	ug/l	1	- U	ug/l	1
EPA 602												
Toluene	- U	ug/l	1	-			- U	ug/l	1	- U	ug/l	1
Ethylbenzene	2.9	ug/l	1	-			1.4	ug/l	1	- U	ug/l	1
Xylenes (total)	2.1	ug/l	2	-			5.6	ug/l	2	- U	ug/l	2
PAH COMPOUNDS												
Acenaphthene	15 Y	ug/l	1	- U	ug/l	20	- U	ug/l	1	- U	ug/l	1
Acenaphthylene	34 E	ug/l	1	- U	ug/l	20	2	ug/l	1	- U	ug/l	1
Anthracene	.94 X	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Benzo(a)anthracene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Benzo(a)pyrene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Benzo(b)fluoranthene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Benzo(k)fluoranthene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Chrysene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	.2
Fluoranthene	.62 X	ug/l	.5	- U	ug/l	10	- U	ug/l	.5	- U	ug/l	.5
Fluorene	13 EY	ug/l	.5	- U	ug/l	10	.99 X	ug/l	.5	- U	ug/l	.5
1-Methylnaphthalene	190 E	ug/l	1	190	ug/l	1	2.9	ug/l	1	- U	ug/l	1
2-Methylnaphthalene	190 E	ug/l	1	140	ug/l	1	2.5	ug/l	1	- U	ug/l	1
Naphthalene	180 E	ug/l	1	210	ug/l	1	2 X	ug/l	1	- U	ug/l	1
Phenanthrene	8.6 E	ug/l	.2	12	ug/l	.2	- U	ug/l	.2	- U	ug/l	.2
Pyrene	- U	ug/l	.5	- U	ug/l	10	- U	ug/l	.5	- U	ug/l	.5
LEAD												
Lead	- U	mg/l	.005	-			- U	mg/l	.005	- U	mg/l	.005
Flo Pro												
Petroleum Range Organics (F1-P)	21	mg/l	.3	-			.93	mg/l	.3	- U	mg/l	.3

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BUILDING 7125 -- HITS TABLE --
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S884201-4	S884201-4-	S884201-5	S884201-5-					
Site	7125	7125	7125	7125					
Locator	080GM401/7125MW-4	080GM401/7125MW-4	080GM501/7125MW-5	080GM501/7125MW-5					
Collect Date:	14-JUL-98	14-JUL-98	14-JUL-98	14-JUL-98					
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

EPA 601												
Chloroform	- U	ug/l	5	-			- U	ug/l	2	-		
EPA 602												
Toluene	32	ug/l	1	-			- U	ug/l	2	-		
Ethylbenzene	63	ug/l	1	-			40	ug/l	1	-		
Xylenes (total)	240	ug/l	2	-			110	ug/l	2	-		
PAH COMPOUNDS												
Acenaphthene	2.8 X	ug/l	1	- U	ug/l	20	5.5 Y	ug/l	1	- U	ug/l	20
Acenaphthylene	19	ug/l	1	- U	ug/l	20	12	ug/l	1	- U	ug/l	20
Anthracene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Benzo(a)anthracene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Benzo(a)pyrene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Benzo(b)fluoranthene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Benzo(k)fluoranthene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Chrysene	- U	ug/l	.2	- U	ug/l	4	- U	ug/l	.2	- U	ug/l	4
Fluoranthene	- U	ug/l	.5	- U	ug/l	10	- U	ug/l	.5	- U	ug/l	10
Fluorene	5.2 X	ug/l	.5	- U	ug/l	10	5.5 Y	ug/l	.5	- U	ug/l	10
1-Methylnaphthalene	100 E	ug/l	1	110	ug/l	1	81 E	ug/l	1	85 X	ug/l	1
2-Methylnaphthalene	120 E	ug/l	1	140	ug/l	1	25 X	ug/l	1	32	ug/l	1
Naphthalene	130 E	ug/l	1	140	ug/l	1	5.2	ug/l	1	- U	ug/l	20
Phenanthrene	.99 X	ug/l	.2	- U	ug/l	4	.89 X	ug/l	.2	- U	ug/l	4
Pyrene	- U	ug/l	.5	- U	ug/l	10	- U	ug/l	.5	- U	ug/l	10
LEAD												
Lead	- U	mg/l	.005	-			- U	mg/l	.005	-		
Flo Pro												
Petroleum Range Organics (F1-P)	36	mg/l	.3	-			8.4	mg/l	.3	-		

