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CONTAMINATION ASSESSMENT REPORT TANK 245 NS MAYPORT FL
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BHATE ENVIRONMENTAL ASSOCIATES, INC.

NAVAL STATION MAYPORT
MAYPORT, FLORIDA
BHATE PROJECT NO: 9970058
BHATE COMPQAP NO:970052G

CONTAMINATION ASSESSMENT REPORT
TANK SITE 245

Prepared for:

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SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
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BEA PROJECT NO.: 9970058

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1.0 INTRODUCTION

Bhate was engaged, under Contract Number N62467-96-D-0976, to perform a contamination assessment of the Naval Station Mayport Tank Site 245. The work has involved characterization of soil and groundwater contamination caused by petroleum product releases from the tank system. The site assessment was conducted in two phases, during May through July of 1997. Work elements included:

PHASE I

- Collection of soil samples, utilizing a Geoprobe soil sampler.
- Headspace analysis of Geoprobe soil samples, to determine the extent of soil contamination.
- Collection of groundwater samples for screening purposes, utilizing Geoprobe slotted sampling rods.
- Laboratory analyses of soil samples for petroleum hydrocarbons, using the FL-PRO method.
- Screening of groundwater samples for petroleum compounds, utilizing a portable field gas chromatograph (GC) unit.

PHASE II

- Installation of permanent monitoring wells, utilizing a hollow stem auger rig, to verify the lateral extent of petroleum contamination.
- Collection of groundwater samples for laboratory analyses.
- Collection of water-level data, to determine the direction of groundwater movement.
- Performance of slug tests, to estimate aquifer hydraulic conductivity.
- Completion of a potable water well survey.

The work presented in this contamination assessment report was performed in compliance with Chapter 62-770, Florida Administrative Code (FAC) and Florida Department of Environmental Protection (FDEP) "Guidelines for Assessment and Remediation of Petroleum Contaminated Soil" and "Guidelines for the Preparation of Contamination Assessment Reports for Petroleum Contaminated Sites."

2.0 BACKGROUND

2.1 Location and Area of Investigation

The subject site is located at the Mayport Naval Station in Mayport, Florida (Figure 1). A 2,000-gallon underground storage tank (UST) that had contained fuel oil was removed from a location adjacent to Building 245.

The UST was located adjacent to an electrical switch room and a wing of Building 245 (Figure 2). Piping from the UST traveled approximately 20 feet underground, before entering the building. The ground in the immediate area of the former UST pit is not covered. The surface between Building 245 and the switch room is covered with an eight (8) inch concrete pad. The ground surface at the assessment site is relatively flat, but slopes slightly northward. Access to the former UST location is restricted by a wooden board walkway and wooden fencing. Surface water drainage is through surface drainage ditches. Some water does remain ponded at several low areas near the site following heavy rains.

2.2 Underground Utilities

Prior to beginning subsurface exploration, the Naval Public Works Center was contacted to determine the location of underground utilities. Site plans with utility locations were also obtained. Finding the utility lines was necessary for precautionary purposes, prior to subsurface exploration. It also served to indicate whether any underground lines might act as contaminant migration pathways. A sanitary sewer is the only underground utility identified in the immediate area of UST (Figure 2). No utilities cross the former UST location.

2.3 Site History

In April 1995, UST-245 was removed by excavation. The fuel oil supply and return piping were also removed. It was reported that groundwater was not encountered during the excavation. However, both soil and groundwater were believed to be contaminated according to the U.S. Navy. A headspace analysis of soils from the pit detected elevated petroleum concentrations. Contamination was encountered along the north excavation wall, at depths of three and six feet. Contaminated soils were measured on the south, east, and west side walls, at depths of about six feet. No over excavation of contaminated soils was conducted.

A replacement UST was installed at a location approximately twenty feet from the excavated UST (Figure 2). Double wall piping was also installed and does not cross the old tank pit area. The new UST was installed with overfill protection and leak detection.

3.0 SITE CHARACTERIZATION

3.1 Physiography

Duval County topography is gently variable to flat, being dominated by a series of ancient marine terraces (Cooke, 1945; Leve, 1966; Fairchild, 1972). These features formed during the Pleistocene, as declining sea levels caused the progressive emergence of off-shore sea floor. The terraces trend parallel to the present Atlantic shoreline and become higher to the west. The Mayport Naval Station contains areas categorized as Silver Bluff Terrace and Pamlico Terrace. Elevations are generally less than about twelve feet above mean sea level (MSL). The site lies at the mouth of the St. Johns River, in the Eastern Valley geomorphological division of the northern Florida Coastal Lowlands (Puri and Vernon, 1964; White, 1970; Scott, 1992).

3.2 Regional Hydrogeology

Portions of three major aquifer systems underlie northern Florida. The Surficial system and the Floridan system are regionally important aquifers along the entire South Carolina-Georgia-Florida coast. The Southern Coastal Plain aquifer is thought to extend into Nassau and Duval Counties from widespread occurrences further north. The following remarks were summarized from information provided by Leve (1966), Krause and Randolph (1989), and Miller (1990).

Rocks of the Surficial aquifer system are late Miocene to Holocene in age and generally contain water under unconfined conditions. Constituent beds are primarily unconsolidated sand, shelly sand, and shell. Northeastern Florida accumulations are typically less than fifty feet, although thicknesses up to 150 feet are known in eastern St. Johns County. Most of the groundwater taken from this system goes for public supply or domestic/commercial uses.

The Floridan system is one of the most productive aquifers in the world. Average freshwater withdrawals in 1988 exceeded three billion gallons per day. Floridan rocks are Paleocene to Miocene series Tertiary carbonates. Northeastern Florida constituent formations contain groundwater under confined conditions and range in thickness between 1,400 and 2,300 feet. Floridan units underlie the Surficial system and are separated from it by a clay-rich confining layer of variable thickness. In most places, the system can be divided into Upper and Lower Floridan aquifers. A second, less-permeable confining unit intervenes between the two.

The Southeastern Coastal Plain aquifer system consists of regional aquifers that are composed primarily of Cretaceous to late Tertiary clastic rocks. At some localities, it lies below the Floridan system. At others, it grades laterally into the Floridan. Both the Surficial and Floridan aquifers are known to underlie Duval County. Elements of the Southeastern Coastal Plain system may also be present.

3.3 Site Hydrogeology

Surface soils in the former UST area are grassed and consist of well-sorted fine sand, with minor amounts of silt and organic material. Visual characterization of soil samples collected during Geoprobe and monitoring well installation indicate that the soils above the water table consist of a brown to light tan, loose, well-sorted, well-rounded, quartz fine sand with varing amounts of shell fragments. At approximately four feet below the land surface (bls), a light gray, firm, moist to wet, fine sand with shell fragments was encountered and was prominent to boring termination at approximately 13.5 feet. An interval of sand with clay was encountered within boring location 245-MW-4. The clay does not extend across the site.

During probe activities, saturated soil conditions were encountered at depths varing across the site from 3.5 to 6 feet, bls.

3.4 Well Inventory

A total of five wells are utilized at Naval Station Mayport. Four wells (N-1 through N-4) are used for potable water and one well (D-236) is used for irrigation. Information about and locations of the wells were provided by the Environmental Division of the Mayport Naval Station. A summary of potable well data is provided in Table 1.

Well locations relative to site UST-245 are provided on Figure 3. There are no potable water wells within 1/4 mile of the site. Two wells, N-3 and D-236 are within 1/2 mile of the UST 245 site. Well N-3 is approximately 2,500 feet and well D-236 is approximately 1,700 feet from the site. All other potable wells are greater than 1/2 mile from the subject site.

Groundwater contaminant does not pose a threat to the potable or irrigation supply wells. The wells are screened within deeper groundwater aquifers, at depths greater than 419 feet below the ground surface.

4.0 SITE ASSESSMENT METHODS

4.1 Soil Test Probes

As part of the initial phase of the assessment, eight soil test probes (S-1 through S-8) were installed on May 6 and 7, 1997 (Figure 4). The test probes were installed at specific locations to aid in determining the extent of petroleum contamination impact to soil and groundwater in the vicinity of the former UST. The test probes were installed utilizing a Geoprobe ATV direct push sampling system, equipped with a hydraulic hammer. The Geoprobe soil sampler consists of a hollow steel 1.5 inch outside diameter soil sampler, attached to one-inch steel probe rods. A reusable decontaminated Teflon sample liner was placed inside the soil sampler, prior to collection of each soil sample. The soil sampler is driven to the designated sample depth using the hydraulic hammer. After reaching the sample depth, the soil sampler is opened and the sampling tube is driven an additional two feet to collect a continuous soil sample. The rods and sampling tube are then retrieved from the boring. Drill cuttings are not generated using the Geoprobe System.

Two soil samples were collected from each of the borings and examined in the field by a geologist for visual and olfactory evidence of petroleum hydrocarbons. Samples were collected at depths of one to three feet and four to six feet bls. The soil borings were terminated at depths of six feet below the surface. One boring location was extended to fourteen feet bls, for soil characterization purposes.

Following retrieval, the soil samples were transferred from the Teflon liners into clean, laboratory supplied glass jars. The jars were covered with aluminum foil and allowed to stabilize for five minutes. A flame ionization detector (FID) was used to field screen the soil gas headspace of each soil sample for organic vapors. Carbon filters were used on the Organic Vapor Analyzer (OVA) to aid in distinguishing naturally occurring methane from hydrocarbon vapors.

