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SITE ASSESSMENT REPORT FOR BUILDING 7182 MCCOY ANNEX NTC ORLANDO FL
10/1/1998
HARDING LAWSON ASSOCIATES

SITE ASSESSMENT REPORT

**BUILDING 7182
MCCOY ANNEX**

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

Unit Identification Code: N65928

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

Prepared by:

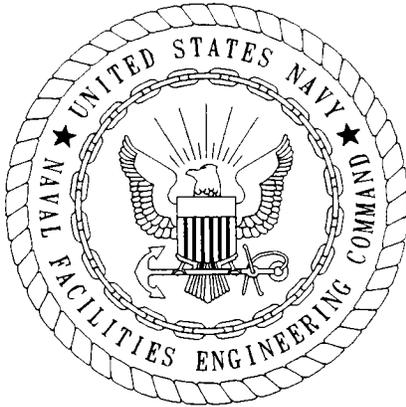
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Prepared for:

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Nick Ugolini, Code 1843, Engineer-in-Charge

October 1998



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

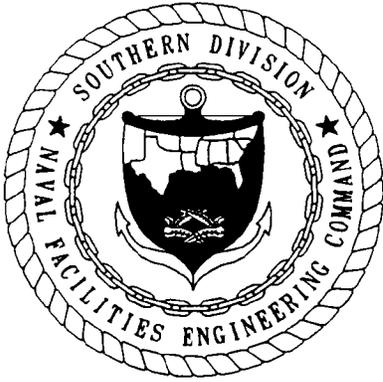
The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/137 are complete and accurate and comply with all requirements of this contract.

DATE: October 22, 1998

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 (CLEAN) Underground Storage Tank (UST) program. This program complies with Subtitle I of the Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments of 1984. In addition, the UST program complies with all 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 (BRAC) Tank Management Plan implementation at the Naval Training Center (NTC), Orlando, McCoy Annex property in Orange County, Florida. This Site Assessment Report (SAR) has been prepared to evaluate soil and groundwater conditions at the Housing Office, Building 7182.

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 1,000-gallon underground storage tank (UST) stored heating fuel at Building 7182. The UST was removed on January 31, 1997, by the Navy Public Works Center (PWC) Pensacola. During the removal of the 1,000-gallon UST, five soil samples collected from the excavation had organic vapor analyzer (OVA) readings ranging from 15 part per million (ppm) to 311 ppm. Approximately 3 cubic yards of petroleum impacted soil were removed from the excavation and transported to an off-site thermal treatment facility. Following removal of the UST and excavation of the soil, a temporary monitoring well was installed and sampled by PWC Pensacola. Laboratory analytical results indicated the presence of trichloroethene at a concentration of 5 micrograms per liter ($\mu\text{g}/\ell$), which is above the State of Florida maximum contaminant level (MCL) of 3 $\mu\text{g}/\ell$. No dissolved petroleum hydrocarbon contamination exceeding the State of Florida cleanup target levels (CTLs) as defined in Chapter 62-770, FAC, was found at the site. PWC Pensacola submitted a Tank Closure Assessment Report (TCAR) in May 1997. The TCAR recommended the preparation of an SAR.
2. Site assessment activities were conducted by HLA from April 28, 1998, to August 5, 1998. On August 4, 1998, soil borings were completed using a van-mounted TerraProbeSM unit in the vicinity of the former tank area to assess whether or not petroleum-impacted soil was present. No evidence of petroleum-impacted soil was detected. Soil samples were collected and shipped to Savannah Laboratories and Environmental Services, Inc., to confirm OVA screening results.
3. On July 2, 1998, three shallow monitoring wells (MW-1, MW-2, and MW-3) 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 August 5, 1998, groundwater samples collected from the monitoring wells indicated that no dissolved petroleum hydrocarbon contamination exceeding Chapter 62-770, FAC CTLs was present. However, laboratory analytical results indicated the presence of methylene chloride and tetrachloroethene at concentrations exceeding State of Florida MCLs, as defined in Chapter 62-550, FAC.
5. Groundwater flow direction was determined to be from southwest to northeast with a hydraulic gradient of 1.84×10^{-3} feet per foot.

6. No active potable water wells are located within one mile of this site.
7. HLA recommends a No Further Action proposal for the former UST area and suspected petroleum contamination at the site. However, further assessment activities are necessary to address the presence of chlorinated solvents found in groundwater at the site.

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Naval Training Center
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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CAR	Contamination Assessment Report
CTL	cleanup target level
EDB	ethylene dibromide
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FL-PRO	Florida-Petroleum Residual Organic
HLA	Harding Lawson Associates
$\mu\text{g}/\ell$	micrograms per liter
MCL	maximum contaminant level
NTC	Naval Training Center
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbons
ppm	part per million
PWC	Public Works Center
SAR	Site Assessment Report
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

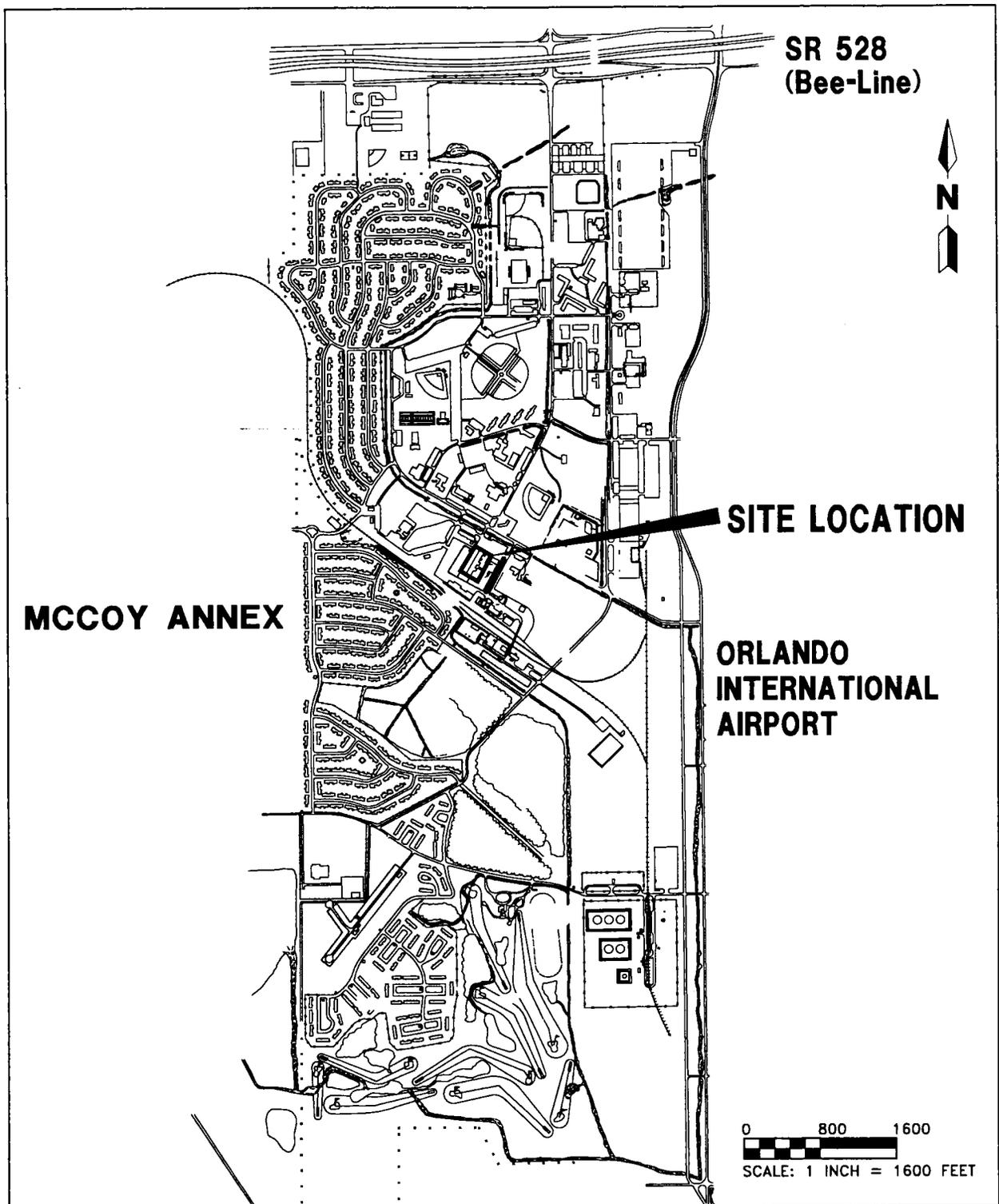
Building 7182 (Housing Office) is located at the southeast corner of the intersection of Binnacle Way and 5th Street in the south-central part of the Naval Training Center (NTC), Orlando McCoy Annex, in Orange County, Florida. Figure 1-1 shows the site location and a map of the surrounding area. The site lies within the northwest part of Section 5, 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 7182 is a one-story building constructed of concrete block. This 14,450-square-foot building was constructed in 1952, and has been used as a housing office since May 1993. 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.

One petroleum storage tank system had been operated at Building 7182. The system was located west of the building and consisted of a 1,000-gallon underground storage tank (UST) and associated piping that stored heating fuel. The tank system was associated with the Building 7182 heating system. The location of the petroleum storage tank system is shown on Figure 1-3, Site Plan.

The 1,000-gallon UST was removed by the Navy Public Works Center (PWC) Pensacola on January 31, 1997. One temporary monitoring well was installed in the center of the former UST area. Laboratory analytical results indicated the presence of trichloroethene at a concentration of 5 micrograms per liter ($\mu\text{g}/\ell$), above the State of Florida maximum contaminant level (MCL) of 3 $\mu\text{g}/\ell$. No dissolved petroleum hydrocarbon contamination exceeding the State of Florida cleanup target levels (CTLs) as defined in Chapter 62-770, Florida Administrative Code (FAC) was found at the site. In addition, five soil samples collected from the excavation had organic vapor analyzer (OVA) readings ranging from 15 part per million (ppm) to 311 ppm. Approximately 3 cubic yards of petroleum-impacted soil were removed from the excavation and transported to a thermal treatment facility. A Tank Closure Assessment Report (TCAR) was submitted by PWC Pensacola in May 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 7182, 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).



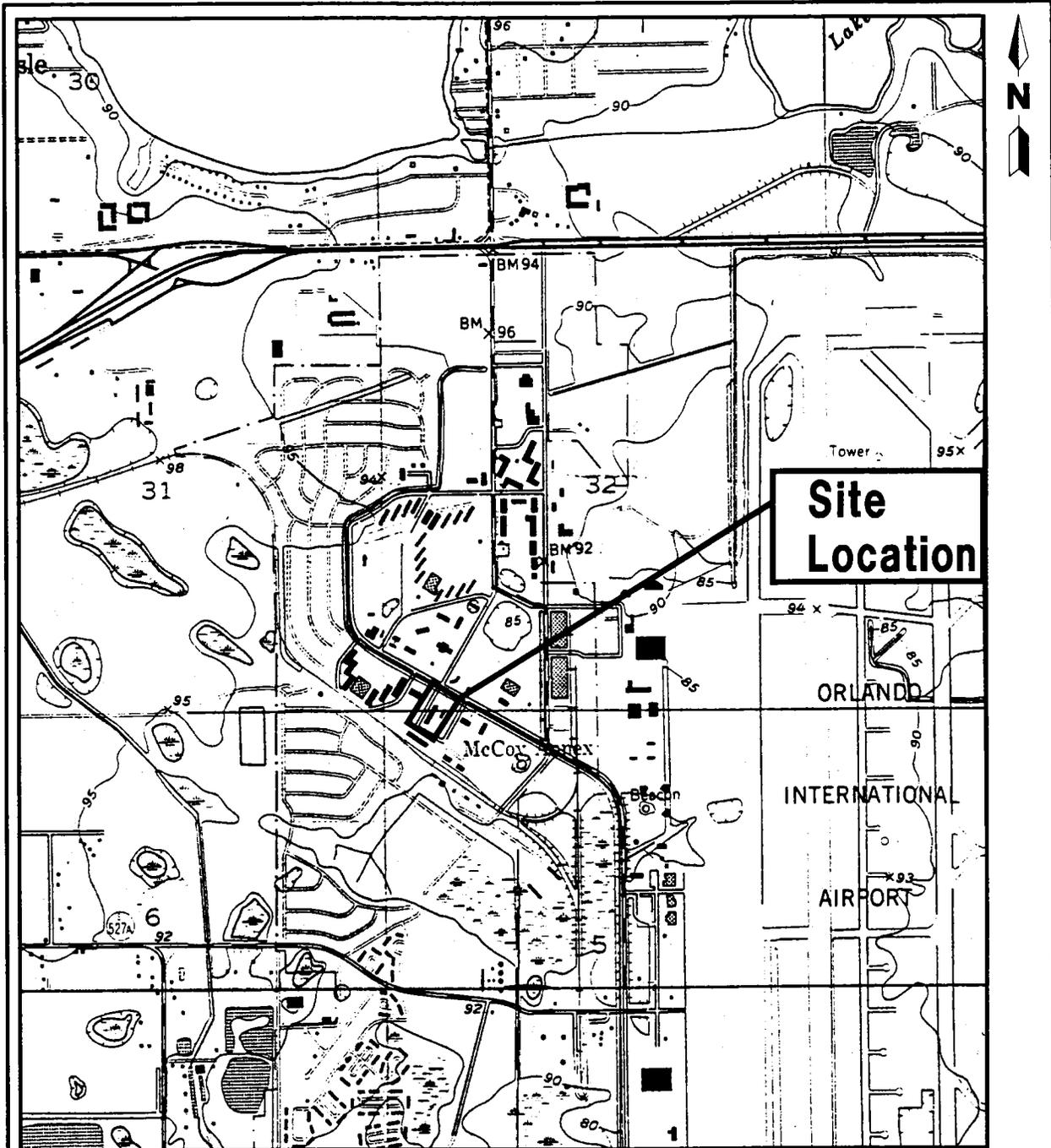
**FIGURE 1-1
SITE VICINITY MAP**



**SITE ASSESSMENT REPORT
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Reference: USGS Topographic Map
 Pine Castle Quadrangle
 Florida, Orange County
 7.5 Minute Series (Topographic)
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 SCALE: 1 INCH = 2,000 FEET

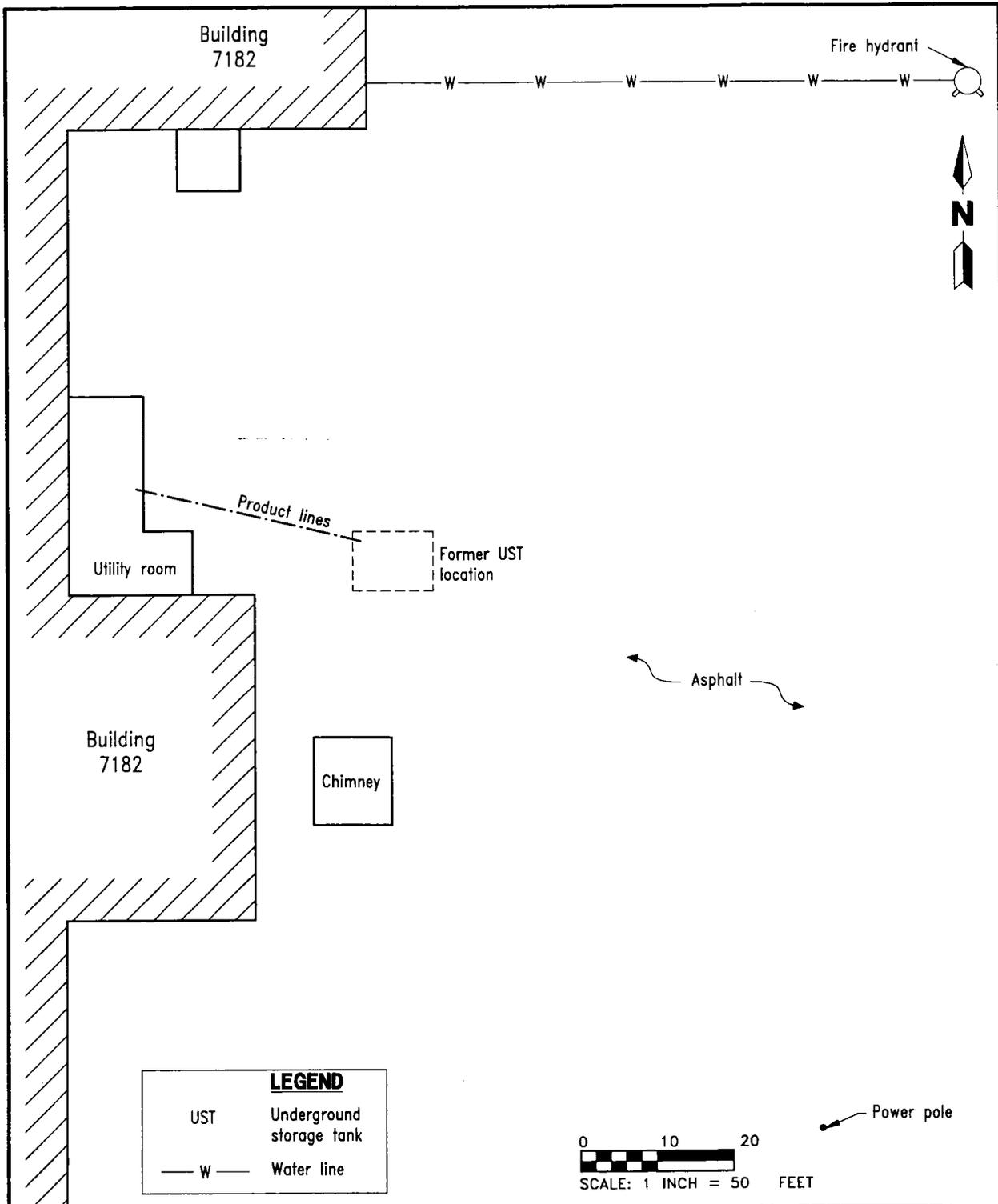
**FIGURE 1-2
 TOPOGRAPHIC MAP**



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**FIGURE 1-3
SITE PLAN**



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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, six soil borings (SB-1 through SB-6) were completed at Building 7182. A TerraProbeSM was used on August 4, 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 4 feet below land surface (bls).

Eighteen soil samples were collected from the six soil borings for OVA screening and two 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 Chapter 62-770, 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.

2.2 SOIL SAMPLING PROGRAM. In order to confirm and characterize petroleum-impact to soil, two soil samples (SS-1 and SS-2) were collected for laboratory analysis on August 4, 1998. One soil sample was collected from the downgradient side (northeast) of the former UST area and one soil sample was collected from the south side of the former UST area. Soil sample locations are shown on Figure 2-1. No OVA results above 2 parts per million (ppm) were obtained during the screening. 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 shallow monitoring wells (MW-1, MW-2, and MW-3) were installed at the site on July 2, 1998 (Figure 2-1). The 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 as Figure 2-2. 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 pipe. This assembly was placed in the borehole so that the screen 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 0.5 feet above the screened interval and a 1-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.