U = NOT DETECTED J = ESTIMATED
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED
 R = RESULT IS REJECTED AND UNUSABLE

BUILDING 7125 -- HITS TABLE --
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

	S886116-2			S886116-3			S886116-4			S886116-5		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Lab Sample Number:	S886116-2			S886116-3			S886116-4			S886116-5		
Site	7125			7125			7125			7125		
Locator	080GM601 / 7125 MW-6			080GM701 / 7125 MW-7			080GM801 / 7125 MW-8			080GM901 / 7125 MW-9		
Collect Date:	06-OCT-98			06-OCT-98			06-OCT-98			06-OCT-98		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
EPA 601												
Chloroform	- U		ug/l	1	- U		ug/l	1	- U		ug/l	1
EPA 602												
Toluene	- U		ug/l	1	- U		ug/l	1	- U		ug/l	1
Ethylbenzene	4.1		ug/l	1	- U		ug/l	1	- U		ug/l	1
Xylenes (total)	8.7		ug/l	2	- U		ug/l	2	- U		ug/l	2
PAH COMPOUNDS												
Acenaphthene	- U		ug/l	1	- U		ug/l	1	- U		ug/l	1
Acenaphthylene	- U		ug/l	1	- U		ug/l	1	- U		ug/l	1
Anthracene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Benzo(a)anthracene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Benzo(a)pyrene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Benzo(b)fluoranthene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Benzo(k)fluoranthene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Chrysene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Fluoranthene	- U		ug/l	.5	- U		ug/l	.5	- U		ug/l	.5
Fluorene	- U		ug/l	.5	- U		ug/l	.5	- U		ug/l	.5
1-Methylnaphthalene	6.2		ug/l	1	- U		ug/l	1	- U		ug/l	1
2-Methylnaphthalene	7.9		ug/l	1	- U		ug/l	1	- U		ug/l	1
Naphthalene	5.1		ug/l	1	- U		ug/l	1	- U		ug/l	1
Phenanthrene	- U		ug/l	.2	- U		ug/l	.2	- U		ug/l	.2
Pyrene	- U		ug/l	.5	- U		ug/l	.5	- U		ug/l	.5
LEAD												
Lead	- U		mg/l	.005	- U		mg/l	.005	- U		mg/l	.005
Flo Pro												
Petroleum Range Organics (F1-P)	1.7		mg/l	.3	- U		mg/l	.3	- U		mg/l	.3

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BUILDING 7125 -- HITS TABLE --
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number:	S886116-6	S882725-1	S882725-1*	S882725-2
Site	7125	7125	7125	7125
Locator	080GD101 / 7125 DW-1	080SS101/7125 SS-1	080SS101/7125 SS-1	080SS201/7125 SS-2
Collect Date:	06-OCT-98	12-MAY-98	12-MAY-98	12-MAY-98
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL

EPA 601 Chloroform	- U	ug/l	1	-	-	-	-	-	-	-	-	
EPA 602 Toluene	- U	ug/l	1	- U	ug/kg	27	-	- U	ug/kg	27		
Ethylbenzene	6.2	ug/l	1	320	ug/kg	5	-	29	ug/kg	5		
Xylenes (total)	4.6	ug/l	2	1100	ug/kg	5	-	180	ug/kg	5		
PAH COMPOUNDS												
Acenaphthene	- U	ug/l	1	- U	ug/kg	2700	- U	ug/kg	11000	- U	ug/kg	1100
Acenaphthylene	- U	ug/l	1	- U	ug/kg	1100	- U	ug/kg	4300	- U	ug/kg	430
Anthracene	- U	ug/l	.2	570 X	ug/kg	4	- U	ug/kg	860	- U	ug/kg	87
Benzo(a)anthracene	- U	ug/l	.2	1600 Y	ug/kg	4	980 X	ug/kg	4	690 Y	ug/kg	4
Benzo(a)pyrene	- U	ug/l	.2	550	ug/kg	4	- U	ug/kg	860	- U	ug/kg	87
Benzo(b)fluoranthene	- U	ug/l	.2	770	ug/kg	4	- U	ug/kg	860	- U	ug/kg	87
Benzo(k)fluoranthene	- U	ug/l	.2	280 X	ug/kg	10	- U	ug/kg	860	- U	ug/kg	87
Chrysene	- U	ug/l	.2	2200 Y	ug/kg	4	1000	ug/kg	4	940 Y	ug/kg	4
Fluoranthene	- U	ug/l	.5	5500 X	ug/kg	10	4200 X	ug/kg	10	480 X	ug/kg	10
Fluorene	- U	ug/l	.5	2800	ug/kg	10	- U	ug/kg	2200	- U	ug/kg	220
1-Methylnaphthalene	7	ug/l	1	-	-	-	-	-	-	-	-	
2-Methylnaphthalene	8.8	ug/l	1	-	-	-	-	-	-	-	-	
Naphthalene	14	ug/l	1	- U	ug/kg	1100	- U	ug/kg	4300	- U	ug/kg	430
Phenanthrene	- U	ug/l	.2	4400	ug/kg	4	3000	ug/kg	4	180 X	ug/kg	4
Pyrene	- U	ug/l	.5	2500 X	ug/kg	10	1600 X	ug/kg	10	420 X	ug/kg	10
LEAD Lead	- U	mg/l	.005	-	-	-	-	-	-	-	-	
Flo Pro Petroleum Range Organics (F1-P)	.52	mg/l	.3	14000	mg/kg	10	-	5700	mg/kg	10		

