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CONTAMINATION ASSESSMENT FOR BUILDING 230 MAIN BASE NTC ORLANDO FL

7/1/1996

ABB ENVIRONMENTAL

(157)

CONTAMINATION ASSESSMENT REPORT

BUILDING 230
MAIN BASE

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

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Prepared for:

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July 1996

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: July 8, 1996

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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,
- contamination assessment planning,
- site field investigations,
- preparation of contamination assessment reports,
- remedial (corrective) action planning,
- implementation of the remedial action plans, and
- tank and pipeline closures.

The Southern Division, Naval Facilities Engineering Command 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 NTC, Orlando should be addressed to Mr. Nick Ugolini, Code 1843, at (803) 820-5596.

EXECUTIVE SUMMARY

ABB Environmental Services, Inc. (ABB-ES), has been authorized by Southern Division, Naval Facilities Engineering Command to prepare contamination assessment reports (CARs) for petroleum-impacted sites discovered during the Base Realignment and Closure Tank Management Plan implementation at the Naval Training Center, Orlando Main Base property in Orlando, Florida. This CAR has been prepared to evaluate soil and groundwater conditions at the former academic instruction building, Building 230.

This contamination 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 2,500-gallon and one 5,000-gallon underground storage tank (UST) stored heating fuel at Building 230. On October 17, 1995, the southern UST (5,000-gallon) was removed by Florida Petroleum Services, Inc. (FPS), and on November 15, 1995, the northern UST (2,500-gallon) was removed by FPS. The northern UST showed signs of petroleum impact to soil. On January 17, 1996, a petroleum sheen was detected during the sampling of a temporary monitoring well (TW-2).

2. Contamination assessment activities were conducted by ABB-ES from November 15, 1995, to May 28, 1996. Hand auger borings were advanced throughout the study area to assess if excessively contaminated soil was present and to evaluate the extent of soil contamination. Excessively contaminated soil was encountered in a localized area on top of the concrete pad the UST rested upon.

3. Three shallow groundwater monitoring wells (MW-1 through MW-3) were installed to assess the horizontal extent of petroleum contamination in the shallow aquifer. The shallow monitoring wells were installed to depths ranging from 15 feet to 16.5 feet below land surface.

4. Unfiltered groundwater samples collected from the monitoring wells indicate the presence of lead exceeding the State's target cleanup levels in MW-2 and MW-3. No other dissolved petroleum hydrocarbon contamination exceeding Chapter 62-770, FAC, target cleanup levels was detected in groundwater.

5. Groundwater flow direction was assessed to be from southeast to northwest with a hydraulic gradient of 0.076 foot per foot. Due to the absence of petroleum impact to groundwater, no deep well was installed and no aquifer characterization was performed.

6. No active potable water wells are located within 0.25 mile of this site.

7. ABB-ES recommends a No Further Action proposal for this site.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
BRAC	Base Realignment and Closure
CA	contamination assessment
CAR	Contamination Assessment Report
CLEAN	Comprehensive Long-Term Environmental Action, Navy
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	flame ionization detector
ft/ft	foot per foot
FPS	Florida Petroleum Services, Inc.
ID	inside diameter
KAG	Kerosene Analytical Group
µg/ℓ	micrograms per liter
NTC	Naval Training Center
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbons
PVC	polyvinyl chloride
RTC	Recruit Training Center
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 aromatics
VOH	volatile organic halocarbons

1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

Building 230 (former academic instruction building) is located within the Recruit Training Center (RTC) area, which is in the west-central part of the Naval Training Center (NTC), Main Base, in Orange County, Florida. The site lies within the center part of Section 17, Township 22 South and Range 30 East, as shown on the Orlando East, Florida, U.S. Geological Survey Quadrangle Map. Figure 1-1 shows the site location and a map of the surrounding area. The site is located southwest of the intersection of Decatur Avenue and Blue Ridge Street within the Main Base property.

Building 230 is a two-story, 160,500-square-foot building constructed of concrete masonry and brick with a flat tar and gravel roof. It is currently not occupied, but the structure has been used previously for academic training and administration. Prior to construction in 1968, the property was part of the Tactical Air Command Missile Training Center. Aerial photos indicate that the property was undeveloped land through 1961. Photographs of the site showing existing physical features are included in Appendix A, Site Photographs.

Two petroleum storage tank systems (tank sites 230-A and 230) have been operated at the property. One tank was a 2,500-gallon underground storage tank (UST) and the other a 5,000-gallon UST containing heating fuel associated with the building heating systems. The location of the petroleum storage tank systems is shown on Figure 1-2, the site plan.

The southern 5,000-gallon UST (tank site 230) was removed on October 17, 1995, by Florida Petroleum Services, Inc. (FPS). No evidence of petroleum impact to soil or groundwater was found during tank removal activities. The northern 2,500-gallon UST (tank site 230-A) was removed on November 15, 1996, by FPS. Evidence of excessively contaminated soil was reported during the tank removal activities at tank site 230-A. Subsequent to the tank removal, all excavated soil was returned to the excavation. ABB Environmental Services, Inc. (ABB-ES), oversaw the UST removal and collected and analyzed soil samples. Four temporary monitoring wells (TW-1 through TW-4) were installed. During groundwater sampling on January 17, 1996, a petroleum sheen was identified at temporary well TW-2. A groundwater sample was collected from temporary well TW-1 (downgradient well) and transported to Quality Analytical Laboratories, Inc., for laboratory analysis. The laboratory analytical results of the groundwater samples are included in the Tank Closure Assessment Report (TCAR) prepared for the site. Analytical results from the temporary well (TW-1) showed no compounds above standard laboratory detection limits. In accordance with Chapters 62-761 and 62-770, Florida Administrative Code (FAC), and based on the soil contamination and the petroleum sheen in groundwater from TW-2, the TCAR for tank site 230-A recommended a contamination assessment (CA). Copies of the TCARs for both tank sites are included in Appendix B, Tank Closure Assessment Reports.

This Contamination Assessment Report (CAR) summarizes the data gathered during the petroleum storage tank system closure and CA activities at Building 230. General information such as regional physiography, geology, hydrogeology, investigative methodologies, and procedures are described in greater detail in the NTC, Orlando Main Base CAR (March 1996).

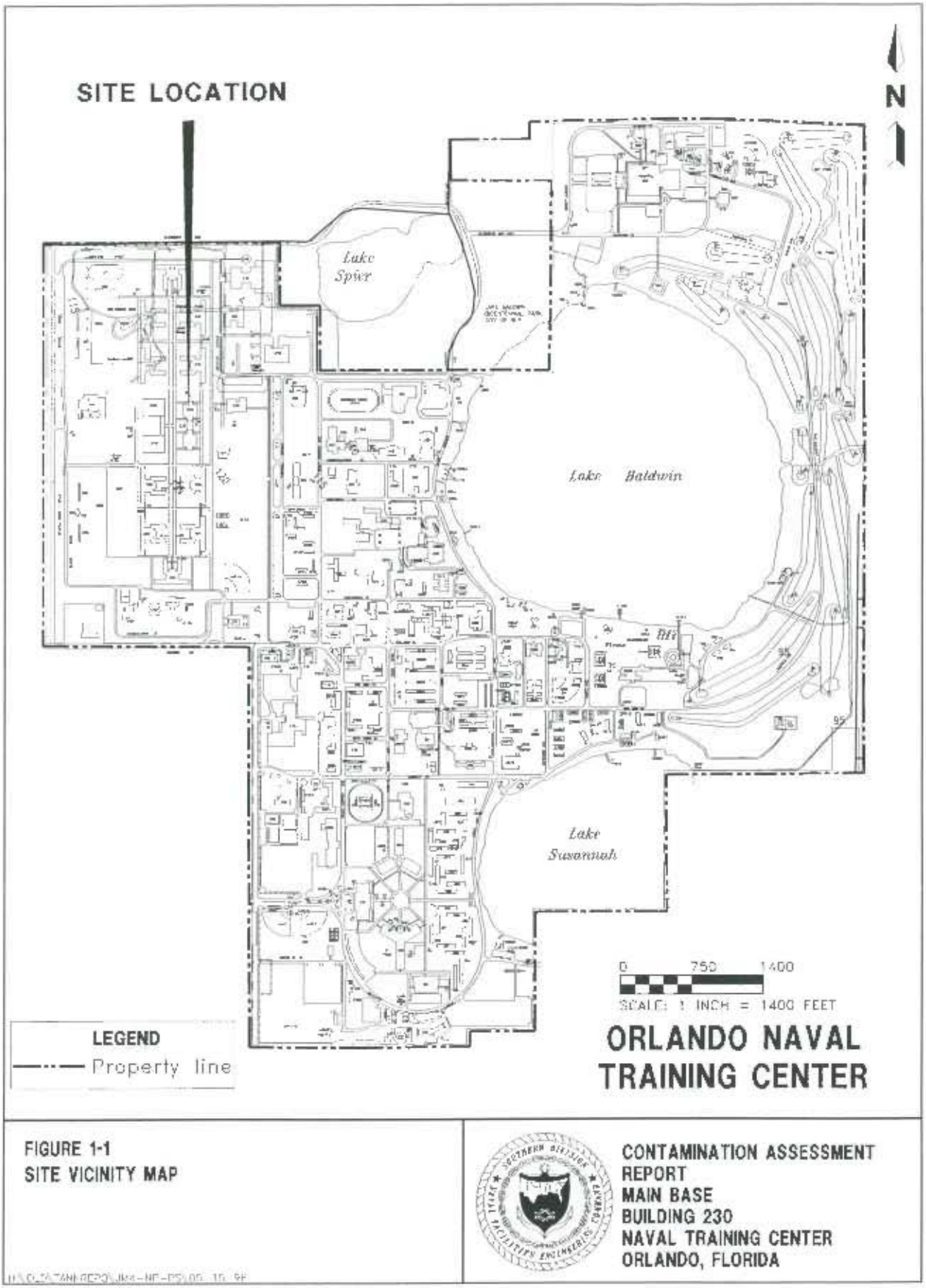

FIGURE 1-1
SITE VICINITY MAP

CONTAMINATION ASSESSMENT
REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

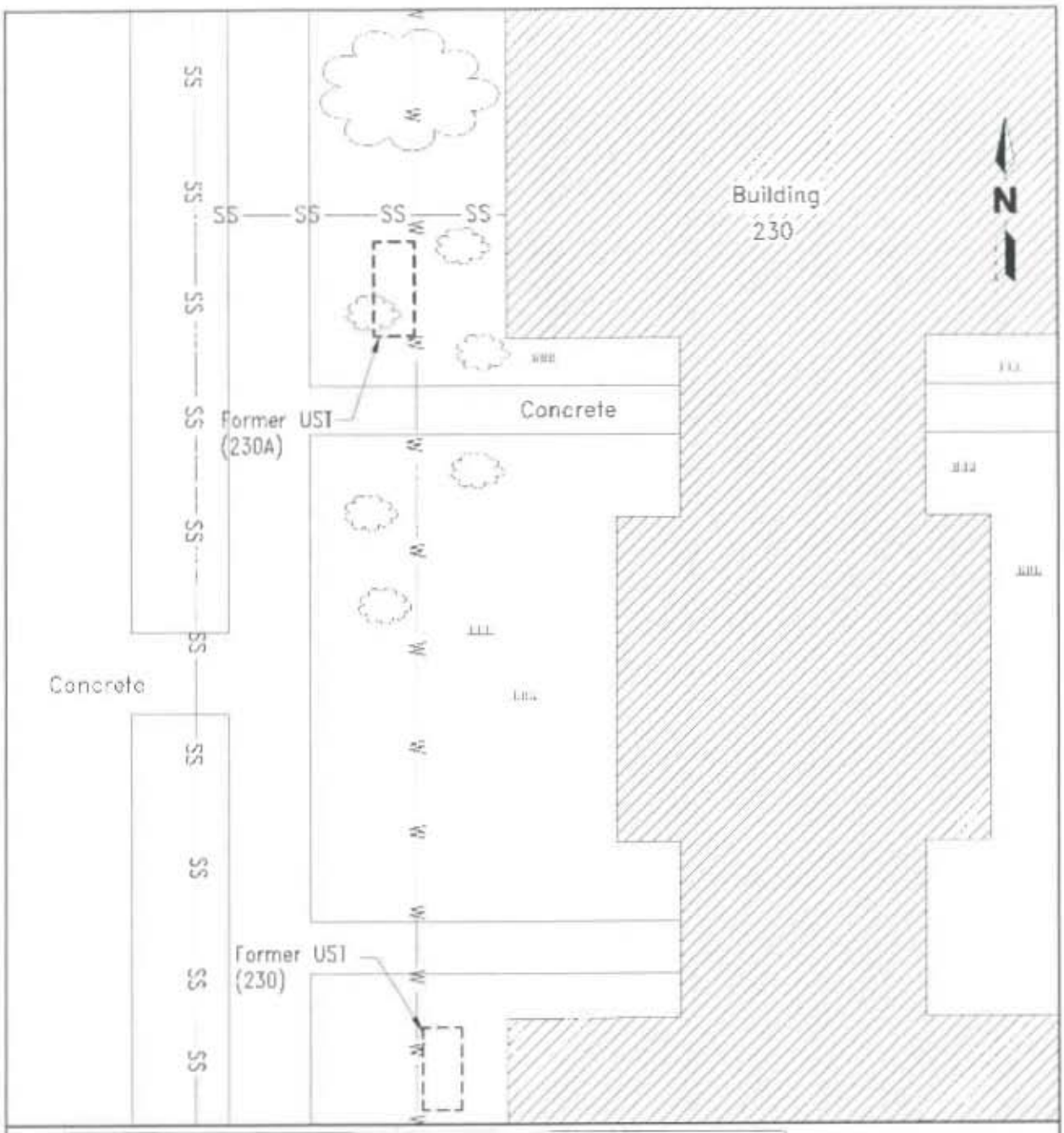

FIGURE 1-2
SITE PLAN

CONTAMINATION ASSESSMENT REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

2.0 CONTAMINATION ASSESSMENT METHODOLOGY

2.1 SOIL BORING PROGRAM. In order to determine if petroleum-contaminated soil exists onsite following tank removal activities, 24 hand-auger borings were advanced using a 3.25-inch inside diameter (ID) stainless steel hand-operated bucket auger on May 1, 1996. Figure 2-1 shows the locations of the hand-auger borings. The borings were completed into the water table, which was encountered at approximately 4.5 feet below land surface (bls).

A total of 90 soil samples were collected from the 24 hand-auger borings. The soil samples were collected at 1 to 3 feet, 3 to 5 feet, 5 to 7 feet, and 7 to 9 feet bls. Headspace organic vapor concentrations were measured for all soil samples by placing the soil sample in a 16-ounce glass jar and using a calibrated organic vapor analyzer (OVA), Foxboro 128 equipped with a flame ionization detector (FID) following procedures outlined in Section 62-770, 200 FAC. Carbon filters are utilized to differentiate total hydrocarbon response from naturally occurring methane gas. Filtered and unfiltered readings are obtained from a single jar. All sampling and analysis is performed in accordance with the ABB-ES Florida Department of Environmental Protection (FDEP)-approved Comprehensive Quality Assurance Plan.

2.2 MONITORING WELL INSTALLATION PROGRAM. Three shallow monitoring wells (MW-1, MW-2, and MW-3) were installed at the site on February 12, 1996. The wells were installed using hollow-stem auger techniques to depths ranging from 15 feet to 16.5 feet bls. A typical shallow monitoring well construction detail is provided as Figure 2-2. Each well was constructed with 10 feet of 2-inch-diameter 0.010-inch slotted well screen coupled to 3 feet of 2-inch schedule 40 solid polyvinyl chloride (PVC) pipe. This assembly is 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 is filled with 20/30-grade silica sand to 1 foot above the screened interval. A 1-foot fine sand (30/65-grade) seal is placed on top of the filter pack. The remaining annular space is sealed to grade with neat cement grout mixture. A summary of the well construction details is presented in Table 2-1, and Appendix D, Well Construction Details, contains the well completion logs provided by the drilling subcontractor.

Table 2-1
Groundwater Monitoring Well Construction
Data Summary
Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Well Number	Date Installed	Total Depth (feet bls)	Well Diameter (inches)	Screened Interval (feet bls)	Slot Size (inches)	Comments
MW-1	2/12/96	15	2	5 - 15	0.01	Installed by Groundwater Protection, Inc.
MW-2	2/12/96	16.5	2	6.5 - 16.5	0.01	Installed by Groundwater Protection, Inc.
MW-3	2/12/96	15	2	5 - 15	0.01	Installed by Groundwater Protection, Inc.

Note: bls = below land surface.