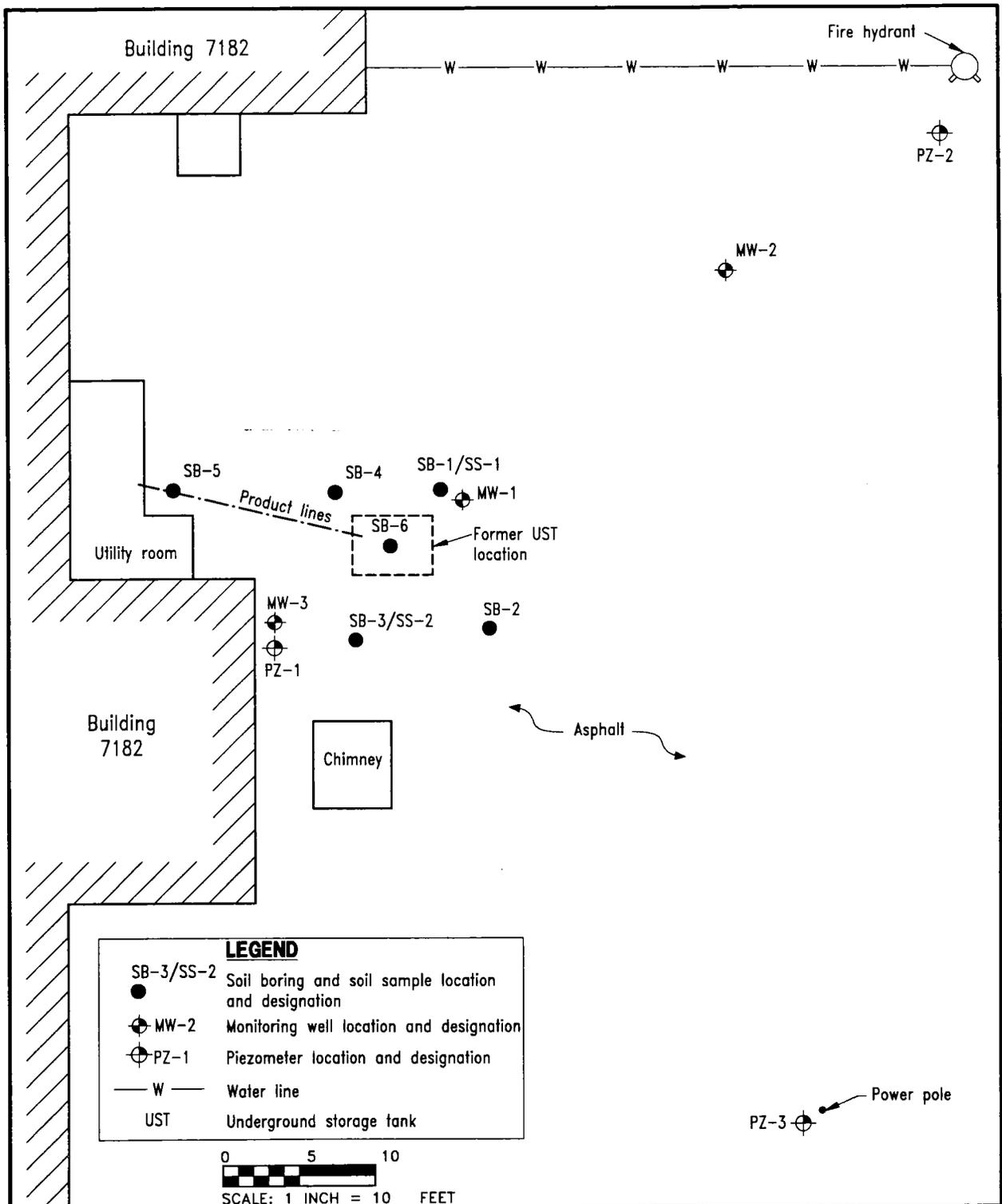


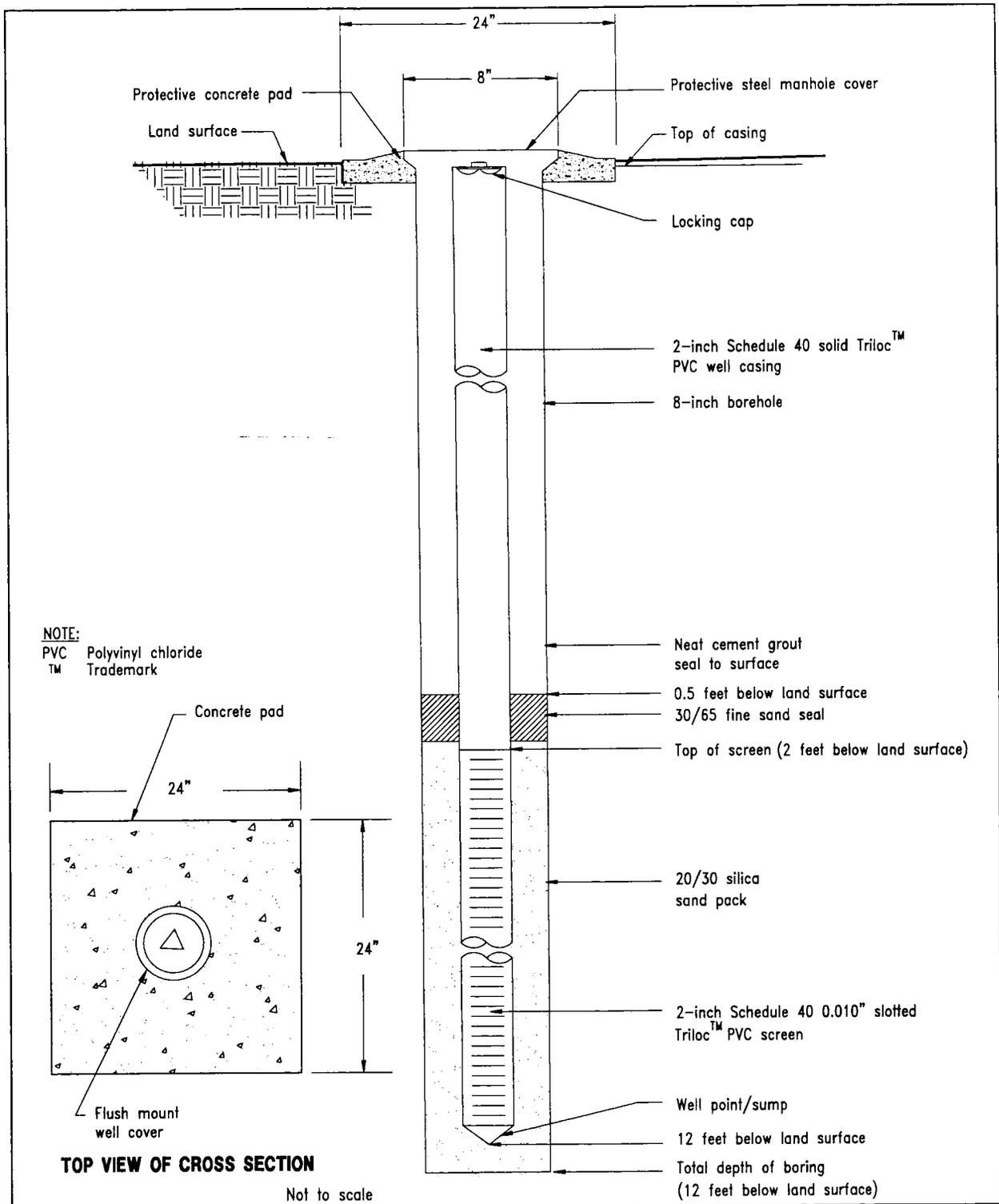
FIGURE 2-1
SOIL BORING LOCATION PLAN
AUGUST 4, 1998



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**FIGURE 2-2
TYPICAL SHALLOW MONITORING WELL
CONSTRUCTION DETAIL**



**SITE ASSESSMENT REPORT
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**Table 2-1
Groundwater Monitoring Well Construction Data Summary**

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Building 7182, 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

Note: bls = below land surface.

All monitoring wells were completed flush mount with surface grade well vaults, 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.

2.4 GROUNDWATER SAMPLING PROGRAM. Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 on August 5, 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 monitoring wells MW-1, MW-2, and MW-3 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 June 12, July 13, and August 5, 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 7182 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 a tan to brown fine-grained sand down to a depth of 12 feet bls. A lithologic cross section has not been prepared for the site because the lithologic unit lacks variation and petroleum impact to groundwater. Lithologic logs for monitoring wells 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 June 12, July 13, and August 5, 1998, in site monitoring wells and piezometers 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 38 feet, and the change in elevation head between the wells, as measured on August 5, 1998, was 0.07 foot. The calculated hydraulic gradient is equal to 1.84×10^{-3} feet per foot. The site groundwater flow direction, based on the water table surface contour maps, is from southwest to northeast. Piezometer PZ-1 was removed during the installation of monitoring well MW-3. Piezometer PZ-2 was not used to calculate groundwater flow direction for the July 13 and August 5, 1998, sampling events. Table 3-1 is a summary of groundwater elevation data for the on June 12, July 13, and August 5, 1998, water table measuring events. Figures 3-1, 3-2, and 3-3 are the water table surface contour maps for on June 12, July 13, and August 5, 1998, respectively.

3.3 AQUIFER CHARACTERISTICS. Due to the lack of dissolved petroleum groundwater contamination, no slug tests were performed at this site.

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 one-mile radius of the site, including WW-1 (0.7 mile northeast) and WW-2 (0.5 mile northeast). In addition, five irrigation wells are located within a 1-mile radius of the site, including WW-7 (0.7 mile southeast), WW-12 (0.9 mile southwest), WW-13 (1.0 mile southwest), WW-14 (0.9 mile southwest), and WW-16 (0.9 mile southwest). 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 running along the south side of Binnacle Way, approximately 300 feet northeast of the site. Surface water flow in the ditch is from northwest to southeast.

**Table 3-1
Groundwater Elevation Summary**

Site Assessment Report
Building 7182, 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) ¹	Water-Level Elevation (feet) ¹
MW-1	06/12/98	--	NA	--	95.02	NA
	07/13/98	--	4.43	--		90.59
	08/05/98	--	4.36	--		90.66
MW-2	06/12/98	--	NA	--	94.81	NA
	07/13/98	--	4.26	--		90.55
	08/05/98	--	4.20	--		90.61
MW-3	06/12/98	--	NA	--	95.38	NA
	07/13/98	--	4.77	--		90.61
	08/05/98	--	4.70	--		90.68
PZ-1	06/12/98	--	9.42	--	100.00	90.58
	07/13/98	--	NA	--		NA
	08/05/98	--	NA	--		NA
PZ-2	06/12/98	--	8.99	--	99.52	90.53
	07/13/98	--	8.93	--		90.59
	08/05/98	--	8.85	--		90.67
PZ-3	06/12/98	--	8.13	--	98.69	90.56
	07/13/98	--	8.07	--		90.62
	08/05/98	--	8.01	--		90.68

¹ Referenced to arbitrary datum.

Notes: ft btoc = feet below top of casing.

-- = not applicable.

NA = not applicable.

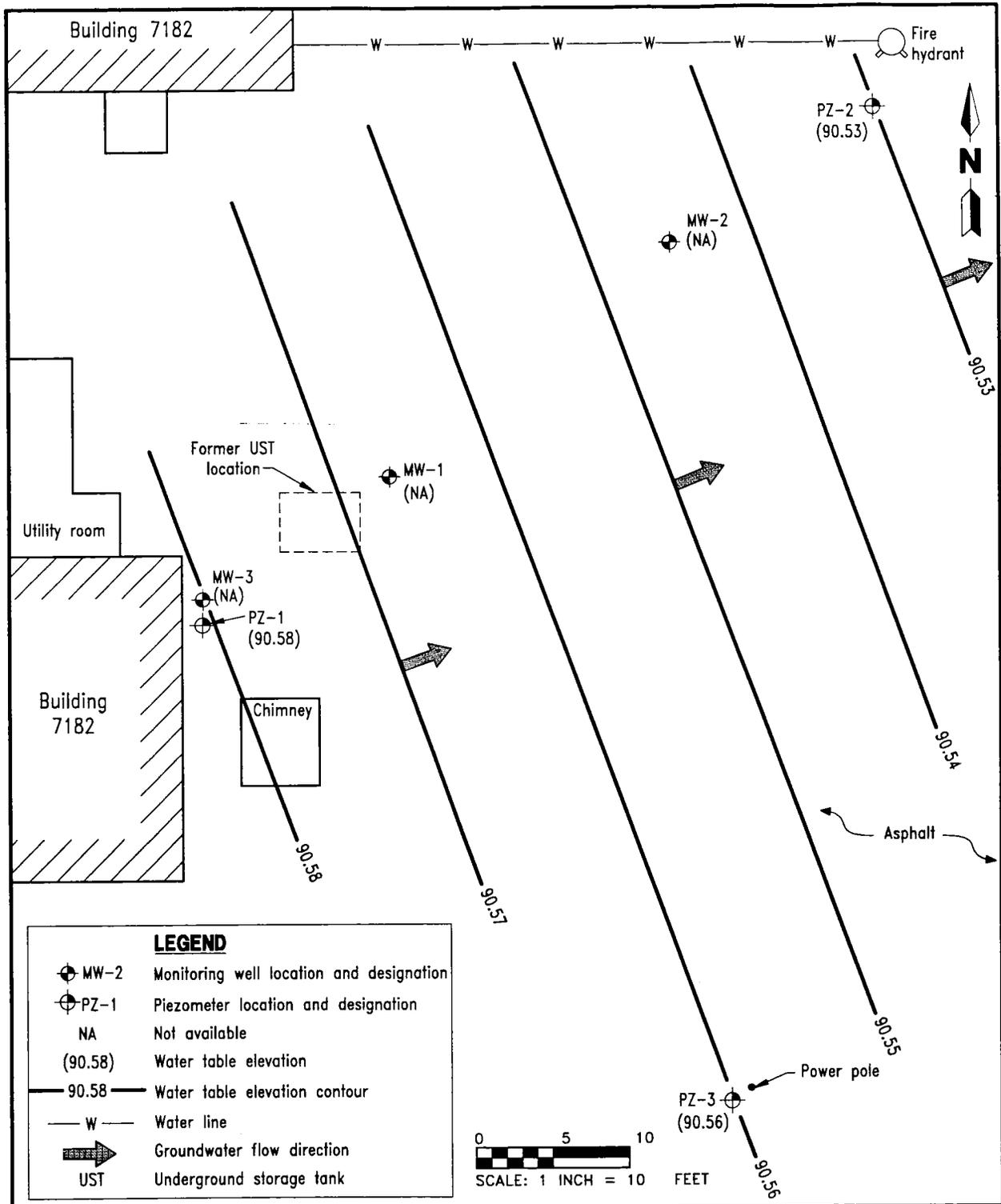


FIGURE 3-1
WATER TABLE ELEVATION CONTOUR MAP
JUNE 12, 1998



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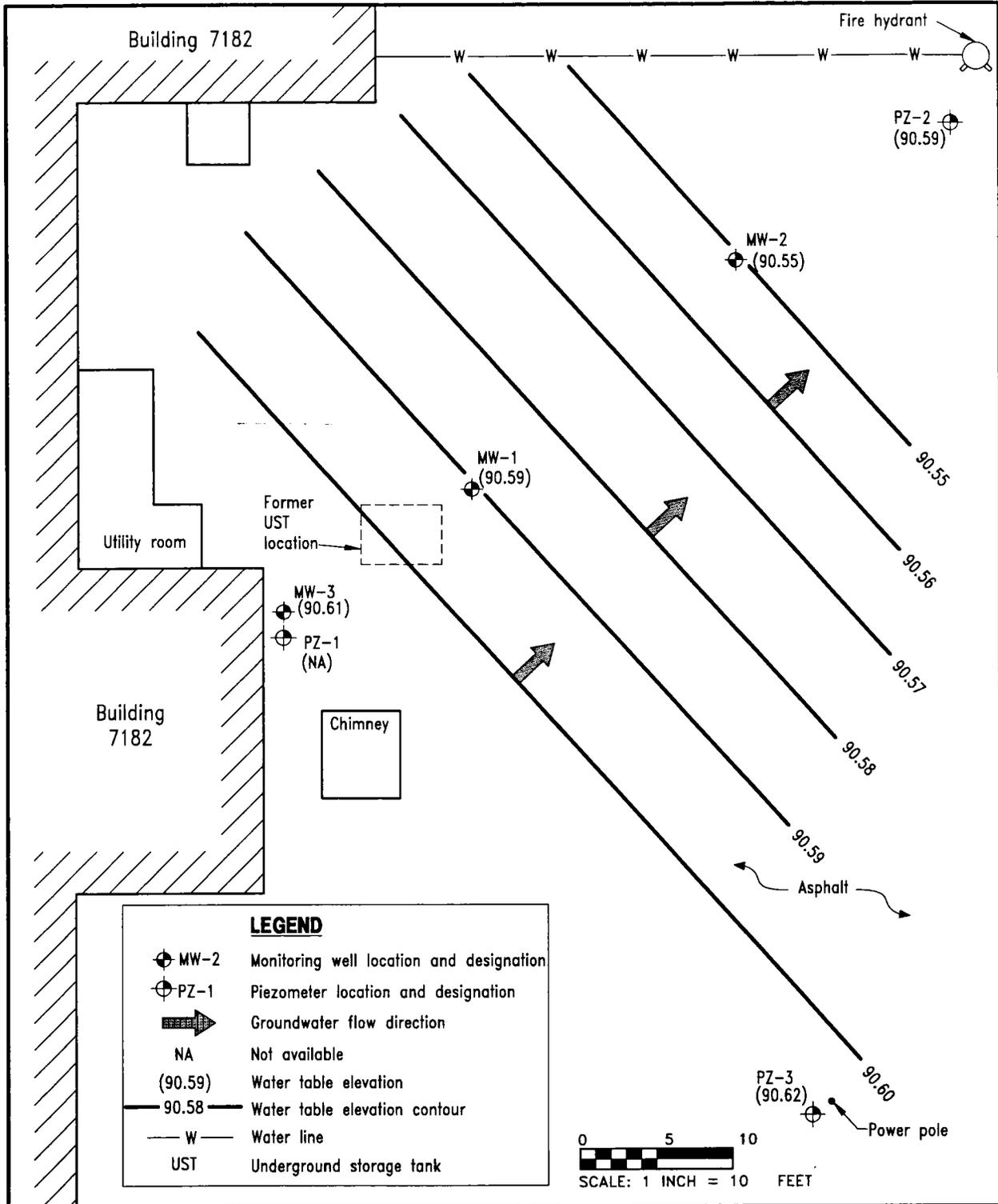
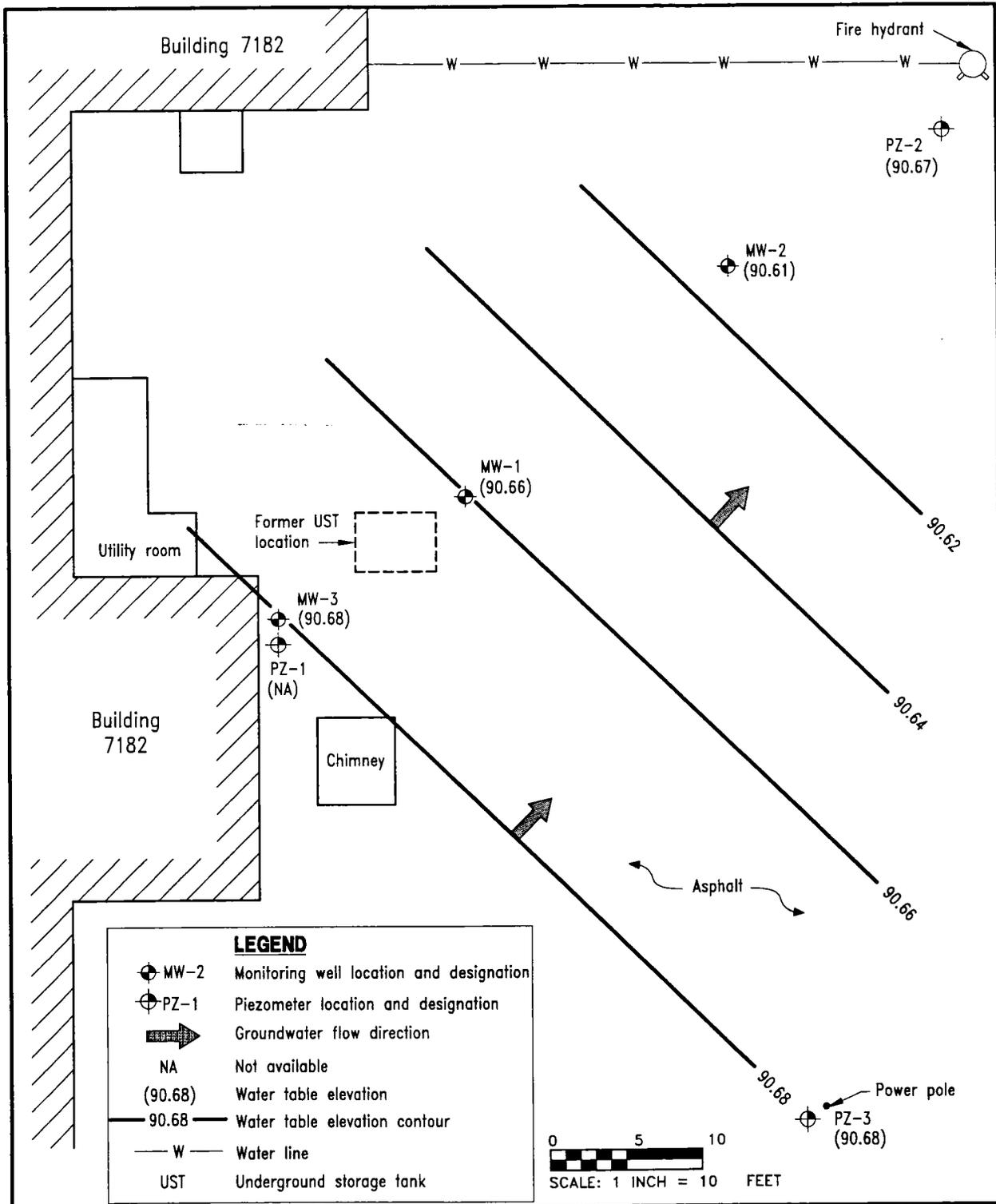


FIGURE 3-2
WATER TABLE ELEVATION CONTOUR MAP
JULY 13, 1998



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**FIGURE 3-3
WATER TABLE ELEVATION CONTOUR MAP
AUGUST 5, 1998**



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4.0 SITE ASSESSMENT RESULTS

4.1 SOIL CONTAMINATION. Six soil borings (SB-1 through SB-6) were advanced using a TerraProbeSM on August 4, 1998. Figure 2-1 shows the soil boring locations. Eighteen soil samples were collected at discrete intervals for OVA analysis. A summary of OVA results is presented in Table 4-1.