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 R = RESULT IS REJECTED AND UNUSABLE

BUILDING 7125 -- HITS TABLE --
 NTC ORLANDO, FLORIDA, MCCOY ANNEX

Lab Sample Number: S882725-2*
 Site 7125
 Locator 080SS201/7125 SS-2
 Collect Date: 12-MAY-98

S882725-3
 7125
 080SS301/7125 SS-3
 12-MAY-98

S884201-6
 7125
 080RB101/7125RB-1
 14-JUL-98

S886116-1
 7125
 080RB201 / 7125 RB-2
 06-OCT-98

	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
EPA 601																
Chloroform	-				-				- U	ug/l	1		2.7	ug/l	1	
EPA 602																
Toluene	-				- U	ug/kg	5.4		- U	ug/l	1		- U	ug/l	1	
Ethylbenzene	-				- U	ug/kg	5.4		- U	ug/l	1		- U	ug/l	1	
Xylenes (total)	-				- U	ug/kg	5.4		- U	ug/l	2		- U	ug/l	2	
PAH COMPOUNDS																
Acenaphthene	- U	ug/kg	5400		- U	ug/kg	54		- U	ug/l	1		- U	ug/l	1	
Acenaphthylene	- U	ug/kg	2200		- U	ug/kg	22		- U	ug/l	1		- U	ug/l	1	
Anthracene	- U	ug/kg	430		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Benzo(a)anthracene	570 X	ug/kg	4		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Benzo(a)pyrene	- U	ug/kg	430		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Benzo(b)fluoranthene	- U	ug/kg	430		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Benzo(k)fluoranthene	- U	ug/kg	430		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Chrysene	460 X	ug/kg	4		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Fluoranthene	- U	ug/kg	1100		- U	ug/kg	11		- U	ug/l	.5		- U	ug/l	.5	
Fluorene	- U	ug/kg	1100		- U	ug/kg	11		- U	ug/l	.5		- U	ug/l	.5	
1-Methylnaphthalene	-				-				- U	ug/l	1		- U	ug/l	1	
2-Methylnaphthalene	-				-				- U	ug/l	1		- U	ug/l	1	
Naphthalene	- U	ug/kg	2200		- U	ug/kg	22		- U	ug/l	1		- U	ug/l	1	
Phenanthrene	- U	ug/kg	430		- U	ug/kg	4.3		- U	ug/l	.2		- U	ug/l	.2	
Pyrene	- U	ug/kg	1100		- U	ug/kg	11		- U	ug/l	.5		- U	ug/l	.5	
LEAD																
Lead	-				-				.011	mg/l	.005		.011	mg/l	.005	
Flo Pro																
Petroleum Range Organics (Fl-P)	-				- U	mg/kg	11		- U	mg/l	.3		- U	mg/l	.3	

U = NOT DETECTED J = ESTIMATED
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 R = RESULT IS REJECTED AND UNUSABLE

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

3102 LaRoche Avenue, Savannah, GA 31404
 2846 Industrial Plaza Drive, Tallahassee, FL 32301
 414 SW 12th Avenue, Deerfield Beach, FL 33442
 900 Lakeside Drive, Mobile, AL 36693
 6712 Benjamin Road, Suite 100, Tampa, FL 33634
 100 Alpha Drive, Suite 110, Destrehan, LA 70047