Soil samples collected from four to six feet bls, which is the approximate groundwater capillary fringe were submitted for laboratory analysis. Soil samples submitted for analysis were contained in laboratory supplied clean glass jars, sealed with Teflon-lined lids, and cooled to approximately 4°C. All soil samples were delivered under chain-of-custody to V.O.C. Analytical Laboratories in Boca Raton, Florida for analyses. Soil samples were analyzed for the following parameter:

- Florida Petroleum Residual Organics (FL-PRO) - Method TPH (C8 - C40)

4.2 Geoprobe Groundwater Sample Collection

On May 6 and 7, 1997, groundwater samples from each soil sampling location were analyzed, in order to screen locations for permanent monitoring wells. One additional groundwater sample was collected at location S-9, on May 15, 1997. The groundwater samples were taken by advancing a slotted Geoprobe rod into the uppermost water-bearing zone. Prior to groundwater sample collection, a peristaltic pump was used to purge approximately three well volumes of groundwater from the slotted rod. A groundwater sample was then immediately collected from the slotted rod, utilizing a decontaminated stainless steel bailer. Groundwater samples were placed on wet ice and transported to a mobile Gas Chromatograph (GC) located near the site. The samples were analyzed for BTEX.

4.3 Monitoring Well Installation and Development

Soil and groundwater analytical results from the Geoprobe investigation were reviewed and utilized in placement of permanent monitoring wells at the site. The estimated direction of groundwater movement was expected to be to the northeast. On May 30, 1997, groundwater monitoring wells were installed at five locations (Figure 4). The monitoring wells were completed at approximate depths of 13 to 13.5 feet bgs. Monitoring well construction logs are contained in Appendix A. Pertinent data on monitoring wells can also be found in Table 2.

Drilling was conducted with a truck-mounted drill rig equipped with 4¼ inch (ID), continuous flight, hollow stem augers. The wells were constructed of 2-inch diameter flush-threaded Schedule 40 PVC pipe, with ten feet of 0.01-inch slotted screen. Construction began by advancing the augers to the designated depth. The casing and screen were placed inside, driving the end plug from the augers. The annular space around the screen was filled with 20/30 grade filter sand, as the augers were removed. Due to the shallow depth of groundwater, the sand pack extended to approximately one foot above the top of the well screen. The upper surface of the sand pack was sealed with bentonite pellets. The thickness of the bentonite seal was approximately 0.5 to 1.0 feet. The bentonite pellets were hydrated with potable water, prior to introducing grout into the borehole. The annular space above the bentonite seal was grouted to the ground surface. Approximately 1.5 feet of grout was placed within the annulus above the bentonite to the ground surface. A steel manhole assembly was placed over each completed well and secured in the grout column. The PVC well casings were fitted with lockable expansion caps and the caps were secured with padlocks. A flush mounted, two foot concrete pad was completed at the ground surface of each well.

Representative composite samples of auger cuttings were collected during drilling activities and FID headspace analyses were conducted on each. Results of the headspace analyses were utilized in soil disposal. Soils with headspace analyses of less

than 50 ppm were spread on site. Soils collected from MW-4 gave readings of 68 ppm and were disposed as petroleum contaminated waste.

The monitoring wells were developed on June 6, 1997, by purging with a 2-inch submersible Geopump. The device was decontaminated between each well development. The wells were developed until they were relatively clear of fine-grained sediment.

4.4 Monitoring Well Groundwater Sampling

Groundwater samples were collected from each monitoring well on June 10, 1997. To ensure a representative groundwater sample, each well was purged prior to sampling. Decontaminated Teflon bailers were used to purge each well. Purging continued until three well volumes had been removed, or until subsequent stabilization of field parameters had occurred. Copies of the Water Sampling Logs are provided in Appendix B. Water in each well was allowed to return to equilibrium depth, prior to sample collection.

Groundwater samples were collected with the Teflon bailer utilized for purging. Prior to sample collection, each monitoring well was examined for the presence of separate phase petroleum hydrocarbons (free product). Field observations did not indicate the presence of free product in the groundwater collected from any of the wells. Groundwater samples collected from each monitoring well were placed in appropriate containers, cooled on ice, and transported under chain-of-custody to V.O.C Analytical Laboratories. Groundwater samples were analyzed for Purgeable Aromatic Hydrocarbons by EPA Method 602 , for Polynuclear Aromatic Hydrocarbons (PAH) by Method 8270 and for Lead by Method 6010A

Groundwater evacuated during development and sampling of the monitoring wells was contained in 55-gallon drums. The water was disposed of as petroleum contaminated waste through the oily-waste treatment system at the Mayport Naval Station.

4.5 Groundwater Flow Direction and Gradient

All wells were located with respect to horizontal and vertical data. The survey was supervised and certified by a Registered Land Surveyor. All elevations are referenced to mean sea level (msl).

Groundwater levels were measured on June 10, 1997 and July 24, 1997. Water level measurements were obtained with an electronic water level indicator. Each was taken to the nearest 0.01 foot and is referenced to a point on top of the well casing. Relative groundwater elevations were calculated and are summarized in Table 2.

The elevations were used to prepare water table contour maps (Figure 5 and Figure 6). As indicated on the figures, the directions of groundwater migration are substantially the same on each of the two dates of measurement. Radial flow from an area just east of the former UST location is indicated.

The groundwater flow direction is estimated from flow lines drawn perpendicular to the elevation contours. The hydraulic gradient of the groundwater was determined by calculating the difference in elevation between two data points on the map and dividing the elevation difference by the distance between the two points. The hydraulic gradient to the north was approximately 0.008 ft/ft on July 24, 1997.

4.6 Slug Test Hydraulic Conductivity

The hydraulic conductivity has been estimated to evaluate aquifer characteristics at the subject site. One hydraulic conductivity test was conducted at the UST 245 site. Ten additional slug tests have been conducted at other UST contamination assessment sites across the Naval Station, with similar soil and hydraulic conditions. Two tests were conducted at the Fuel Farm. The UST slug test locations are indicated on Figure 7. From this data, hydraulic conductivities have been calculated and are presented in Table 3. Test results from across the Naval Station are included in Appendix E.

An aquifer slug test was performed in monitoring well 245-MW-3, on June 14, 1997. The test provided data used for the estimation of hydraulic conductivity of soils around the wells.

In slug tests, the groundwater level is raised or lowered and the water levels in the well are measured for a period of time following the initial change in water level. The procedures involved the following:

1. The depth to water in the monitoring well was recorded.

2. A Solinst Levelogger pressure transducer was lowered within the well to a depth slightly above the well bottom.

3. A section of solid PVC pipe was lowered into the well, causing the water level within the monitoring well to rise. Depths to water at specific time intervals were recorded by the pressure transducer until the water level reached the original static level.

5. The PVC pipe was removed from the well, causing the water level in the well to fall. Rising depths to water were recorded, until the water level reached the original static level.

The data obtained in the procedures outlined above were evaluated using methods described by Bouwer and Rice for estimation of hydraulic conductivity, k. The analysis is among those included in Appendix E.

Using gradient values (dh/dl), the hydraulic conductivity (k) and effective porosity (n), Darcy's Law can be used to estimate the seepage velocity. This is the rate at which groundwater moves through soil pore spaces. The average gradient across the area of study was determined to be 0.008 ft/ft based on the Figure 6 water table. The estimated effective porosity of the soils as described in the boring logs is approximately 30 %. Using these values and a geometric mean k value for all sites of 2.82×10^{-4} ft./sec, the seepage velocity was estimated to be:

$$V_s = \frac{2.82 \times 10^{-4} * 0.008 * 31536000}{0.3}$$

$$= 237 \text{ ft/year.}$$

This rate provides an upper estimate of the possible distance traveled by a release. It should not be interpreted as an actual flow rate of any plume contaminants which might be present.

5.0 RESULTS OF THE CONTAMINATION ASSESSMENT

5.1 Soil Analytical Results

The results of the OVA headspace analysis of soil samples taken during contamination assessment are shown in Table 4. A reconnaissance of the soil samples collected from one to three feet bls and above the groundwater table indicate that soil contamination (OVA results > 50 ppm for kerosene group contaminants) exists on site (Figure 8). An elevated OVA headspace reading of 68 ppm was detected in soil sample S-1 which was collected approximately eight feet north of the former UST location.

A summary of FL-PRO laboratory analytical results is presented in Table 5. Copies of the laboratory analytical reports and chain-of-custody records are provided in Appendix C. A reconnaissance of soil samples collected from the groundwater capillary fringe detected elevated FL-PRO concentrations at sample locations S-1, S-2 and S-3 (Figure 8). A cross section depicting the extent of soil contamination is provided on Figure 9. The FL-PRO concentrations are above the 2,500 ppm Maximum Contaminant Level (MCL) as established within Chapter 62-770 F.A.C. for the direct exposure industrial scenario that pertains at this location.

5.2 Gas Chromatograph Screening Results

Gas Chromatograph screening results of groundwater samples collected from the slotted probe rods are summarized in Table 6. BTEX results are indicated on Figure 10. The GC results indicated elevated BTEX concentrations at sample locations S-1. S-2, S-3 and S-6. All other sample locations were below the instrument detection limit of 1 ppb. Note that Geoprobe sampling location S-9 was advanced strictly for the purpose of obtaining a Geoprobe groundwater sample at that location. Soils were not taken from location S-9.

5.3 Monitoring Well Groundwater Analytical Results

A summary of laboratory analytical results for groundwater samples collected from the permanent monitoring wells is presented in Table 7. Copies of the laboratory analytical reports and chain-of-custody records are provided in Appendix D. Free product was not noted in any of the wells.

Results of the groundwater analyses indicated concentrations of BTEX constituents above the regulatory limits at monitoring well location 245-MW-4. Benzene was detected at 6.5 parts per billion (ppb), which is above the Primary Guidance Standard Maximum Contaminant Level (MCL) of 1.0 ppb. Ethylbenzene and Xylenes were detected at concentrations below the MCL. BTEX constituents were not detected in any of the other wells installed at the site.

PAH constituents were also detected at well 245-MW-4. Naphthalene exceeded the regulatory limit with a concentration of 33 ppb. All other PAH constituents were less than the regulatory limit PAH constituents were not detected at any of the other monitoring well locations.

Lead concentrations were detected above the regulatory limit of 0.015 ppm at well locations MW-2 and MW-5. Similar lead concentrations were detected within groundwater samples collected at other UST sampling locations at the Mayport Naval Station. The elevated values may be a result of the sampling method employed. Samples were not filtered or collected by the quiescent sampling technique.