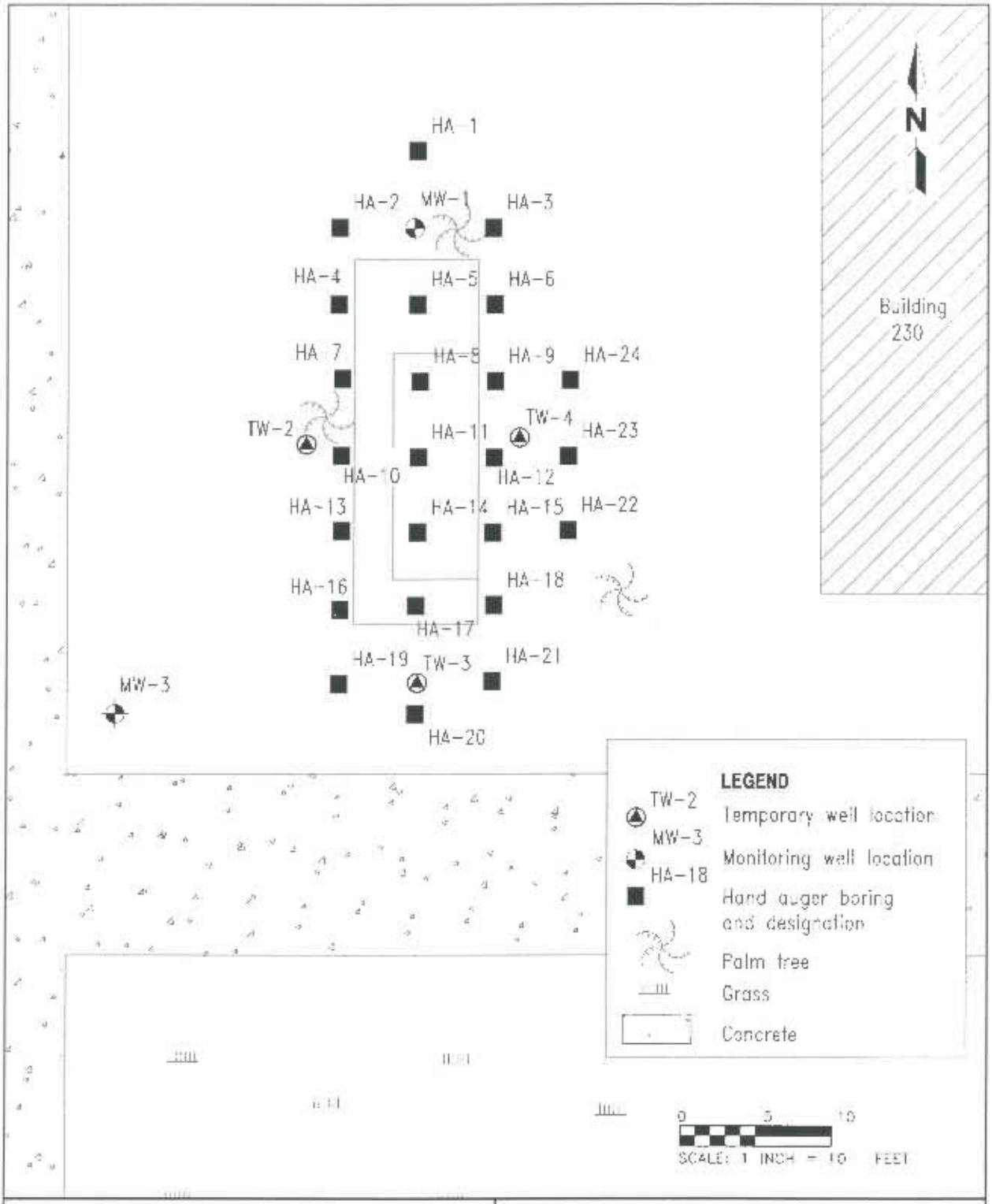

FIGURE 2-1
SOIL BORING LOCATION PLAN
(MAY 1996)

CONTAMINATION ASSESSMENT REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

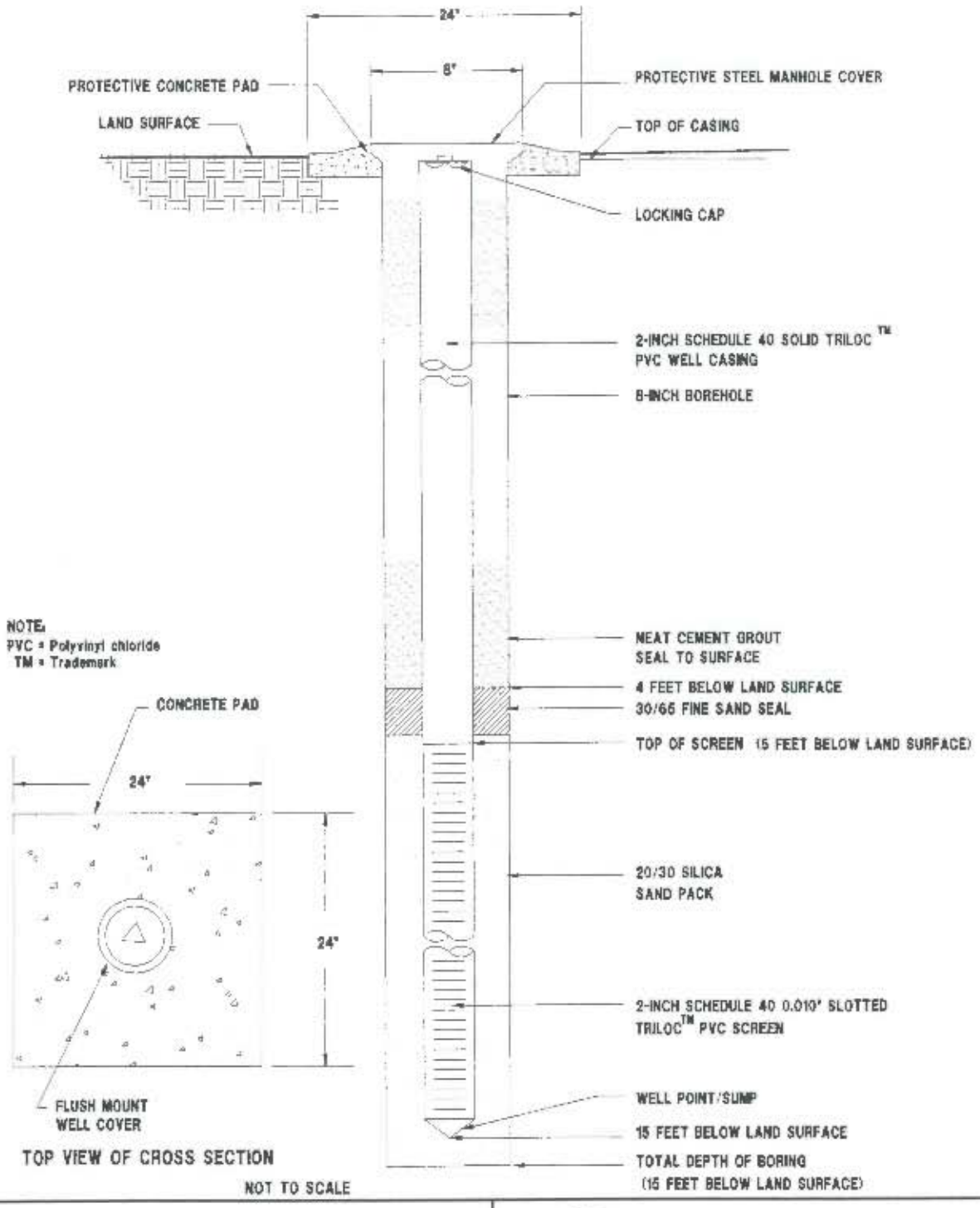

FIGURE 2-2
TYPICAL SHALLOW MONITORING WELL
CONSTRUCTION DETAIL

CONTAMINATION ASSESSMENT
REPORT
MAIN BASE
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All monitoring wells are completed flush-mount with surface grade well vaults, and locking well caps are installed to conform with standards outlined in 40C-3, FAC. Each monitoring well is developed by overpumping until clear and free of sediment. Thorough field decontamination procedures are strictly enforced to prevent possible cross-contamination between field monitoring points. All drilling equipment, including drilling rods, bits, and hollow-stem augers, is thoroughly decontaminated between each well installation.

2.3 GROUNDWATER SAMPLING PROGRAM. Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 on February 19, 1996. These samples were packed on ice and transported to Quality Analytical Laboratories, Inc., in Montgomery, Alabama, for analysis. The groundwater samples were analyzed for the sampling requirements established in Chapter 62-770, FAC. Sites with heating fuel discharges are defined under the Kerosene Analytical Group (KAG), which includes the following U.S. Environmental Protection Agency (USEPA) methods: 504 (ethylene dibromide), 601 (volatile organic halocarbons [VOHs]), 602 (volatile organic aromatics [VOAs]), 610 (polynuclear aromatic hydrocarbons [PAHs]), 239.2 (total lead), and 418.1 (total recoverable petroleum hydrocarbons [TRPH]).

2.4 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 March 7, May 3, and May 28, 1996, depth to groundwater was measured from the top of casing (TOC) to the nearest hundredth of a foot in each of the 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 230 site is based on visual examination of soil samples collected from soil borings and drill cuttings obtained during the investigation. A typical stratigraphic soil profile consists of tan and gray mixture of fine and very fine sand down to a depth of 16.5 feet bls. Lithologic logs for soil borings and monitoring wells installed during this investigation are included as Appendix C, Lithologic Logs.

3.2 SITE HYDROGEOLOGY AND GROUNDWATER FLOW DIRECTION. Groundwater elevations across the site were calculated by measuring water levels on March 7, May 3, and May 28, 1996, in the site's monitoring wells and by surveying the relative top-of-casing 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-1 (downgradient well) and dividing this head difference by the horizontal distance between these two wells. The scaled horizontal distance is 36 feet, and the change in elevation head between the wells, as measured on March 7, 1996, was 2.73 feet. The calculated hydraulic gradient is equal to 0.076 feet per foot (ft/ft). The site groundwater flow direction, based on the water table surface map, is from southeast to northwest. Table 3-1 is a summary of groundwater elevation data for the March 7, May 3, and May 28, 1996, sampling events. Figures 3-1, 3-2, and 3-3 are the water table contour maps for March 7, May 3, and May 28, 1996, respectively.

3.3 AQUIFER CHARACTERISTICS. Due to lack of 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 Main Base CAR. No active potable wells are reported in the site vicinity. One potable well (WW-9), currently not in service, is located approximately 0.9 mile from the site. Several irrigation wells are located in the vicinity of the site, including WW-1, 800 feet northeast; WW-2, 950 feet west; WW-3, less than 1,400 feet east; and, WW-4, 1,750 feet southeast. See Figure 5-1 of the Main Base CAR for potable and irrigation well locations.

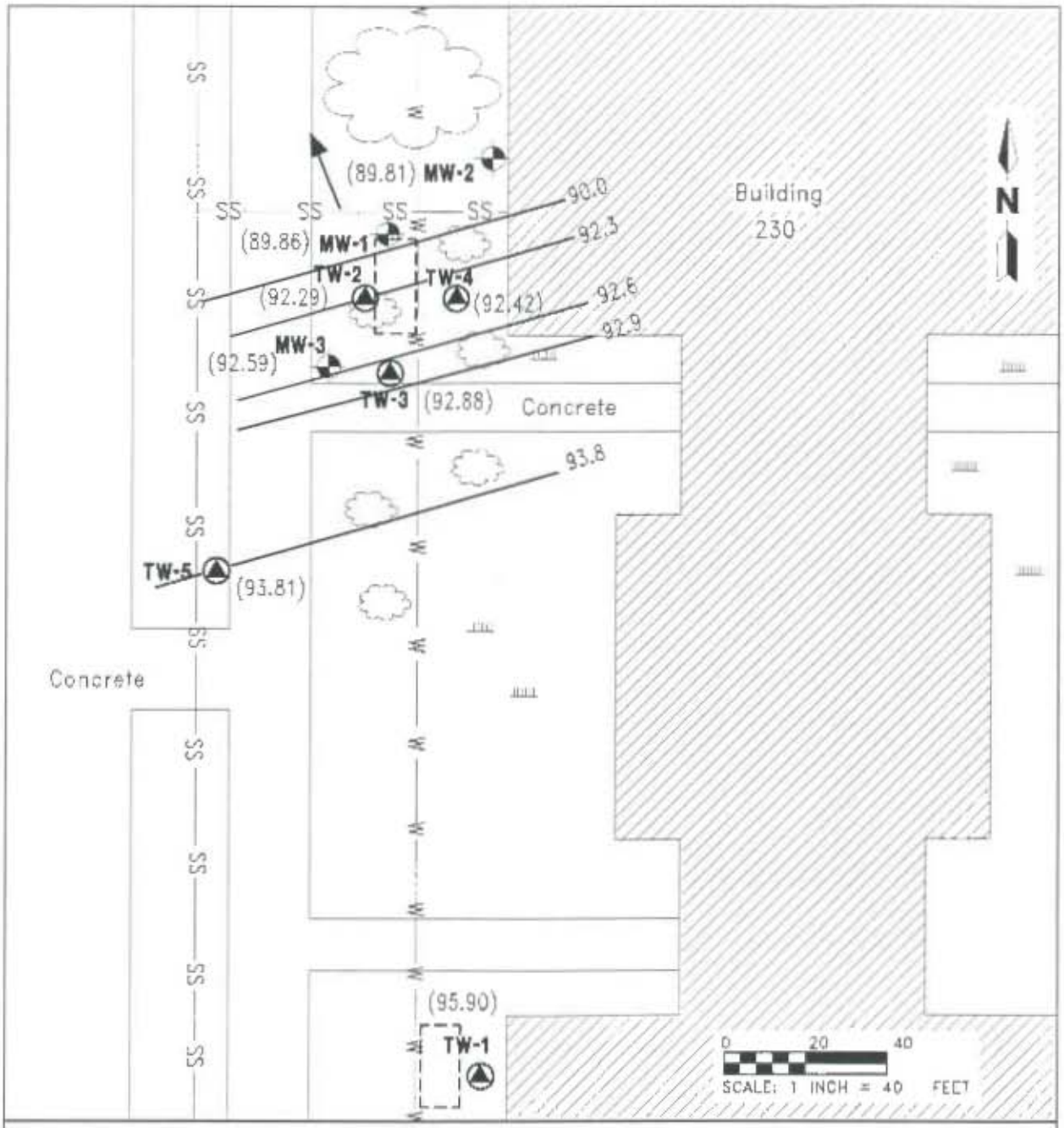
3.5 SURFACE WATER. The surface water body nearest to the site is Lake Spier, which is approximately 1,250 feet northeast of the site. In addition, several other lakes, including Lake Howard, 1,400 feet to the west; Lake Baldwin, 2,000 feet to the east; and Lake Shannon, 2,400 feet to the southwest, are located in the vicinity of the site.

Table 3-1
Groundwater Elevation Summary

Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Well Number	Date	Depth to Product (ft btoc)	Depth to Water	Product Thickness (ft btoc)	Top of Casing Elevation (feet)	Water Level Elevation (feet)
MW-1	3/7/96	–	10.14	–	100.00	89.86
	5/3/96	–	8.81	–		91.19
	5/28/96	–	9.38	–		90.62
MW-2	3/7/96	–	11.44	–	101.25	89.81
	5/3/96	–	10.79	–		90.46
	5/28/96	–	11.35	–		89.90
MW-3	3/7/96	–	7.73	–	100.32	92.59
	5/3/96	–	7.43	–		92.89
	5/28/96	–	7.80	–		92.52
TW-1	3/7/96	–	8.48	–	104.38	95.90
	5/3/96	–	8.26	–		96.12
	5/28/96	–	8.56	–		95.82
TW-2	3/7/96	–	8.56	–	100.85	92.29
	5/3/96	–	8.23	–		92.62
	5/28/96	–	8.59	–		92.26
TW-3	3/7/96	–	7.91	–	100.79	92.88
	5/3/96	–	7.60	–		93.19
	5/28/96	–	7.97	–		92.82
TW-4	3/7/96	–	8.39	–	100.81	92.42
	5/3/96	–	8.04	–		92.77
	5/28/96	–	8.38	–		92.43
TW-5	3/7/96	–	8.24	–	102.05	93.81
	5/3/96	–	8.13	–		93.92
	5/28/96	–	8.41	–		93.64

Notes: ft btoc = feet below top of casing.
– = not applicable.