Phone: (912) 354-7858
 Phone: (904) 878-3994
 Phone: (954) 421-7400
 Phone: (334) 666-6633
 Phone: (813) 885-7427
 Phone: (504) 764-1100

Phone: (312) 352-0165
 Fax: (904) 878-9504
 Fax: (954) 421-2584
 Fax: (334) 666-6696
 Fax: (813) 885-7049
 Fax: (504) 725-1163

PROJECT REFERENCE		PROJECT NO.	PO NUMBER	MATRIX TYPE	REQUIRED ANALYSES	PAGE OF
		2547-06	NE7531076			1 1
PROJECT LOC. (State)	SAMPLER(S) NAME	PHONE	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>			
FL	Scott Donelick / Patrick Crane	407-895-8845	EXPEDITED REPORT DELIVERY (surcharge) <input type="checkbox"/>			
CLIENT NAME	CLIENT PROJECT MANAGER	FAX	Date Due			
Handling Lawson Associates	John Kaiser	407-896-6150				
CLIENT ADDRESS (CITY, STATE, ZIP)						
1070 Woodcock Road, Suite 100, Orlando, FL 32803						

AQUEOUS (WATER)
 SOLID OR SEMISOLID
 AIR
 NONAQUEOUS LIQUID (oil, solvent, etc.)

EPA 601/602
 EPA 504
 EPA 610 HPLC
 FL-PRD
 EPA 239.2 PB
 EPA 602 ONLY

SAMPLE		SL NO.	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED										REMARKS	
DATE	TIME														
10/06/98	08:40		080RB201 / 7125 RB-2	X					3	2	2	2	1		
10/06/98	13:00		0806M601 / 7125 MW-6	X					3	2	2	2	1		
10/06/98	15:30		0806M701 / 7125 MW-7	X					3	2	2	2	1		
10/06/98	16:00		0806M801 / 7125 MW-8	X					3	2	2	2	1		
10/06/98	17:00		0806M901 / 7125 MW-9	X					3	2	2	2	1		
10/06/98	14:30		0806D101 / 7125 Dd-1	X					3	2	2	2	1		
-	-		TRIP	X										3	

Fed X Airb. # 807050239990
 MPS # 9721570801

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
<i>[Signature]</i>	10/06/98	18:30						
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
<i>[Signature]</i>	10/7/98	9:27	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		58-86116	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

- 5102 LaRoche Avenue, Savannah, GA 31404
- 2846 Industrial Plaza Drive, Tallahassee, FL 32301
- 414 SW 12th Avenue, Deerfield Beach, FL 33442
- 900 Lakeside Drive, Mobile, AL 36693
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 Phone: (954) 421-7400 Fax: (954) 421-2584
 Phone: (334) 666-6633 Fax: (334) 666-6696
 Phone: (813) 885-7427 Fax: (813) 885-7049
 Phone: (504) 764-1100 Fax: (504) 725-1163

PROJECT REFERENCE		PROJECT NO 2547-06	PO NUMBER NE753107G	MATRIX TYPE	REQUIRED ANALYSES	PAGE OF		
PROJECT LOC. (State) FL	SAMPLER(S) NAME SCOTT DONELICK	PHONE 407-895-8845	FAX 407-896-6150	FL-PRD EPA 802D EPA 831D		STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>		
CLIENT NAME HLA / ABB		CLIENT PROJECT MANAGER JOHN KAISER						EXPEDITED REPORT DELIVERY (surcharge) <input type="checkbox"/>
CLIENT ADDRESS (CITY, STATE, ZIP) 1080 WOODCOCK ROAD, SUITE 100, ORLANDO, FL 32803								

SAMPLE		SL NO.	SAMPLE IDENTIFICATION	MATRIX TYPE				NUMBER OF CONTAINERS SUBMITTED				REMARKS
DATE	TIME			AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)	1	2	3	4	
5-12-98	0902		08055101 / 7125 SS-1	X				1	1	1		
5-2-98	0910		08055201 / 7125 SS-2	X				1	1	1		
5-12-98	0854		08055301 / 7125 SS-3	X				1	1	1		