OVA analyses indicated that no petroleum-impacted soil was encountered in the vicinity of the former tank or product lines.

Two composite soil samples were collected for laboratory analysis, including SS-1 (SB-1 from 2 to 4 feet bls) and SS-2 (SB-3 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 laboratory standard detection limits but below State of Florida soil CTLs, including toluene (SS-1, 0.018 milligrams per kilogram [mg/kg] and SS-2, 0.01 mg/kg), ethylbenzene (SS-1, 0.027 mg/kg and SS-2, 0.012 mg/kg), and total xylenes (SS-1, 0.13 mg/kg and SS-2, 0.057 mg/kg). A summary of the soil laboratory analytical results is presented in Table 4-2.

4.2 FREE PRODUCT OCCURRENCE. No free product was detected during the site assessment activities.

4.3 GROUNDWATER CONTAMINATION. Three shallow monitoring wells (MW-1, MW-2, and MW-3) were installed at the site on July 2, 1998, and sampled on August 5, 1998. These monitoring wells were installed to assess the direction of groundwater flow and the horizontal extent of dissolved petroleum hydrocarbon contamination. Monitoring well locations are shown on Figure 4-1.

Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 on August 5, 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 methylene chloride (MW-2, 24 $\mu\text{g}/\ell$ and MW-3, 28 $\mu\text{g}/\ell$) and tetrachloroethene (MW-3, 4.9 $\mu\text{g}/\ell$) at concentrations exceeding the State of Florida MCLs. In addition, cis/trans-1,2-dichloroethene was detected in monitoring wells MW-1 (24 $\mu\text{g}/\ell$) and MW-2 (49 $\mu\text{g}/\ell$) at concentrations below State of Florida MCLs. No dissolved petroleum hydrocarbon contamination exceeding the State of Florida CTLs, as defined in Chapter 62-770, FAC, was found at the site. Two compounds were reported at concentrations above laboratory standard detection limits but below Chapter 62-770, FAC, CTLs, including acenaphthene (MW-1, 1.1 $\mu\text{g}/\ell$), phenanthrene (MW-1, 0.35 $\mu\text{g}/\ell$), 1-methylnaphthalene (MW-1, 4.5 $\mu\text{g}/\ell$), 2-methylnaphthalene (MW-1, 4.6 $\mu\text{g}/\ell$) and naphthalene (MW-1, 5.4 $\mu\text{g}/\ell$ and MW-2, 1.6 $\mu\text{g}/\ell$). Since the laboratory diluted the sample from monitoring well MW-2, the detection limit for benzene was increased to 2 $\mu\text{g}/\ell$, which is above the CTL of 1 $\mu\text{g}/\ell$. 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.

**Table 4-1
Summary of Organic Vapor Analyses, August 4, 1998**

Site Assessment Report
Building 7182, 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	<1	<1	<1	No petroleum odor, no staining.
SS-1	2 to 4	<1	<1	<1	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
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.
SS-2	2 to 4	2	<1	2	No petroleum odor, no staining.
	4 to 6	<1	<1	<1	No petroleum odor, no staining.
SB-4	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-5	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: Water table present at approximately 4 feet bls.

bls = below land surface.

ppm = parts per million.

<1 = nondetectable limit for organic vapor analyzer.

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

Site Assessment Report
Building 7182, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Direct Exposure Soil Cleanup Target Levels ¹		Soil Sample/Sample Date	
	Residential	Industrial	SS-1	SS-2
			8/4/98	8/4/98
Benzene	1.1	1.5	<0.006	<0.0062
Toluene	300	2,000	0.018	0.01
Ethylbenzene	240	240	0.027	0.012
Total xylenes	290	290	0.13	0.057
MTBE	350	6,100	<0.06	<0.062
TRPH	350	2,500	<12	<12
Acenaphthene	2,300	22,000	<0.06	<0.062
Acenaphthylene	1,100	11,000	<0.024	<0.025
Benzo(a)pyrene	0.1	0.5	<0.0048	<0.005
Benzo(g,h,i)perylene	2,300	45,000	<0.012	<0.012
Benzo(b)fluoranthene	1.4	5	<0.0048	<0.005
Benzo(k)fluoranthene	15	52	<0.0048	<0.005
Chrysene	140	490	<0.0048	<0.005
Benzo(a)anthracene	1.4	5.1	<0.0048	<0.005
Fluoranthene	2,800	45,000	<0.012	<0.012
Fluorene	2,100	24,000	<0.012	<0.012
Indeno(1,2,3-cd)pyrene	1.5	5.2	<0.012	<0.012
Dibenz(a,h)anthracene	0.1	0.5	<0.012	<0.012
Naphthalene	1,000	8,600	<0.024	<0.025
Phenanthrene	1,900	29,000	<0.0048	<0.005
Anthracene	19,000	290,000	<0.0048	<0.005
Pyrene	2,200	40,000	<0.012	<0.012

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.

MTBE = methyl tert-butyl ether.

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

< = less than.

**Table 4-3
Summary of Groundwater Analytical Results**

Site Assessment Report
Building 7182, McCoy Annex
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770, FAC, Target Cleanup Levels (ppb) ¹	Monitoring Well/Sample Date			
		MW-1 8/5/98	MW-2 8/5/98	MW-3 8/5/98	RB-1 8/5/98
Benzene	1*	<1	<2	<1	<1
Toluene	40*	<1	<2	<1	<1
Ethylbenzene	30*	<1	<2	<1	<1
Total xylenes	20*	<2	<2	<2	<2
MTBE	35	<10	<20	<10	<10
1,2-Dibromethane (EDB)	0.02*	<0.020	<0.020	<0.020	<0.020
Total lead	15*	<5	<5	<5	<5
TRPH (mg/l)	5	<0.3	<0.3	<0.3	<0.3
Acenaphthene	20	1.1X	<1	<1	<1
Acenaphthylene	210	<1	<1	<1	<1
Benzo(a)pyrene	0.2*	<0.2	<0.2	<0.2	<0.2
Benzo(g,h,i)perylene	210	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(k)fluoranthene	0.5	<0.2	<0.2	<0.2	<0.2
Chrysene	5	<0.2	<0.2	<0.2	<0.2
Benzo(a)anthracene	0.2	<0.2	<0.2	<0.2	<0.2
Fluoranthene	280	<0.5	<0.5	<0.5	<0.5
Fluorene	280	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	0.2	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	0.2	<0.5	<0.5	<0.5	<0.5
Naphthalene	20	5.4	1.6	<1	<1
Phenanthrene	210	0.35	<0.2	<0.2	<0.2
Anthracene	2,100	<0.2	<0.2	<0.2	<0.2
Pyrene	210	<0.5	<0.5	<0.5	<0.5
1-Methylnaphthalene	NA	4.5	<1	<1	<1
2-Methylnaphthalene	NA	4.6	<1	<1	<1
1,2-Dichloroethane	3*	<1	<1	<1	<1
cis/trans-1,2-Dichloroethene	70/100*	24	49	<1	<1
Methylene chloride	5*	<5	24	28	<5
Tetrachloroethene	3*	<1	<2	4.9	<1

¹ An asterisk (*) indicates information is provided in Chapter 62-520 or 62-550, FAC.

Notes: All concentrations in micrograms per liter, unless otherwise noted.

FAC = Florida Administrative Code.

ppb = parts per billion.

< = less than.

MTBE = methyl tert-butyl ether.

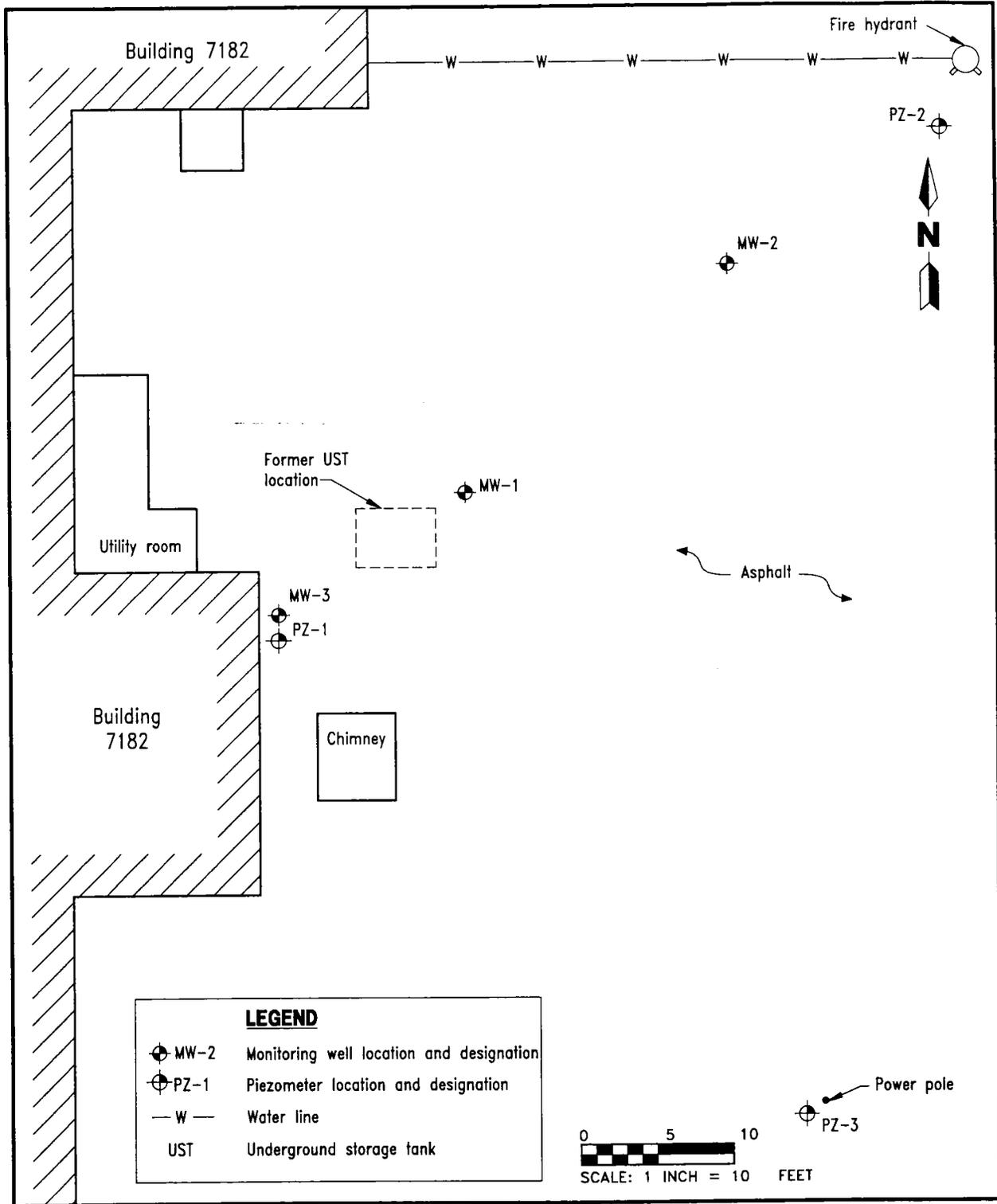
EDB = ethylene dibromide.

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

mg/l = milligrams per liter.

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

NA = not available.



**FIGURE 4-1
MONITORING WELL LOCATION PLAN**



**SITE ASSESSMENT REPORT
BUILDING 7182
MCCOY ANNEX**

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

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5.0 SOURCE OF HYDROCARBONS

5.1 HYDROCARBON TYPE AND MASS DISTRIBUTION. The hydrocarbon type reportedly stored in the 1,000-gallon UST at Building 7182 was heating fuel. The laboratory analytical results indicate no petroleum-impacted soil or groundwater above the State of Florida CTLs was present at the site. Because no petroleum-impacted soil or groundwater was encountered, mass distribution calculations were not performed. Because the chlorinated solvent contamination was not adequately defined, mass distribution calculations were not performed.

5.2 SOURCE OF HYDROCARBON. The suspected source of the small amounts of hydrocarbons in the soil and groundwater is the former 1,000-gallon UST. Petroleum discharges could be attributed to overfill or small spills while filling the UST. The source of chlorinated solvents at the site is not known, although Building 7182 has been used for maintenance activities.

5.3 MECHANISM OF TRANSPORT. The drainage ditch located approximately 300 feet northeast of the site appears to influence the direction of groundwater flow in the surficial aquifer in the area.

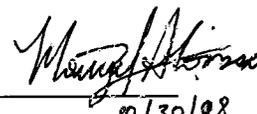
6.0 CONCLUSIONS AND RECOMMENDATIONS

Laboratory analytical results indicate there is no petroleum-impacted soil or groundwater above State of Florida CTLs at the Building 7182 site. Laboratory analytical results also indicate the presence of chlorinated solvents at concentrations that exceed the State of Florida MCLs.

HLA recommends a No Further Action proposal for the petroleum storage system formerly located at the site. HLA also recommends additional assessment activities to find the source and define the horizontal and vertical extent of chlorinated solvent contamination present in the site vicinity.

7.0 PROFESSIONAL REVIEW CERTIFICATION

This document, *Site Assessment Report, Building 7182, 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 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 7182 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

10/30/98

Date

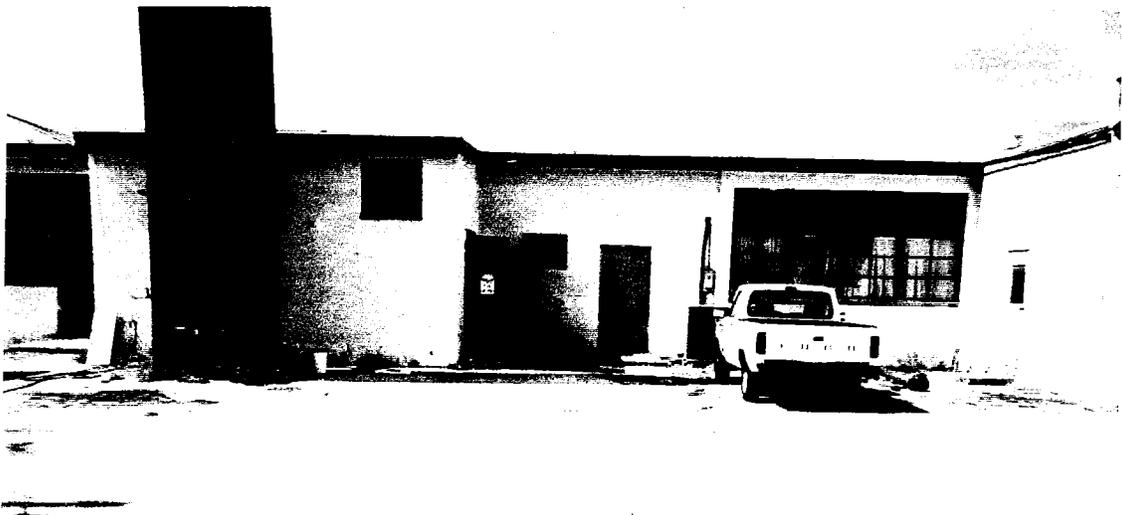
REFERENCES

ABB Environmental Services, Inc. 1996. *Contamination Assessment Report, McCoy Annex, Naval Training Center, Orlando, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (February).

APPENDIX A
SITE PHOTOGRAPHS



Photograph 1: View of former 1,000-gallon underground storage tank (UST) area at Building 7182, facing north.



Photograph 2: View of former 1,000-gallon UST area at Building 7182, facing west.



Photograph 3: View of former 1,000-gallon UST area at Building 7182, facing south.



Photograph 4: View of former 1,000-gallon UST area at Building 7182, facing east.

APPENDIX B

TANK CLOSURE ASSESSMENT REPORT

CLOSURE ASSESSMENT
UNDERGROUND STORAGE TANK
BUILDING 7182

NAVAL TRAINING CENTER
MCCOY ANNEX
ORLANDO, FLORIDA

Unit Identification Code: N65928

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

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

Nick Ugolini, Code 1843, Engineer-in-Charge

May 1997

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Underground Storage Tank
Building 7182
Naval Training Center, McCoy Annex
Orlando, Florida

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5.0	Tank Status	1
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13.0	Closure Assessment	2
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15.0	Project Number	2
16.0	Report Date	2

FIGURES

Figure 1:	Regional Map
Figure 3 :	Vicinity Map
Figure 3:	Site Map

ATTACHMENTS

Attachment A:	Photographs
Attachment B:	Application for Closure of Pollutant Storage Tank System
Attachment C:	Underground Storage Tank Installation and Removal Form
Attachment D:	Closure Assessment Form, Groundwater Analysis, & OVA Readings
Attachment E:	Disposal Document - Scrap Metal
Attachment F:	Disposal Document - Contaminated Soil
Attachment G:	Decontamination Certification

GLOSSARY

FAC	Florida Administrative Code
OVA	Organic Vapor Analyzer
AST	Aboveground Storage Tank
UST	Underground Storage Tank
USEPA	U.S. Environmental Protection Agency

CLOSURE ASSESSMENT REPORT
UNDERGROUND STORAGE TANK
BUILDING 7182

1.0 Facility

Building 7182
Naval Training Center
McCoy Annex
Orlando, Orange County, Florida

2.0 Operator

Commander, Naval Training Center
1350 Grace Hopper Avenue, Code 010E
Orlando, Florida 32813-8405

3.0 Site Location

See Figure 1.