LEGEND

- TW-1 (95.20) — Temporary well location with groundwater elevation
- MW-1 (89.86) — Monitoring well location with groundwater elevation
- Former UST excavation area
- SS — Sanitary sewer
- W — Water line
- Grass
- Trees
- 90.0 — Water table elevation dashed where inferred
- Groundwater flow direction
- Note: UST = Underground storage tank

FIGURE 3-1
WATER TABLE ELEVATION
CONTOUR MAP
MARCH 7, 1996

CONTAMINATION ASSESSMENT
REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

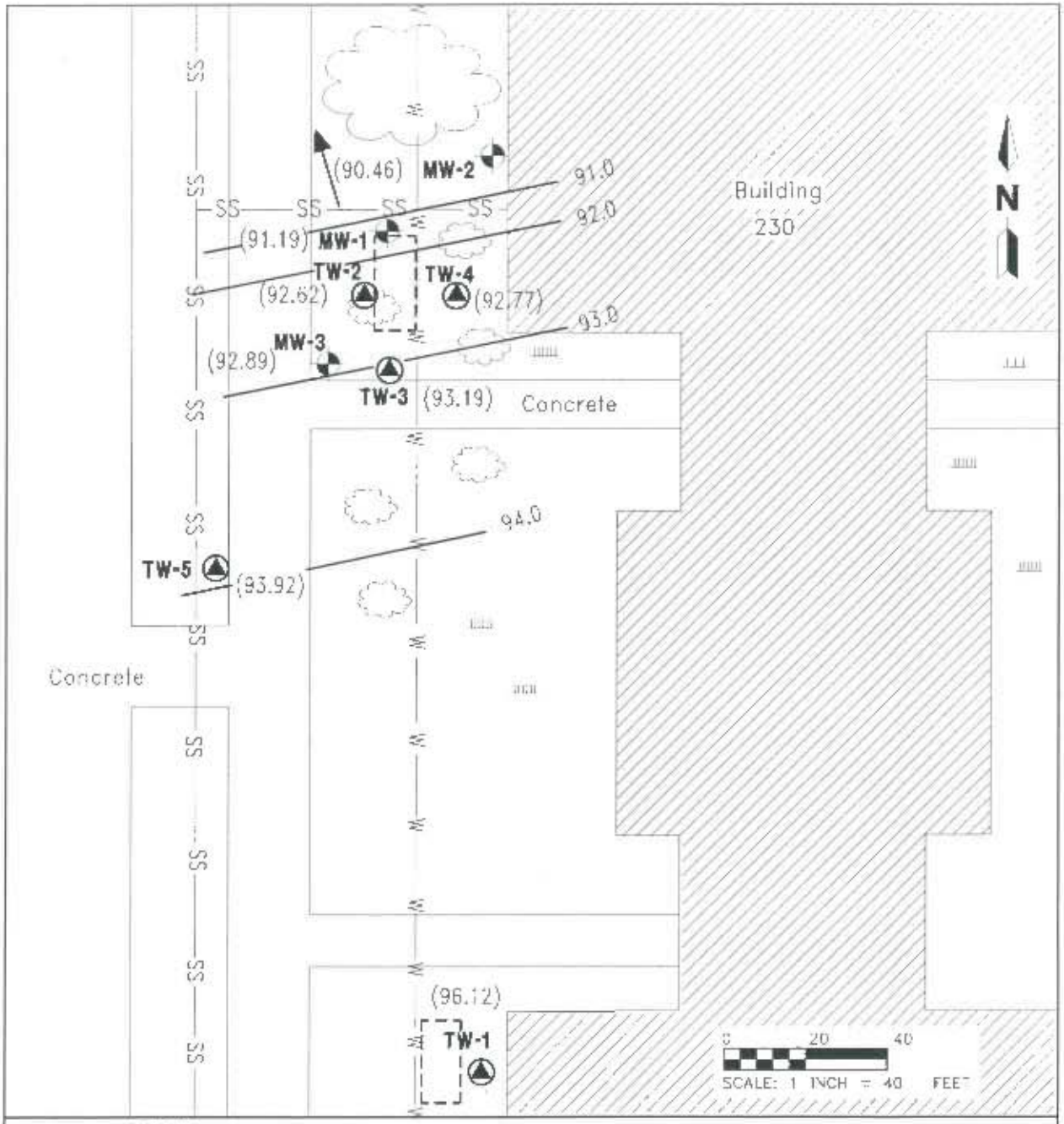
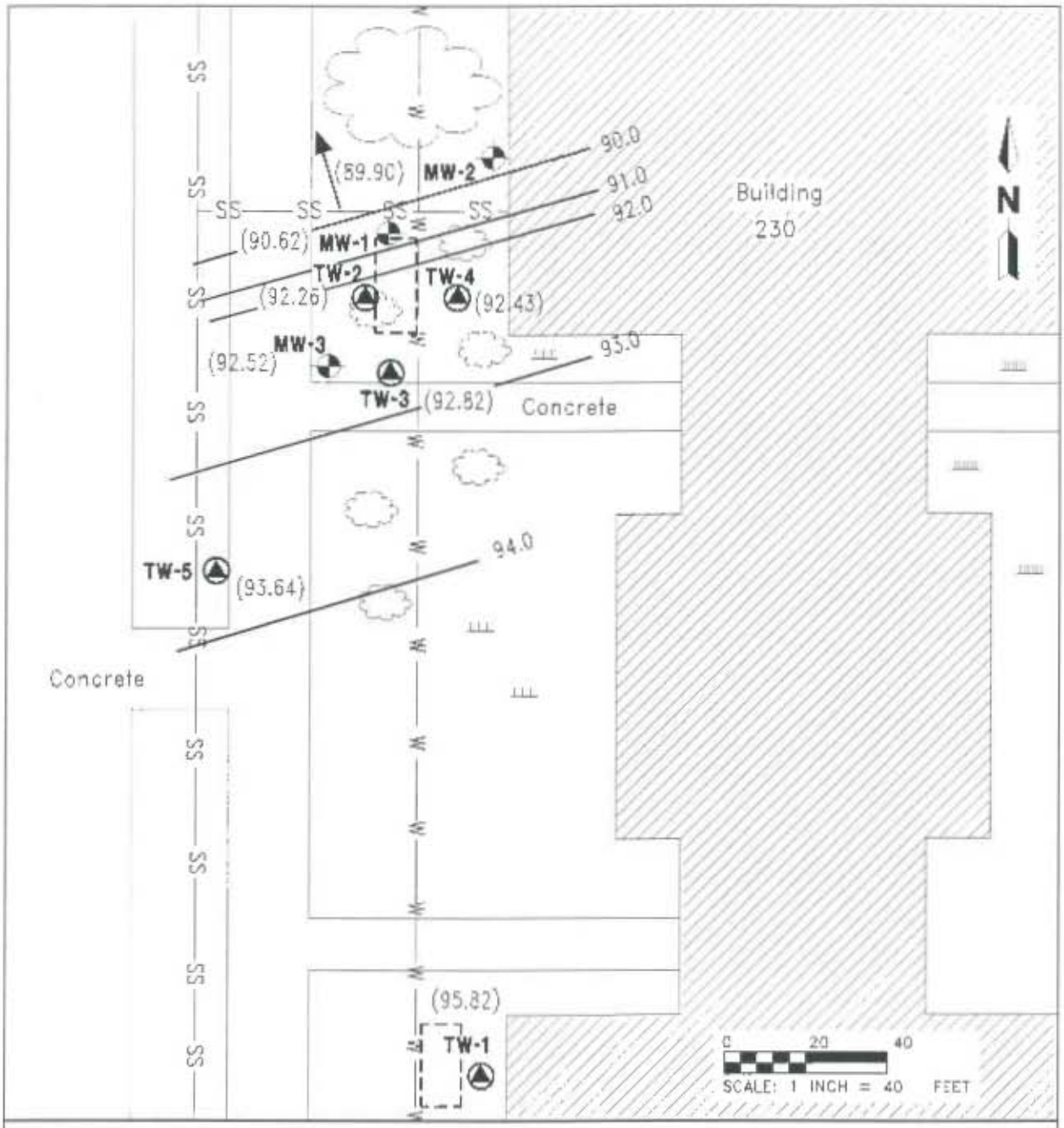


FIGURE 3-2
WATER-TABLE ELEVATION CONTOUR MAP
MAY 3, 1996

CONTAMINATION ASSESSMENT REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA



LEGEND

- TW-1 (95.82) — Temporary well location with groundwater elevation
- MW-1 (90.62) — Monitoring well location with groundwater elevation
- Former UST excavation area
- SS — Sanitary sewer
- W — Water line
- Grass
- Trees
- 92.0 — Water table elevation dashed where inferred
- Groundwater flow direction

Note: UST = Underground storage tank

FIGURE 3-3
WATER TABLE ELEVATION
CONTOUR MAP
MAY 28, 1996

CONTAMINATION ASSESSMENT REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

4.0 CONTAMINATION ASSESSMENT RESULTS

4.1 SOIL CONTAMINATION. Twenty-four hand-auger borings (HA-1 through HA-24) were advanced using a 3.25-inch ID stainless steel hand-operated bucket auger on May 1, 1996. Figure 2-1 shows the hand-auger boring locations. Ninety soil samples were collected at discrete intervals for OVA analysis. A summary of OVA results is presented in Table 4-1.

Excessively contaminated soil was encountered at the top of the concrete pad (bottom hold-down pad). The former UST rested upon and was anchored to this concrete pad. The area of excessively contaminated soil is located at a depth from 5 to 7 foot bls and extends horizontally in the area encompassed by soil borings HA-11, HA-12, and HA-15 (see Figure 2-1).

4.2 FREE-PRODUCT OCCURRENCE. A petroleum sheen was detected in temporary well TW-2 during the tank closure assessment. However, no petroleum sheen or free product was detected during the contamination assessment activities.

4.3 GROUNDWATER CONTAMINATION. Three shallow monitoring wells (MW-1, MW-2, and MW-3) were installed at the site on February 12, 1996, and sampled on February 19, 1996. These wells were installed to assess the groundwater flow direction and the horizontal extent of dissolved hydrocarbon contamination in groundwater. Locations of the monitoring wells are shown on Figure 4-1.

Groundwater samples were collected from monitoring wells MW-1 through MW-3 on February 19, 1996. Groundwater samples were analyzed for the KAG, which includes USEPA Method 601 (VOH), USEPA Method 602 (VOA) plus methyl tert-butyl ether, USEPA Method 504 (ethylene dibromide), USEPA 239.2 (total lead), USEPA Method 610 (PAH), and USEPA Method 418.1 (TRPH). Laboratory analytical results indicate the presence of lead above target cleanup levels in unfiltered groundwater samples from monitoring wells MW-2 at 103 micrograms per liter ($\mu g/\ell$) and MW-3 at 61.2 $\mu g/\ell$. No dissolved petroleum contamination above Chapter 62-770, FAC, target cleanup levels was detected in any of the monitoring wells sampled. The laboratory analytical reports are included in Appendix E, and the results are summarized in Table 4-2.

Table 4-1
Summary of Organic Vapor Analyses, May 1996

Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Soil Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
HA-1	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9*	<1	<1	<1	No staining, no petroleum odor.
HA-2	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-3	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-4	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-5	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	2	<1	2	Methane odor.
HA-6	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-7	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-8	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	54	30	24	Petroleum odor, refusal.
HA-9	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	22	4	18	Petroleum odor, refusal.

See notes at end of table.

Table 4-1 (Continued)
Summary of Organic Vapor Analyses, May 1996

Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Soil Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
HA-10	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-11	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	130	60	70	Petroleum odor, refusal.
HA-12	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	410	310	100	Petroleum odor, refusal.
HA-13	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	1	<1	1	No staining, no petroleum odor.
HA-14	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	1	<1	1	No petroleum odor, refusal.
HA-15	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	150	88	62	Petroleum odor, refusal.
HA-16	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	3	1	2	No staining, no petroleum odor.
HA-17	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	3.5	1.5	2	No staining, no petroleum odor.

See notes at end of table.

Table 4-1 (Continued)
Summary of Organic Vapor Analyses, May 1996

Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Soil Boring Designation	Sample Depth (feet bls)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Physical Observations
HA-18	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	1	<1	1	No staining, no petroleum odor.
HA-19	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	1.5	<1	1.5	No staining, no petroleum odor.
HA-20	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	3	<1	3	No staining, no petroleum odor.
HA-21	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-22	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-23	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.
HA-24	1 - 3	<1	<1	<1	No staining, no petroleum odor.
	3 - 5	<1	<1	<1	No staining, no petroleum odor.
	5 - 7	<1	<1	<1	No staining, no petroleum odor.
	7 - 9	<1	<1	<1	No staining, no petroleum odor.

* Water table encountered at approximately 8 feet below land surface.

Notes: bls = below land surface.
ppm = parts per million.
<1 = nondetectable limit for organic vapor analyzer.

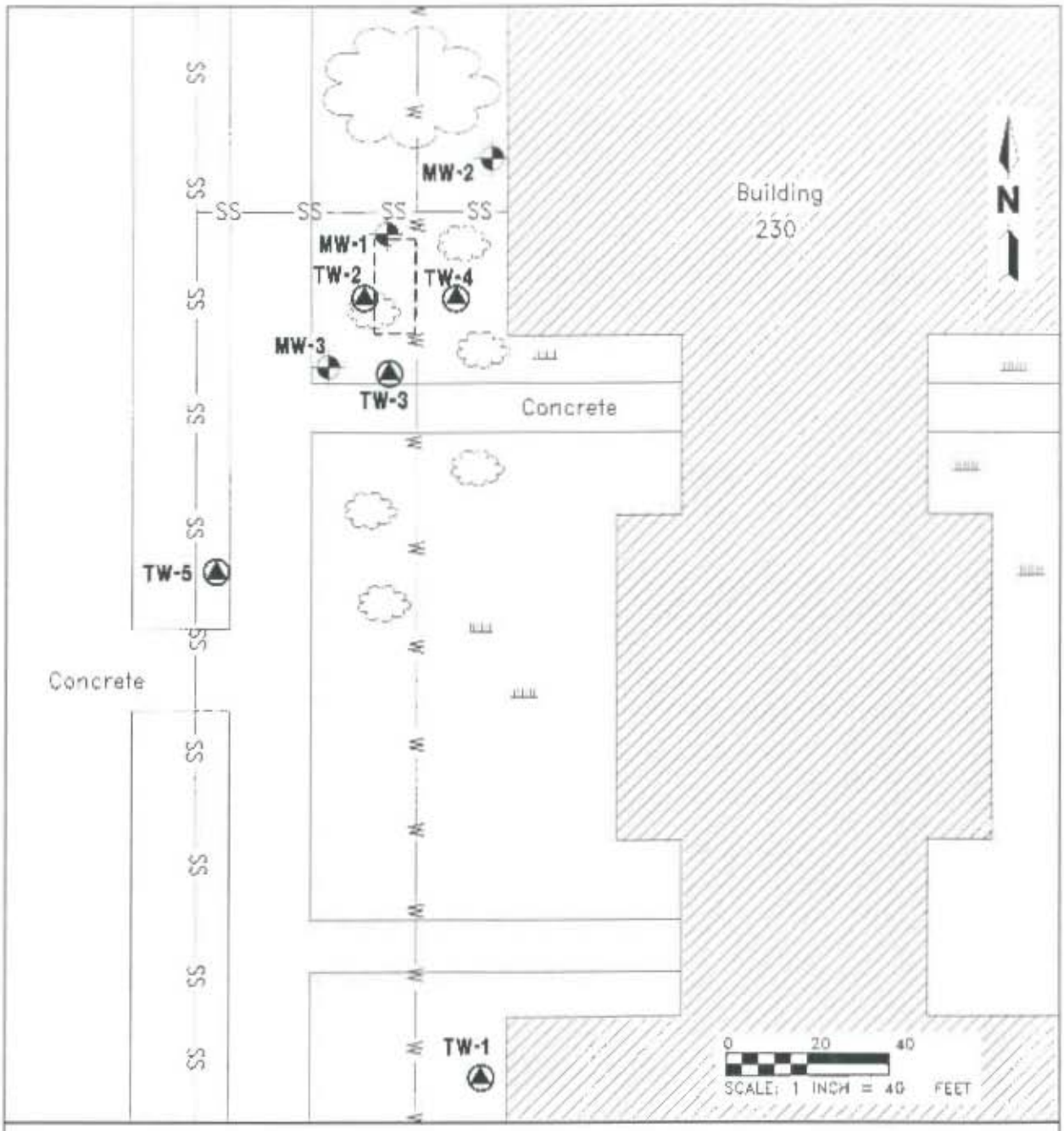


FIGURE 4-1
MONITORING WELL LOCATION PLAN

H:\OLD\CAR\B230\WELPS-CCK\CT-10-96

CONTAMINATION ASSESSMENT REPORT
MAIN BASE
BUILDING 230
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Table 4-2
Summary of Groundwater Laboratory Analytical Results

Contamination Assessment Report
Building 230, Main Base
Naval Training Center
Orlando, Florida

Parameter	Chapter 62-770 Target Cleanup Levels	MW-1 2/20/96	MW-2 2/20/96	MW-3 2/20/96
Benzene	1	<1	<1	<1
Toluene	NA	<1	<1	<1
Ethylbenzene	NA	<1	<1	<1
Xylenes	NA	<1	<1	<1
Total VOAs	**50**	**<1**	**<1**	**<1**
MTBE	50	<1	<1	<1
EDB	0.02	<0.02	<0.02	<0.02
Total Lead	50	29.5	103	61.2
TRPH	5 (mg/ℓ)	<0.05	<0.05	<0.05
Naphthalenes (total)	100	<6	<6	<6

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

< = less than.
NA = not applicable.
Total VOAs = volatile organic compounds; sum of the concentrations of benzene, toluene, ethylbenzene, and xylenes.
MTBE = methyl tert-butyl ether.
EDB = ethylene dibromide.
TRPH = total recoverable petroleum hydrocarbons.
mg/ℓ = milligrams per liter.