RELINQUISHED BY (SIGNATURE) <i>[Signature]</i>	DATE 5/1/98	TIME 9:25	RELINQUISHED BY (SIGNATURE) <i>[Signature]</i>	DATE 5-12-98	TIME 1600	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>[Signature]</i>	DATE 5/5/98	TIME 1300	RECEIVED BY (SIGNATURE) <i>[Signature]</i>	DATE 5/13/98	TIME 9:03	RECEIVED BY (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE 5/13/98	TIME 9:03	CUSTODY INTACT <input type="checkbox"/> YES <input type="checkbox"/> NO	CUSTODY SEAL NO.	SL LOG NO. 58-82725	LABORATORY REMARKS:
---	------------------------	---------------------	--	------------------	-------------------------------	---------------------

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

Serial Number 11150

- 5102 LaRoche Avenue, Savannah, GA 31404
- 2846 Industrial Plaza Drive, Tallahassee, FL 32301
- 414 SW 12th Avenue, Deerfield Beach, FL 33442
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 Phone: (904) 878-3994 Fax: (904) 878-9504
 Phone: (954) 421-7400 Fax: (954) 421-2584
 Phone: (334) 666-6633 Fax: (334) 666-6696
 Phone: (813) 885-7427 Fax: (813) 885-7049
 Phone: (504) 764-1100 Fax: (504) 725-1163

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

PROJECT REFERENCE		PROJECT NO. 2547-06	PO NUMBER NE753107G	MATRIX TYPE	REQUIRED ANALYSES				PAGE 1 OF 1	
PROJECT LOC. (State) FL	SAMPLER(S) NAME SCOTT DONELUK	PHONE 407 895-8845		AQUEOUS (WATER, SOLID OR SEMI-SOLID) AIR NONAQUEOUS LIQUID (oil, solvent, etc)	EPA 601/602	EPA 504	EPA 239.2 P3	EPA 610 HALL	FL PRO	EPA 602 ONLY
CLIENT NAME HLA		CLIENT PROJECT MANAGER John Kaiser								
CLIENT ADDRESS (CITY, STATE, ZIP) 1080 Woodcock Rd, Orlando, FL 32803										

STANDARD REPORT DELIVERY
 EXPEDITED REPORT DELIVERY (surcharge)
 Date Due:

SAMPLE DATE	TIME	SL NO.	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED										REMARKS			
				AQUEOUS (WATER, SOLID OR SEMI-SOLID)	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)											
7-14-98	1015		0806M101/7125 MW-1	X			3	3	1	2	2						
	1047		0806M201/7125 MW-2	X			3	3	1	2	2						
	1002		0806M301/7125 MW-3	X			3	3	1	2	2						
	1112		0806M401/7125 MW-4	X			3	3	1	2	2						
	1209		0806M501/7125 MW-5	X			3	3	1	2	2						
	0814		080RB101/7125 RB-1	X			3	3	1	2	2						
	-		TRIP	X													

RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE 7/16/98	TIME 5:15	RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE 7-14-98	TIME 1600	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE 7/18/98	TIME 1400	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE 7/15/98	TIME 4:21	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>				DATE 7/15/98	TIME 9:21	CUSTODY INTACT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	CUSTODY SEAL NO.	SL LOG NO. 52-84201	LABORATORY REMARKS:
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APPENDIX H

HYDROCARBON MASS DISTRIBUTION CALCULATIONS

Total Hydrocarbons Sorbed in Soil

Total hydrocarbons sorbed in soil is based upon OVA data at the 2-4' interval collected during the installation of the soil borings and analytical data from SS-1, SS-2 & SS-3.