4.0 Date of Closure

31 January 1997

5.0 Tank Status

There was one 1000 gallon underground storage tank (UST) removed from the east side of Building 7182 by the Public Works Center (PWC) as depicted by Figure 3. A photograph of the removals is provided in Attachment A. The UST was emptied prior to commencement of work by International Oil Service. The UST was completely decontaminated and rendered unuseable by PWC. The UST was properly disposed by the Defense Reutilization and Marketing Office (DRMO).

There was contaminated soil encountered during the removal process. The contaminated soil was removed horizontally until the OVA readings were below fifty (50) parts per million. The soil was removed vertically until groundwater was encountered at approximately six (6) feet below land surface.

6.0 Tank Contents

Heating Fuel

7.0 Tank Condition

The UST was in good condition at the time of removal.

8.0 Tank Area

The size of the excavation was approximately ten (10) feet wide by twenty-five (25) feet long and six (6) feet deep. The excavation was filled with clean fill, compacted to grade, and paved with concrete.

9.0 Soil Screening

- Five (5) soil samples were collected for headspace screening with an organic vapor analyzer (OVA). The samples were extracted at each corner and under the middle of the UST as depicted by Figure 3.
- The soil screening was conducted in accordance with the headspace screening criteria in Chapter 62-770 FAC and PWC's Comprehensive Quality Assurance Plan.

10.0 Groundwater Analysis

A temporary groundwater monitoring well was placed at the center of the UST excavation, the well was developed and groundwater samples were collected on 18 March 1997. The samples were transported to the PWC Laboratory in Pensacola, Florida. The samples were analyzed using U.S. Environmental Protection Agency (EPA) Methods 8260 and 8270.

11.0 Conclusions

There were indications of petroleum contamination observed from the soil and groundwater sampling.

12.0 Recommendations

A Contamination Assessment Report (CAR) should be initiated.

13.0 Closure Assessment

Performed by the Public Works Center (PWC) Pensacola, Florida.

14.0 Project Manager

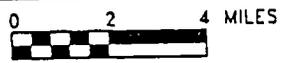
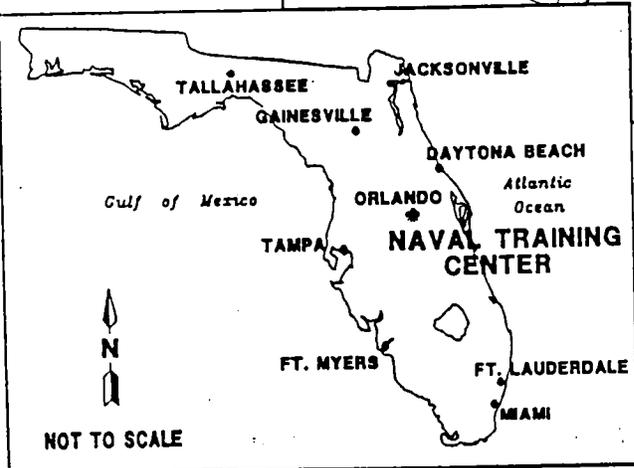
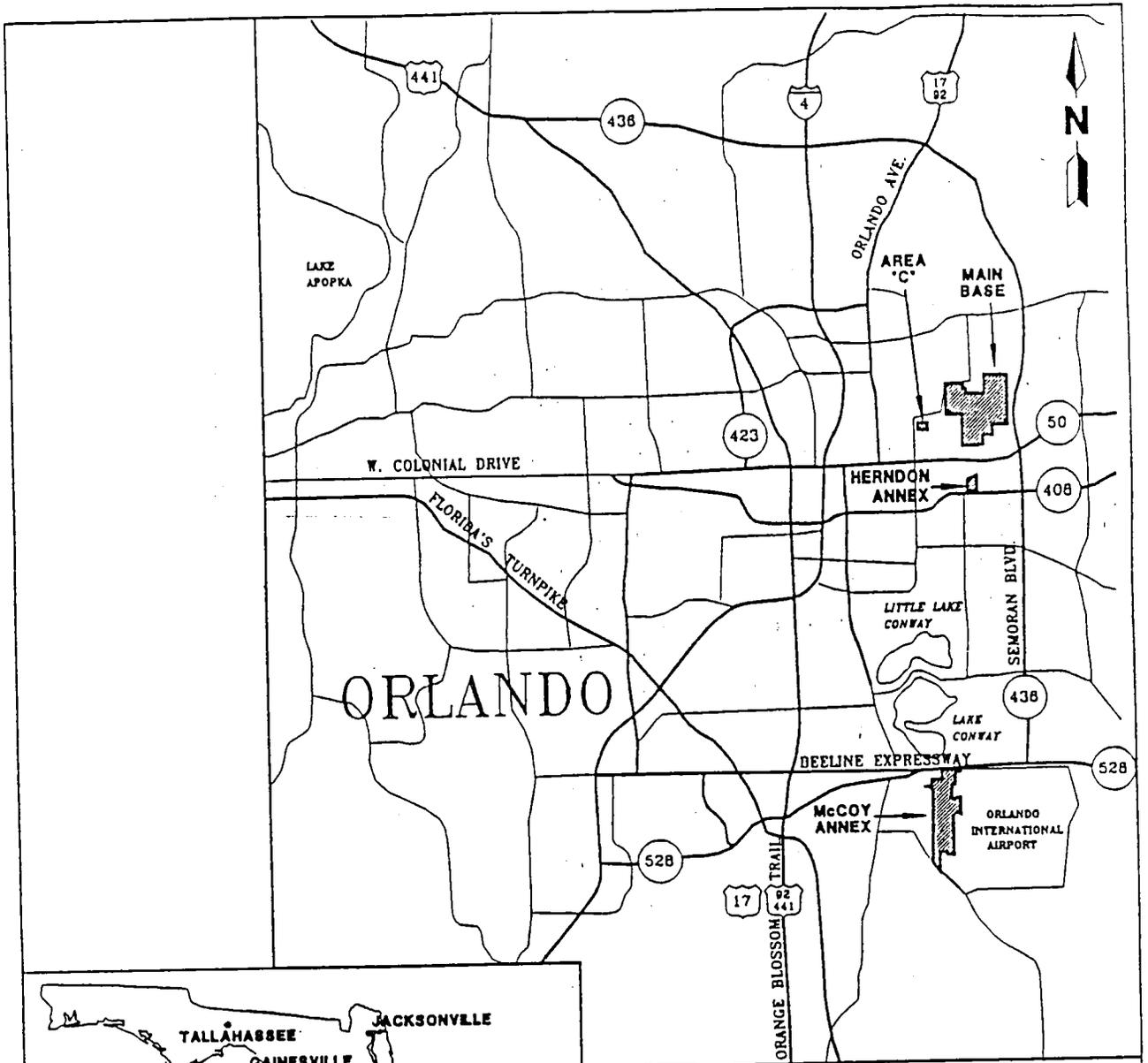
Mr. Paul R. Semmes, P.E.

15.0 Project Number

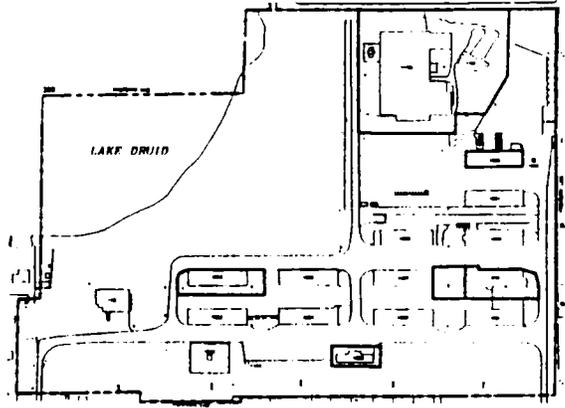
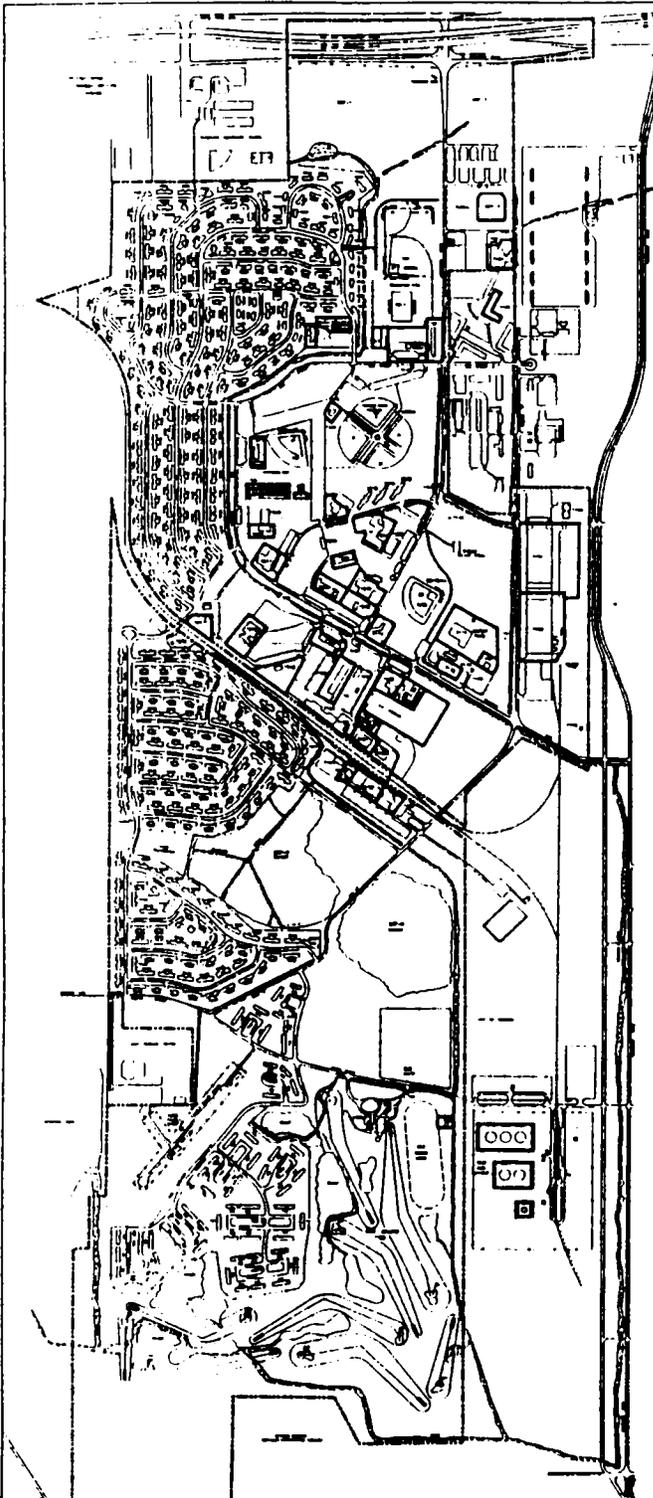
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16.0 Report Date

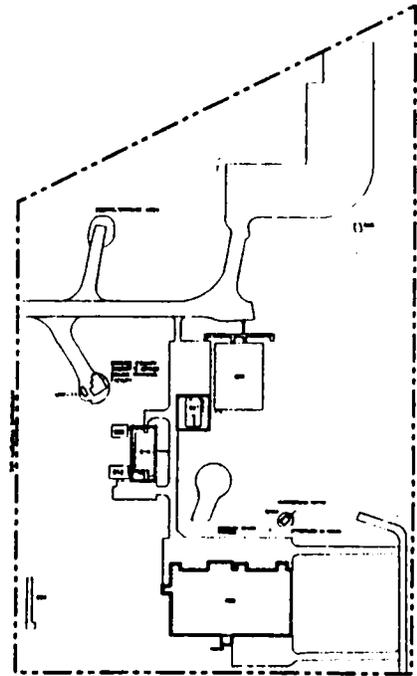
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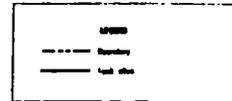
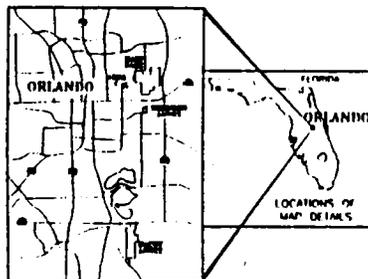


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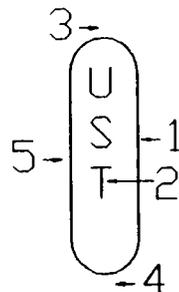


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HERNDON ANNEX

NAVAL TRAINING CENTER
McCOY ANNEX



BLDG 7182



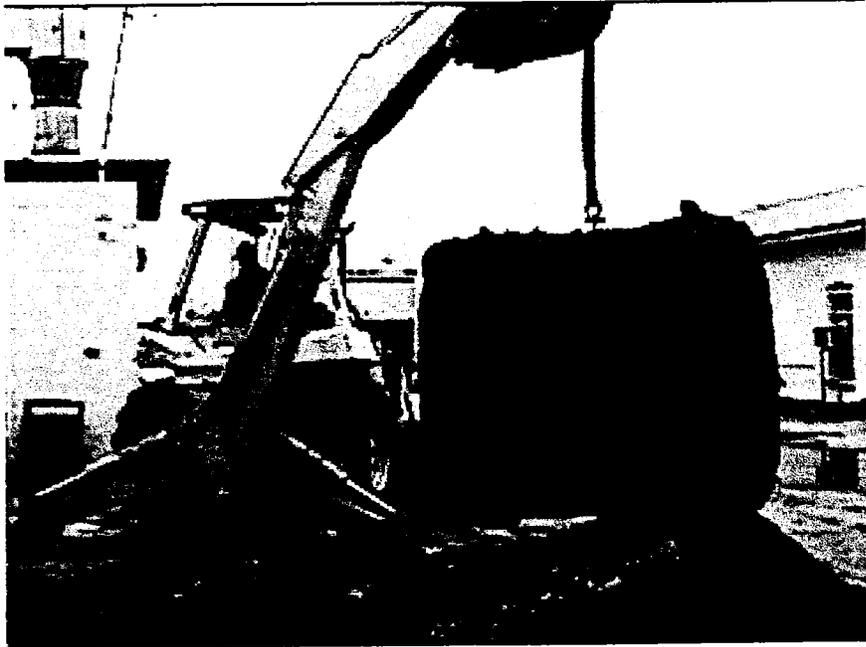
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□VA READINGS

- 1- 6'BLS, 15 PPM
- 2- 6'BLS, 67/32 PPM
- 3- 6'BLS, 159/18 PPM
- 4- 6'BLS, 771/460 PPM
- 5- 6'BLS, 236/79 PPM

REF: BLDG 7182		DEPARTMENT OF THE NAVY, NAVAL FACILITIES ENGINEERING COMMAND	
		NAVY PUBLIC WORKS CENTER	
		NAVAL AIR STATION PENSACOLA, FLORIDA	
DESIGNED _____		NAVAL TRAINING CENTER	
DRAWN _____		NTC ORLANDO, MCCOY ANNEX	
CHECKED _____		ORLANDO, FLORIDA	
DIV. DIR. _____			
LDG. DIV. DIR. _____			
ENGRG. DEPT. HD. _____			
APPROVED _____	DATE _____	SIZE CODE IDENT. NO.	ENVIRON. DEPT. NO.
ENVIRONMENTAL DEPARTMENT		900	PWC DRAWING NO.
APPROVED _____	DATE _____	SCALE AS SHOWN	SPEC.
PAUL R. SENGERS, P.E.			SHEET OF

ATTACHMENTS



APPLICATION FOR CLOSURE OF POLLUTANT STORAGE TANK SYSTEM

Provide the facility information requested below.

FDEP Facility # 48/8841262 Facility Name U. S. Navy

Facility Location Naval Training Center, Building 7182

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) 293-0635

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).



Underground Storage Tank Installation and Removal Form For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.200, 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. DER Facility Identification No.: 48/8841262
2. Facility Name: US Navy - Naval Training Center Telephone: (407) 646-4663
3. Street Address (physical location): Building 7182, Naval Training Center, McCoy Annex
4. Owner Name: Commander, Naval Training Center Telephone: (407) 646-4663
5. Owner Address: 1350 Grace Hopper Avenue (Code 010E), Orlando, Florida 32813-8405
6. Number of Tanks: a. Installed at this time _____ b. Removed at this time _____
7. Tank(s) Manufactured by: Unknown
8. Date Work Initiated: 1/31/97 9. Date Work Completed: 1/31/97

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(87), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-87 and the manufacturers' specifications.
3. Tanks and piping pretested and installed in accordance with NFPA 30(87), API 1615, PEI/RP100(87) and the manufacturers' specifications.
4. Steel tanks and piping are cathodically protected in accordance with NFPA 30(87), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturer's specifications.
5. Tanks and piping tested for tightness after installation in accordance with NFPA 30(87) and PEI/RP100-87.
6. Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 17-761.640, Florida Administrative Code (F.A.C.)
7. Spill and overfill protection devices installed in accordance with Section 17-761.500, F.A.C.
8. Secondary containment installed for tanks and piping as applicable in accordance with Section 17-761.500, 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 17-761.800, F.A.C.
- Underground tank removed and disposed of as specified in API 1604 in accordance with Section 17-761.800, F.A.C.