The approximate extent of groundwater petroleum contamination, based on laboratory analyses of monitoring wells, is shown on Figure 11.

6.0 QUALITY ASSURANCE/QUALITY CONTROL

BHATE maintained a stringent QA/QC program for all activities from data acquisition through report preparation in accordance with Comprehensive Quality Assurance Plan #970052G. All appropriate Geoprobe drilling and sampling equipment was decontaminated by appropriate FDEP procedures. Auger drilling equipment was steam cleaned, prior to drilling and between each boring. All soil and groundwater-sampling equipment was decontaminated with laboratory-grade detergent, appropriate solvent and alcohol wash and then rinsed with deionized and analyte-free water before each sample collection.

7.0 SAFETY CONSIDERATIONS

Prior to implementation of drilling activities, a survey of underground utilities was conducted at the site. All BHATE and subcontractor field personnel have received OSHA-approved health and safety training. A Health and Safety Plan was prepared specifically for the site, in accordance with OSHA guidelines. Subcontractors working at the facility reviewed the Health and Safety Plan. Before beginning work, a health-and-safety meeting was conducted by the BHATE site coordinator. During this meeting, personnel were told of on-site hazards and all safety equipment (hard hats, steel-toed boots, protective clothing, etc.) required. An "exclusion zone" was maintained around the drilling areas. Unauthorized personnel were not allowed in this area. Air quality in the exclusion zone was monitored regularly, to assure the safety of the field crew.

8.0 SUMMARY AND CONCLUSIONS

8.1 Summary

The following is a summary of site conditions based on the results of field and laboratory investigations made during the contamination assessment:

- Soil borings indicated soils beneath the site consist of well sorted fine sands with shell fragments to boring terminations at approximate depths of 13.5 feet, bls.

- Groundwater was encountered at depths of approximately 3.5 to 6.0 feet bls across the site. The direction of groundwater movement on the two dates of measurement appears to be in a radial flow direction outward from the general location of the former UST.

- An OVA-FID headspace concentration of 68 ppm in one soil sample collected from the one to three foot depth range. The sample was taken at a location near the former UST location. Excessively contaminated soils are apparently restricted to an area on the northern end of the UST.

- Laboratory analyses of soil samples collected from depths of 4.0 to 6.0 feet bls indicated FL-PRO concentrations above the regulatory limit of 2500 ppm at the Geoprobe sampling points nearest the former UST location (S-1, S-2 and S-3). Concentrations were below laboratory detection limits elsewhere.

- Laboratory analyses of groundwater samples from five permanent monitoring wells installed at the site indicated that only well MW-4 contained Benzene petroleum constituents above the Primary Guidance MCL limit of 1 ug/L (ppm). Naphthalene concentrations exceeded the newly established Chapter 62-770 F.A.C. standard of 20 ppb in well MW-4.

- One potable water supply well and one irrigation well are less than one-half (½) (2,640 feet) mile from the site. The wells are screened at depths greater than 419 feet. The present groundwater flow direction and the limited extent of the contaminant plume at the subject site indicates that the wells are not impacted by the contaminant release.

8.2 Conclusions

- Soil and groundwater contamination exists within an area at and extending outward from the former UST location. The former UST is the most probable point source.

- Soil, capillary fringe and groundwater have all been effected.

- FID headspace analysis indicates that excessively contaminated soils within and above the capillary fringe are limited to the area immediately north of the former UST. FL-PRO TPH values suggest that the area of affected soils surrounds the former UST location.

- Free product was not detected within any monitoring wells on site.

- Laboratory analyses of groundwater samples collected from the monitoring wells indicated that the groundwater contamination is confined to the immediate area of the UST.

- The direction of groundwater migration has resulted in the transport of contaminants outward away from the UST location primarily toward the north.

- The source of contamination has been abated. The UST and associated piping have been replaced.

9.0 RECOMMENDATIONS

Based on field results and analysis of all the data obtained during the contamination assessment BHATE recommends the preparation of a Remedial Action Plan (RAP) for the subject site. BHATE has determined that:

- Excessively contaminated soil is present.
- Groundwater contamination is present and is migrating away from the UST location.

10.0 CLOSING REMARKS

This Contamination Assessment Report has been prepared on behalf of the Department of Navy, Southern Division, for specific application to the subject site. Future environmental conditions at the subject site can change subject to alterations in operations and land usage. The opinions and findings of this report represent those conditions apparent at the time and dates the work was performed. New regulations, changes in surrounding land use, altered geologic conditions and other factors may also result in changed conditions.

The work described in this report has been conducted in accordance with current FDEP UST regulations and with standard industry practice. No other warranty is implied or expressed.

11.0 LITERATURE REFERENCES

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TABLE 1
POTABLE WELL SURVEY DATA
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WELL DESTINATION	OWNER	INSTALLATION DATE	CASING DIAMETER (in)	SURFACE ELEVATION (ft)	TOTAL DEPTH (ft)	SCREENED INTERVAL (ft)	WATER USAGE
N-1	U.S. NAVY	1961	12	10	1,001	435-1,001	POTABLE
N-2	U.S. NAVY	1958	12	10	1,000	435-1,000	POTABLE
N-3	U.S. NAVY	1979	16	10	1,000	435-1,000	POTABLE
N-4	U.S. NAVY	1979	16	10	1,000	419-1,000	POTABLE
D-236	U.S. NAVY	1962	6	9	814	440-814	IRRIGATION

TABLE 2
MONITORING WELL CONSTRUCTION AND WATER LEVEL DATA
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WELL NO.	DATE	TOTAL DEPTHS OF WELL (ft. bls)	TOP OF CASING (ft. bls)	SURVEYED TOP OF CASING ELEVATION (msl)*	SCREENED INTERVAL DEPTH BLS (ft.)	DEPTH TO WATER FROM TOP OF CASING (ft.)	ELEVATION OF WATER TABLE (msl)*
245-MW-1	7/24/97	13.21	0.21	11.57	2.99-12.49	6.00	5.57
245-MW-1	6/10/97	13.21	0.21	11.57	2.99-12.49	5.15	6.42
245-MW-2	7/24/97	13.02	0.25	10.27	2.81-12.31	4.12	6.15
245-MW-2	6/10/97	13.02	0.25	10.27	2.81-12.31	3.82	6.45
245-MW-3	7/24/97	13.26	0.33	10.15	3.05-12.55	4.45	5.70
245-MW-3	6/10/97	13.26	0.33	10.15	3.05-12.55	3.68	6.47
245-MW-4	7/24/97	13.32	0.21	10.31	3.11-12.61	4.61	5.70
245-MW-4	6/10/97	13.32	0.21	10.31	3.11-12.61	3.32	6.99
245-MW-5	7/24/97	13.03	0.25	9.76	2.82-12.32	4.13	5.63
245-MW-5	6/10/97	13.03	0.25	9.76	2.82-12.32	3.84	5.92

Notes:
bls = below land surface
*** = Elevations referenced to msl (mean sea level)**
Water level measurements were obtained on June 10 and July 24, 1997

TABLE 3
SUMMARY OF HYDRAULIC CONDUCTIVITIES
NAVAL STATION MAYPORT
UST 245

UST LOCATION	WELL NUMBER	k (cm/sec)	k (ft/sec)
Fuel Farm	MW-2	8.46×10^{-3}	2.78×10^{-4}
Fuel Farm	MW-5	1.47×10^{-2}	4.82×10^{-4}
UST-245	MW-3	5.16×10^{-3}	1.69×10^{-4}
UST-350	MW-3	1.42×10^{-2}	4.65×10^{-4}
UST-353	MW-3	2.55×10^{-2}	8.35×10^{-4}
UST-365	MW-3	2.07×10^{-3}	6.78×10^{-4}
UST-1326	MW-3	3.66×10^{-2}	1.20×10^{-3}
UST-1343	MW-2	3.18×10^{-3}	1.04×10^{-4}
UST-1363	MW-3	6.07×10^{-3}	1.99×10^{-4}
UST-1388	MW-2	2.35×10^{-2}	7.72×10^{-4}
UST-1552	MW-1	3.82×10^{-3}	1.25×10^{-4}
UST-1556	MW-3	1.79×10^{-2}	5.86×10^{-4}
UST-1864	MW-2	2.63×10^{-3}	8.64×10^{-5}
Geometric Mean - all sites		8.61×10^{-3}	2.82×10^{-4}

Notes:
k = hydraulic conductivity
cm/sec = centimeters per second
ft/sec = feet per second

TABLE 4
SUMMARY OF SOIL HEADSPACE ANALYSES
NAVAL STATION MAYPORT
UST 245

SAMPLE DESIGNATION	DATE	DEPTH (feet)	OVA HEADSPACE READING (ppm)	OVA HEADSPACE READING WITH CARBON FILTER (ppm)	CORRECTED OVA HEADSPACE READING (ppm)
S-1/245-1-1	5/07/97	1-3	68	< 1	68
S-2/245-2-1	5/07/97	1-3	< 1	NR	< 1
S-3/245-3-1	5/07/97	1-3	< 1	NR	< 1
S-4/245-4-1	5/07/97	1-3	< 1	NR	< 1
S-5/245-5-1	5/07/97	1-3	< 1	NR	< 1
S-6/245-6-1	5/07/97	1-3	< 1	NR	< 1
S-7/245-7-1	5/07/97	1-3	< 1	NR	< 1
S-8/245-8-1	5/07/97	1-3	1	NR	1

Notes:
ppm = parts per million
NR = not recorded
OVA = Organic Vapor Analyzer equipped with a flameionization detector

TABLE 5
SUMMARY OF FL-PRO ANALYTICAL RESULTS
UST 245
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

Sample I.D. No.	Date	Depth (feet)	TPH (ppm)
S-1/245-1-2	5/07/97	4 - 6	44,000
S-2/245-2-2	5/07/97	4 - 6	31,000
S-3/245-3-2	5/07/97	4 - 6	22,000
S-4/245-4-2	5/07/97	4 - 6	BDL
S-5/245-5-2	5/07/97	4 - 6	BDL
S-6/245-6-2	5/07/97	4 - 6	BDL
S-7/245-7-2	5/06/97	4 - 6	BDL
S-8/245-8-2	5/07/97	4 - 6	BDL