Method

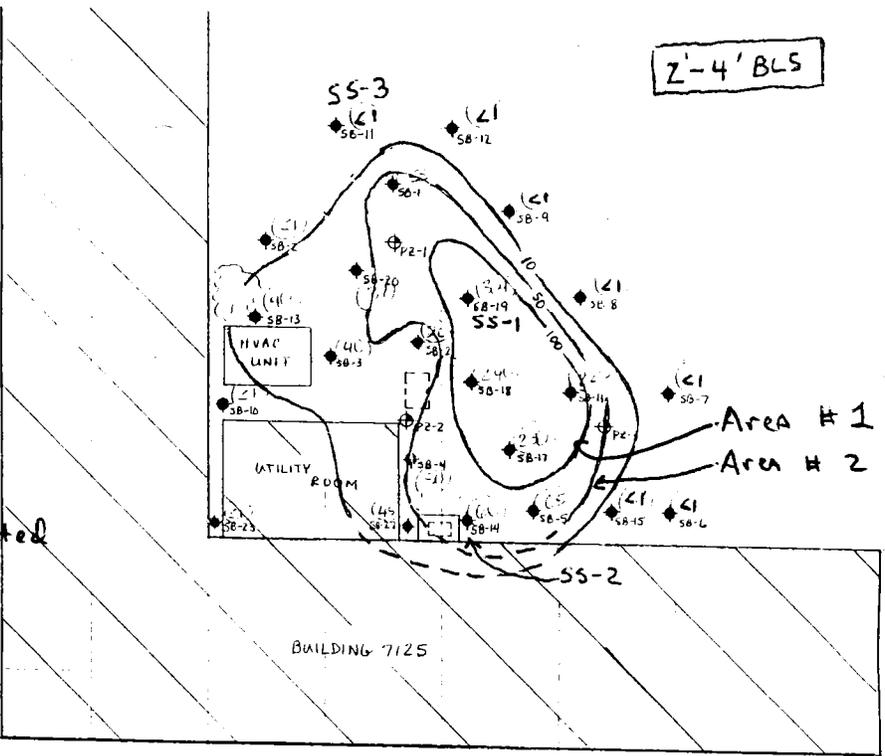
Estimated two areas of impacted soil. Zone #1 area inside 100 ppm contour based upon OVA data.

Zone #2 area inside 50 ppm contour (-) area of 100 contour area.

Depth of impacted soil is 4' BLS.

SS-1 (SB-19 location) used for mass calculation for Zone #1.

SS-2 (SB-14 location) used for mass calculation for Zone #2



SS-3 (SB-11 location)

Area of Zone #1 estimated to be ~17.5' wide by 42' long, Depth of impacted soil, 4'

$$A = l \times w \Rightarrow 17.5' \times 42' \Rightarrow 735 \text{ ft}^2 \times 4 \text{ ft} \Rightarrow 2,940 \text{ ft}^3 \Rightarrow \text{Volume}$$

$$2,940 \text{ ft}^3 \times \frac{1 \text{ yd}^3}{27 \text{ ft}^3} \Rightarrow \sim 108.9 \text{ yd}^3 \quad 108.9 \text{ yd}^3 \times (1.4 \text{ ton conversion}) \Rightarrow \sim 152 \text{ tons}$$

$$152 \text{ tons} \times 907.186 \text{ kg/ton conversion} \Rightarrow \sim 137892 \text{ kg}; \text{ SS-1 analytical value} \Rightarrow 14,000 \text{ mg/kg}$$

$$137892 \text{ kg} \times 14,000 \text{ mg/kg} \Rightarrow \sim 1930488000 \text{ mg} \div \frac{1 \text{ kg}}{1000000 \text{ mg}} \Rightarrow 1,930 \text{ Kg Soil}$$

Area of Zone #2 estimated to be ~25' by 60' long, Depth of impacted soil, 4'

$$V = l \times w \times d \Rightarrow 25' \times 60' \times 4' \Rightarrow 6000 \text{ ft}^3 \text{ volume of Zone 1} \div \text{Zone #2}$$

$$\text{Zone #2} = 6000 \text{ ft}^3 - 2940 \text{ ft}^3 (\text{Zone #1}) \Rightarrow 3060 \text{ ft}^3 \times \frac{1 \text{ yd}^3}{27 \text{ ft}^3} \Rightarrow \sim 113.3 \text{ yd}^3$$

$$113.3 \text{ yd}^3 \times 1.4 \text{ ton conversion} \Rightarrow \sim 158.6 \text{ tons}$$

$$\text{SS-2 Analytical value} \Rightarrow 5,700 \text{ mg/kg}$$

$$5,700 \text{ mg/kg} \times 143880 \text{ kg} \Rightarrow \sim 820114200 \text{ mg} \times \frac{1 \text{ kg}}{1,000,000 \text{ mg}} \Rightarrow \sim 820 \text{ Kg Soil}$$

Total amount

$$\text{Zone #1} + \text{Zone #2}$$

$$1930 \text{ Kg} + 820 \text{ Kg} \Rightarrow 2,750 \text{ Kg of hydrocarbons sorbed in the soil.}$$

Free Product Calculation

Free product estimate calculation based upon free product measurements taken on 10/26/98 and free product delineation map (Figure 4-1).