5.0 SOURCE OF HYDROCARBONS

5.1 HYDROCARBON TYPE. The hydrocarbon type formerly stored in UST 230-A at the site is heating fuel.

5.2 SOURCE OF HYDROCARBON PLUME. Petroleum discharges could be attributed to several 1/8-inch-diameter holes found in the bottom of the tank during the removal activities.

5.3 MECHANISM OF TRANSPORT. None of the drainage ditches or utility lines in the area were found to influence groundwater flow in the surficial aquifer of the study area during this investigation. The lack of petroleum contamination in groundwater does not give any insight into the possible mechanisms of transport.

6.0 RECOMMENDATIONS

Based on the following results of this investigation, ABB-ES recommends a No Further Action proposal for this site:

1. The small amount of excessively contaminated soil (approximately one cubic yard) does not warrant the excavation of the soil and/or the removal of the concrete pad in the former tank area.

2. The presence of excessively contaminated soil has not affected the groundwater quality of the site. Given the low water solubility of the hydrocarbon associated with heating fuel, ABB-ES does not believed that dissolved petroleum hydrocarbon contamination will spread beyond the tank area. Since the source of hydrocarbon contamination has been removed (UST 230-A), natural attenuation will biodegrade the remaining petroleum contaminant in the soil.

7.0 PROFESSIONAL REVIEW CERTIFICATION

This CAR, Building 230, Main Base, 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 CAR was developed for the Building 230 site at the Main Base, NTC, Orlando, in Orlando, Florida, and should not be construed to apply to any other site.

Manuel Alonso
Professional Geologist
P.G. No. 0001256

7/16/96
Date

APPENDIX A

SITE PHOTOGRAPHS

Photograph 1: View of Building 230 facing north, Monitoring Well MW-1 in the foreground by drum.

Photograph 2: Facing east, Building 230 site.

Photograph 3: Facing west, former southern UST area at Building 230.

Photograph 4: Facing south, former northern UST area at Building 230.

APPENDIX B

TANK CLOSURE ASSESSMENT REPORTS

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

UNIT IDENTIFICATION CODE: N65928
CONTRACT NO. N62467-89-D-0317/107

FEBRUARY 1996

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

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

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

Prepared for:

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

Nick Ugolini, Code 1843, Engineer-in-Charge

February 1996

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: February 29, 1996

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)

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Building 230
Naval Training Center
Orlando, Florida

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Tank Closure Assessment Report
Building 230
Naval Training Center
Orlando, Florida

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
FAC	Florida Administrative Code
OVA	organic vapor analysis
UST	underground storage tank

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230

1.0 Facility

Building 230
Naval Training Center, Orlando
Orlando, Orange County, Florida

2.0 Operator

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

3.0 Site Location

See Figure 1.

4.0 Date of Closure

October 17, 1995

5.0 Tank Status

One 3,000-gallon underground storage tank (UST) was removed by Florida Petroleum Services, Inc. (State Certificate # PCC045046). The UST was removed from the northwest side of the building as depicted on Figure 2. Photographs of the excavation are provided in Attachment A. Prior to removing the UST, approximately 1,500 gallons of fuel were removed by International Petroleum, Inc. After removal, the UST was cleaned by Florida Petroleum Services, Inc., and transported to Aaron Scrap Metals for disposal. The remaining pipes associated with the UST were properly abandoned and capped in-place. Copies of the Tank Decontamination and Recycling Certificates for the UST are included in Attachment B. The UST Installation and Removal Form is included in Attachment C.

6.0 Tank Contents

The UST contained heating fuel used for heating on the premises (non-regulated per Chapter 62-762, Florida Administrative Code [FAC]).

7.0 Tank Condition

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

8.0 Tank Area

The size of the excavation, which is shown on Figure 2, was approximately 10 feet wide by 17 feet long by 8 feet deep. Following removal of the tank, the excavation was filled and compacted to grade with clean fill. Groundwater was encountered at approximately 7 feet below land surface (bls) during excavation.

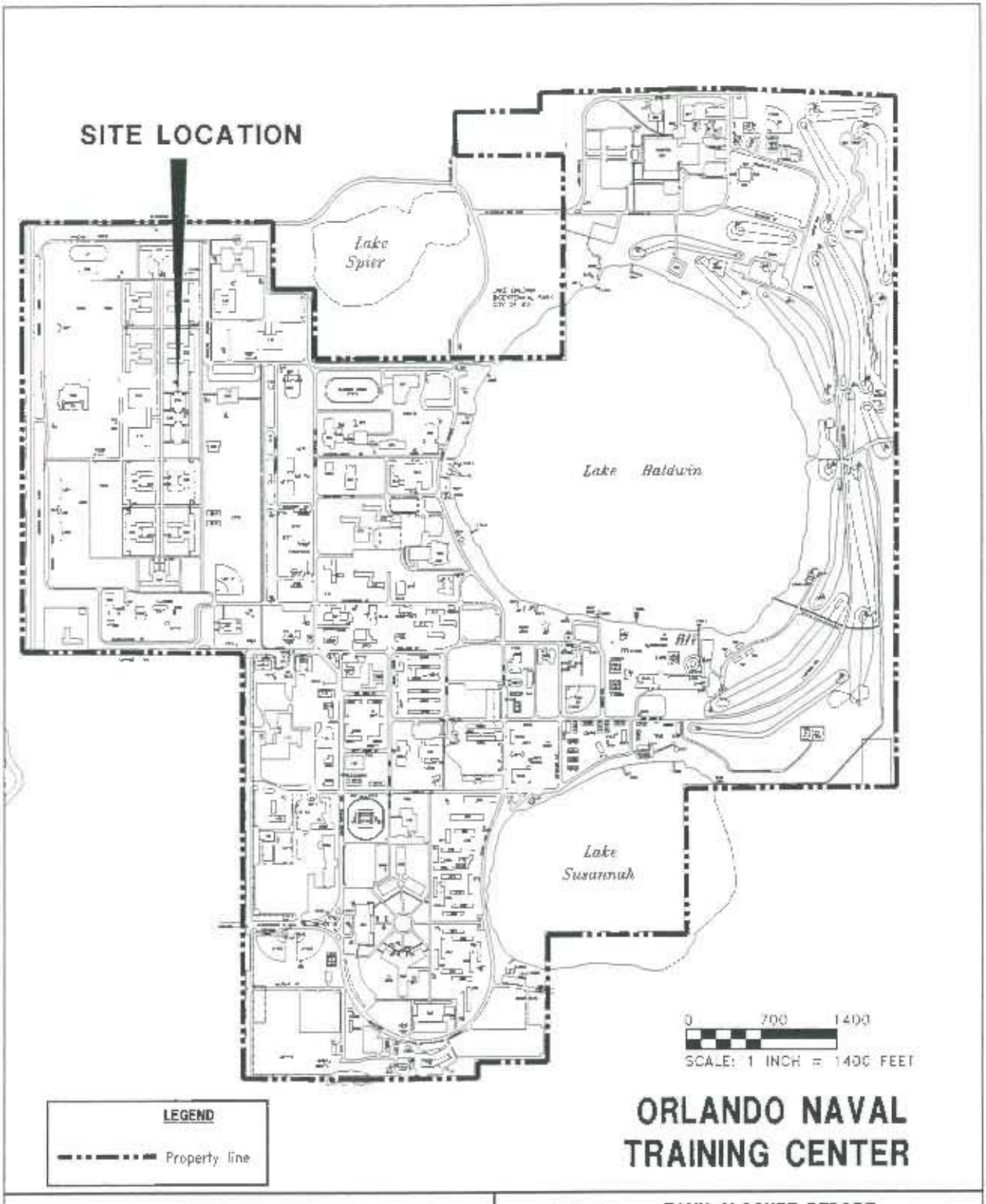

FIGURE 1
SITE VICINITY MAP

H:\ORLANDO\TANK\DISKRUP-CLC-WOA-JM4-NP-PS\02-13-96

TANK CLOSURE REPORT
BASE REALIGNMENT AND CLOSURE
TANK MANAGEMENT PLAN
BUILDING 230

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

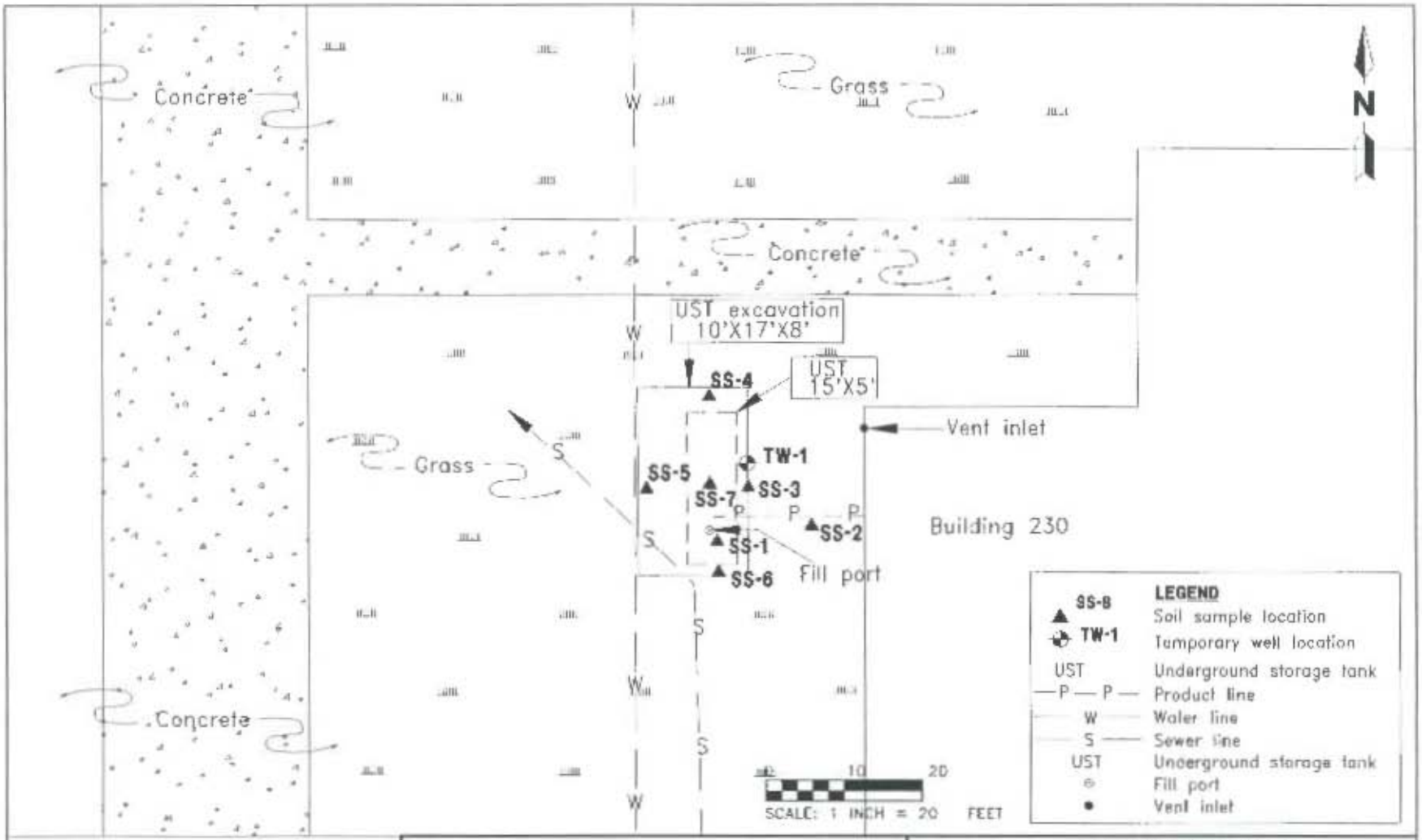

FIGURE 2
SITE PLAN

TANK CLOSURE REPORT
BASE REALIGNMENT AND CLOSURE
TANK MANAGEMENT PLAN
BUILDING 230

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

9.0 Soil Screening

- Seven soil samples were collected for organic vapor analysis (OVA), from the following locations: near the fill port (SS-1), the product lines (SS-2), the east (SS-3), the north (SS-4), the west (SS-5), the south (SS-6), and the bottom of the excavation (SS-7) (Table 1).

- The soil screening was conducted following criteria for headspace method in Chapter 62-770, FAC, and ABB Environmental Services, Inc.'s (ABB-ES's), Comprehensive Quality Assurance Plan. The OVA data have been summarized in Table 1.

10.0 Groundwater Analysis

Temporary well TW-1 was placed east of center of the excavation, and a groundwater sample was collected on November 16, 1995, and transported to Quality Analytical Laboratories, Inc., in Alachua, Florida, for analysis using U.S. Environmental Protection Agency Methods 602 and 610. Laboratory analytical results show all the parameters tested to be below laboratory standard detection limits. The water table was encountered at approximately 5.61 feet bls during the sampling of TW-1. A copy of the groundwater laboratory analytical reports is included in Attachment D.

11.0 Conclusions

ABB-ES has screened soil samples collected from the excavated area and found no signs of petroleum-impacted soil and no evidence that a discharge of petroleum products into the environment had occurred. In addition, a groundwater sample was analyzed; laboratory results show that the parameters tested are below laboratory standard detection limits.

12.0 Recommendations

Based on the results of this investigation, ABB-ES recommends a clean tank closure at this site.

13.0 Closure Assessment

Closure assessment performed by ABB-ES.

14.0 Project Manager

John Kaiser

15.0 Project Number

08519

16.0 Report Date

February 15, 1996

Table 1
Summary of Organic Vapor Analyses, October 17, 1995

Tank Closure Assessment Report
Building 230
Naval Training Center
Orlando, Florida

Hand Auger Sample No.	Depth (feet)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Soil Profile and Comments
SS-1	0-1	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand; no odor.
SS-2	0-1	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand; no odor.
SS-3	7	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand; no odor.
SS-4	7	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand: no odor.
SS-5	7	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand; no odor.
SS-6	7	<1	<1	<1	Well-sorted, fine-grained, light brown, fine sand; no odor.
SS-7	8	2	<1	2	Well-sorted, fine-grained, light brown, fine sand; no odor.
					Water table encountered at 7 feet bls.

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

ppm = parts per million.
<1 = nondetectable limit for PortaFID II™ (potable flame ionization detector).
bls = below land surface.

ATTACHMENT A

PHOTOGRAPHS

Photograph 1: View of Building 230 facing north, Monitoring Well MW-1 in the foreground by drum.

Photograph 2: Facing east, Building 230 site.

Photograph 3: Facing west, former southern UST area at Building 230.

Photograph 4: Facing south, former northern UST area at Building 230.

ATTACHMENT B

TANK DECONTAMINATION AND RECYCLING CERTIFICATION

11-14 95

DECONTAMINATION CERTIFICATE

Hauled From Navy Base

1. Seller hereby sells or otherwise conveys to Commercial Metals Company the following material in return for valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

1-500 Gallon Tank 5'6"x6' T-2817 AST

1-550 Gallon Tank 3'6"x8' T-2012 UST

1-500 Gallon Tank 4'x6' T-150 UST

1-550 Gallon Tank 3'6"x8' T-2053 UST

1-5,000 Gallon Tank 5'6"x15' T-230 UST

2. Notwithstanding any other warranty or limitation of warranty herein or otherwise, Seller warrants and represents to Commercial Metals Company that the materials delivered hereunder do not contain any "hazardous substance" (which shall be defined as those substances included in Sec. 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act, 42, U.S.C., Sec. 9601(14), and those substances that are toxic, ignitable, corrosive, and/or reactive, as those terms are defined at 40 CFR 261, Subpart C), except those "hazardous substances" which are integral constituents of the metallic fraction of the scrap metal or which are contained in the electrolytic fluid in a spent lead-acid battery. Seller will indemnify, defend, and hold Commercial Metals Company harmless from any and all claims, demands and liabilities, including reasonable attorney's fees, resulting in whole or in part from a breach of the foregoing warranty. "Seller" shall be defined herein as any person, corporation, partnership or other entity that sells, transfers, gives, or otherwise conveys materials to Commercial Metals Company.