Notes:
TPH = total petroleum hydrocarbons
ppm = parts per million
BDL = below detection limit

TABLE 7
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
UST 245
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

POLYNUCLEAR AROMATIC HYDROCARBONS (Method 8270)

PARAMETER	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-4A (Duplicate)	Detection Limit	RS
Naphthalene ug/l	6/10/97	BDL	BDL	BDL	**33**	BDL	26	1.0	20
2-Methylnaphthalene ug/l	6/10/97	BDL	BDL	BDL	42	BDL	28	1.0	NR
1-Methylnaphthalene ug/l	6/10/97	BDL	BDL	BDL	41	BDL	33	1.0	NR
Acenaphthylene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	210
Acenaphthene ug/l	6/10/97	BDL	BDL	BDL	3.4	BDL	3.4	1.0	20
Fluorene ug/l	6/10/97	BDL	BDL	BDL	3.9	BDL	3.5	1.0	280
Phenanthrene ug/l	6/10/97	BDL	BDL	BDL	3.7	BDL	2.1	1.0	210
Anthracene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	2100
Fluoranthene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	280
Pyrene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	210
Benzo(a)anthracene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.2
Chrysene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	5
Benzo(b)Fluoranthene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.2
Benzo(k)Fluoranthene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.5
Benzo(a)pyrene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.2

Notes:
BDL = Below Detection Limit
Bold values indicate value exceeding regulatory standard
RS = Regulatory Standard
NR = Not Regulated

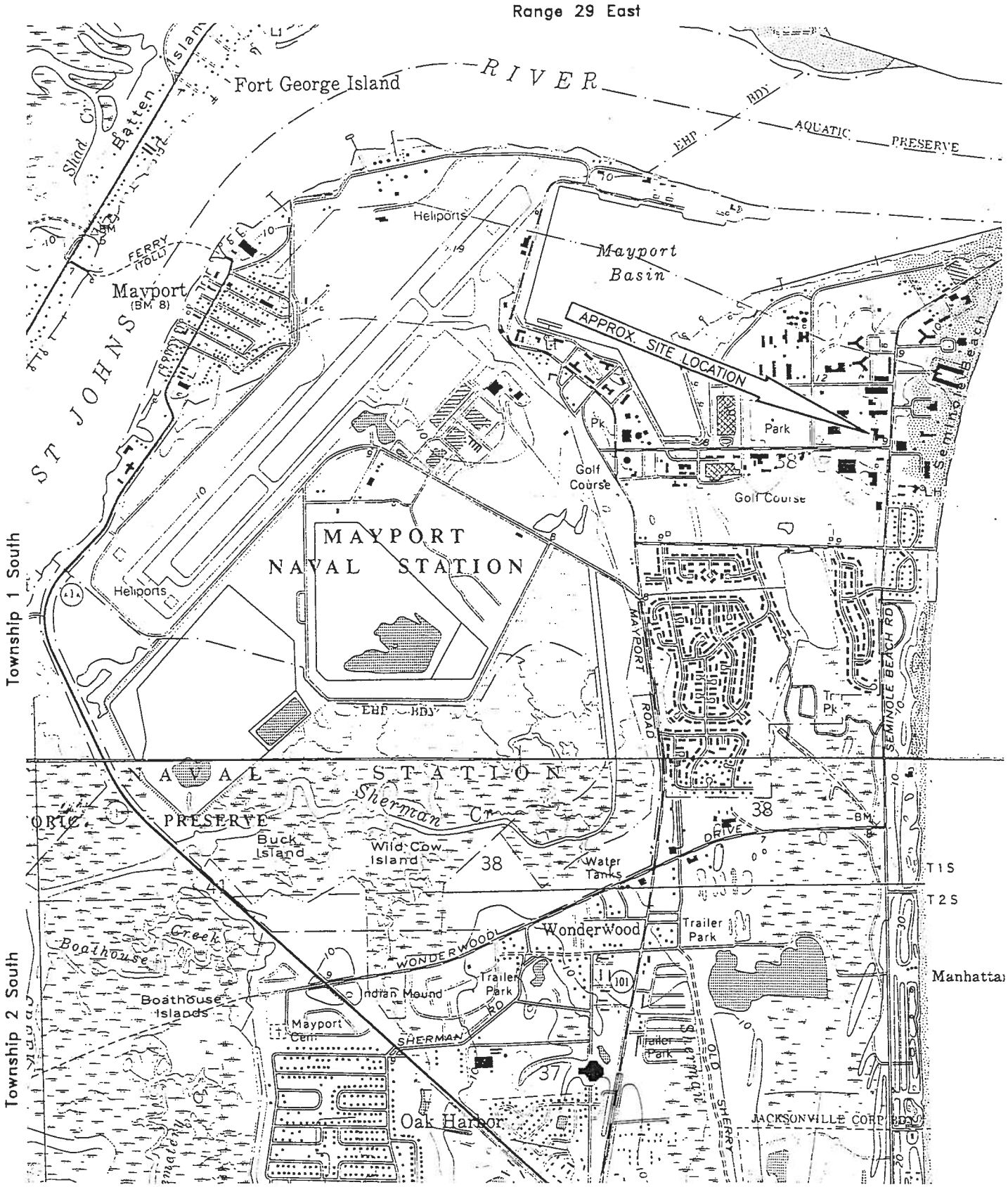
TABLE 7 (CONTINUED)
SUMMARY OF MONTIORING WELL GROUNDWATER ANALYTICAL RESULTS
UST 245
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

PARAMETER	DATE	MW-1	MW-2	MW-3	MW-4	MW-5	MW-4A (Duplicate)	Detection Limit	RS
POLYNUCLEAR AROMATIC HYDROCARBONS (Continued)									
Dibenzo(a,h)Anthracene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.2
Indeno(1,2,3-c,d)pyrene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	0.2
Benzo(g,h,i)perylene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	210
PURGEABLE AROMATICS (Method 602)									
Benzene ug/l	6/10/97	BDL	BDL	BDL	**6.5**	BDL	**6.3**	1.0	1
Chlorobenzene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	NR
1,2-Dichlorobenzene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	600
1,3-Dichlorobenzene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	10
1,4-Dichlorobenzene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	75
Ethylbenzene ug/l	6/10/97	BDL	BDL	BDL	22	BDL	21	1.0	30
Toluene ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	40
Total Xylenes ug/l	6/10/97	BDL	BDL	BDL	18	BDL	16	1.0	20
Total BTEX ug/l	6/10/97	BDL	BDL	BDL	46.5	BDL	43.3	1.0	NR
MTBE ug/l	6/10/97	BDL	BDL	BDL	BDL	BDL	BDL	1.0	35

TABLE 7 (CONTINUED)
SUMMARY OF MONTIORING WELL GROUNDWATER ANALYTICAL RESULTS
UST 245
NAVAL STATION MAYPORT
MAYPORT, FLORIDA

METALS (METHOD 6010A)									
LEAD mg/l	6/10/97	0.014	0.032	0.012	0.011	0.026	0.010	0.005	0.015

Notes:
BDL = Below Detection Limit
Shaded values indicate value exceeding regulatory standard
RS = Regulatory Standard
NR = Not Regulated



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Environmental Engineers & Scientists

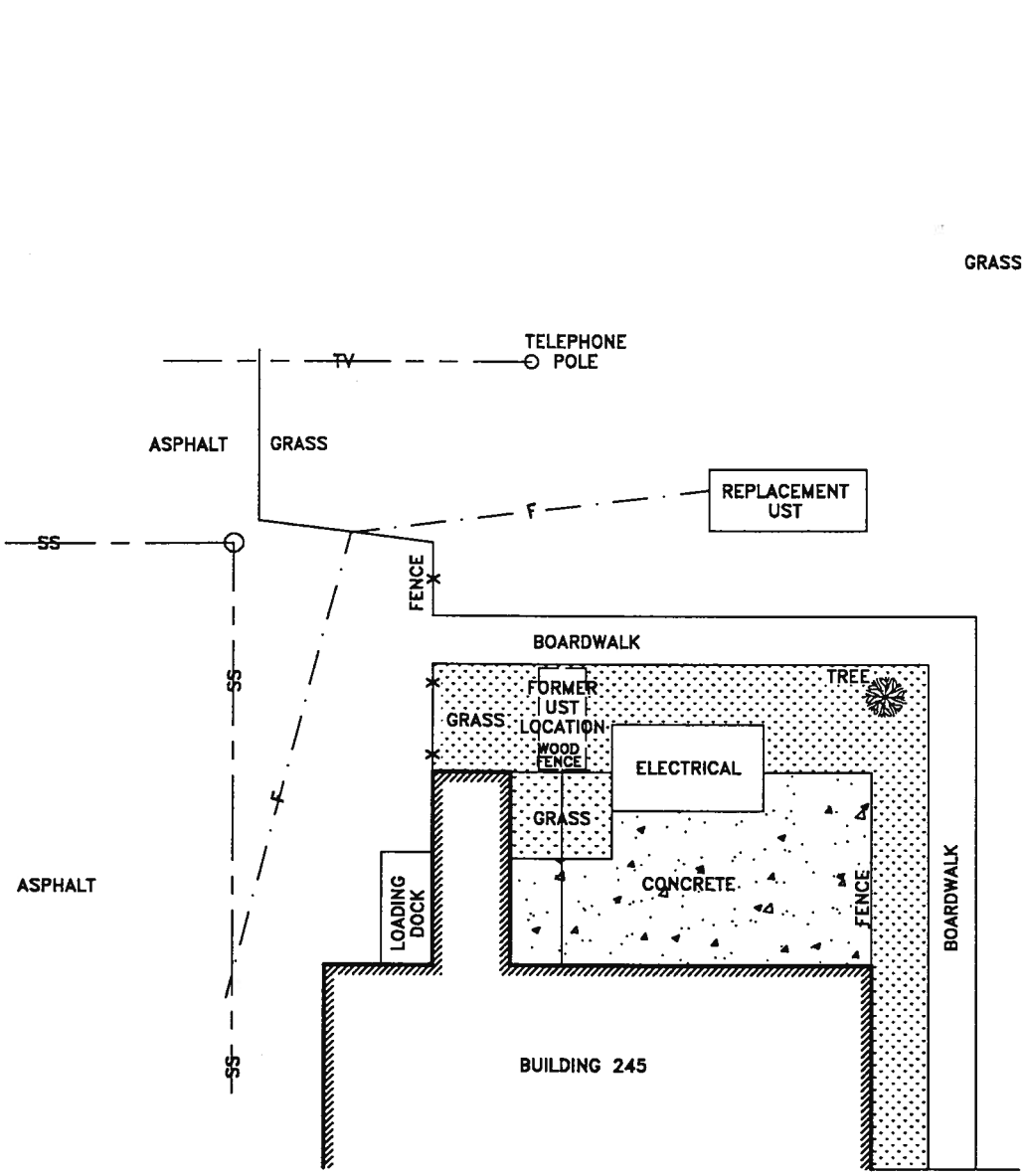
Source: USGS 7.5 Minute Topographic Map
Mayport, Florida Quadrangle, Revised 1992
Jacksonville Beach, Florida, Revised 1992
SITE LOCATION DIAGRAM