Closure Assessment Form

On _____ of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage 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 4/18/97
2. DEP Facility ID Number: 48/8841262 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 7182, Naval Training Center, 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: One 14. Age of Tanks: 45

Facility Assessment Information

- | Yes | No | Not
Applicable | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | | 1. Was a Discharge Reporting Form submitted to the Department?
If yes, When: _____ Where: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 2. Is the depth to ground water less than 20 feet? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Are monitoring wells present around the storage system?
If yes, please specify <input type="checkbox"/> Vapor Monitoring <input checked="" 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 checked="" type="checkbox"/> | <input 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 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 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 checked="" type="checkbox"/> | <input type="checkbox"/> | 12. If a facility has a pollutant storage tank system that has both gasoline and kerosine/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples. |

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642
 FAX 922-2783

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-8587
 Contact: Paul Semmes

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 71113
 Sample Date: 03/18/97
 Received Date: 03/20/97
 Sample Site: NTC McCoy FL
 Job Order No.: 102 4021

LAB Sample ID#	1- 71113			
Sample Name / Location	# 7182			
Collector's Name	B. Weimer			
Date & Time Collected	03/18/97 @ 1115 & 1135			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/22/97 JM			
Date of Analysis	03/22/97			
Sample Matrix	GW			
Dilution	X 1			
Compound	1- 71113	units	Det.	Flags
Name			Limit	
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	1	
Hexachlorobutadiene	BDL	ug/L	2	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	1	

Navy Public Works Center Environmental Laboratory

Analytical Report

Total Volatiles by Method 8260

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-8587
Contact: Paul Semmes

Lab Report Number: 71113
Sample Date: 03/18/97
Received Date: 03/20/97
Sample Site: NTC McCoy, FL
Job Order No.: 102 4021

Compound Name	1- 71113	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	1	
Methyl ethyl ketone (MEK) *	BDL	ug/L	2	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	1	
Naphthalene	BDL	ug/L	1	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	5	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	1	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

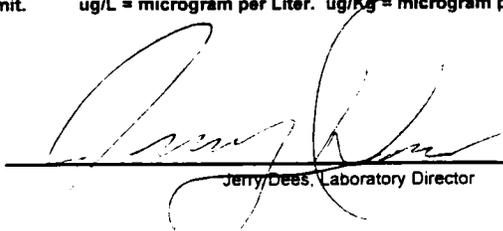
	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	95
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	99

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/1/97

Report Generated

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-8587
 Contact: Paul Semmes

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71113
 Sample Date: 03/18/97
 Received Date: 03/20/97
 Sample Site: NTC McCoy FL
 Job Order No.: 102 4021

LAB Sample ID#	1- 71113				
Sample Name / Location	# 7182				
Collector's Name	B. Weimer				
Date & Time Collected	03/18/97 @ 1115 & 1135				
Sample Type (composite or grab)	Grab				
Analyst	M. Chambers				
Date of Extraction / Initials	03/27/97 JJ				
Date of Analysis	03/30/97				
Sample Matrix	GW				
Dilution	X 1				
Compound Name	1-	71113	units	MDL	Flags
Acenaphthene	BDL		ug/L	2	
Acenaphthylene	BDL		ug/L	2	
Anthracene	BDL		ug/L	2	
Benzo(a)anthracene	BDL		ug/L	2	
Benzo(a)pyrene	BDL		ug/L	2	
Benzo(b)fluoranthene	BDL		ug/L	2	
Benzo(g,h,i)perylene	BDL		ug/L	2	
Benzo(k)fluoranthene	BDL		ug/L	3	
Chrysene	BDL		ug/L	2	
Dibenz(a,h)anthracene	BDL		ug/L	2	
Flouranthene	BDL		ug/L	2	
Flourene	BDL		ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL		ug/L	2	
1-Methylnaphthalene *	BDL		ug/L	2	
2-Methylnaphthalene	BDL		ug/L	3	
Naphthalene	BDL		ug/L	2	
Phenanthrene	BDL		ug/L	2	
Pyrene	BDL		ug/L	2	

SURROGATE SPIKE RECOVERIES

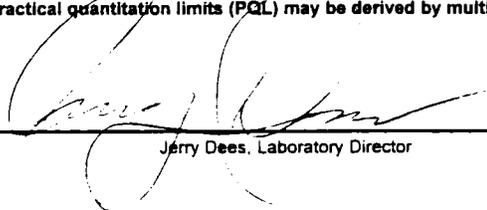
	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	86
2-Flourobiphenyl	43-116	92
Terphenyl -d14	33-141	80

Explanation of Flags: _____

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

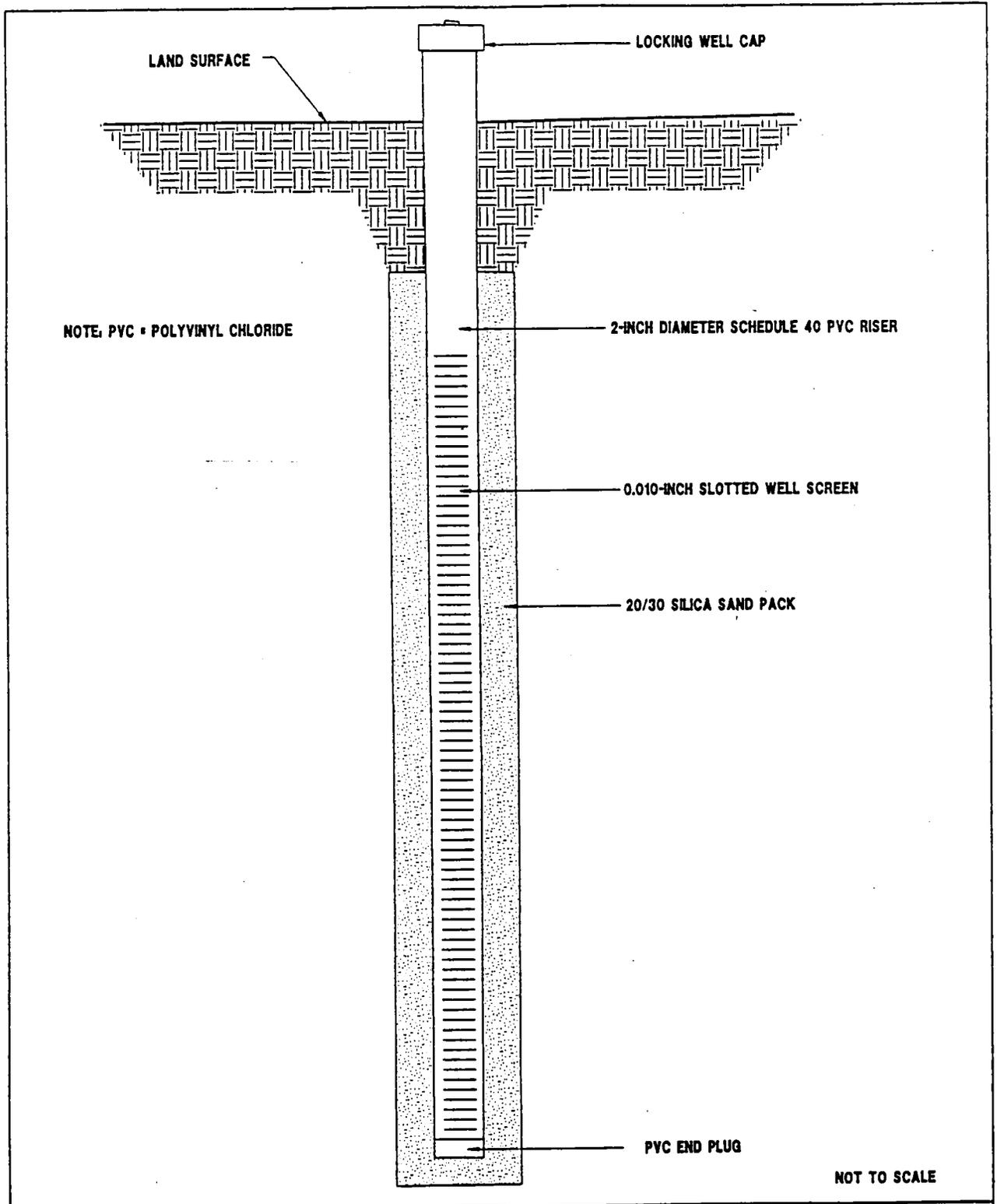
BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.
 MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :


 Jerry Dees, Laboratory Director

Date: 4/1/97

Report Generated



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL



NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Summary of OVA Readings

**Closure Assessment Report
Underground Storage Tank
Building 7182
Naval Training Center
McCoy Annex
Orlando, Florida**

Hand Auger Sample No.	Depth (Feet)	Unfiltered (ppm)	Filtered (ppm)
SS-1	8	15	N/A
SS-2	8	67	32
SS-3	8	159	18
SS-4	8	771	460
SS-5	8	236	79

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

Notes: ppm = parts per million.

NON-HAZARDOUS WASTE MANIFEST

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

Manifest Document No.

2. Page 1 of 1

Generator's Name and Mailing Address
COMMANDER NAVAL TRAINING CENTER
CODE 010E ATTN: MARK ZILL

1350 GRACE HOPPER AVE
ORLANDO FL 32813

LOAD # 02

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 Morsa Bldg.
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) 877-3777

11. Waste Shipping Name and Description

12. Containers	13. Total Quantity	14. Unit
No.	Type	Weight
1	TRK	

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

b.

c.

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

Signature

Month Day Year
7 11 11

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year
2 11 11

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'S COPY



DEPARTMENT OF THE NAVY
NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO

CERTIFICATE OF DECONTAMINATION

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

106	129	351
354	356	358
361	363	364
366	369	371
375	384	2010
2035	2122	7182

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 

Paul R Semmes, PE
Environmental Engineer
Title

Date 5/6/97

APPENDIX C

WELL CONSTRUCTION DETAILS

WELL COMPLETION LOG

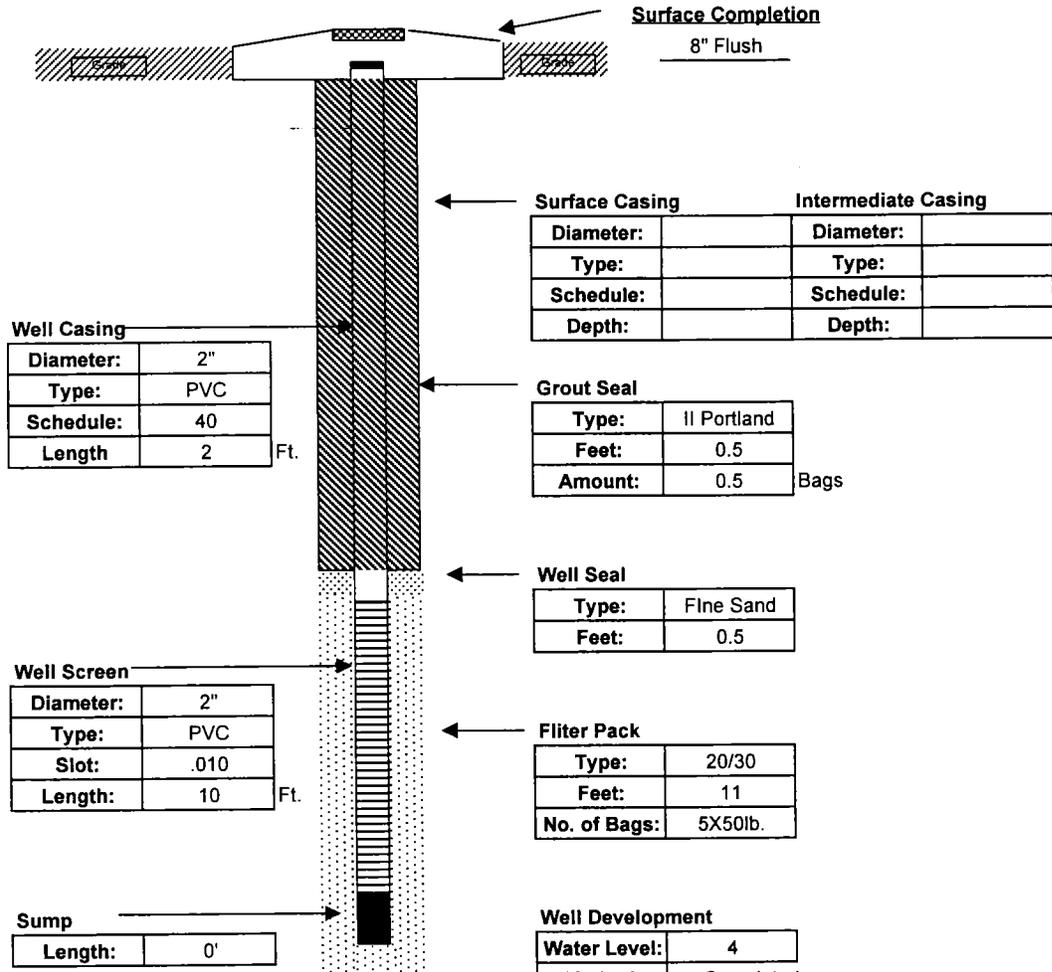
Water Mgmt. Dist.: St. Johns
 Permit Number: _____

Work Order: 6424
 Type of Well: Monitoring
 Well Number: 7182 MW-1
 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:	ot Completed
Start: →	Finish: →
Time:	
GPM:	

Contractor Information

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

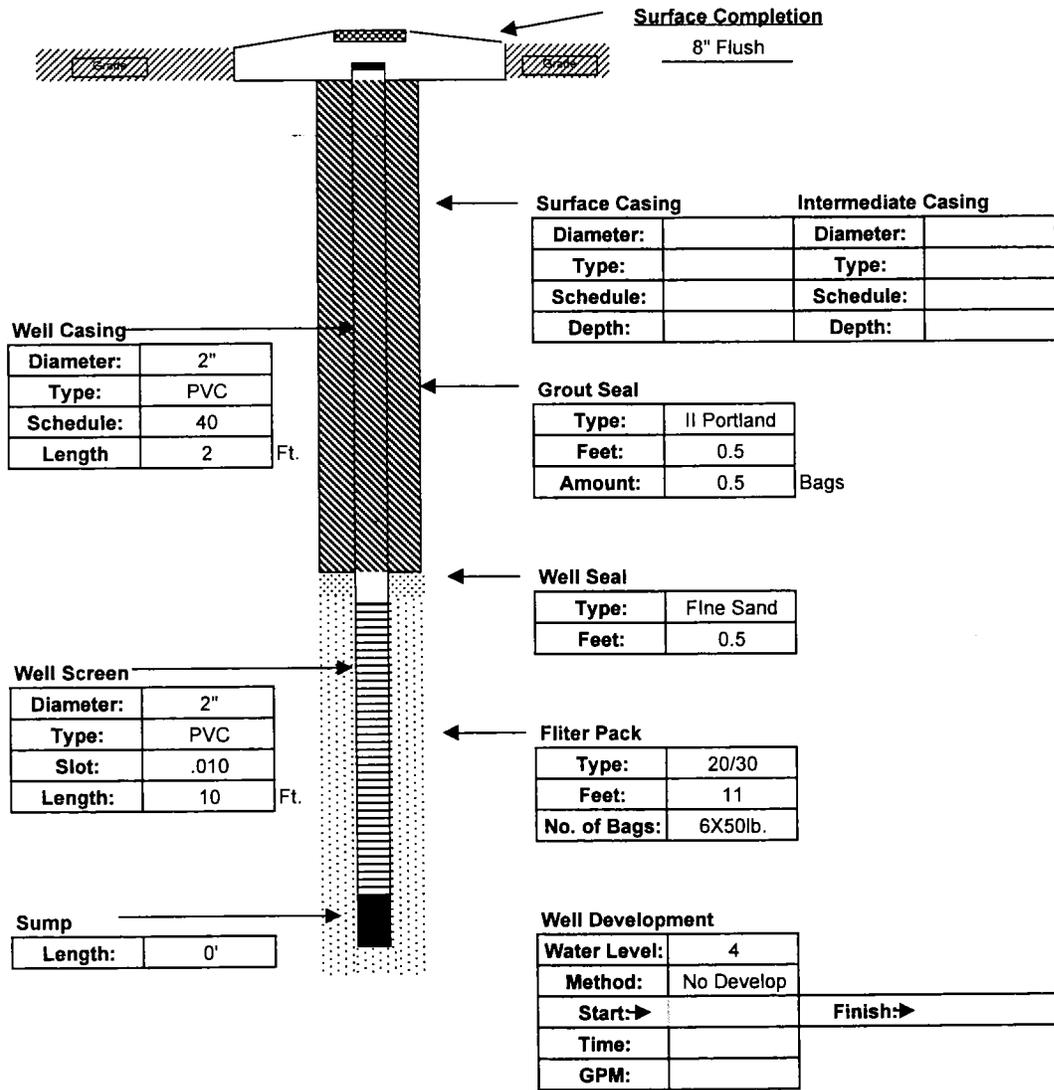
Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

WELL COMPLETION LOG

Water Mgmt. Dist.: St. Johns
 Permit Number: _____
 Work Order: 6424
 Type of Well: Monitoring
 Well Number: 7182 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	6X50lb.	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

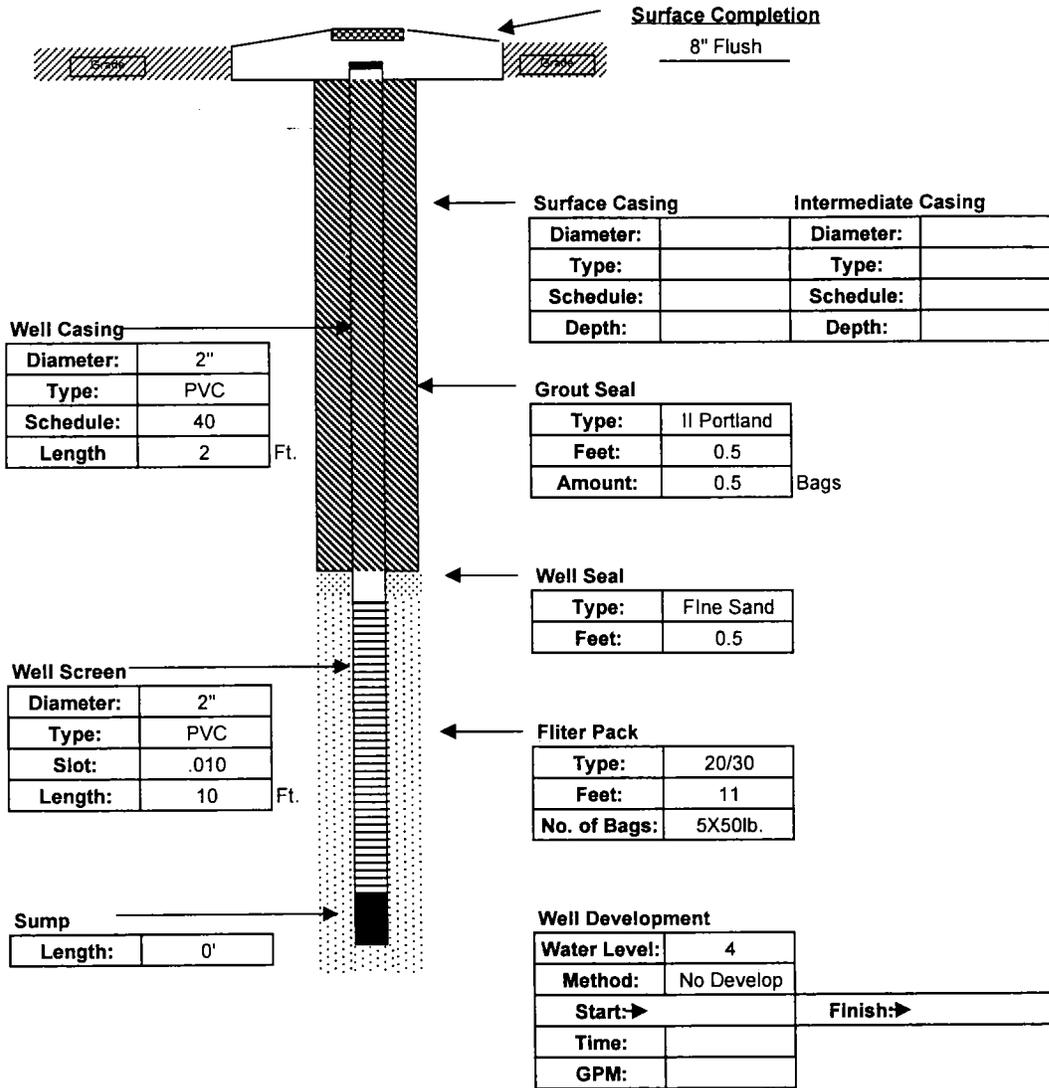
Water Mgmt. Dist.: St. Johns
 Permit Number: _____

Work Order: 6424
 Type of Well: Monitoring
 Well Number: 7182 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

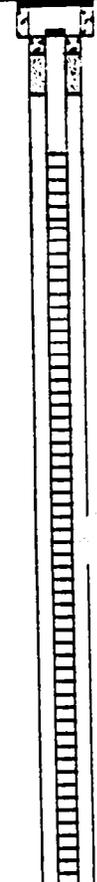
Company:	Groundwater Protection, Inc.
Address:	4315 S.W. 34th Street
C,S,Z:	Orlando, Florida 32811
Phone/FAX:	(407) 426-7885 / (407) 426-7586

APPENDIX D
LITHOLOGIC LOGS

TITLE: NTC, ORLANDO BUILDING 7182		LOG of WELL: MW-1	BORING NO. NA
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-298	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 345 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7182	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
<1					0-4' (POSTHOLE) SAND, fine grained, brown to black, moist, no odor.		SP		
5					4'-12' (cuttings) SAND, fine grained tan to brown, no odor, wet at approximately 4.5' BLS.		Sp		
10									
15									
20									

TITLE: NTC, ORLANDO BUILDING 7182		LOG of WELL: MW-2	BORING NO. NA
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.: 2-1/2 FEET	PROTECTION LEVEL: 0
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 12 FEET.	DPTH TO 4 5 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7182	

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				<1 0-4' (POSTHOLE) SAND, fine grained, dark to medium brown, no odor, moist		SP		
5				<1 4'-12' (CUTTINGS) SAND, fine grained, tan to brown, no odor, wet at 4.5' BLS.		SP		
10								
15								
20								