Method

Used two circles, (circle #1 is centered around MW-1 with an approx radius of 15', Circle #2 is centered around PZ-2 with an approx. radius of 10'.)

$$A = \pi R^2$$

Circle #1 $A = \pi (15')^2 \Rightarrow 706.5 \text{ sqft}$ Circle #2 $A = \pi (10') \Rightarrow 314 \text{ sqft}$

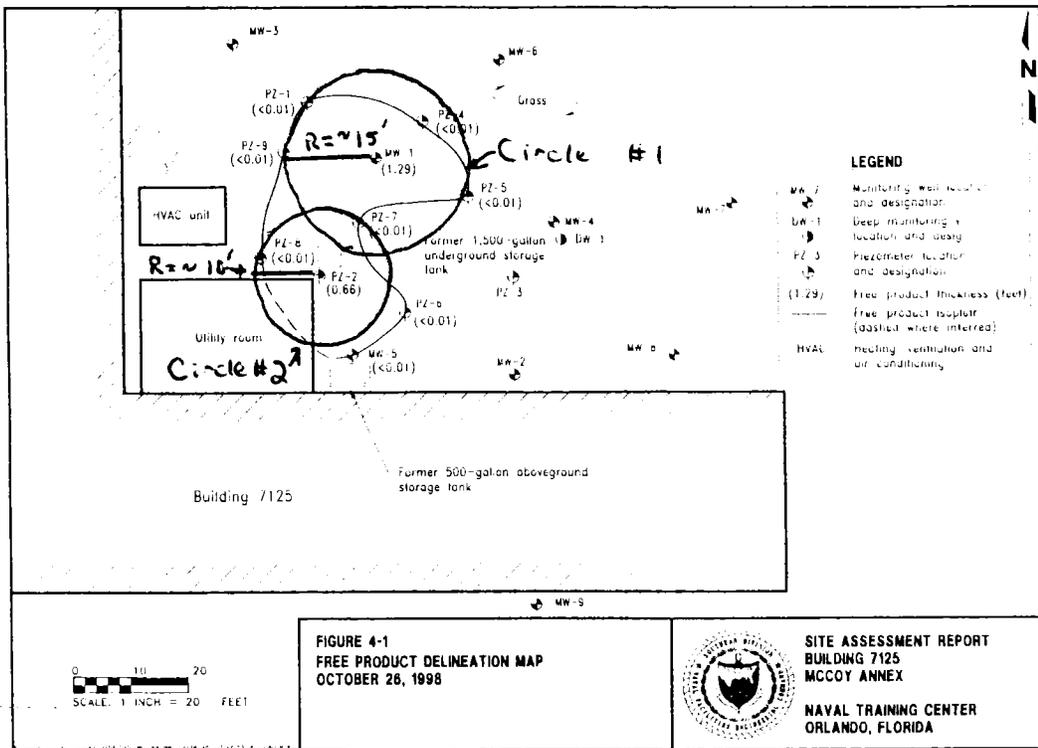
Volume

Circle #1 $706.5 \text{ sqft} (1.29 \text{ ft product}) \Rightarrow 911.39 \text{ ft}^3$ $911.39 \text{ ft}^3 (0.35 \text{ porosity}) \Rightarrow 318.98 \text{ ft}^3$
 $318.98 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \Rightarrow 2386 \text{ gallons of product}$

Circle #2 $314 \text{ sqft} (0.66 \text{ ft product}) \Rightarrow 207.24 \text{ ft}^3$ $207.24 \text{ ft}^3 (0.35 \text{ porosity}) \Rightarrow 72.53 \text{ ft}^3$
 $72.53 \text{ ft}^3 \times 7.48 \text{ gal/ft}^3 \Rightarrow 542.52 \text{ gallons of product}$

Total gallons of product \Rightarrow Circle #1 + Circle #2

$$2386 \text{ gal} + 542 \text{ gal} \Rightarrow 2,928 \text{ gallons of product.}$$



Total hydrocarbon mass Dissolved in Groundwater

Rate is based upon analytical data above State Clean up Levels found in wells (mw-1, mw-4, mw-5).

Method

Area of impacted groundwater plume is a circle located between MW-6 & MW-5. Circle has radius of ~30'.