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1:24,000	3/19/97	USGS
			DRAWING NO: 1552F1

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 1



NOTE:
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LEGEND

SANITARY SEWER LINE
FUEL LINE
CABLE TV LINE

-20' 0' 20'
GRAPHIC SCALE
1"=20'

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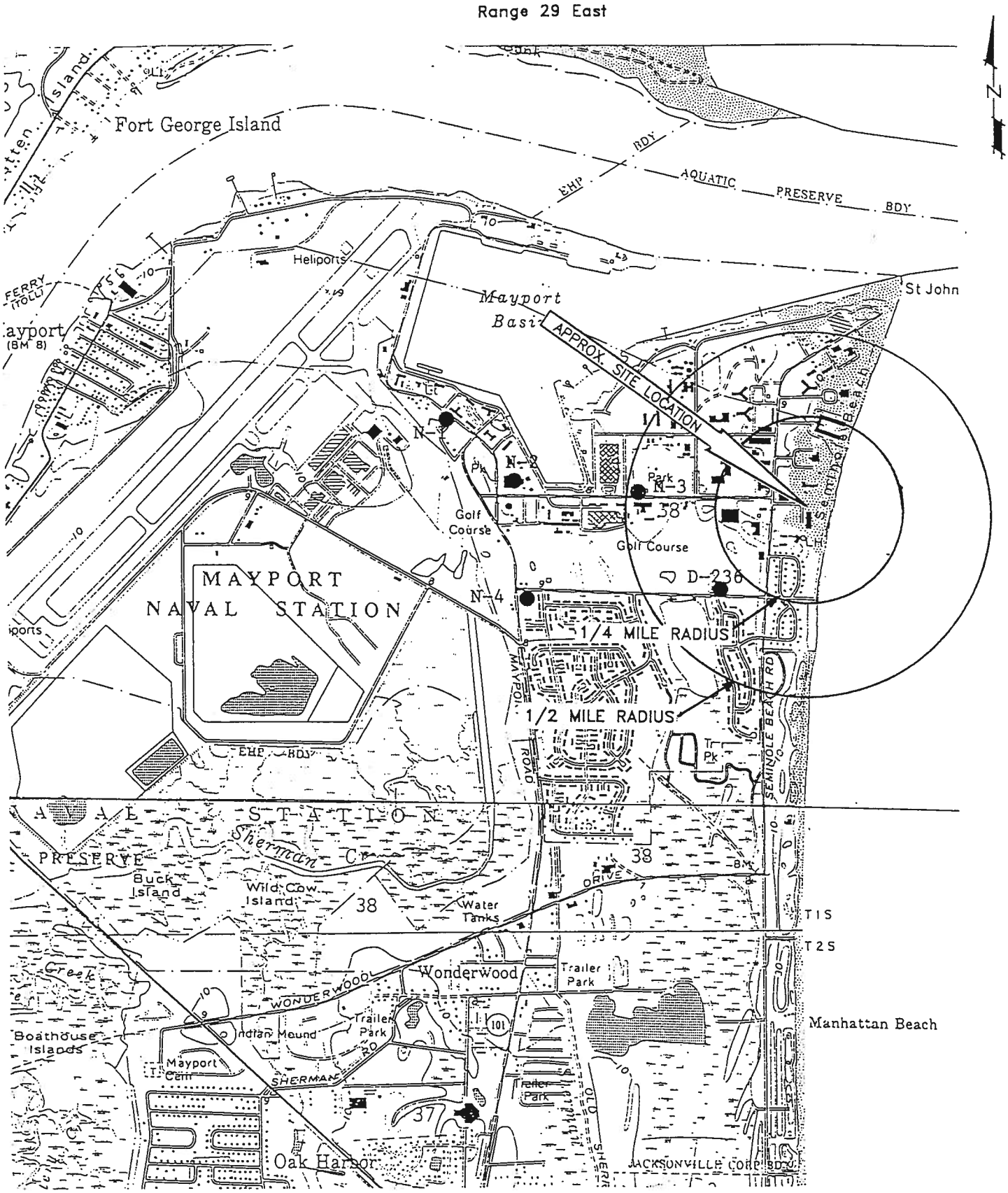
SITE MAP WITH APPROXIMATE UTILITY LOCATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: FIG-2

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 2



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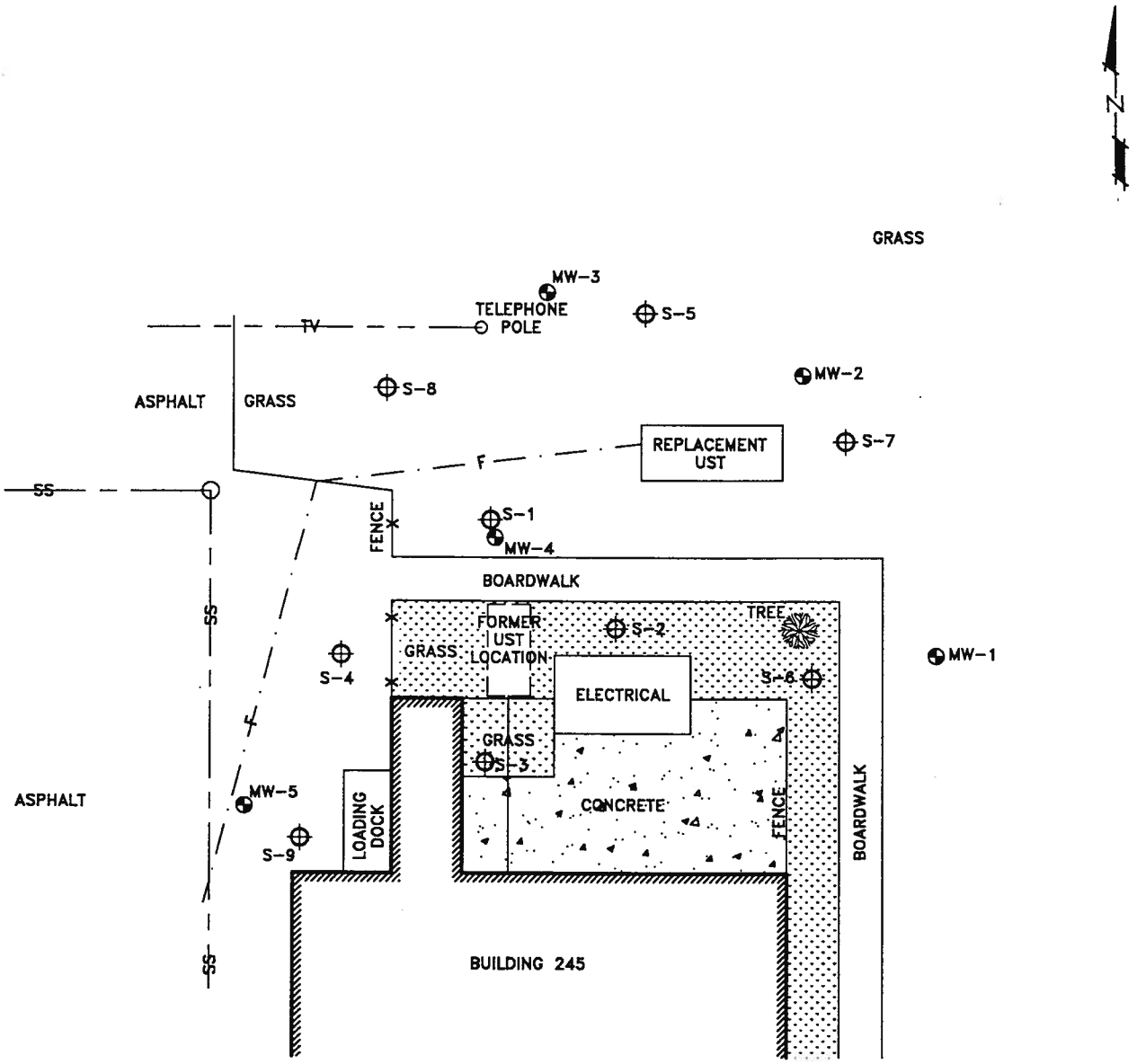
Source: USGS 7.5 Minute Topographic Map
Mayport, Florida Quadrangle, Revised 1992
Jacksonville Beach, Florida, Revised 1992
LOCATIONS OF POTABLE WATER WELLS

PROJECT NO.	SCALE	DATE	DRAWN BY: USGS
9970058	1:24,000	3/19/97	DRAWING NO: 1552F3

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 3



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LEGEND

- GEOPROBE SOIL AND GROUNDWATER SAMPLING LOCATIONS
- MONITORING WELL LOCATION

-20' 0' 20'