TITLE: NTC, ORLANDO BUILDING 7182		LOG of WELL: MW-3	BORING NO. NA
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 2547-15	
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 7-2-98	COMPLTD: 7-2-98
THOD: 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 1/4 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 7-2-98	SITE: BUILDING 7182	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			<1	0-4' (POSTHOLE) SAND, fine grained, medium to dark brown, no odor, moist.		SP		
5			<1	4'-12' (CUTTINGS) SAND, fine grained, tan to brown, no odor, wet at 4.5' BLS.		SP		
10								
15								
20								

APPENDIX E
WATER SAMPLING LOG FORMS



DEP Form # 62-770.900(3)
 Form Title: Petroleum or Petroleum Products
Water Sampling Log
 Effective Date: September 23, 1997

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: <u>MW-1</u>	SAMPLE ID: <u>7182 MW-1</u>	DATE: <u>8/5/98</u>
SITE NAME: <u>BUILDING 7182</u>		SITE LOCATION: <u>MCCOY ANNEX</u>	

PURGE DATA								
WELL DIAMETER (in): <u>2</u>		TOTAL WELL DEPTH (ft): <u>12</u>		DEPTH TO WATER (ft): <u>4.36</u>		WELL CAPACITY (gal/ft): <u>0.16</u>		
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY =								
= (<u>12</u> - <u>4.36</u>) x <u>0.16</u> = <u>1.22</u>								
PURGE METHOD: <u>Peristaltic</u>				PURGING INITIATED AT: <u>0854</u>			PURGING ENDED AT: <u>0915</u>	
WELL VOLS. PURGED		CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): <u>5</u>
						COLOR	ODOR	APPEARANCE
								OTHER TURBIDITY
<u>0</u>	<u>0</u>	<u>0</u>	<u>6.21</u>	<u>24</u>	<u>317</u>			<u>CLEAR</u>
<u>1</u>	<u>1.2</u>	<u>1.2</u>	<u>6.26</u>	<u>25</u>	<u>300</u>			<u>"</u>
<u>2.5</u>	<u>2.0</u>	<u>2.0</u>	<u>6.28</u>	<u>25</u>	<u>312</u>			<u>"</u>
<u>4</u>	<u>5</u>	<u>5</u>	<u>6.29</u>	<u>25</u>	<u>310</u>			<u>"</u>

SAMPLING DATA								
SAMPLED BY / AFFILIATION: <u>SCOTT DONELICK / HLA</u>					SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>			
SAMPLING METHOD(S): <u>PERISTALTIC</u>					SAMPLING INITIATED AT: <u>0917</u>		SAMPLING ENDED AT: <u>0921</u>	
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/> N			FIELD-FILTERED: Y <input checked="" type="checkbox"/> N			DUPLICATE: Y <input checked="" type="checkbox"/> 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			
<u>3</u>	<u>CG</u>	<u>40ml</u>	<u>HCl</u>			<u>EPA 601 / 602</u>		
<u>3</u>	<u>CG</u>	<u>40ml</u>	<u>HCl</u>			<u>EPA 504</u>		
<u>2</u>	<u>AG</u>	<u>1 liter</u>	<u>HCl</u>			<u>FL-PRO</u>		
<u>2</u>	<u>AG</u>	<u>1 liter</u>	<u>-</u>			<u>EPA 610 HPLC</u>		
<u>1</u>	<u>HDP</u>	<u>500 ml</u>	<u>HNO₃</u>			<u>EPA 239.2 Pb</u>		

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: September 23, 1997

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: <i>MW-2</i>	SAMPLE ID: <i>7182 MW-2</i>	DATE: <i>8/5/98</i>
SITE NAME: <i>BUILDING 7182</i>		SITE LOCATION: <i>MCCOY ANNEX</i>	

PURGE DATA								
WELL DIAMETER (in): <i>2</i>		TOTAL WELL DEPTH (ft): <i>12</i>		DEPTH TO WATER (ft): <i>4.20</i>		WELL CAPACITY (gal/ft): <i>0.16</i>		
1 WELL VOLUME (gal) = (TOTAL WELL DEPTH - DEPTH TO WATER) x WELL CAPACITY =								
= (<i>12</i> - <i>4.20</i>) x <i>0.16</i> = <i>1.25</i>								
PURGE METHOD:				PURGING INITIATED AT: <i>0906</i>		PURGING ENDED AT: <i>0948</i>		
				PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): <i>5.7</i>		
WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER TURBIDITY
<i>1</i>	<i>1.2</i>	<i>6.50</i>	<i>25</i>	<i>380</i>	<i>Tan</i>		<i>Cloudy</i>	<i>64.2</i>
<i>2</i>	<i>2.5</i>	<i>6.51</i>	<i>25</i>	<i>310</i>	<i>"</i>		<i>"</i>	<i>41.2</i>
<i>3</i>	<i>3.7</i>	<i>6.50</i>	<i>25</i>	<i>372</i>			<i>clearing</i>	<i>15.6</i>
<i>4</i>	<i>5</i>	<i>6.50</i>	<i>25</i>	<i>374</i>			<i>clear</i>	<i>13.86</i>
<i>4.5</i>	<i>5.7</i>	<i>6.50</i>	<i>25</i>	<i>376</i>			<i>clear</i>	<i>12.63</i>

SAMPLING DATA								
SAMPLED BY / AFFILIATION: <i>SCOTT DONGELICK / HLA</i>					SAMPLER(S) SIGNATURE(S): <i>Scott Dongelick</i>			
SAMPLING METHOD(S): <i>Peristaltic</i>					SAMPLING INITIATED AT: <i>0954</i>		SAMPLING ENDED AT: <i>1004</i>	
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/>			FIELD-FILTERED: Y <input checked="" type="checkbox"/>			DUPLICATE: Y <input checked="" type="checkbox"/>		
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH			
<i>3</i>	<i>CG</i>	<i>40 ml</i>	<i>HCl</i>			<i>EPA 601/602</i>		
<i>3</i>	<i>CG</i>	<i>40 ml</i>	<i>HCl</i>			<i>EPA 504</i>		
<i>2</i>	<i>AG</i>	<i>1 liter</i>	<i>HCl</i>			<i>FL-PRO</i>		
<i>2</i>	<i>AG</i>	<i>1 liter</i>	<i>-</i>			<i>EPA 610 HALC</i>		
<i>1</i>	<i>HDP</i>	<i>500 ml</i>	<i>HNO₃</i>			<i>EPA 239.2 Pb</i>		

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: September 23, 1997

Petroleum or Petroleum Products Water Sampling Log

FDEP FACILITY NO.:	WELL NO.: <u>MW-3</u>	SAMPLE ID: <u>7182 MW-3</u>	DATE: <u>8/5/98</u>
SITE NAME: <u>BUILDING 7182</u>		SITE LOCATION: <u>MCCLOY ANNEX</u>	

PURGE DATA									
WELL DIAMETER (in): <u>2</u>		TOTAL WELL DEPTH (ft): <u>12</u>			DEPTH TO WATER (ft): <u>4.70</u>			WELL CAPACITY (gal/ft): <u>0.16</u>	
$1 \text{ WELL VOLUME (gal)} = (\text{TOTAL WELL DEPTH} - \text{DEPTH TO WATER}) \times \text{WELL CAPACITY} =$ $= (\quad 12 \quad - \quad 4.70 \quad) \times 0.16 = 1.17$									
PURGE METHOD: <u>Peristaltic</u>				PURGING INITIATED AT: <u>1002</u>			PURGING ENDED AT: <u>1030</u>		
WELL VOLS. PURGED		CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	PURGE RATE (gpm):		TOTAL VOLUME PURGED (gal): <u>4.5</u>	
						COLOR	ODOR	APPEARANCE	OTHER TURBIDITY
<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>6.00</u>	<u>24.5</u>	<u>210</u>			<u>Clear</u>	<u>10.92</u>
<u>1.5</u>	<u>1.7</u>	<u>1.7</u>	<u>6.08</u>	<u>25</u>	<u>210</u>			<u>"</u>	<u>6.40</u>
<u>3</u>	<u>3.5</u>	<u>3.5</u>	<u>6.10</u>	<u>25</u>	<u>208</u>			<u>"</u>	<u>5.40</u>
<u>4</u>	<u>4.7</u>	<u>4.7</u>	<u>6.11</u>	<u>25</u>	<u>214</u>			<u>"</u>	<u>4.74</u>

SAMPLING DATA									
SAMPLED BY / AFFILIATION: <u>SCOTT DONELICK / HLA</u>					SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				
SAMPLING METHOD(S): <u>Peristaltic</u>					SAMPLING INITIATED AT: <u>1036</u>			SAMPLING ENDED AT: <u>1041</u>	
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/>			FIELD-FILTERED: Y <input checked="" type="checkbox"/>			DUPLICATE: Y <input checked="" type="checkbox"/>			
SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD			
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH				
<u>3</u>	<u>CG</u>	<u>40ml</u>	<u>HCl</u>			<u>EPA 601/602</u> <u>EPA 504</u> <u>FL-PRO</u> <u>EPA 610 HPLC</u> <u>EPA 239.2 Pb</u>			
<u>3</u>	<u>CG</u>	<u>40 ml</u>	<u>HCl</u>						
<u>2</u>	<u>AG</u>	<u>1 liter</u>	<u>HCl</u>						
<u>2</u>	<u>AG</u>	<u>1 liter</u>	<u>-</u>						
<u>1</u>	<u>HDP</u>	<u>500ml</u>	<u>HNO₃</u>						

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.

APPENDIX F

GROUNDWATER AND SOIL LABORATORY ANALYTICAL REPORTS

BUILDING 7182
NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number: S884722-3
Site 7182
Locator 081GM101/7182MW-1
Collect Date: 05-AUG-98

S884722-4
7182
081GM201/7182-MW-2
05-AUG-98

S884722-5
7182
081GM301/7182-MW-3
05-AUG-98

S884722-6
7182
081RB101/7182-RB-1
05-AUG-98

	VALUE	QUAL	UNITS	DL												
EPA 601																
Bromodichloromethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Bromoform	5	U	ug/l	5	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5
Bromomethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Carbon tetrachloride	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Chloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
2-Chloroethylvinyl ether	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10	10	U	ug/l	10
Chloroform	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Chloromethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Dibromochloromethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichlorobenzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Dichlorodifluoromethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,1-Dichloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,1-Dichloroethene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Cis/Trans-1,2-Dichloroethene	24	U	ug/l	1	49	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichloropropane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
cis-1,3-Dichloropropene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
trans-1,3-Dichloropropene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Methylene chloride	5	U	ug/l	5	24	U	ug/l	5	28	U	ug/l	5	5	U	ug/l	5
1,1,2,2-Tetrachloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Tetrachloroethene	1	U	ug/l	1	2	U	ug/l	2	4.9	U	ug/l	1	1	U	ug/l	1
1,1,1-Trichloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
1,1,2-Trichloroethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Trichloroethylene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Trichlorofluoromethane	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Vinyl chloride	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
EPA 602																
Benzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Toluene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Xylenes (total)	1	U	ug/l	1	2	U	ug/l	2	1	U	ug/l	1	1	U	ug/l	1
Methyl tert-butyl ether	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10	10	U	ug/l	10
EPA 504																
1,2-Dibromoethane (EDB)	.02	U	ug/l	.02												
PAH COMPOUNDS																
Acenaphthene	1.1	X	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	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												

BUILDING 7182
 NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number: Site Locator Collect Date:	S884722-3 7182 081GM101/7182MW-1 05-AUG-98			S884722-4 7182 081GM201/7182-MW-2 05-AUG-98			S884722-5 7182 081GM301/7182-MW-3 05-AUG-98			S884722-6 7182 081RB101/7182-RB-1 05-AUG-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	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5
Fluoranthene	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5
Fluorene	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5
Indeno(1,2,3-cd)pyrene	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5
1-Methylnaphthalene	4.5	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	4.6	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Naphthalene	5.4	ug/l	1	1.6	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	.35	ug/l	.2	.2 U	ug/l	.2	.2 U	ug/l	.2	.2 U	ug/l	.2
Pyrene	.5 U	ug/l	.5	.5 U	ug/l	.5	.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	.005 U	mg/l	.005
Flo Pro												
Petroleum Range Organics (F1-P)	.3 U	mg/l	.3	.3 U	mg/l	.3	.3 U	mg/l	.3	.3 U	mg/l	.3

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

BUILDING 7182
 NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number:	S884722-1	S884722-2	S884722-7
Site	7182	7182	7182
Locator	081SS101/7182SS-1	081SS201/7182SS-2	Trip Blank
Collect Date:	04-AUG-98	04-AUG-98	12-OCT-98
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL

	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
EPA 601									
Bromodichloromethane	-			-			-		
Bromoform	-			-			-		
Bromomethane	-			-			-		
Carbon tetrachloride	-			-			-		
Chlorobenzene	-			-			-		
Chloroethane	-			-			-		
2-Chloroethylvinyl ether	-			-			-		
Chloroform	-			-			-		
Chloromethane	-			-			-		
Dibromochloromethane	-			-			-		
1,2-Dichlorobenzene	-			-			-		
1,3-Dichlorobenzene	-			-			-		
1,4-Dichlorobenzene	-			-			-		
Dichlorodifluoromethane	-			-			-		
1,1-Dichloroethane	-			-			-		
1,2-Dichloroethane	-			-			-		
1,1-Dichloroethene	-			-			-		
Cis/Trans-1,2-Dichloroethene	-			-			-		
1,2-Dichloropropane	-			-			-		
cis-1,3-Dichloropropene	-			-			-		
trans-1,3-Dichloropropene	-			-			-		
Methylene chloride	-			-			-		
1,1,2,2-Tetrachloroethane	-			-			-		
Tetrachloroethene	-			-			-		
1,1,1-Trichloroethane	-			-			-		
1,1,2-Trichloroethane	-			-			-		
Trichloroethylene	-			-			-		
Trichlorofluoromethane	-			-			-		
Vinyl chloride	-			-			-		
EPA 602									
Benzene	6 U	ug/kg	6	6.2 U	ug/kg	6.2	1 U	ug/l	1
Toluene	18	ug/kg	5	10	ug/kg	5	1 U	ug/l	1
Ethylbenzene	27	ug/kg	5	12	ug/kg	5	1 U	ug/l	1
Xylenes (total)	130	ug/kg	5	57	ug/kg	5	1 U	ug/l	1
Methyl tert-butyl ether	60 U	ug/kg	60	62 U	ug/kg	62	10 U	ug/l	10
EPA 504									
1,2-Dibromoethane (EDB)	-			-			-		

BUILDING 7182
 NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number:	S884722-1	S884722-2	S884722-7					
Site	7182	7182	7182					
Locator	081SS101/7182SS-1	081SS201/7182SS-2	Trip Blank					
Collect Date:	04-AUG-98	04-AUG-98	12-OCT-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
Acenaphthene	60 U	ug/kg	60	62 U	ug/kg	62	-		
Acenaphthylene	24 U	ug/kg	24	25 U	ug/kg	25	-		
Anthracene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Benzo(a)anthracene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Benzo(a)pyrene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Benzo(b)fluoranthene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Benzo(g,h,i)perylene	12 U	ug/kg	12	12 U	ug/kg	12	-		
Benzo(k)fluoranthene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Chrysene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Dibenzo(a,h)anthracene	12 U	ug/kg	12	12 U	ug/kg	12	-		
Fluoranthene	12 U	ug/kg	12	12 U	ug/kg	12	-		
Fluorene	12 U	ug/kg	12	12 U	ug/kg	12	-		
Indeno(1,2,3-cd)pyrene	12 U	ug/kg	12	12 U	ug/kg	12	-		
1-Methylnaphthalene	24 U	ug/kg	24	25 U	ug/kg	25	-		
2-Methylnaphthalene	24 U	ug/kg	24	25 U	ug/kg	25	-		
Naphthalene	24 U	ug/kg	24	25 U	ug/kg	25	-		
Phenanthrene	4.8 U	ug/kg	4.8	5 U	ug/kg	5	-		
Pyrene	12 U	ug/kg	12	12 U	ug/kg	12	-		
LEAD									
Lead	-			-			-		
Fla Pro									
Petroleum Range Organics (FI-P)	12 U	mg/kg	12	12 U	mg/kg	12	-		

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

BUILDING 7182 "HITS TABLE"
 NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number:	S884722-3	S884722-4	S884722-5	S884722-6								
Site	7182	7182	7182	7182								
Locator	081GM101/7182MW-1	081GM201/7182-MW-2	081GM301/7182-MW-3	081RB101/7182-RB-1								
Collect Date:	05-AUG-98	05-AUG-98	05-AUG-98	05-AUG-98								
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL

EPA 601												
Cis/Trans-1,2-Dichloroethene	24	ug/l	1	49	ug/l	1	- U	ug/l	1	- U	ug/l	1
Methylene chloride	- U	ug/l	5	24	ug/l	5	28	ug/l	5	- U	ug/l	5
Tetrachloroethene	- U	ug/l	1	- U	ug/l	2	4.9	ug/l	1	- U	ug/l	1
EPA 602												
Toluene	- U	ug/l	1	- U	ug/l	2	- U	ug/l	1	- U	ug/l	1
Ethylbenzene	- U	ug/l	1	- U	ug/l	2	- U	ug/l	1	- U	ug/l	1
Xylenes (total)	- U	ug/l	1	- U	ug/l	2	- U	ug/l	1	- U	ug/l	1
PAH COMPOUNDS												
Acenaphthene	1.1 X	ug/l	1	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
1-Methylnaphthalene	4.5	ug/l	1	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
2-Methylnaphthalene	4.6	ug/l	1	- U	ug/l	1	- U	ug/l	1	- U	ug/l	1
Naphthalene	5.4	ug/l	1	1.6	ug/l	1	- U	ug/l	1	- U	ug/l	1
Phenanthrene	.35	ug/l	.2	- U	ug/l	.2	- U	ug/l	.2	- U	ug/l	.2

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

BUILDING 7182 "HITS TABLE"
 NTC ORLANDO, FLORIDA, McCOY ANNEX

Lab Sample Number:	S884722-1	S884722-2	S884722-7
Site	7182	7182	7182
Locator	081SS101/7182SS-1	081SS201/7182SS-2	Trip Blank
Collect Date:	04-AUG-98	04-AUG-98	12-OCT-98
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL

EPA 601									
Cis/Trans-1,2-Dichloroethene	-			-			-		
Methylene chloride	-			-			-		
Tetrachloroethene	-			-			-		
EPA 602									
Toluene	18	ug/kg	5	10	ug/kg	5	- U	ug/l	1
Ethylbenzene	27	ug/kg	5	12	ug/kg	5	- U	ug/l	1
Xylenes (total)	130	ug/kg	5	57	ug/kg	5	- U	ug/l	1
PAH COMPOUNDS									
Acenaphthene	- U	ug/kg	60	- U	ug/kg	62	-		
1-Methylnaphthalene	- U	ug/kg	24	- U	ug/kg	25	-		
2-Methylnaphthalene	- U	ug/kg	24	- U	ug/kg	25	-		
Naphthalene	- U	ug/kg	24	- U	ug/kg	25	-		
Phenanthrene	- U	ug/kg	4.8	- U	ug/kg	5	-		

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

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue, Savannah, GA 31404 Phone: (912) 354-7858 Fax: (912) 352-0165
 2846 Industrial Plaza Drive, Tallahassee, FL 32301 Phone: (904) 878-3994 Fax: (904) 878-9504
 414 SW 12th Avenue, Deerfield Beach, FL 33442 Phone: (954) 421-7400 Fax: (954) 421-2584
 900 Lakeside Drive, Mobile, AL 36693 Phone: (334) 666-6633 Fax: (334) 666-6696
 6712 Benjamin Road, Suite 100, Tampa, FL 33634 Phone: (813) 885-7427 Fax: (813) 885-7049
 100 Alpha Drive, Suite 110, Destrehan, LA 70047 Phone: (504) 764-1100 Fax: (504) 725-1163