Groundwater concentrations are estimated based up reported analytical data. Saturated zone of impacted groundwater is estimated at 26.38' (Dw-1).

$$A = \pi R^2 \quad A = \pi (30)^2 \Rightarrow \sim 2826 \text{ ft}^2$$

$$\text{Volume} \Rightarrow 2826 \text{ ft}^2 (\text{sat. thickness} \Rightarrow 26.38) \Rightarrow \sim 74550 \text{ ft}^3 \text{ Total Volume}$$

$$\text{Total Volume} \Rightarrow (n \Rightarrow \text{porosity}) (\text{water volume}) \Rightarrow \text{water volume} = \text{Total volume} (n)$$

$$= 74550 \text{ ft}^3 (0.35) \Rightarrow \sim 26092 \text{ ft}^3$$

$$\Rightarrow 26092 \text{ ft}^3 \times (7.48 \text{ gal/ft}^3 \text{ conversion}) \Rightarrow \sim 195168 \text{ gal}$$

$$195168 \text{ gal} \times (3.78 \text{ l/gal conversion}) \Rightarrow \sim 737736 \text{ l}$$

Total Hydrocarbon is total hits above S.L. in mw-1, mw-4, m-5, then average of the three wells.

$$\frac{21210 \text{ ug/l} + 36443 \text{ ug/l} + 8550 \text{ ug/l}}{3} \Rightarrow 22068 \text{ ug/l} \div 1,000,000 \text{ ug/g} \Rightarrow 0.022 \text{ g/l}$$

$$0.022 \text{ g/l} \times 737736 \text{ l of water} \Rightarrow \sim 16230 \text{ g} \div 1000 \text{ g/kg} \Rightarrow 16.32 \text{ kg}$$

$$16.32 \text{ kg of hydrocarbon mass} \times 2.2 \text{ kg/lb conversion} \Rightarrow \sim 35.7 \text{ lbs}$$

35.7 lbs of hydrocarbon

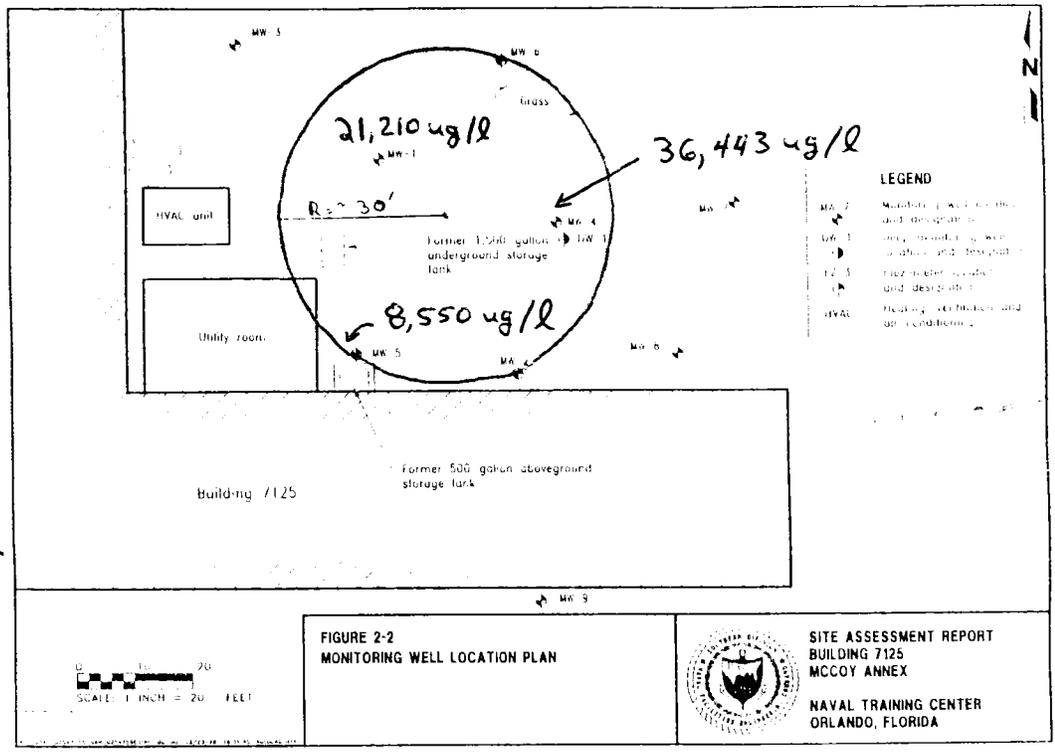


FIGURE 2-2
MONITORING WELL LOCATION PLAN



SITE ASSESSMENT REPORT
BUILDING 7125
MCCOY ANNEX
NAVAL TRAINING CENTER
ORLANDO, FLORIDA