GRAPHIC SCALE
1"=20'

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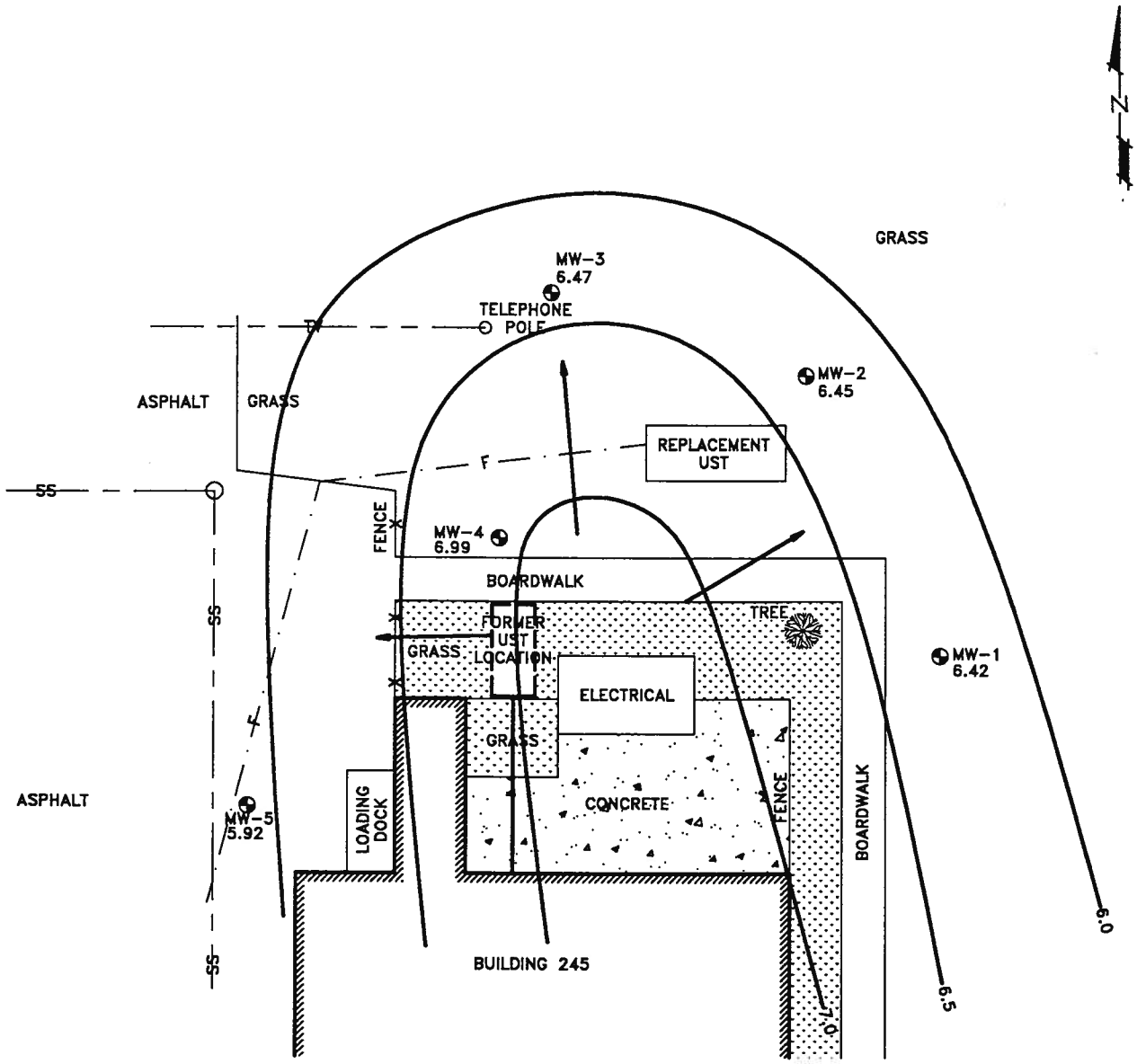
SAMPLING LOCATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F-4

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 4



NOTE:
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LEGEND

→	ESTIMATED GROUNDWATER FLOW DIRECTION
◐	MONITORING WELL LOCATION
—	WATER TABLE ELEVATION CONTOUR (CONTOUR INTERVALS = 0.5ft.)
6.42	WATER TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL

-20' 0' 20'

GRAPHIC SCALE
1"=20'

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WATER TABLE CONTOUR MAP
6/10/97

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F-5

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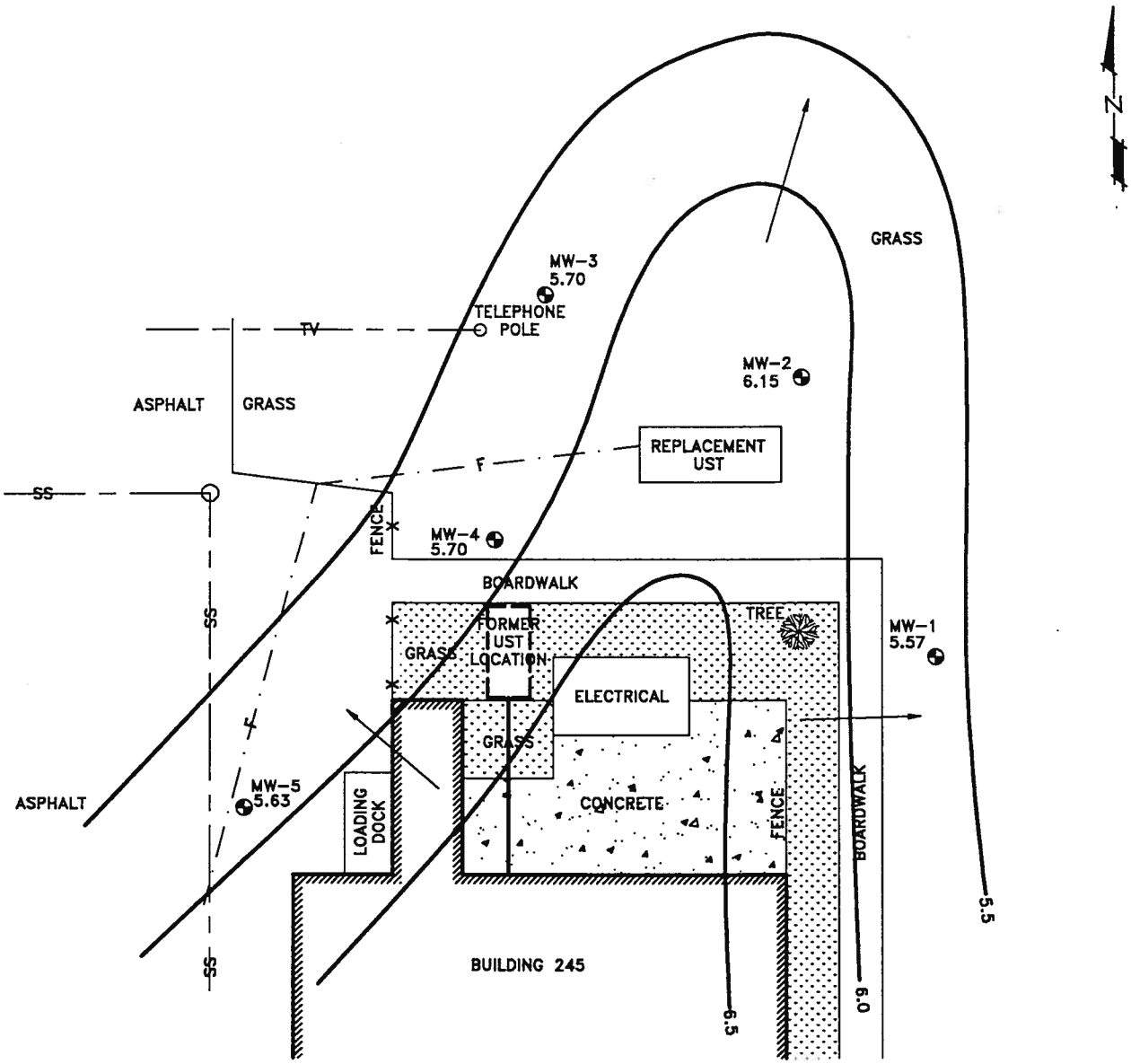
Naval Station Mayport
Mayport, Florida

Figure 5



NOTE:
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LEGEND

⟶	ESTIMATED GROUNDWATER FLOW DIRECTION
⊕	MONITORING WELL LOCATION
——	WATER TABLE ELEVATION CONTOUR (CONTOUR INTERVALS = 0.5ft.)
5.57	WATER TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL

-20' 0' 20'

GRAPHIC SCALE
1"=20'

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WATER TABLE CONTOUR MAP
7/24/97