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

PROJECT REFERENCE		PROJECT NO. 2547-06	P.O. NUMBER NE7531076	MATRIX TYPE	REQUIRED ANALYSES				PAGE 1 OF 1
PROJECT LOC. (State) FL	SAMPLER(S) NAME SCOTT DONELICK	PHONE 407-895-8845	FAX 407-896-6150	AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (oil, solvent, etc)	EPA 601/602 EPA 504 EOB EPA 239.2 PB EPA 610 HPLC FL-PRO EPA 602 ONLY				<input checked="" type="checkbox"/> STANDARD REPORT DELIVERY <input type="checkbox"/> EXPEDITED REPORT DELIVERY (surcharge)
CLIENT NAME HLA		CLIENT PROJECT MANAGER John Kaiser							
CLIENT ADDRESS (CITY, STATE, ZIP) 1080 WOODCOCK RD ORLANDO, FL 32803									

SAMPLE		SL NO.	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED										REMARKS			
DATE	TIME			AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (oil, solvent, etc)										
8-5-98	0917		081GM101 / 7182 MW-1	X				3	3	1	2	2					
↓	0954		081GM201 / 7182 MW-2	X				3	3	1	2	2					
↓	1036		081GM301 / 7182 MW-3	X				3	3	1	2	2					
↓	0802		081RB101 / 7182 RB-1	X				3	3	1	2	2					
	-		TRIP BLANK	X											3		

RELINQUISHED BY: (SIGNATURE) <i>S. Campbell</i>	DATE 8/5/98	TIME 5:00	RELINQUISHED BY: (SIGNATURE) <i>Scott Doneck</i>	DATE 8-5-98	TIME 1700	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>A. Vazquez</i>	DATE 8/14/98	TIME 1600	RECEIVED BY: (SIGNATURE) <i>A. Vazquez</i>	DATE 8/5/98	TIME 4:24	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>A. Vazquez</i>	DATE 8/5/98	TIME 9:24	CUSTODY INTACT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	CUSTODY SEAL NO.	SL LOG NO. 38-84720	LABORATORY REMARKS:
--	----------------	--------------	---	------------------	------------------------	---------------------

ORIGINAL

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
- 6712 Benjamin Road, Suite 100, Tampa, FL 33634
- 100 Alpha Drive, Suite 110, Destrehan, LA 70047

- Phone: (912) 354-7858 Fax: (912) 352-0165
- 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

PROJECT REFERENCE		PROJECT NO. 2547-06	P.O. NUMBER NE 7531076	MATRIX TYPE	REQUIRED ANALYSES				PAGE / OF /		
PROJECT LOC. (State) FL	SAMPLER(S) NAME Scott Donelick		PHONE (407) 895-8845	AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (oil, solvent, etc.) EPA 8020 EPA 8310 FL-PRD	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/> EXPEDITED REPORT DELIVERY (surcharge) <input type="checkbox"/> Date Due: _____						
CLIENT NAME HLA		CLIENT PROJECT MANAGER John Kaiser									
CLIENT ADDRESS (CITY, STATE, ZIP) 1080 Woodcock Road, Orlando, FL 32803											
SAMPLE		SL NO.	SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS SUBMITTED				REMARKS		
DATE	TIME										
8-4-98	1307		08155101 / 7182 SS-1								
8-4-98	1417		08155201 / 7182 SS-2								
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME
<i>[Signature]</i>		7/15/98	1400	<i>[Signature]</i>		8-5-98	1700				
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME
<i>[Signature]</i>		7/17/98	1400	<i>[Signature]</i>							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT <input type="checkbox"/> YES <input type="checkbox"/> NO	CUSTODY SEAL NO.	SL LOG NO.	LABORATORY REMARKS:
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SLOTTED FIELD COPY



October 30, 1998

Document No.: 02547.042

Commanding Officer
Southern Division
Naval Facilities Engineering Command
Mr. Nick Ugolini, Code 1843
2155 Eagle Drive
N. Charleston, SC 29406

Subject: Site Assessment Report (SAR) for Building 7182
McCoy Annex
NTC, Orlando, Florida
CTO 137, Contract No. N62468-89-D-0317

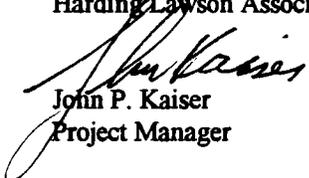
Dear Mr. Ugolini:

Enclosed is the Site Assessment Report (SAR) for Building 7182, McCoy Annex, NTC Orlando, Florida. This SAR is submitted as Addendum 12 of the McCoy Annex Master CAR and is the first SAR for Volume III of the McCoy Annex Master CAR.

Figure 1-2, Figure 5-1, and the table of contents for the McCoy Annex Master CAR have been updated to include the SAR for Building 7182. Please replace the table of contents (page iv), Figure 1-2 (page 1-3), and Figure 5-1 (page 5-3) in the McCoy Annex Master CAR (Volume I) with the ones provided.

If you have any questions or need additional information please contact the undersigned at 407-895-8845.

Very Truly Yours,
Harding Lawson Associates


John P. Kaiser
Project Manager


Manuel Alonso, P.G.
Senior Geologist

JPK:ss
Enclosure
cc: Wayne Hansel, Code 18B7, Southern Division
Mark Zill, Code 010E, NTC, Orlando
Lt. Gary Whipple, NTC, Orlando
David Grabka, FDEP
City of Orlando via Wayne Hansel
File Copy

COPY

ADDENDUM 12

SITE ASSESSMENT REPORT, BUILDING 7182

CLOSURE ASSESSMENT
UNDERGROUND STORAGE TANK
BUILDING 7182

NAVAL TRAINING CENTER
MCCOY ANNEX
ORLANDO, FLORIDA

Unit Identification Code: N65928

Prepared by:

Navy Public Works Center
Environmental Department
310 John Tower Road
Pensacola, Florida, 32508

Prepared for:

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

Nick Ugolini, Code 1843, Engineer-in-Charge

May 1997

TABLE OF CONTENTS

Closure Assessment Report
Underground Storage Tank
Building 7182
Naval Training Center, McCoy Annex
Orlando, Florida

<u>Chapter</u>	<u>Title</u>	<u>Page No.</u>
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2.0	Operator	1
3.0	Site Location.	1
4.0	Date of Closure.	1
5.0	Tank Status.	1
6.0	Tank Contents.	1
7.0	Tank Condition.	1
8.0	Tank Area.	2
9.0	Soil Screening	2
10.0	Groundwater Analysis	2
11.0	Conclusions.	2
12.0	Recommendations	2
13.0	Closure Assessment.	2
14.0	Project Manager.	2
15.0	Project Number.	2
16.0	Report Date.	2

FIGURES

- Figure 1: Regional Map
- Figure 3 : Vicinity Map
- Figure 3: Site Map

ATTACHMENTS

- Attachment A: Photographs
- Attachment B: Application for Closure of Pollutant Storage Tank System
- Attachment C: Underground Storage Tank Installation and Removal Form
- Attachment D: Closure Assessment Form, Groundwater Analysis, & OVA Readings
- Attachment E: Disposal Document - Scrap Metal
- Attachment F: Disposal Document - Contaminated Water
- Attachment G: Decontamination Certification
- Attachment H: Review Correspondence

GLOSSARY

FAC	Florida Administrative Code
OVA	Organic Vapor Analyzer
AST	Aboveground Storage Tank
UST	Underground Storage Tank
USEPA	U.S. Environmental Protection Agency

CLOSURE ASSESSMENT REPORT
UNDERGROUND STORAGE TANK
BUILDING 7182

1.0 Facility

Building 7182
Naval Training Center
McCoy Annex
Orlando, Orange County, Florida

2.0 Operator

Commander, Naval Training Center
1350 Grace Hopper Avenue, Code 010E
Orlando, Florida 32813-8405

3.0 Site Location

See Figure 1.

4.0 Date of Closure

31 January 1997

5.0 Tank Status

There was one 1000 gallon underground storage tank (UST) removed from the east side of Building 7182 by the Public Works Center (PWC) as depicted by Figure 3. A photograph of the removals is provided in Attachment A. The UST was emptied prior to commencement of work by International Oil Service. The UST was completely decontaminated and rendered unuseable by PWC. The UST was properly disposed by the Defense Reutilization and Marketing Office (DRMO).

There was contaminated soil encountered during the removal process. The contaminated soil was removed horizontally until the OVA readings were below fifty (50) parts per million. The soil was removed vertically until groundwater was encountered at approximately six (6) feet below land surface.

6.0 Tank Contents

Heating Fuel

7.0 Tank Condition

The UST was in good condition at the time of removal.

8.0 Tank Area

The size of the excavation was approximately four (4) feet wide by six (6) feet long and six (6) feet deep. The excavation was filled with clean fill and compacted to grade.

9.0 Soil Screening

- Five (5) soil samples were collected for headspace screening with an organic vapor analyzer (OVA). The samples were extracted at each side and underneath the middle of the UST as depicted by Figure 3.
- The soil screening was conducted in accordance with the headspace screening criteria in Chapter 62-770 FAC and PWC's Comprehensive Quality Assurance Plan.

10.0 Groundwater Analysis

A temporary groundwater monitoring well was placed at the center of the UST excavation, the wells were developed and groundwater samples were collected on 19 March 1997. The samples were transported to the PWC Laboratory in Pensacola, Florida. The samples were analyzed using U.S. Environmental Protection Agency (EPA) Methods 8260 and 8270.

11.0 Conclusions

There were no indications of petroleum contamination noted above the state target levels for storage tank closures.

12.0 Recommendations

No further action.

13.0 Closure Assessment

Performed by the Public Works Center (PWC) Pensacola, Florida. The Closure Assessment Report was originally submitted in May 1997. The report was revised as requested by the Florida Department of Environmental Protection (FDEP) (Attachment H) and resubmitted.

14.0 Project Manager

Mr. Paul R. Semmes, P.E.

15.0 Project Number

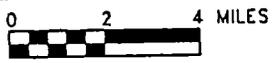
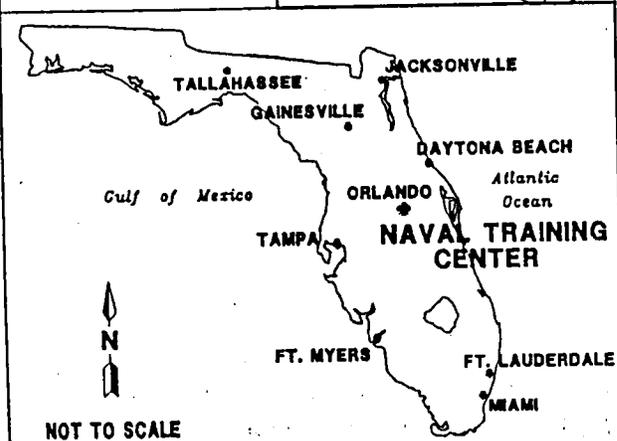
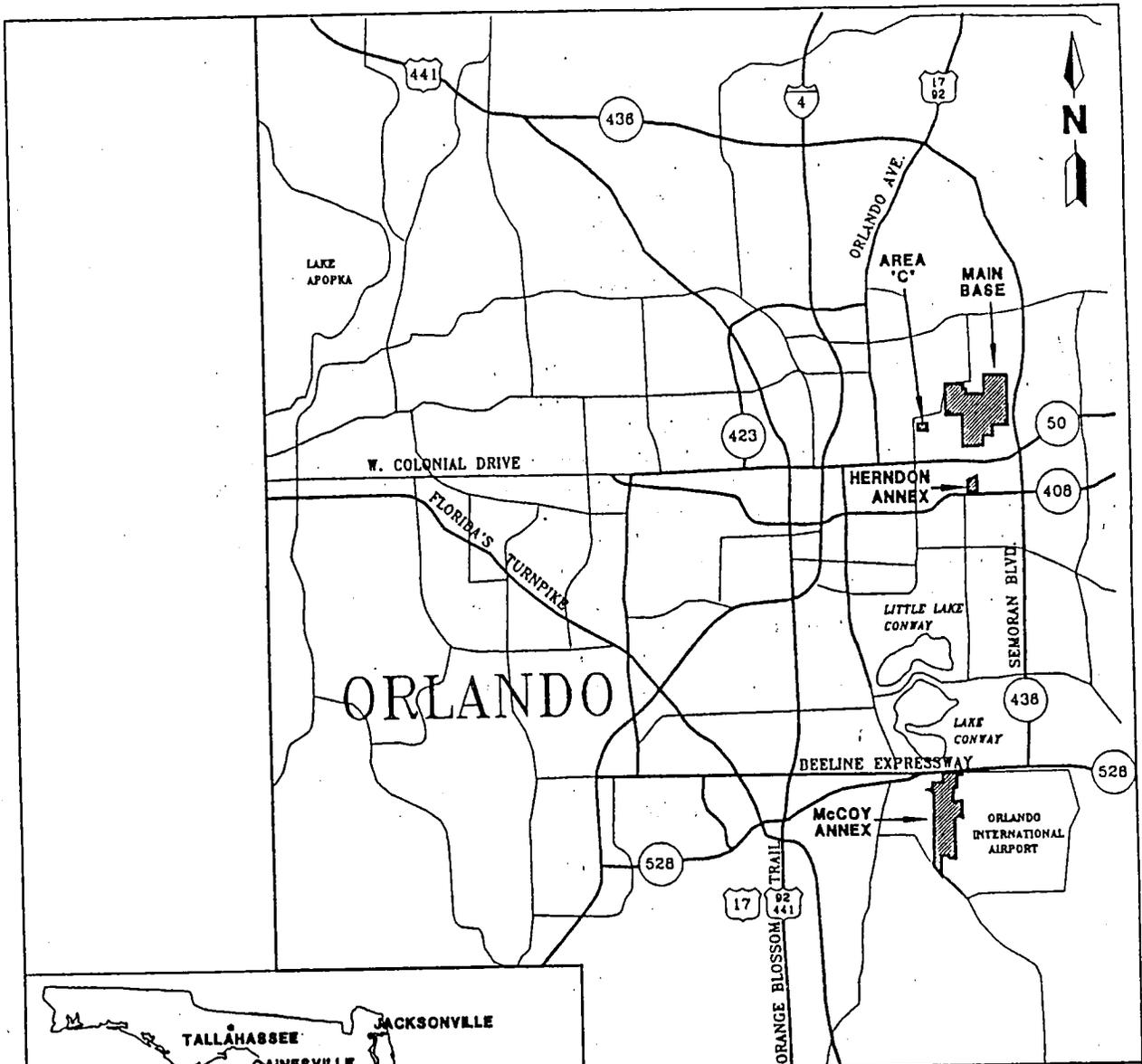
1305016

16.0 Report Date

8 May 1997

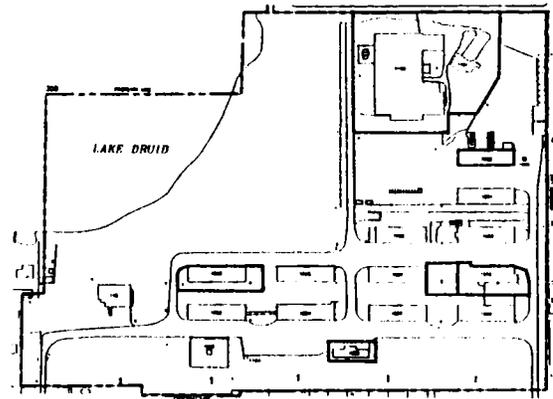
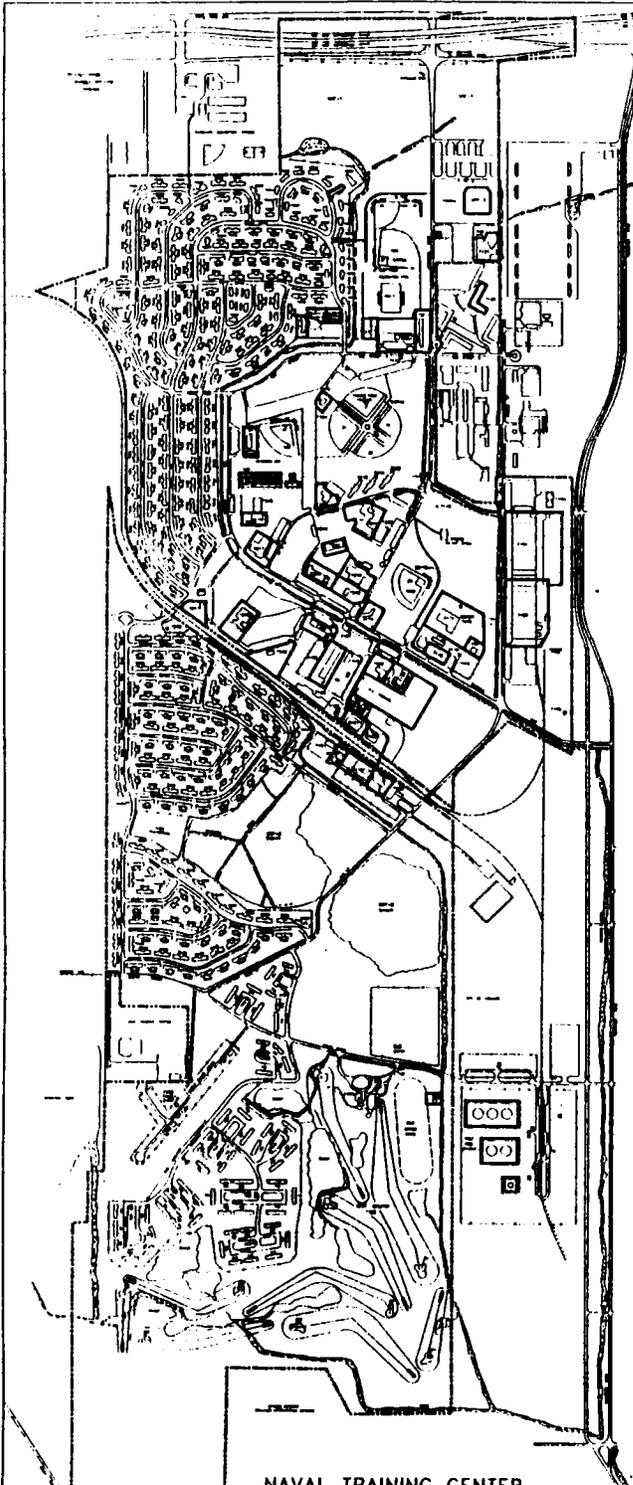
FIGURES

Figure 1
Regional Map

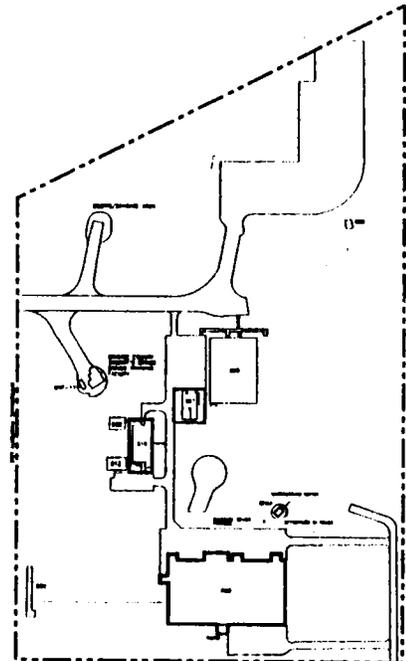


**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

Figure 2
Vicinity Map

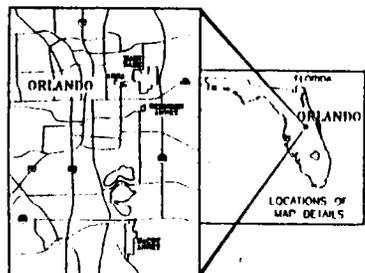


NAVAL TRAINING CENTER
AREA C



NAVAL TRAINING CENTER
HERNDON ANNEX

NAVAL TRAINING CENTER
McCOY ANNEX



LOCATIONS OF
MAP DETAILS

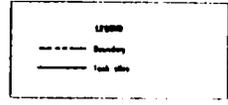


Figure 3
Site Map

BLDG
7182

FUEL
PIPING

U
S
T

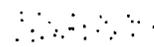
12'

CHIMNEY

LEGEND



BUILDING



ASPHALT



BUILDING 7182
NAVAL TRAINING CENTER
Mc COY ANNEX
ORLANDO, FLORIDA

FIGURE 3-SITE MAP

ATTACHMENTS

ATTACHMENT A
Photographs



ATTACHMENT B
Application for Closure of Pollutant
Storage Tank System

APPLICATION FOR CLOSURE OF POLLUTANT STORAGE TANK SYSTEM

Provide the facility information requested below.