SELLER:

Fla. Petroleum Serv. Inc

2078 S. 441 Apopka

Name Tom's Trucking

Title _____

COMMERCIAL METALS COMPANY

_____

_____

Name ROB CRIDER

Title BUYER

No. 441387

DATE 11-14-95

Aaron Scrap Metals

A Division of

Commercial Metals Company

P.O. Box 607066
Orlando, FL 32860-7066
Phone: 407-293-6584
FAX: 407-295-4908

3000 Gamson Road
Orange County Industrial Park
Apopka, FL 32703

CUSTOMER Ron's Trucking Re

ADDRESS FLORIDA PETROLEUM

MATERIAL

VERIFIED BY	REFERENCE	DRIVER ON	DRIVER OFF
BL	441396		
WEIGHER	CHECK NO.	PAID BY CHECK	PAID BY CASH
	113209		
CASHIER	REMARKS		

CUSTOMER

LOOP # 3:32PM 11-14-95 28060 lb Gross

LOOP # 3:32PM 11-14-95 16240 lb Tare

4430

139120

Net @ 17 Per CWT

SIGNATURE	VEHICLE LIC.#	STATE
Ron Sobert 5180		

$ 9065

Vendor warrants full title to or authority to sell listed materials; represents that listed materials are not, and are free from all, hazardous wastes (as defined in Federal or state regulations); and acknowledges receipt of states funds.

Form 1513-136 8/90

No. 441396

DATE 19

Aaron Scrap Metals

A Division of

Commercial Metals Company

P.O. Box 607066
Orlando, FL 32860-7066
Phone: 407-293-6584
FAX: 407-295-4908

3000 Gamson Road
Orange County Industrial Park
Apopka, FL 32703

CUSTOMER Tom's Trucking

ADDRESS FLORIDA PETROLEUM

MATERIAL

VERIFIED BY	REFERENCE	DRIVER ON	DRIVER OFF
BL	441387	✓	
WEIGHER	CHECK NO.	PAID BY CHECK	PAID BY CASH
Re			
CASHIER	REMARKS		

CUSTOMER

LOOP # 3:50PM 11-14-95 25980 lb Gross

LOOP # 3:50PM 11-14-95 13140 lb Tare

139,120

Net @ Per

SIGNATURE	VEHICLE LIC.#	STATE

$ CW

Vendor warrants full title to or authority to sell listed materials; represents that listed materials are not, and are free from all, hazardous wastes (as defined in Federal or state regulations); and acknowledges receipt of states funds.

Form 1513-136 1/90

ATTACHMENT C

UST INSTALLATION AND REMOVAL FORM

Florida Department of Enviromental Regulation

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

DER Form #	17-761.900(5)
Form Title	Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date	December 10, 1990
DER Application #	(Filled 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.: _____

2. Facility Name: NAVAL TRAINING CENTER (CODE 010E) Telephone : 407-646-4663

3. Street Address (physical location): NAVAL TRAINING CENTER ORLANDO , FLA

SITE # 230 (1 ea. 5,000 Gal Underground)

4. Owner Name: Commanding Officer, Naval Training Center(Code 010E) Telephone : 407-646-4663

5. Owner Address: 1350 Grace Hopper Ave.

6. Number of Tanks: a: Installed at this time _____ b: Removed at this time ONE

7. Tank(s) Manufactured by: UNKNOWN

ate Work Initiated: 10/1/95 9. Dated Work Completed: 11/15/95

Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirement 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

losure 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 5, Certified Contractors
Effective Date	December 10, 1990
DER Application #	(Filled in by DER)

Certification

I hereby certify and attest that I am familiar with the facility that is registered with the Florida Department of 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 of Testing and Materials (ASTM); Petroleum Equipment Institute (PEI); Steel Tank Institute (STI); Underwriters Laboratory (UL); and the tank and integral piping manufactrers' specifications; and that the operations on the checklist were performed accordingly.

Florida Petroleum Services, Inc.
2078 S Orange Blossom Tr.
Apopka, Fla. 32703

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

PC - C045046
PSSSC Number

Certified Tank Contractor Signature

12-14-95
Date

JOHN THOMPSON
(Type or Print)
Field Supervisor Name

12-15-95
Date

Field Supervisor Signature

12-15-95
Date

The owner or operator of the facilty 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

GROUNDWATER LABORATORY ANALYTICAL REPORTS

Report of Analytical Results
602(MOD)-AROMATICS,STD LIST,W/WW

Date Collected: 11/16/95
Date Received: 11/17/95
Date Extracted: None
Date Analyzed: 11/23/95

Client Sample ID: 024GT101
Lab ReferenceNum: G8771

Sample ID: G8771005
Sample Matrix: Water
Sample Description: 230TW-1
Dilution: 1.00

Analytical Parameter	CAS/Storet Number	Result	Units	Reporting Level
GC VOLATILES				
Benzene	71-43-2	1.0 U	ug/L	1.0
Chlorobenzene	108-90-7	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	95-50-1	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	541-73-1	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	106-46-7	1.0 U	ug/L	1.0
Ethylbenzene	100-41-4	1.0 U	ug/L	1.0
Methyl tert-butyl ether	1634-04-4	1.0 U	ug/L	1.0
Toluene	108-88-3	1.0 U	ug/L	1.0
m- and p-Xylene	108-38-3/106-42-3	2.0 U	ug/L	2.0
o-Xylene	95-47-6	1.0 U	ug/L	1.0
Fluorobenzene - SS	462-06-6	105	%rec	

(5187)

Report of Analytical Results
610(MOD)-PNA W/CLEANUP,STD LIST,GC,W/WW

Date Collected: 11/16/95
Date Received: 11/17/95
Date Extracted: 11/18/95
Date Analyzed: 11/24/95

Client Sample ID: 024GT101
Lab ReferenceNum: G8771

Sample ID: G8771005
Sample Matrix: Water
Sample Description: 230TW-1
Dilution: 1.00

Analytical Parameter	CAS/Storet Number	Result	Units	Reporting Level
GC SEMI-VOLATILES				
Acenaphthene	83-32-9	2.0 U	ug/L	2.0
Acenaphthylene	208-96-8	2.0 U	ug/L	2.0
Anthracene	120-12-7	2.0 U	ug/L	2.0
Benzo(a)anthracene	56-55-3	2.0 U	ug/L	2.0
Benzo(a)pyrene	50-32-8	2.0 U	ug/L	2.0
Benzo(b)fluoranthene	205-99-2	2.0 U	ug/L	2.0
Benzo(g,h,i)perylene	191-24-2	2.0 U	ug/L	2.0
Benzo(k)fluoranthene	207-08-9	2.0 U	ug/L	2.0
Chrysene	218-01-9	2.0 U	ug/L	2.0
Dibenzo(a,h)anthracene	53-70-3	2.0 U	ug/L	2.0
Fluoranthene	206-44-0	2.0 U	ug/L	2.0
Fluorene	86-73-7	2.0 U	ug/L	2.0
Indeno(1,2,3-cd)pyrene	193-39-5	2.0 U	ug/L	2.0
1-Methylnaphthalene	90-12-0	2.0 U	ug/L	2.0
2-Methylnaphthalene	91-57-6	2.0 U	ug/L	2.0
Naphthalene	91-20-3	2.0 U	ug/L	2.0
Phenanthrene	85-01-8	2.0 U	ug/L	2.0
Pyrene	129-00-0	2.0 U	ug/L	2.0
2-Fluorobiphenyl - SS	321-60-8	75	%rec	

(5188)

QUALITY ANALYTICAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

Project # 8519.54 | Purchase Order #

Project Name: NTC Orlando - TMP

Company Name: ABB-Environmental Services

Project Manager or Contact & Phone #: John Kaiser 407-895-8045 | Report Copy to: Manuel Alonzo

Requested Completion Date: 11-30-95 | Site ID: NTC | Sample Disposal: Dispose [X] Return [ ]

☒ LGN — One Innovation Drive, Suite C, Alachua, FL 32615-9588, (904) 462-3050 FAX (904) 462-1670
☐ LRD — 5090 Caterpillar Road, Redding, CA 96003-1412, (916) 244-5227 FAX (916) 244-4109
☐ LMG — 2567 Fairlane Drive, Montgomery, AL 36116-1622, (205) 271-2440 FAX (205) 271-3428
☐ LKW — Canviro Analytical Laboratories, Inc., 50 Bathurst, Unit 12, Waterloo, Ontario, Canada N2V 2C5, (519) 747-2575 FAX (519) 747-3806

THIS AREA FOR LAB USE ONLY

Lab # 64771 | Page 1 | of 1
Client Service: Beck | Price Source: (A) P Q S
Acct Code: ABB | Test Group:
Project Code: Cullinane CLST | Ack. Gen.: ✓
LIMS Ver: | Login: 11/17/95 | Mult.:
COC Review:

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	QC ID (3 CHAR)	# OF CONTAINERS	EPA 610/PAH	EPA 602 +MTBE	EPA 601 & 602 +MTBE		SAMPLE REMARKS	LAB 1 ID	LAB 2 ID
11-6-95	1405		X	X		019GT101		1		3	X	These two samples need 601 and 602+MTBE analyses (All others; just 602+MTBE)	226 MW-1	1	
	1335					020GT101		1		3	X		228 MW-1	2	
	1435					022GT101		1	3				220 TW-1	3	
	1420					023GT101		1	3				222 TW-1	4	
	1255					024GT101		1	3				230 TW-1	5	
	1155					025GT101		1	3				234 TW-1	6	
	1010					026GT101		2	3				2267 TW-1	7	
	1230					027GT101		2	3				232 TW-1	8	
	1520					028GT101		2	3				2101 TW-1	9	

Sampled By & Title (Please sign and print name): Scott Derrick (FOL) | Date/Time: 11-6-95

Received By (Please sign and print name): Van Gonsalves | Date/Time: 11-7-95

Received By (Please sign and print name): | Date/Time:

Received By (Please sign and print name): | Date/Time:

Relinquished By (Please sign and print name): Scott Derrick (Scott Derrick) | Date/Time: 1700 11-6-95

Relinquished By (Please sign and print name): | Date/Time:

Relinquished By (Please sign and print name): | Date/Time:

Shipped Via: UPS (Fed-Ex) Other | Shipping #: 488676878 4

HAZWRAPNESSA: Y N
EDATA: Y N
QC LEVEL 1 2 3 OTHER
pH ✓ | Ice ✓
Custody Seal ✓ | Temp 3°C

Batch Remarks:

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: Original - LAB, Yellow - LAB, Pink - Client
LAB FORM 340

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230-A
MAIN BASE

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

UNIT IDENTIFICATION CODE: N65928
CONTRACT NO.: N62467-89-D-0317/107

MAY 1996

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

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230-A
MAIN BASE

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

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

Prepared for:

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

Nick Ugolini, Code 1843, Engineer-in-Charge

May 1996

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: May 3, 1996

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)

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Building 230-A
Naval Training Center
Orlando, Florida

LIST OF FIGURES

Tank Closure Assessment Report
Building 230-A
Naval Training Center
Orlando, Florida

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
FAC	Florida Administrative Code
OVA	organic vapor analysis
UST	underground storage tank

TANK CLOSURE ASSESSMENT REPORT
BUILDING 230-A

1.0 Facility

Building 230-A
Naval Training Center, Orlando
Orlando, Orange County, Florida

2.0 Operator

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

3.0 Site Location

See Figure 1.

4.0 Date of Closure

November 15, 1995

5.0 Tank Status

One 2,500-gallon underground storage tank (UST) was removed by Florida Petroleum Services, Inc., (State Certificate # PCC045046). The UST was removed from the west side of the building as depicted on Figure 2. Photographs of the excavation are provided in Attachment A. Prior to removal of the UST, approximately 1,500 gallons of fuel were removed by Florida Petroleum Services, Inc. After removal, the UST was cleaned by Florida Petroleum Services, Inc., and transported to Aaron Scrap Metals for disposal. The remaining pipelines associated with the UST were properly abandoned and capped in-place. A copy of the Tank Decontamination and Recycling Certificates for the UST is included in Attachment B. The UST Installation and Removal Form is included in Attachment C.

6.0 Tank Contents

The UST contained heating fuel used for heating on the premises (non-regulated per Chapter 62-761, Florida Administrative Code [FAC]).

7.0 Tank Condition

The UST was very corroded, with multiple holes that measured 1/8 inch in diameter, at the time of removal.

8.0 Tank Area

The size of the excavation, which is shown on Figure 2, was approximately 8 feet wide by 24 feet long by 9 feet deep. Following removal of the tank, the excavation was filled and compacted to grade with clean fill.

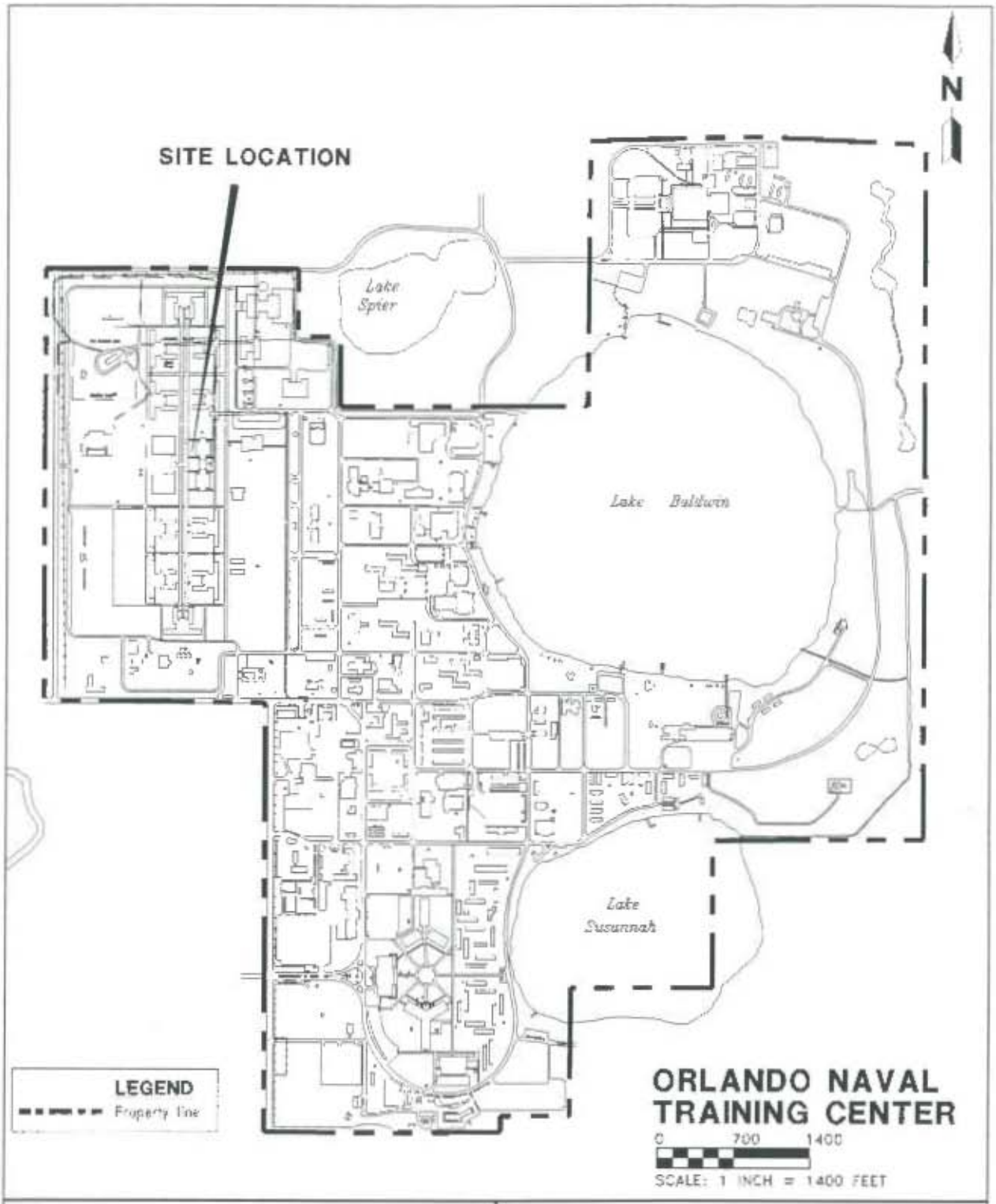


FIGURE 1
SITE VICINITY MAP

TANK CLOSURE ASSESSMENT REPORT, BASE REALIGNMENT AND CLOSURE, TANK MANAGEMENT PLAN, BUILDING 230-A NAVAL TRAINING CENTER ORLANDO, FLORIDA