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F-6

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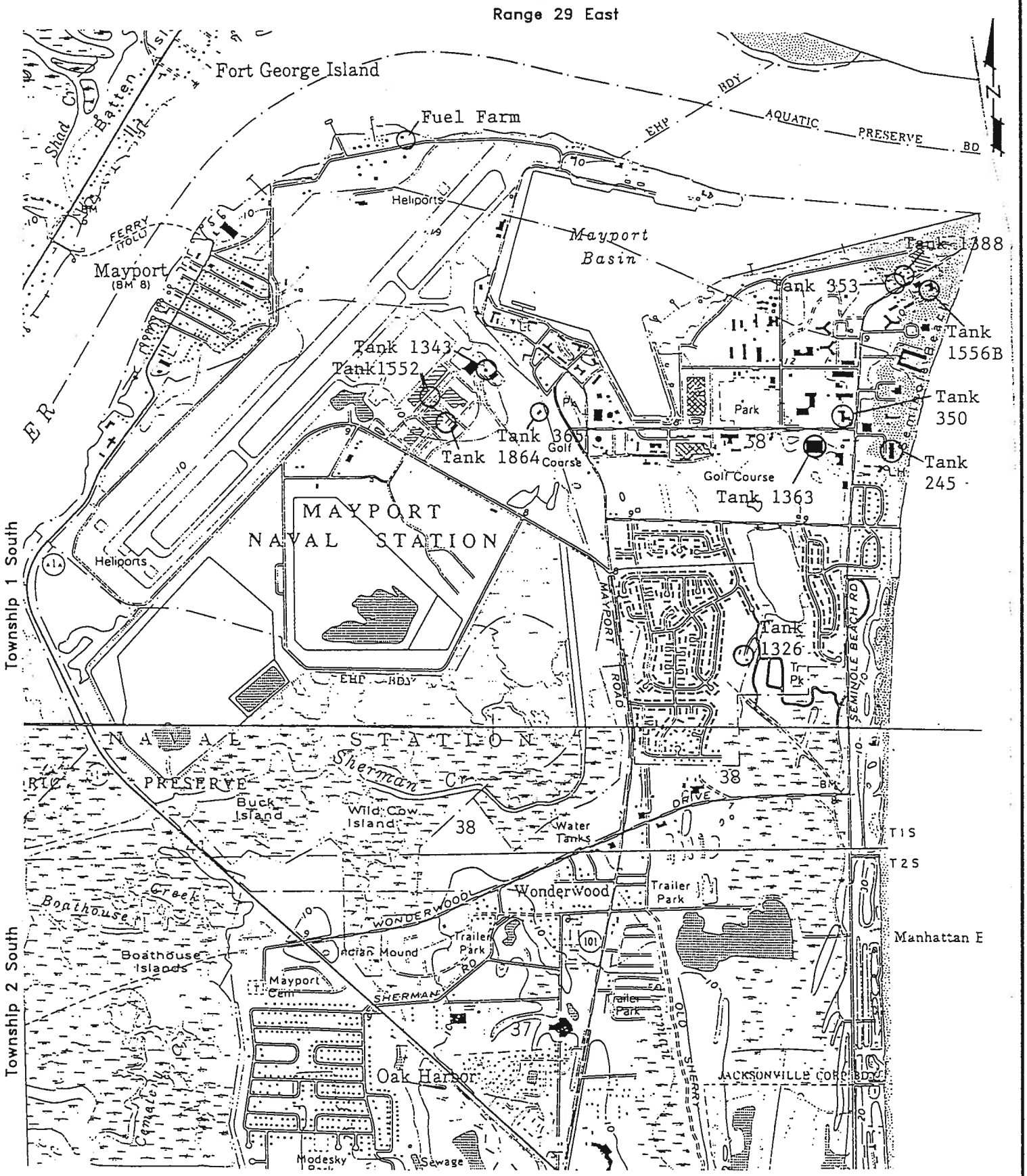
Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 6



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Source: USGS 7.5 Minute Topographic Map
Mayport, Florida Quadrangle, Revised 1992
Jacksonville Beach, Florida, Revised 1992

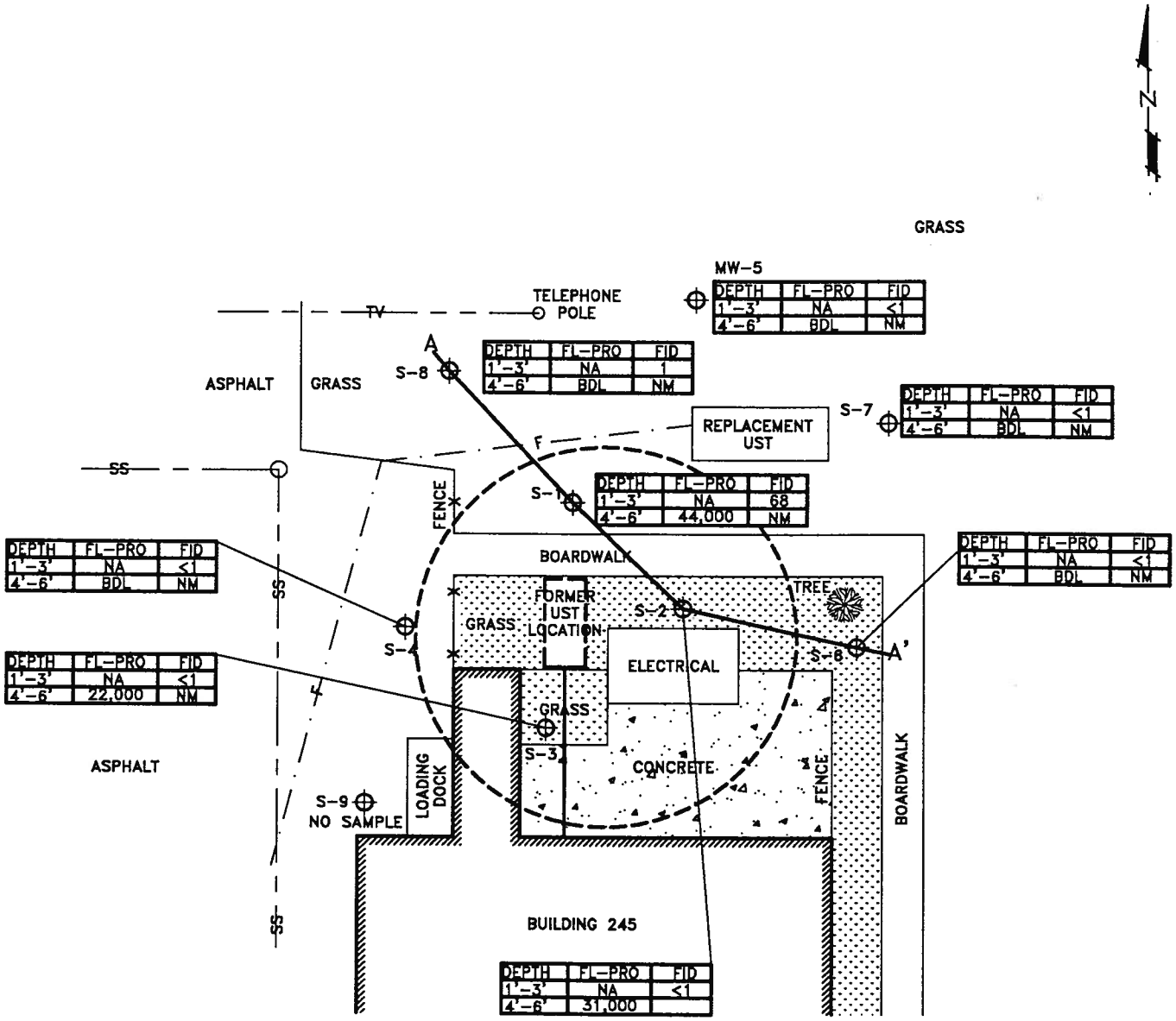
SLUG TEST LOCATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1:24,000	3/19/97	USGS
			DRAWING NO: fig1

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 7



NOTE:
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LEGEND

⊕	GEOPROBE SOIL AND GROOUNDWATER SAMPLING LOCATIONS
FL-PRO	FLORIDA PETROLEUM RESIDUAL ORGANICS IN PARTS PER MILLION (ppm)
FID	FLAME IONIZATION DETECTOR IN PARTS PER MILLION (ppm)
BDL	BELOW DETECTION LIMITS
NA	NOT ANALYZED
NM	NOT MEASURED
— — — —	APPROXIMATE LIMIT OF SOIL CONTAMINATION
A——A'	LINE OF CROSS-SECTION

-20' 0' 20'

GRAPHIC SCALE
1"=20'

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GEOPROBE SOIL ANALYTICAL RESULTS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F-8

Contamination Assessment Report
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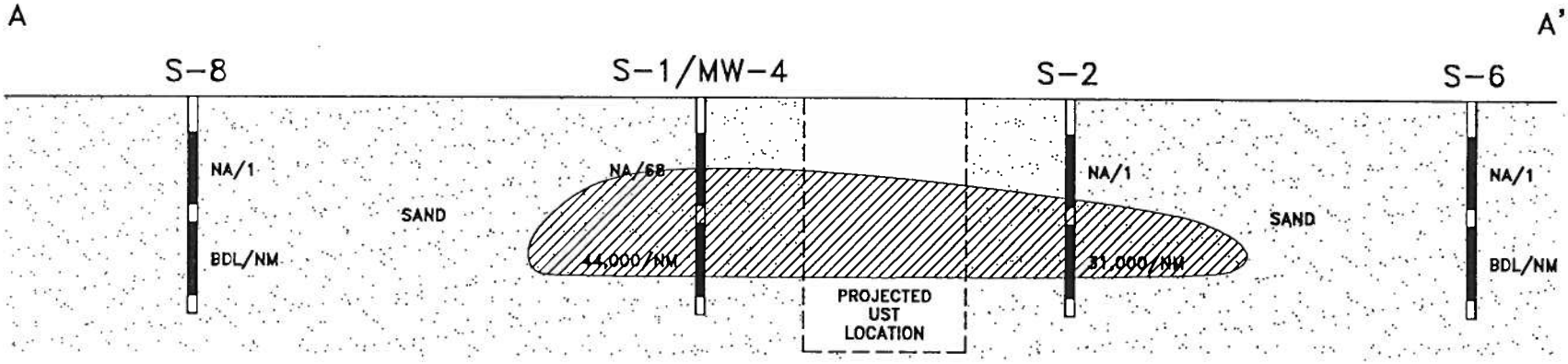
Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 8



LEGEND

FLPRO RESULTS/FID READING PARTS PER MILLION (ppm)