FDEP Facility # 48/8841262 Facility Name U. S. Navy

Facility Location Naval Training Center, Building 7182

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)

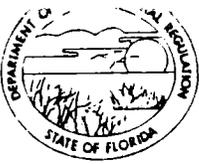
Contact Mr. Paul Semmes, P.E. Phone (904) 293-0635

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).

ATTACHMENT C
Underground Storage Tank Installation
and Removal Form



Florida Department of Environmental Regulation

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

DER Form # 17-761.900(5)
Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date December 10, 1990
DER Application No. (Filed in by DER)

Underground Storage Tank Installation and Removal Form For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.200, 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. DER Facility Identification No.: 48/8841262
2. Facility Name: US Navy - Naval Training Center Telephone: (407) 646-4663
3. Street Address (physical location): Building 7182, Naval Training Center, McCoy Annex
4. Owner Name: Commander, Naval Training Center Telephone: (407) 646-4663
5. Owner Address: 1350 Grace Hopper Avenue (Code 010E), Orlando, Florida 32813-8405
6. Number of Tanks: a. Installed at this time b. Removed at this time
7. Tank(s) Manufactured by: Unknown
8. Date Work Initiated: 1/31/97 9. Date Work Completed: 1/31/97

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(87), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-87 and the manufacturers' specifications.
3. Tanks and piping pretested and installed in accordance with NFPA 30(87), API 1615, PEI/RP100(87) and the manufacturers' specifications.
4. Steel tanks and piping are cathodically protected in accordance with NFPA 30(87), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturer's specifications.
5. Tanks and piping tested for tightness after installation in accordance with NFPA 30(87) and PEI/RP100-87.
6. Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 17-761.640, Florida Administrative Code (F.A.C.)
7. Spill and overfill protection devices installed in accordance with Section 17-761.500, F.A.C.
8. Secondary containment installed for tanks and piping as applicable in accordance with Section 17-761.500, 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 17-761.800, F.A.C.
2. Underground tank removed and disposed of as specified in API 1604 in accordance with Section 17-761.800, F.A.C.

DER Form #	17-761.900(5)
Form Title	Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date	December 10, 1990
DER Application No.	(Filed in by DER)

Certification

I hereby certify and attest that I am familiar with the facility that is registered with the Florida Department of Environmental Regulation; that to the best of my knowledge and belief, the tank installation, replacement or removal at this facility was conducted in accordance with Chapter 489 and Section 376.303, Florida Statutes and Chapter 17-761, Florida Administrative Code (and its adopted reference sources from publications and standards of the National Fire Protection Association (NFPA), the American Petroleum Institute (API), the National Association of Corrosion Engineers (NACE), American Society for Testing and Materials (ASTM); Petroleum Equipment Institute (PEI); Steel Tank Institute (STI); Underwriters Laboratory (UL); and the tank and integral piping manufacturers' specifications; and that the operations on the checklist were performed accordingly.

 IIS Navy - Public Works Center, Pensacola, Florida

 N/A
 PSSSC Number

(Type or Print)
 Certified Pollutant Tank Contractor Name
 Pollutant Storage System Specialty Contractor License Number (PSSSC)

 Certified Tank Contractor Signature

 5/8/97
 Date

Mr Paul R Semmes, PE
 Environmental Engineer

 (Type or Print)
 Field Supervisor Name

 5/8/97
 Date

 Field Supervisor Signature

 5/8/97
 Date

The owner or operator of the facility must register the tanks with the Department at least 10 days before the installation. The installer must submit this form no more than 30 days after the completion of installation to the Department of Environmental Regulation at the address printed at the top of page one.

ATTACHMENT D
Closure Assessment Form,
Groundwater Analysis, & OVA Readings



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 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 4/18/97
2. DEP Facility ID Number: 48/8841262
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 7182, Naval Training Center, 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: One
14. Age of Tanks: 45

Facility Assessment Information

- | Yes | No | Not
Applicable | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | | 1. Was a Discharge Reporting Form submitted to the Department?
If yes, When: _____ Where: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | | 2. Is the depth to ground water less than 20 feet? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Are monitoring wells present around the storage system?
If yes, please specify <input type="checkbox"/> Vapor Monitoring <input checked="" 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 checked="" type="checkbox"/> | <input 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 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 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 kerosine/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples. |

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642
 FAX 922-2783

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-8587
 Contact: Paul Semmes

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 71113
 Sample Date: 03/18/97
 Received Date: 03/20/97
 Sample Site: NTC McCoy, FL
 Job Order No.: 102 4021

LAB Sample ID#	1- 71113			
Sample Name / Location	# 7182			
Collector's Name	B. Weimer			
Date & Time Collected	03/18/97 @ 1115 & 1135			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	03/22/97 JM			
Date of Analysis	03/22/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71113	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	1	
Hexachlorobutadiene	BDL	ug/L	2	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	1	

Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920
 NAS Pensacola, FL 32508 - 6500
 Phone (904) 452-4728/3642
 DSN 922-4728/3642

Client: NPWC Environmental
 Address: Bldg. 3887, Code 910
 NAS Pensacola, FL 32508
 Phone #: 452-8587
 Contact: Paul Semmes

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 71113
 Sample Date: 03/18/97
 Received Date: 03/20/97
 Sample Site: NTC McCoy, FL
 Job Order No.: 102 4021

Compound Name	1- 71113	units	Det.	Flags
			Limit	
Methylene Chloride	BDL	ug/L	1	
Methyl ethyl ketone (MEK) *	BDL	ug/L	2	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	1	
Naphthalene	BDL	ug/L	1	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethane	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	5	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	1	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

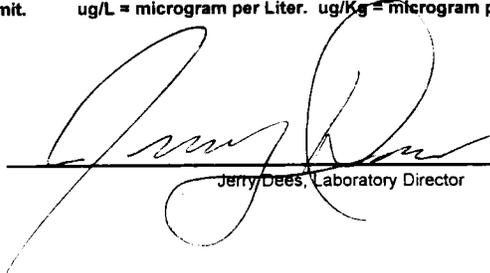
	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	95
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	99

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. * = FL HRS certification pending.

Approved by :



Jerry Dees, Laboratory Director

Date: 4/1/97

Report Generated

**Navy Public Works Center
Environmental Laboratory**

Bldg. 3887, Code 920
NAS Pensacola, FL 32508 - 6500
Phone (904) 452-4728/3642
DSN 922-4728/3642

Client: NPWC Environmental
Address: Bldg. 3887, Code 910
NAS Pensacola, FL 32508
Phone #: 452-8587
Contact: Paul Semmes

Analytical Report

610 PAH's by Method 8270

Lab Report Number: 71113
Sample Date: 03/18/97
Received Date: 03/20/97
Sample Site: NTC McCoy, FL
Job Order No.: 102 4021

LAB Sample ID#	1- 71113			
Sample Name / Location	# 7182			
Collector's Name	B. Weimer			
Date & Time Collected	03/18/97 @ 1115 & 1135			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	03/27/97 JJ			
Date of Analysis	03/30/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 71113	units	MDL	Flags
Acenaphthene	BDL	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Flourene	BDL	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	BDL	ug/L	2	
2-Methylnaphthalene	BDL	ug/L	3	
Naphthalene	BDL	ug/L	2	
Phenanthrene	BDL	ug/L	2	
Pyrene	BDL	ug/L	2	

SURROGATE SPIKE RECOVERIES

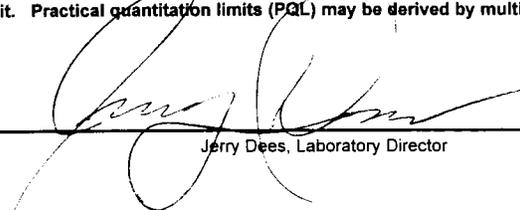
	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	86
2-Fluorobiphenyl	43-116	92
Terphenyl -d14	33-141	80

Explanation of Flags: _____

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

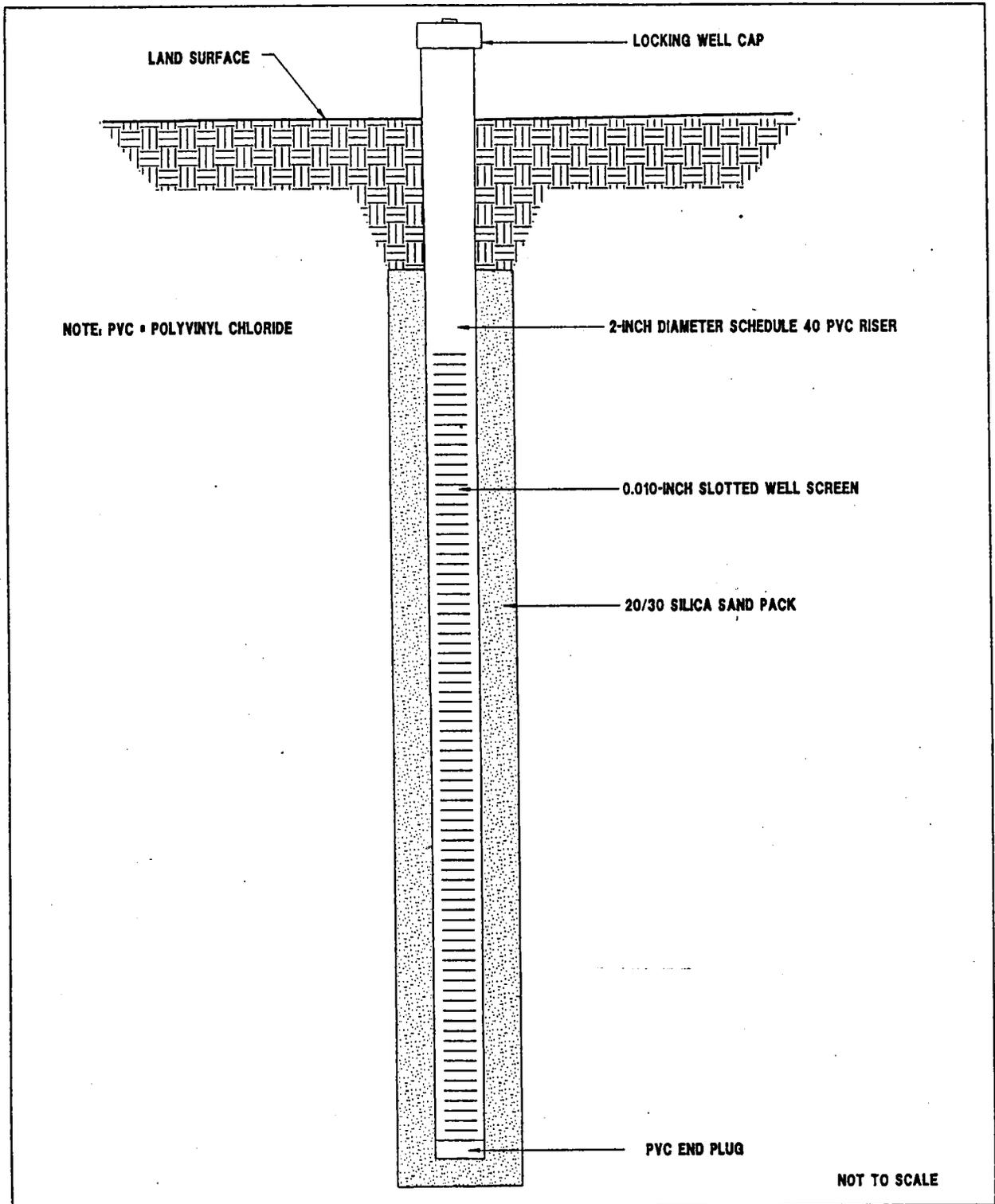
Approved by :



Jerry Dees, Laboratory Director

Date: 4/1/97

Report Generated



TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL



NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Summary of OVA Readings

Closure Assessment Report Underground Storage Tank Building 7182 Naval Training Center McCoy Annex Orlando, Florida

Hand Auger Sample No.	Depth (Feet)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbon Readings (ppm)
SS-1	6	15	<1	15
SS-2	6	67	32	35
SS-3	6	159	18	141
SS-4	6	771	460	311
SS-5	6	236	79	157

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

Notes: ppm = parts per million.

BLDG
7182

FUEL
PIPING

U
S
T

SS-3

SS-1

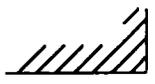
SS-5

SS-2

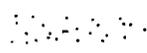
SS-4

CHIMNEY

LEGEND



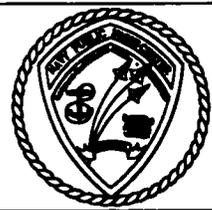
BUILDING



ASPHALT



SOIL BORING



BUILDING 7182
NAVAL TRAINING CENTER
Mc COY ANNEX
ORLANDO, FLORIDA

ATTACHMENT E
Disposal Document - Scrap Metal

ATTACHMENT F
Disposal Document - Contaminated Water

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 # 02

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 Morsa Blvd.
 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) 877-3717

11. Waste Shipping Name and Description

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

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

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

GENERATOR

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 Mark Zill	Signature <i>Mark Zill</i>	Month 7	Day 11	Year 07
--	-------------------------------	-------------------	------------------	-------------------

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name ERRY HARRIS	Signature <i>erry Harris</i>	Month 02	Day 11	Year 07
--	---------------------------------	--------------------	------------------	-------------------

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
--------------------	-----------	-------	-----	------

TRANSPORTER

FACILITY

ATTACHMENT G
Decontamination Certificate



DEPARTMENT OF THE NAVY
NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO:

CERTIFICATE OF DECONTAMINATION

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

106	129	351
354	356	358
361	363	364
366	369	371
375	384	2010
2035	2122	7182

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

Paul R Semmes, PE
Environmental Engineer
Title

5/6/97
Date

ATTACHMENT H
Review Correspondence

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. We
Secretary

June 16, 1997

Mr. Nick Ugolini
Code 184(PVC)
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Tank Closure Assessment Reports (TCAR) for Buildings No 106, 131, 218, 351, 354, 356, 358, 361, 363, 364, 366, 369, 371, 375, 384, 2010, 2035, 2122, and 7182, Naval Training Center, Orlando, Florida

Dear Mr. Ugolini:

I have completed the technical review of the above referenced documents dated May 1997 (received June 10, 1997). I agree with clean tank closure at Buildings No. 131, 2010, 2035, and 2122. I also agree that a Contamination Assessment Report is needed for Building 7182. However, I cannot agree with clean closure at the remaining buildings for the following reasons:

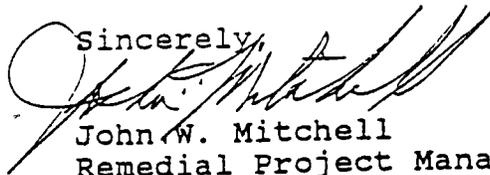
1. Buildings No. 106, 351, 356, 358, 361, 363, 364, 366, and 371 had no scale for the respective figures to indicate how far the tank was from the building, nor where the piping and filler pipe were located. If the piping leading to the building extended twenty feet or more from the edge of the building or had an elbow joint(s) between the tank and the building, then OVA soil analysis is needed along the piping at 20 foot intervals or at known connections, and at each elbow joint. OVA analysis is also needed at the fill port and its respective piping if the piping is as mentioned above. Should none of the above issues related to the piping and fill ports be a factor, then these tanks can receive clean closure; please address accordingly.
2. Building No. 218 had excessively contaminated soil. It does not indicate whether this soil was removed or not. Also, the location of the existing monitoring well is not shown in the figure. A Contamination Assessment Report (CAR) has already been performed at this building related to a previously removed UST. A monitoring only plan has been approved for the site. However, if the excessively contaminated soil detected at this AST removal remains, then it can still contribute to the contamination. The soil should be removed. Also, if the monitoring well sampled is

upgradient or not within 10 feet of the AST location, then a well should be placed at the area of excessive soil contamination and analyzed for kerosene analytical group constituents.

3. I cannot approve clean closure for Building No. 354. Benzo(a)pyrene was detected at 9 $\mu\text{g/L}$ which exceeds the Florida Primary Drinking Water Standard of 0.2 $\mu\text{g/L}$. A CAR must be performed at this site. Also for this site, please address the same issues as in Comment No. 1.
4. Buildings No. 369, 375, and 384 have excessively contaminated soil, but no groundwater contamination. The reports do not indicate whether the excessively contaminated soil was removed. This soil should be removed or an explanation provided why it should not be removed. Also for these sites, please address the same issues as in Comment No. 1.
5. Lead was not analyzed at any of the above tank removals. Where no groundwater contamination was found, you do not need to re-analyze for lead. However, at all other locations, lead analysis is needed unless you can verify that the fuel used in the tanks did not contain lead.

If I can be of any further assistance with this matter, please contact me at (904) 921-9989.

Sincerely,



John W. Mitchell
Remedial Project Manager

cc: Wayne Hansel, Navy SouthDiv
Lt. Gary Whipple, NTC Orlando
Nancy Rodriguez, USEPA Region 4
John Kaiser, ABB Orlando
Bob Cohose, Bechtel, Knoxville
Steve McCoy, Brown and Root, Oak Ridge
Paul Semmes, Navy Public Works Center, Pensacola
Bill Bostwick, FDEP Central District

TJB 3

JJC 000
JJ

ESN ESN



DEPARTMENT OF THE NAVY

NAVY PUBLIC WORKS CENTER
310 JOHN TOWER ROAD
PENSACOLA, FLORIDA 32508-5303

IN REPLY REFER TO

Code 400
28 July 1997

Mr. John Mitchell
Remedial Project Manager
Department of Environmental Protection
Twin Towers Building
2800 Blair Stone Road
Tallahassee, FL 32399-2400

Subj: TANK CLOSURE ASSESSMENT REPORTS (TCAR'S) FOR BUILDINGS
106, 131, 218, 351, 354, 356, 358, 361, 363, 364, 366,
369, 371, 375, 384, 2010, 2035, 2122 AND 7182, NAVAL
TRAINING CENTER (NTC), ORLANDO, FL

Dear Mr. Mitchell:

The following comments are provided in response to your letter dated 16 June 1997 to Mr. Nick Ugolini, U. S. Naval Facilities Engineering Command (NAVFACENGCOM), Southern Division.

1. The TCAR's will be amended to show the dimensions for the tanks and piping. Additionally, the storage tank systems that have associated piping greater than 20 ft. shall be further assessed as required.
2. There was no contamination detected at Building 218. The OVA readings listed as filtered and unfiltered should be subtracted to yield the contamination level. The results indicated the presence of methane only. The site should not require further action.
3. The site should be further assessed.
4. There were no indications of contamination at Buildings 369, 375 and 384 except for the contaminated soil removed from Building 369. The contaminated soil was removed completely from Building 369 as described in Section 5.0 Tank Status. The OVA readings listed as filtered and unfiltered should be subtracted to yield the contamination level. The results indicated the presence of methane only. The sites should not require further action except as defined in Comment 1.

5. The facility contact indicated there was no lead in the fuel used in these storage tank systems. The tanks contained heating fuel only.

K. R. GIES
LT, CEC, USN
By direction of the
Commanding Officer

Copy to:
Southern Division,
NAVFACENGCOM (184 (PVC))
NTC Orlando (Code 010E)