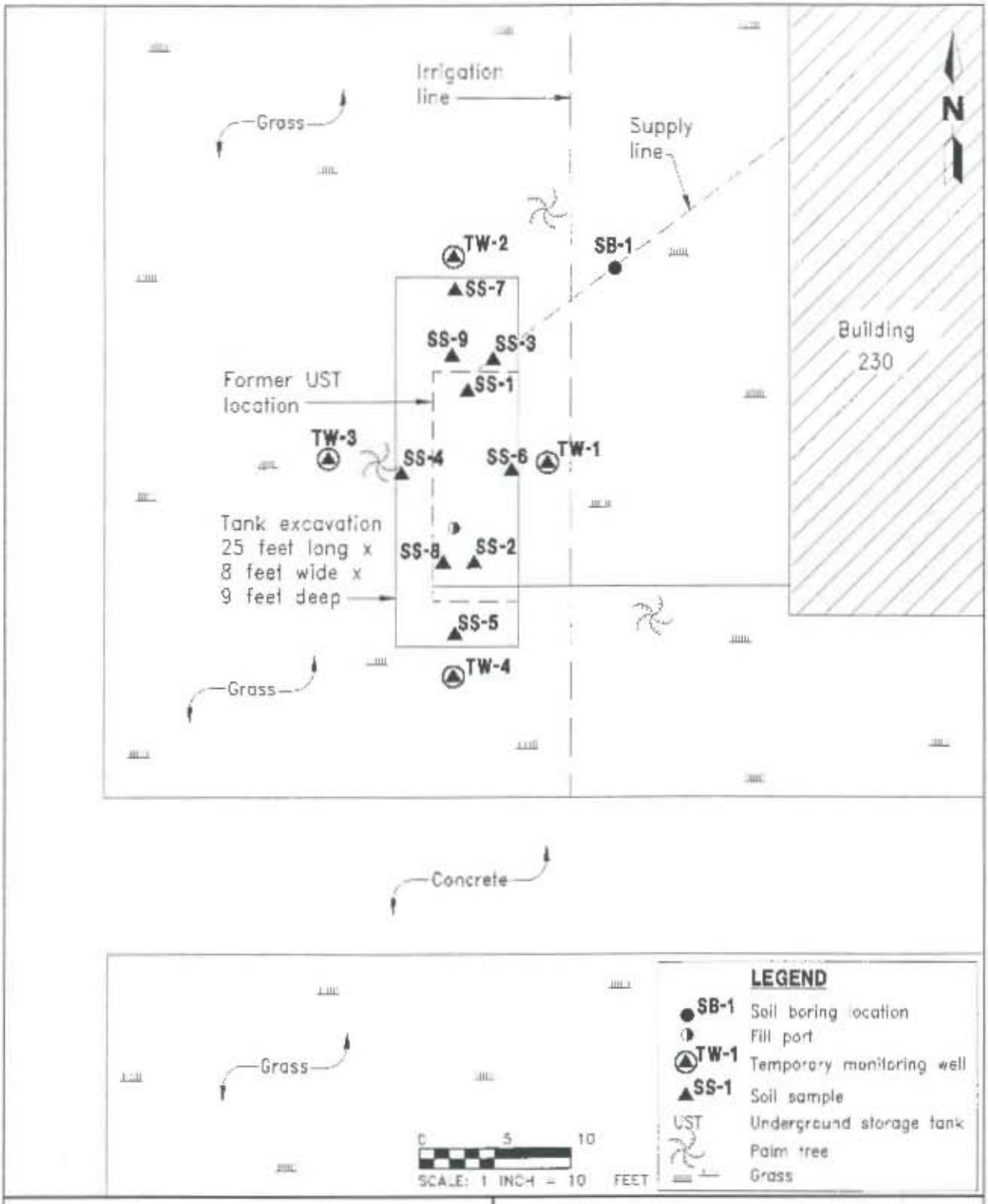


FIGURE 2
SITE PLAN

H:\OLD\BRAC\TCAR\BLG230A\NP-PS\05-3-96

TANK CLOSURE ASSESSMENT REPORT, BASE REALIGNMENT AND CLOSURE, TANK MANAGEMENT PLAN, BUILDING 230-A NAVAL TRAINING CENTER ORLANDO, FLORIDA

9.0 Soil Screening

- During tank removal, 10 soil samples were taken for organic vapor analysis (OVA) from the following locations: near the the fill port (SS-1), near the ventline (SS-2), near the supply line (SS-3), west (SS-4), south (SS-5), east (SS-6), north (SS-7), the bottom south end (SS-8), the bottom north end (SS-9), and the bottom of the excavated area (SS-10) (Figure 2).

- One soil boring (SB-1) was performed, along former product lines connected to the building, to a depth of approximately 8 feet below land surface (bls). Soil samples were collected at discrete intervals for OVA screening.

- The soil screening was conducted following criteria for headspace method in Chapter 62-770, FAC, and ABB Environmental Services, Inc.'s (ABB-ES's), Comprehensive Quality Assurance Plan. The OVA data have been summarized in Tables 1 and 2. A discharge reporting form has been included in Attachment D.

10.0 Groundwater Analysis

Four temporary wells (TW-1 through TW-4) were placed north, east, south, and west of the former tank area. During sampling on January 17, 1996, a petroleum sheen was identified at temporary well TW-2. The water table was encountered at approximately 7 feet bls during the sampling of the temporary well (TW-1).

11.0 Conclusions

ABB-ES has screened soil samples collected from the excavated area and found signs of petroleum impact to the soil. In addition, a petroleum sheen was detected in temporary well TW-2. Based on the results of this investigation, there is evidence of a discharge of petroleum products into the environment.

12.0 Recommendations

ABB-ES recommends that a contamination assessment be conducted for this site, focusing on the petroleum impact to soil and groundwater.

13.0 Closure Assessment

Closure assessment was performed by ABB-ES.

14.0 Project Manager

John Kaiser

15.0 Project Number

08519

16.0 Report Date

May 3, 1995

Table 1
Summary of Organic Vapor Analyses, November 15, 1995

Tank Closure Assessment Report
Building 230-A
Naval Training Center
Orlando, Florida

Hand Auger Sample No.	Depth (feet)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Soil Profile and Comments
SS-1	1	<1	<1	<1	Well-sorted, very fine-grained, light-gray, fine sand; no odor.
SS-2	3	<1	<1	<1	Well-sorted, very fine-grained, light-gray, fine sand; no odor.
SS-3	3	<1	<1	<1	Well-sorted, very fine-grained, light-gray, fine sand; no odor.
SS-4	5	20	<1	20	Well-sorted, very fine-grained, light-gray, fine sand; no odor.
SS-5	5	2	<1	2	Well-sorted, very fine-grained, light-gray, fine sand; slight petroleum odor.
SS-6	5	6000	3900	2100	Well-sorted, fine-grained, medium-brown, fine sand; slight petroleum odor.
SS-7	5	1	<1	1	Well-sorted, fine-grained, medium-brown, fine sand; slight petroleum odor.
SS-8	8	1	<1	1	Well-sorted, fine-grained, medium-brown, fine sand; strong petroleum odor.
SS-9	8	4000	1300	2700	Well-sorted, fine-grained, medium-brown, fine sand; strong petroleum odor.
SS-10	8	2100	900	1200	Well-sorted, fine-grained, medium-brown, fine sand; strong petroleum odor.

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

Notes: ppm = parts per million.
<1 = nondetectable limit for PortaFID II™ (portable flame ionization detector).

Table 2
Summary of Organic Vapor Analyses, December 28, 1995

Tank Closure Assessment Report
Building 230-A
Naval Training Center
Orlando, Florida

Hand Auger Sample No.	Depth (feet)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbons (ppm)	Soil Profile and Comments
SB-1,SS-1	0-2	<1	<1	<1	Well-sorted, fine-grained, brown, fine sand; no odor.
SB-1,SS-2	2-4	<1	<1	<1	Well-sorted, fine-grained, tan, fine sand; no odor.
SB-1,SS-3	4-6	<1	<1	<1	Well-sorted, fine-grained, tan, fine sand; no odor.
SB-1,SS-4	6-8	<1	<1	<1	Well-sorted, fine-grained, brown, fine sand; no odor.
					Water table was encountered at 7.5 feet bls.

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

Notes: ppm = parts per million.
<1 = nondetectable limit for PortaFID II™ (portable flame ionization detector).
bls = below land surface.

ATTACHMENT A

PHOTOGRAPHS

Photograph 1: View of UST excavation after removal, Building 230-A.

Photograph 2: View of UST after removal, Building 230-A.

ATTACHMENT B

TANK DECONTAMINATION AND RECYCLING CERTIFICATION

444124
444125

12-8-95

DECONTAMINATION CERTIFICATE

No. 280

1. Seller hereby sells or otherwise conveys to Commercial Metals Company the following material in return for valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

1-2500 Gallon Tank	15' x 5'6"	#T-230-A
1-350 Gallon Tank	6' x 2'6"	#T-2003
1-350 Gallon Tank	6' x 2'6"	#T-2816

2. Notwithstanding any other warranty or limitation of warranty herein or otherwise, Seller warrants and represents to Commercial Metals Company that the materials delivered hereunder do not contain any "hazardous substance" (which shall be defined as those substances included in Sec. 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C., Sec. 9601(14), and those substances that are toxic, ignitable, corrosive, and/or reactive, as those terms are defined at 40 CFR 251, Subpart C), except those "hazardous substances" which are integral constituents of the metallic fraction of the scrap metal or which are contained in the electrolytic fluid in a spent lead-acid battery. Seller will indemnify, defend, and hold Commercial Metals Company harmless from any and all claims, demands and liabilities, including reasonable attorney's fees, resulting in whole or in part from a breach of the foregoing warranty. "Seller" shall be defined herein as any person, corporation, partnership or other entity that sells, transfers, gives, or otherwise conveys materials to Commercial Metals Company.

Hauled from Navy Base

SELLER:

Fla. Petroleum Serv. Inc.

2078 S. 441 Apopka

Name Tom's Trucking

Title

COMMERCIAL METALS COMPANY

Name Susan Brown

Title Scale person

Copy only

No. 444124

DATE 12-08 19 95

Aaron Scrap Metals
A Division of
Commercial Metals Company

P.O. Box 617066
Orlando, FL 32860-7066
Phone: 407-253-6584
FAX: 407-295-4908

3090 Gamson Road
Orange County Industrial Park
Apopka, FL 32703

CUSTOMER Sea Petroleum

ADDRESS

MATERIAL 1021

VERIFIED BY	REFERENCE	DRIVER ON	DRIVER OFF
BC	444 124		
WEIGHER	**CHECK NO.**	**PAID BY CHECK**	**PAID BY CASH**
Y	112661	✓	
CASHIER	**REMARKS**		
	HC80		

FILE

LOOP # 1:05PM 12-08-95 27560 lb Gross

LOOP # 1:06PM 12-08-95 14740 lb Tare

Net @ 25 Per C

43300 (Lb)

SIGNATURE	VEHICLE LIC.#	STATE
[signature] 3940	1175243	

$ 156.71

Vendor warrants full title to or authority to sell listed materials; represents that listed materials are non-toxic and are free from all hazardous wastes (as defined in Federal or state regulations); and acknowledges receipt of stated funds.

No. 444125

DATE 12-8 19 95

Aaron Scrap Metals
A Division of
Commercial Metals Company

P.O. Box 617066
Orlando, FL 32860-7066
Phone: 407-253-6584
FAX: 407-295-4908

3090 Gamson Road
Orange County Industrial Park
Apopka, FL 32703

CUSTOMER Sea Petroleum

ADDRESS

MATERIAL 1021

VERIFIED BY	REFERENCE	DRIVER ON	DRIVER OFF
BC	444 124		
WEIGHER	**CHECK NO.**	**PAID BY CHECK**	**PAID BY CASH**
CASHIER	**REMARKS**		

FILE

LOOP # 1:12PM 12-08-95 26100 lb Gross

LOOP # 1:13PM 12-08-95 13260 lb Tare

34360 (Lb)

Net @ Per

SIGNATURE	VEHICLE LIC.#	STATE
[signature]	1171248	

$ 14

Vendor warrants full title to or authority to sell listed materials; represents that listed materials are non-toxic and are free from all hazardous wastes (as defined in Federal or state regulations); and acknowledges receipt of stated funds.

Tank 230A, 2003, 2816

ATTACHMENT C

UST INSTALLATION AND REMOVAL FORM

Florida Department of Enviromental Regulation

Twin Towers Office Bldg. * 2600 Blair Stone Road * Tallanassee, Florida 32399-2400

DER Form #	17-761.900(5)
Form Title	Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date	December 10, 1990
DER Application #	(Filled 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.: _____
2. Facility Name: **NAVAL TRAINING CENTER (CODE 010E)** Telephone : **407-646-4663**
3. Street Address (physical location): **NAVAL TRAINING CENTER ORLANDO , FLA**
   SITE #230A (1 ea 2,500 U/G) SITE #2003,2816 (2 ea 500 gal U/G)
4. Owner Name: **Commanding Officer, Naval Training Center(Code 010E)** Telephone : **407-646-4663**
5. Owner Address: **1350 Grace Hopper Ave.**
6. Number of Tanks: a: Installed at this time _____ b: Removed at this time **Three**
7. Tank(s) Manufactured by: **UNKNOWN**
8. Date Work Initiated: **11/1/95** 9. Dated Work Completed: **12/14/95**

Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirement 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 instututions.

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 #	(Filled in by DER)

Certification

I hereby certify and attest that I am familiar with the facility that is registered with the Florida Department of 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 of Testing and Materials (ASTM); Petroleum Equipment Institute (PEI); Steel Tank Institute (STI); Underwriters Laboratory (UL); and the tank and integral piping manufactrers' specifications; and that the operations on the checklist were performed accordingly.

Florida Petroleum Services, Inc.
2078 S Orange Blossom Tr.
Apopka, Fla. 32703

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

PC - C045046
PSSSC Number

Certified Tank Contractor Signature

12-14-95
Date

John Thompson
(Type or Print)
Field Supervisor Name

12-14-95
Date

Field Supervisor Signature

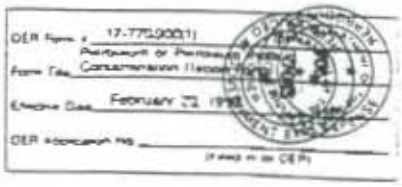
12-14-95
Date

The owner or operator of the facilty 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

PETROLEUM CONTAMINATION REPORT FORM

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



Petroleum or Petroleum Product Contamination Report Form

DER Facility ID: _____

Facility Name: NAVAL TRAINING CENTER

Facility Address: COMMANDER, NAVAL TRAINING CENTER (Code 010E)

1350 Grace Hopper Ave., Orlando FL 32813-8405

County: Orange

Other Names for this Site: Tank #230-A

Contact Person's Name: Mark Stephen Zill

Contact Person's Phone No.: 407-646-4663

Contact Person's Address: COMMANDER, NAVAL TRAINING CENTER (Code 010E)

1350 Grace Hopper Ave., Orlando, FL 32813-8405

Date of Discovery: 15 Nov 95

Type of Product Discharged: Heating Oil

Estimated Amount of Product Lost: Unknown

How did Discharge occur? (Tank leak, Pipe leak, Truck Accident, Explosion, etc.) Tank leak

What has been done to prevent a further Discharge? Tank has been removed.

To the best of my knowledge, all information on this form is true, accurate, and complete.

Signature of Owner, Authorized Representative, Operator

CATHERINE A. BALLINGER
LCDR, CEC, USN PWO
Print Name of Owner or Operator

Date: November 21, 1995

Submit this form to the appropriate district office at the address below

KEEP A COPY OF THIS FORM FOR YOUR RECORDS.

ENCLOSURE (1)

ATTACHMENT E

GROUNDWATER LABORATORY ANALYTICAL REPORTS

Report of Analytical Results
601/602(MOD)-HALOCARB/AROM,STD LIST,W/WW

Date Collected: 12/08/95
Date Received: 12/09/95
Date Extracted: None
Date Analyzed: 12/13/95

Client Sample ID: 033GT101
Lab ReferenceNum: G8894

Sample ID: G8894006
Sample Matrix: Water
Sample Description: 230ATW-1
Dilution: 1.00

Analytical Parameter	CAS/Storet Number	Result	Units	Reporting Level
GC VOLATILES				
Chloromethane	74-87-3	1.0 U	ug/L	1.0
Bromomethane	74-83-9	1.0 U	ug/L	1.0
Dichlorodifluoromethane	75-71-8	1.0 U	ug/L	1.0
Vinyl chloride	75-01-4	1.0 U	ug/L	1.0
Chloroethane	75-00-3	1.0 U	ug/L	1.0
Dichloromethane (Methylene chloride)	75-09-2	5.0 U	ug/L	5.0
Trichlorofluoromethane	75-69-4	1.0 U	ug/L	1.0
1,1-Dichloroethene	75-35-4	1.0 U	ug/L	1.0
1,1-Dichloroethane	75-34-3	1.0 U	ug/L	1.0
trans-1,2-Dichloroethene	156-60-5	1.0 U	ug/L	1.0
Chloroform	67-66-3	1.0 U	ug/L	1.0
1,2-Dichloroethane	107-06-2	1.0 U	ug/L	1.0
1,1,1-Trichloroethane	71-55-6	1.0 U	ug/L	1.0
Carbon tetrachloride	56-23-5	1.0 U	ug/L	1.0
Bromodichloromethane	75-27-4	1.0 U	ug/L	1.0
1,2-Dichloropropane	78-87-5	1.0 U	ug/L	1.0
cis-1,3-Dichloropropene	10061-01-5	1.0 U	ug/L	1.0
Trichloroethene	79-01-6	1.0 U	ug/L	1.0
Dibromochloromethane	124-48-1	1.0 U	ug/L	1.0
1,1,2-Trichloroethane	79-00-5	1.0 U	ug/L	1.0
trans-1,3-Dichloropropene	10061-02-6	1.0 U	ug/L	1.0
Bromoform	75-25-2	1.0 U	ug/L	1.0
1,1,2,2-Tetrachloroethane	79-34-5	1.0 U	ug/L	1.0
Tetrachloroethene	127-18-4	1.0 U	ug/L	1.0
Chlorobenzene	108-90-7	1.0 U	ug/L	1.0
1,3-Dichlorobenzene	541-73-1	1.0 U	ug/L	1.0
1,2-Dichlorobenzene	95-50-1	1.0 U	ug/L	1.0
1,4-Dichlorobenzene	106-46-7	1.0 U	ug/L	1.0
tert-Butyl methyl ether	1634-04-4	1.0 U	ug/L	1.0
Benzene	71-43-2	1.0 U	ug/L	1.0
Toluene	108-88-3	1.0 U	ug/L	1.0
Ethylbenzene	100-41-4	1.0 U	ug/L	1.0
Xylenes (Total)	1330-20-7	1.0 U	ug/L	1.0
Fluorobenzene - SS	462-06-6	97	%rec	

(5278)

Report of Analytical Results

Client Sample ID: 033GT101
Sample Description: 23DATW-1
Sample Matrix: Water
Dilution: 1.00

Date Collected: 12/08/95 (Friday)
Date Received: 12/09/95 (Saturday)
Date Extracted: 12/14/95 (Thursday)
Date Analyzed: 12/18/95 (Monday)

Lab Reference No: G8894
Lab Sample ID: G8894006

Analytical Parameter	CAS or Storet Number	Result	Units	Reporting Level
GC SEMI-VOLATILES				
Acenaphthene	83-32-9	2.0 U	ug/L	2.0
Acenaphthylene	208-96-8	2.0 U	ug/L	2.0
Anthracene	120-12-7	2.0 U	ug/L	2.0
Benzo(a)anthracene	56-55-3	2.0 U	ug/L	2.0
Benzo(a)pyrene	50-32-8	2.0 U	ug/L	2.0
Benzo(b)fluoranthene	205-99-2	2.0 U	ug/L	2.0
Benzo(g,h,i)perylene	191-24-2	2.0 U	ug/L	2.0
Benzo(k)fluoranthene	207-08-9	2.0 U	ug/L	2.0
Chrysene	218-01-9	2.0 U	ug/L	2.0
Dibenzo(a,h)anthracene	53-70-3	2.0 U	ug/L	2.0
Fluoranthene	206-44-0	2.0 U	ug/L	2.0
Fluorene	86-73-7	2.0 U	ug/L	2.0
Indeno(1,2,3-cd)pyrene	193-39-5	2.0 U	ug/L	2.0
1-Methylnaphthalene	90-12-0	2.0 U	ug/L	2.0
2-Methylnaphthalene	91-57-6	2.0 U	ug/L	2.0
Naphthalene	91-20-3	2.0 U	ug/L	2.0
Phenanthrene	85-01-8	2.0 U	ug/L	2.0
Pyrene	129-00-0	2.0 U	ug/L	2.0
2-Fluorobiphenyl - SS	321-60-8	78	%rec	

(5296)

CAL — ITY ANALYTICAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

Project # 8519.54 | Purchase Order #

Project Name: NTC - ORLANDO

Company Name: ABB-ES

Project Manager or Contact & Phone #: JOHN KAISER (407) 895 8845

Report Copy to: MANUEL ALONSO

Requested Completion Date: 12-22-95

Site ID: NTC

Sample Disposal: Dispose [X] Return [ ]

☒ LGN — One Innovation Drive, Suite C, Alachua, FL 32615-9586, (904) 462-3050 FAX (904) 462-1670
☐ LRD — 5090 Caterpillar Road, Redding, CA 96003-1412, (916) 244-5227 FAX (916) 244-4109
☐ LMG — 2567 Fairlane Drive, Montgomery, AL 36116-1622, (334) 271-2440 FAX (334) 271-3428
☐ LKW — Canviro Analytical Laboratories, Inc., 50 Bathurst, Unit 12, Waterloo, Ontario, Canada N2V 2C5, (519) 747-2575 FAX (519) 747-3806

THIS AREA FOR LAB USE ONLY

Lab # F8894 | Page 1 | of 1
Client Service: Rod | Price Source: (A) P Q S
Acct Code: ABB | Test Group:
Project Code: Orlando WO 607 | Ack. Gen.: V
LIMS Ver: | Login: 12/11/95 | Mult.:
COC Review:

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	QC ID (3 CHAR)	# OF CONTAINERS	LEAD / 239.2	TPPH / 418.1	EPA 601/602/MTBE	EPA 601/602/MTBE 12-8-95 MD	PAH / EPA 610	EDB / 504	SAMPLE REMARKS	LAB 1 ID	LAB 2 ID
12-8-95	1030		X	X		018GTT201			1	1	3		1	2		150TW-2	1
12-8-95	1117		X	X		029GTT101			0	0	3		1	0		2012TW-1	2
12-8-95	1200		X	X		031GTT101			0	0	3		1	0		2036BTW-1	3
12-8-95	1230		X	X		032GTT101			0	0	3		1	0		252TW-1	4
12-8-95	1305		X	X		030GTT101			0	0	3		1	0	WELL NOT RECOVERING	246BTW-1	5
12-8-95	1400 DUP of 1305		X	X		033GTT101			0	0	3		1	0	SAMPLE HOT	230ATW-1	6
12-8-95	1515		X	X		034GTT101			0	0	3		0	0		1059-2TW-1	7
12-8-95	~					TB1					3					TRIP BLANK	8
									1	1	24		6	2	TOTALS		

Sampled By & Title: MATT HENNESSY E.E. | Date/Time: 12-8-95 1530
Received By: [signature] | Date/Time: 12/9 AS 1015
Received By: | Date/Time:
Received By: | Date/Time:

Relinquished By: MATT HENNESSY | Date/Time: 12-8-95 1550
Relinquished By: | Date/Time:
Relinquished By: | Date/Time:

Shipped Via: UPS (Fed-Ex) Other | Shipping #: 554377056 9

HAZWRAP/NESSA: Y N
EDATA: Y N
QC LEVEL 1 2 (3) OTHER
pH ✓ | Ice ✓
Custody Seal ✓ | Temp 3°C

Batch Remarks:

F8894

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: Original - LAB, Yellow - LAB, Pink - Client
REV 5/95 LAB FORM 340

APPENDIX C

LITHOLOGIC LOGS

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-1
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8519.51
CONTRACTOR: NA	DATE STARTED: 05-14-96	COMPLTD: 05-14-96
METHOD: Hand auger / CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET. / MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-2
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8519.51
CONTRACTOR: NA	DATE STARTED: 05-14-96	COMPLTD: 05-14-96
METHOD: Hand auger	CASE SIZE: NA / SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA / TOT DPTH: 9 FEET.	DPTH TO ▽ 9 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-3
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 85'9.5'
CONTRACTOR: NA	DATE STARTED: 05-14-98	COMPLTD: 05-14-98
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ∇ 8 FEET
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, well-sorted, tan, dry.				
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-4
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 9510.51
CONTRACTOR: NA	DATE STARTED: 05-14-96	COMPLTD: 05-14-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-5
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-14-98	COMPLTD: 05-14-98
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET	DPTH TO $: 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist, methane odor.		SP		
				<1					
				2					
10									

TITLE: NTC Orlando, Building 230	LOG of WELL: NA		BORING NO. HA-6
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 85951
CONTRACTOR: NA		DATE STARTED: 05-14-96	COMPLTD: 05-14-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				2					
10									

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-7
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 85'9 5'
CONTRACTOR: NA		DATE STARTED: 05-14-98	COMPLTD: 05-14-98
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ∇ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, well-sorted, tan, dry.				
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA		BORING NO. HA-8
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO. 3519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ▽ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.				
				<1					
5									
				24	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-9
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8518.51

CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ∇ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH IN FEET	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.		SP		
				<1					
				<1					
5									
				18	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-10
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 85I9.5'
CONTRACTOR: NA		DATE STARTED: 05-14-96	COMPLTD: 05-14-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO $ 8 FEET
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, well-sorted, dry.				
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.				
				<1			SP		
				<1					
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-11
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ▽ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
					Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.				
				<1					
				<1					
5									
				72	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA		BORING NO. HA-12
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ▽ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.				
				<1					
5									
				100	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-13
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8519.51
CONTRACTOR: NA	DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH IN FEET	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
					Sand, fine-grained, well-sorted, tan, dry.				
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				1					
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-14
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8539.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ▽ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.		SP		
				<1					
				<1					
5				1	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-15
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8510.51

CONTRACTOR: NA	DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 7 FEET.	DPTH TO ∇ NA FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMP'F	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, gray to dark brown, some gravel (backfill), dry.		SP		
				<1					
				<1					
5									
				62	Sand, fine-grained, gray to dark brown, moist, petroleum odor.		SP		
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-16
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-16-96	COMPLTD: 05-16-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
				<1	Sand, fine-grained, well-sorted, tan, dry.				
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist		SP		
				<1					
				2					▽
10									

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-17
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8519.51
CONTRACTOR: NA	DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				2					▽
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA		BORING NO. HA-18
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				1					
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-19
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 6519.51
CONTRACTOR: NA	DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Bulding 230

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				1.5					▽
10									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-20
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 8510.91
CONTRACTOR: NA	DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 8 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA	SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				3					
10									

TITLE: NTC Orlando, Building 230	LOG of WELL: NA	BORING NO. HA-21
CLIENT: SOUTHDIVNAVFACENGCOM		PROJECT NO: 9510.51

CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ∇ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					∇
10									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC Orlando, Building 230	LOG of WELL: NA		BORING NO. HA-22
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

TITLE: NTC Orlando, Building 230		LOG of WELL: NA	BORING NO. HA-23
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 8510.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Donelick	WELL DEVELOPMENT DATE: NA		SITE: Bulding 230

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

TITLE: NTC Criandu, Building 230	LOG of WELL: NA		BORING NO. HA-24
CLIENT: SOUTHDIVNAVFACENGCOM			PROJECT NO: 9519.51
CONTRACTOR: NA		DATE STARTED: 05-15-96	COMPLTD: 05-15-96
METHOD: Hand auger	CASE SIZE: NA	SCREEN INT.: NA	PROTECTION LEVEL: D
TOC ELEV.: NA FEET.	MONITOR INST.: OVA	TOT DPTH: 9 FEET.	DPTH TO ▽ 8 FEET.
LOGGED BY: Scott Dorelick	WELL DEVELOPMENT DATE: NA		SITE: Building 230

DEPTH FT	LABORATORY SAMPLE TC.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, tan, dry.		SP		
				<1					
				<1					
5					Sand, fine-grained, well-sorted, black to brown, moist.		SP		
				<1					
				<1					
10									

TITLE: NTC, ORLANDO, BUILDING 230	LOG of WELL: MW-1		BORING NO. NA
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM			PROJECT NO: 8519.51
CONTRACTOR: GROUNDWATER PROTECTION, INC.		DATE STARTED: 02-12-96	COMPLTD: 02-12-96
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 5-15 FEET	PROTECTION LEVEL: D
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 15 FEET.	DPTH TO ∑ 7 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 02-12-96		SITE: BUILDING 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, brown to gray, dry.		SP		
5					Sand, fine-grained, well-sorted, tan to brown, wet.		SP		
10									
15									
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC, ORLANDO, BUILDING 230	LOG of WELL: MW-2	BORING NO. NA
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 8519.01
CONTRACTOR: GROUNDWATER PROTECTION, INC.	DATE STARTED: 02-12-96	COMPLTD: 02-12-96
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 6.5-16.5
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 16.5 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 02-12-96	SITE: BUILDING 230

DEPTH FT.	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand, fine-grained, well-sorted, brown, some concrete fill, dry.		SP		
					Sand, fine-grained, well-sorted, tan to brown, dry.		SP		
					Sand, fine-grained, well-sorted, brown, saturated.		SP		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NTC, ORLANDO, BUILDING 230	LOG of WELL: MW-3	BORING NO. NA
CLIENT: U.S. NAVY, SOUTHNAVFACENGCOM		PROJECT NO: 8519.51
CONTRACTOR: GROUNDWATER PROTECTION, INC.	DATE STARTED: 02-12-96	COMPLTD: 02-12-96
METHOD: 4.25-INCH ID HSA	CASE SIZE: 2-INCH	SCREEN INT.: 5-15 FEET	PROTECTION LEVEL: D
TOC ELEV.: NM FEET.	MONITOR INST.: OVA	TOT DPTH: 15 FEET.	DPTH TO ▽ 7 FEET.
LOGGED BY: S. DONELICK	WELL DEVELOPMENT DATE: 02-12-96	SITE: BUILDING 230

DEPTH	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0					Sand, fine-grained, well-sorted, brown to gray, dry.		SP		
5					Sand, fine-grained, well-sorted, tan to brown, wet.		SP		
10									
15									
20									

ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX D

WELL CONSTRUCTION DETAILS

WELL COMPLETION LOG

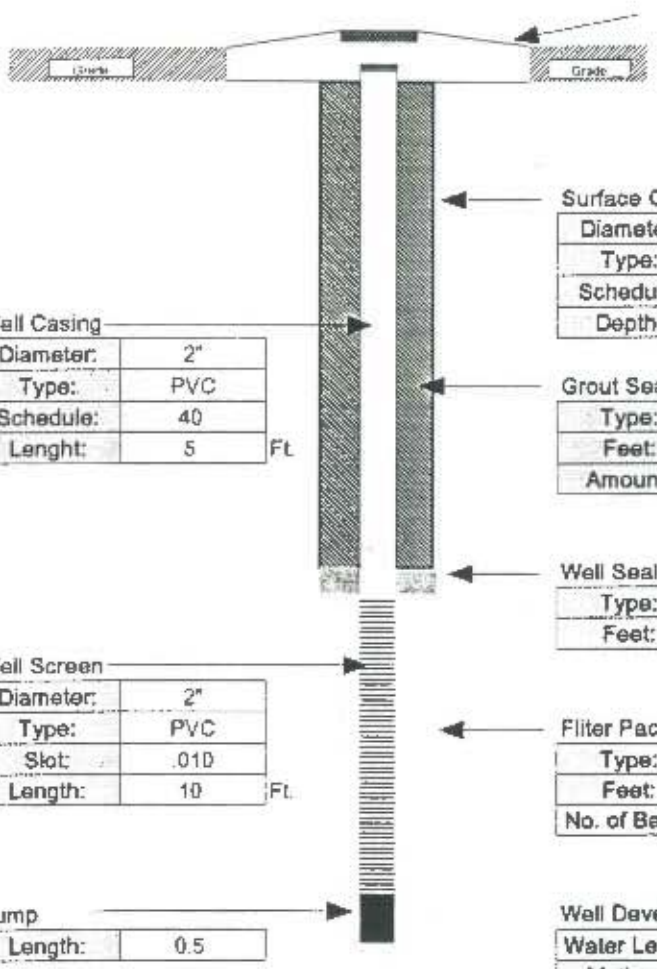
Water Mgmt. Dist.: St. Johns
Permit Number:

Work Order: 5936
Type of Well: Monitor
Well Number: 230A MW1
Method Used: HSA 4¼"
Borehole Dia.: 8"

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

Client / Consultant Information
Consultant: ABB Environmental Services
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	15	10	5	1	6/50lb	20/30	30/65
40 ◄	Schedule	Slot Size: ►	.010		3	◄ Feet ►	11	1



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Lenght:	5 Ft.

Grout Seal

Type:	II Portland
Feet:	3
Amount:	1 Bags

Well Seal

Type:	30/65
Feet:	1

Well Screen

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

Fliter Pack

Type:	20/30
Feet:	11
No. of Bags:	6/50lb

Sump

Length:	0.5

Well Development

Water Level:			
Method:	Honda		
Start: ►	Dark	Finish: ►	Cloudy
Time:	30 Minutes		
GPM:			

Contractor Information

Contractor #:	2633
Completion:	02/12/96
Driller:	Charles Bucher
Lead Hand:	Scott Robinson
3rd Man:	Robert Detweiler
Drill Rig:	D120C

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

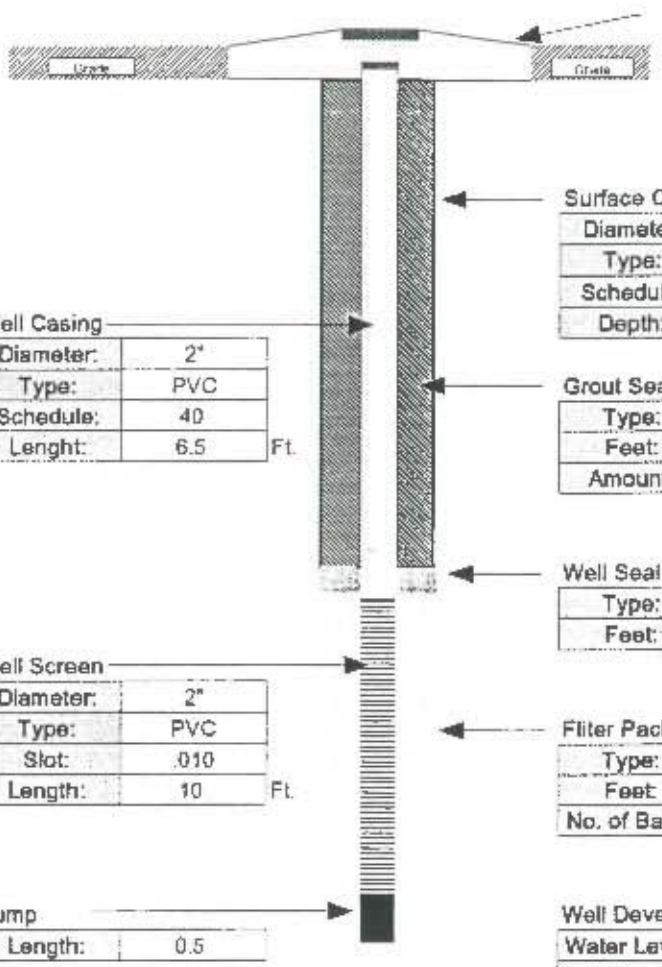
WELL COMPLETION LOG

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

Work Order: 5936
Type of Well: Monitor
Well Number: 230A MW2
Method Used: HSA 4¼"
Borehole Dia. 8"

Site Information:
Name: NTC
Address:
C,S,Z: Orlando, Florida
S/T/R:
Client / Consultant Information
Consultant: ABB Environmental Services
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	16.5	10	6.5	2	6/50lb	20/30	30/65
40 ←	Schedule	Slot Size: ►	.010		4	← Feet ►	11.5	1



Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Lenght:	6.5 Ft.

Grout Seal

Type:	II Portland
Feet:	4
Amount:	2 Bags

Well Seal

Type:	30/65
Feet:	1

Well Screen

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

Filter Pack

Type:	20/30
Feet:	11.5
No. of Bags:	6/50lb

Sump

Length:	0.5

Well Development

Water Level:			
Method:	Honda		
Start: ►	Dark	Finish: ►	Cloudy
Time:	30 Minutes		
GPM:			

Contractor Information

Contractor #:	2633
Completion:	02/12/96
Driller:	Charles Bucher
Lead Hand:	Scott Robinson
3rd Man:	Robert Detweiler
Drill Rig:	D120C

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

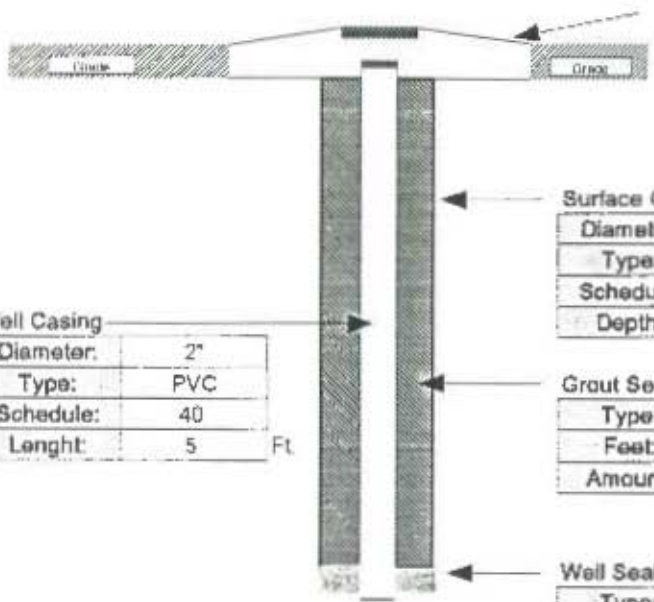
WELL COMPLETION LOG

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

Work Order: 5936
Type of Well: Monitor
Well Number: 230A MW3
Method Used: HSA 4¼"
Borehole Dia. 8"

Site Information:
Name: NTC
Address:
C,S,Z: Orlando, Florida
S/T/R:
Client / Consultant Information
Consultant: ABB Environmental Services
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	15	10	5	1	6/50lb	20/30	30/65
40 ← Schedule		Slot Size: →	.010		3	← Feet →	11	1



Surface Completion
Flush

Surface Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Intermediate Casing

Diameter:	
Type:	
Schedule:	
Depth:	

Well Casing

Diameter:	2"
Type:	PVC
Schedule:	40
Lenght:	5 Ft.

Grout Seal

Type:	II Portland
Feet:	3
Amount:	1 Bags

Well Seal

Type:	30/65
Feet:	1

Well Screen

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

Filter Pack

Type:	20/30
Feet:	11
No. of Bags:	6/50lb

Sump

Length:	0.5

Well Development

Water Level:			
Method:	Honda		
Start: →	Dark	Finish: →	Cloudy
Time:	30 Minutes		
GPM:			

Contractor Information

Contractor #:	2633
Completion:	02/12/96
Driller:	Charles Bucher
Lead Hand:	Scott Robinson
3rd Man:	Robert Dotweiler
Drill Rig:	D120C

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 E

GROUNDWATER LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORM

BUILDING NUMBER 230
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292001				MA292002				MA292003				G8894006			
Site	230				230				230				230			
Locator	033GM101/230A MW-1				033GM201/230A MW-2				033GM301/230A MW-3				033GT101			
Collect Date:	19-FEB-96				19-FEB-96				19-FEB-96				08-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
EDB																
Ethylene dibromide	.02	U	ug/l	.02	.02	U	ug/l	.02	.02	U	ug/l	.02	-			
EPA 601/602																
Chloromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Bromomethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Dichlorodifluoromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Vinyl chloride	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Methylene chloride	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichlorofluoromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,1-Dichloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,1-Dichloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
trans-1,2-Dichloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chloroform	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,1,1-Trichloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Carbon tetrachloride	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Bromodichloromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichloropropane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
cis-1,3-Dichloropropene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Trichloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Dibromochloromethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,1,2-Trichloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
trans-1,3-Dichloropropene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Bromoform	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,1,2,2-Tetrachloroethane	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Tetrachloroethene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,3-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,2-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
1,4-Dichlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Methyl tert-butyl ether	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Benzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Toluene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Xylenes (total)	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
o-Xylene	-				-				-				-			
m,p-Xylene	-				-				-				-			
LEAD																
Lead	29.5		ug/l	3	103		ug/l	30	61.2		ug/l	30	-			
PNA COMPDS																
Naphthalene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
2-Methylnaphthalene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
1-Methylnaphthalene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Acenaphthylene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Acenaphthene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Fluorene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2

BUILDING NUMBER 230
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292001				MA292002				MA292003				G8894006			
Site	230				230				230				230			
Locator	033GM101/230A MW-1				033GM201/230A MW-2				033GM301/230A MW-3				033GT101			
Collect Date:	19-FEB-96				19-FEB-96				19-FEB-96				08-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Phenanthrene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Anthracene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Fluoranthene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Pyrene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Benzo (a) anthracene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Chrysene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Benzo (b) fluoranthene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Benzo (k) fluoranthene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Benzo (a) pyrene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Indeno (1,2,3-cd) pyrene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Dibenzo (a,h) anthracene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Benzo (g,h,i) perylene	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
TOTAL PETROLEUM HYDROCARBON																
Total petroleum hydrocarbon	.05	<	mg/l	.05	.05	<	mg/l	.05	.05	<	mg/l	.05	-			

BUILDING NUMBER 230
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292008
Site	230
Locator	TRIPBLANK
Collect Date:	19-FEB-96

	VALUE	QUAL	UNITS	DL
EDB				
Ethylene dibromide	-			
EPA 601/602				
Chloromethane	1	U	ug/l	1
Bromomethane	1	U	ug/l	1
Dichlorodifluoromethane	1	U	ug/l	1
Vinyl chloride	1	U	ug/l	1
Chloroethane	1	U	ug/l	1
Methylene chloride	5	U	ug/l	5
Trichlorofluoromethane	1	U	ug/l	1
1,1-Dichloroethene	1	U	ug/l	1
1,1-Dichloroethane	1	U	ug/l	1
trans-1,2-Dichloroethene	1	U	ug/l	1
Chloroform	1	U	ug/l	1
1,2-Dichloroethane	1	U	ug/l	1
1,1,1-Trichloroethane	1	U	ug/l	1
Carbon tetrachloride	1	U	ug/l	1
Bromodichloromethane	1	U	ug/l	1
1,2-Dichloropropane	1	U	ug/l	1
cis-1,3-Dichloropropene	1	U	ug/l	1
Trichloroethene	1	U	ug/l	1
Dibromochloromethane	1	U	ug/l	1
1,1,2-Trichloroethane	1	U	ug/l	1
trans-1,3-Dichloropropene	1	U	ug/l	1
Bromoform	1	U	ug/l	1
1,1,2,2-Tetrachloroethane	1	U	ug/l	1
Tetrachloroethene	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1
1,3-Dichlorobenzene	1	U	ug/l	1
1,2-Dichlorobenzene	1	U	ug/l	1
1,4-Dichlorobenzene	1	U	ug/l	1
Methyl tert-butyl ether	1	U	ug/l	1
Benzene	1	U	ug/l	1
Toluene	1	U	ug/l	1
Chlorobenzene	1	U	ug/l	1
Ethylbenzene	1	U	ug/l	1
Xylenes (total)	1	U	ug/l	1
o-Xylene	-			
m,p-Xylene	-			

BUILDING NUMBER 230
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292008			
Site	230			
Locator	TRIPBLANK			
Collect Date:	19-FEB-96			
	VALUE	QUAL	UNITS	DL
LEAD				
Lead	-			
PNA COMPDS				
Naphthalene	-			
2-Methylnaphthalene	-			
1-Methylnaphthalene	-			
Acenaphthylene	-			
Acenaphthene	-			
Fluorene	-			
Phenanthrene	-			
Anthracene	-			
Fluoranthene	-			
Pyrene	-			
Benzo (a) anthracene	-			
Chrysene	-			
Benzo (b) fluoranthene	-			
Benzo (k) fluoranthene	-			
Benzo (a) pyrene	-			
Indeno (1,2,3-cd) pyrene	-			
Dibenzo (a,h) anthracene	-			
Benzo (g,h,i) perylene	-			
TOTAL PETROLEUM HYDROCARBON				
Total petroleum hydrocarbon	-			

BUILDING NUMBER 230 ---- NITS TABLE ------
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292001				MA292002				MA292003				G8894006			
Site	230				230				230				230			
Locator	033GM101/230A MW-1				033GM201/230A MW-2				033GM301/230A MW-3				033GT101			
Collect Date:	19-FEB-96				19-FEB-96				19-FEB-96				08-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
LEAD																
Lead	29.5		ug/l	3	103		ug/l	30	61.2		ug/l	30	-			
TOTAL PETROLEUM HYDROCARBON																
Total petroleum hydrocarbon	.05	<	mg/l	.05	.05	<	mg/l	.05	.05	<	mg/l	.05	-			

BUILDING NUMBER 230 ---- HITS TABLE ------
NTC ORLANDO FLORIDA MAIN BASE

Lab Sample Number:	MA292008		
Site	230		
Locator	TRIPBLANK		
Collect Date:	19-FEB-96		
VALUE	QUAL UNITS	DL	

LEAD			
Lead	-		
TOTAL PETROLEUM HYDROCARBON			
Total petroleum hydrocarbon	-		

QUALITY ANALYTICAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

Project # 8519-54

Purchase Order #

Project Name: NTC Orlando TMP

Company Name: ABB Environmental Services, Inc.

Project Manager or Contact & Phone #: John Kaiser 407-895-8845

Report Copy to: Manuel Alonso

Requested Completion Date: 3-10-96

Site ID: NTC Orlando

Sample Disposal: Dispose [X] Return [ ]

☐ LGN — One Innovation Drive, Suite C, Alachua, FL 32615 9586, (904) 462-3050 FAX (904) 462-1670

☐ LRD — 5090 Caterpillar Road, Redding, CA 96003-1412, (916) 244-5227 FAX (916) 244-4109

☒ LMG — 2567 Fairlane Drive, Montgomery, AL 36116-1622, (205) 271-2440 FAX (205) 271-3428

☐ LKW — Canviro Analytical Laboratories, Inc., 50 Bathurst, Unit 12, Waterloo, Ontario, Canada N2V 2C5, (519) 747-2575 FAX (519) 747-8809

THIS AREA FOR LAB USE ONLY

Lab # MA292 | Page | of

Client Service | Price Source A P Q S

Acct Code HCE & HAE1 | Test Group

Project Code | Date Due 3/4/96 | Ack. Gen.

QC Level 1 | Analysis Area | Login | Mult.

Report to Lisa Evans/LMG | COC Review | Data Entry

Ship # FX | Lab 279 0623 835

ANALYSES REQUESTED

Sampling Date	Sampling Time	Type COMP	Type GRAB	Matrix WATER	Matrix SOIL	CLIENT SAMPLE ID (9 CHARACTERS)	QC ID (3 CHAR)	# OF CONTAINERS	EPA 418.1/TRAH	EPA 239.2/LEAD	EDB	EPA 602+MTBE	EPA 601	EPA 610	REMARKS	LAB 1 ID	LAB 2 ID
2-19-96	1102		X	X		03360M101		12	1	1	2	3	3	2	230A MW-1	001	
	1128		X	X		03360M201		12	1	1	2	3	3	2	230A MW-2	002	
	1010		X	X		03360M301		12	1	1	2	3	3	2	230A MW-3	003	
	150		X	X		01460M101		12	1	1	2	3	3	2	218A MW-1	004	
	1400		X	X		01360M101		12	1	1	2	3	3	2	218 MW-1	005	
	1340		X	X		01360M201		12	1	1	2	3	3	2	218 MW-2	006	
↓	1307		X	X		01360M301		12	1	1	2	3	3	2	218 MW-3	007	
				X		TRIP BLANK		3				3 (601+602)			TRIP BLANK	008	

Sampled By & Title (Please sign and print name): Scott Donelick (FOL) — Date/Time 1500 2-19-96

Received By (Please sign and print name) — Date/Time

Received By: Stan Clapp — Date/Time 2/20/96 0930

Received By (Please sign and print name) — Date/Time

Relinquished By (Please sign and print name): Scott Donelick (Scott Donelick) — Date/Time 1700 2-19-96

Relinquished By (Please sign and print name) — Date/Time

Relinquished By (Please sign and print name) — Date/Time

Shipped Via: UPS (Fed-Ex) Other — Shipping # 875741253Z

HAZWRAP/NESSA: Y (N)

EDATA: (Y) X

QC LEVEL (1) 2 3 OTHER

pH 6.06 | Ice ya

Custody Seal ya | Temp 4°C

Batch Remarks:

Instructions and Agreement Provisions on Reverse Side

890000

Addendum 3

Contamination Assessment Report, Building 230