NM	NOT MEASURED
NA	NOT ANALYZED
BDL	BELOW DETECTION LIMIT
▼	WATER TABLE MEASUREMENT ON 7/24/97

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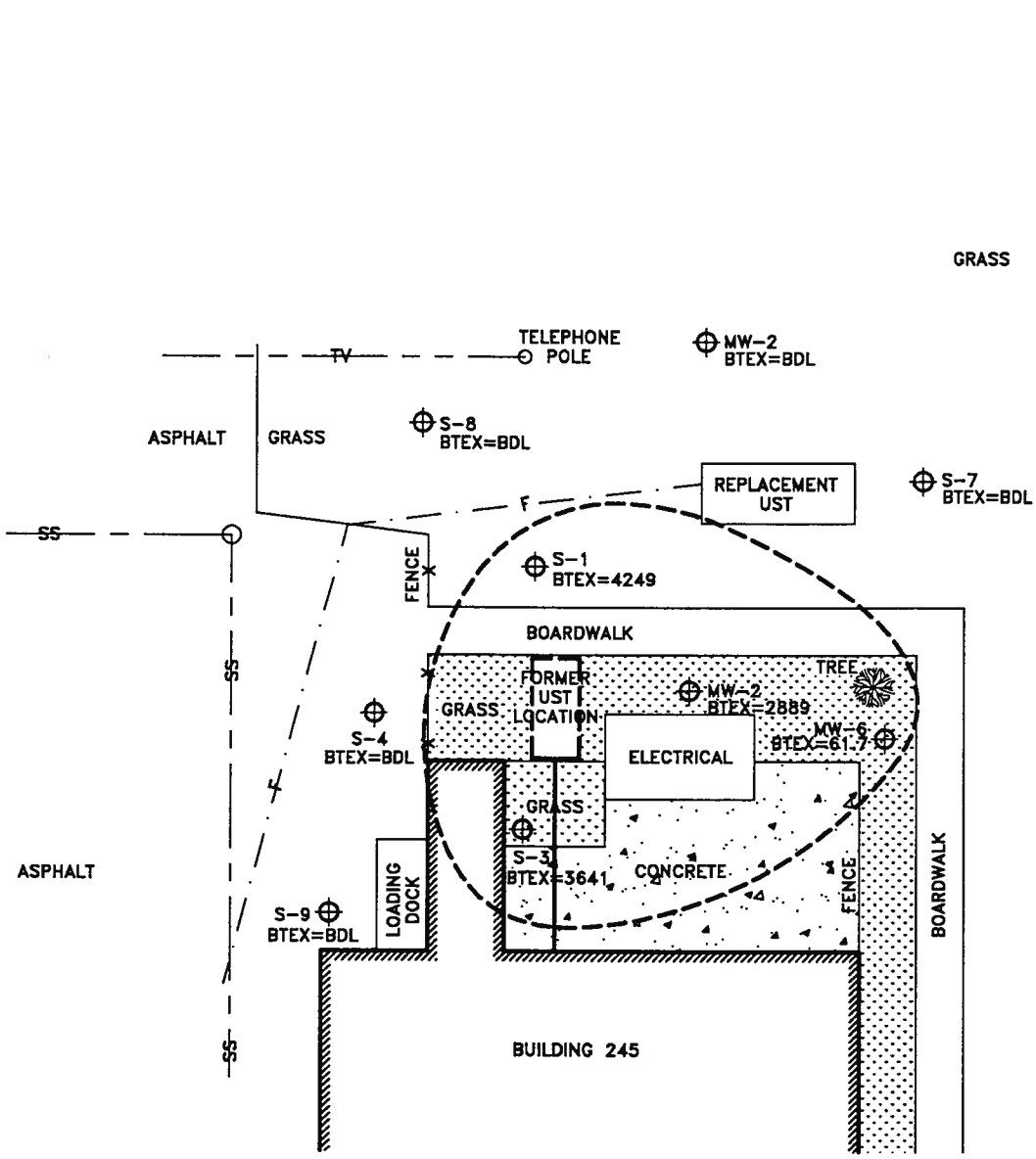
CROSS-SECTION A – A'

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	V:1"=5' H:1"=10'	11/8/97	–
			DRAWING NO: F9

Contamination Assessment Report
UST 245
Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 9



LEGEND

⊕	GEOPROBE SOIL AND GROUNDWATER SAMPLING LOCATIONS
BTEX	TOTAL BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE CONCENTRATION IN PARTS PER BILLION
BDL	BELOW DETECTION LIMIT
— — — —	APPROXIMATE EXTENT OF GROUNDWATER CONTAMINATION

-20' 0' 20'

GRAPHIC SCALE
1"=20'

NOTE:
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GEOPROBE GROUNDWATER ANALYTICAL RESULTS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F10

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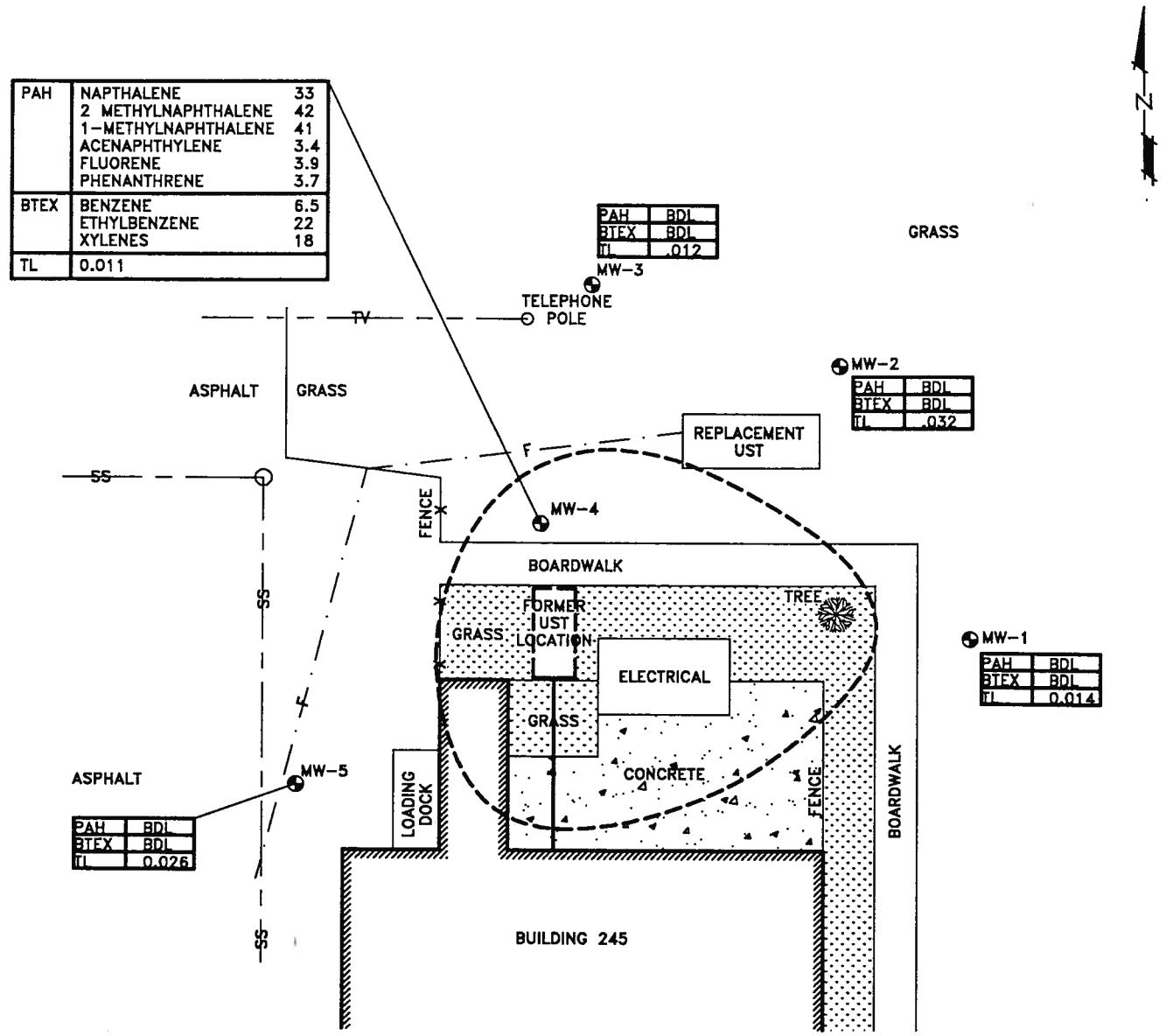
Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 10



LEGEND

⊕	MONITORING WELL LOCATION
— — —	APPROXIMATE EXTENT OF GROUNDWATER CONTAMINATION
BTEX	TOTAL BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE CONCENTRATION IN PARTS PER BILLION
PAH	POLYNUCLEAR AROMATIC HYDROCARBONS IN PARTS BILLION
LEAD	TOTAL LEAD IN PARTS PER MILLION
BDL	BELOW DETECTION LIMITS

-20' 0' 20'

GRAPHIC SCALE
1"=20'

NOTE:
The information shown on this map was obtained from existing maps from previous investigations prepared by others. This information is depicted to provide visual aid within the context of this plan and should not be used as a sole reference in precise dimensioning of features indicated.

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MONITORING WELL GROUNDWATER ANALYTICAL RESULTS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9970058	1"=20'	11/8/97	–
			DRAWING NO: F-11

Contamination Assessment Report
UST 245

Department of the Navy
Naval Station Mayport
Mayport, Florida

Figure 11

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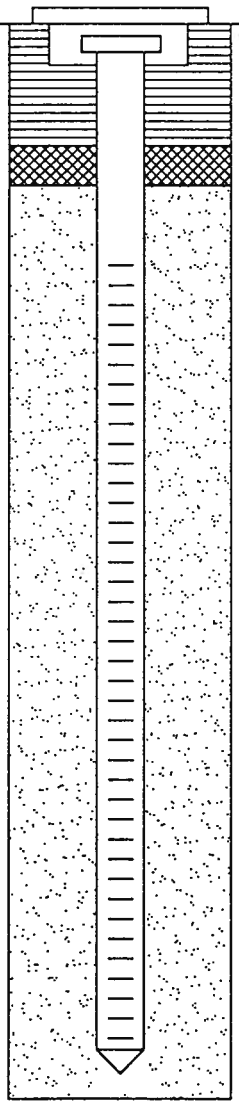
MONITORING WELL LOG

BORING NO: 245-MW-1
PROJECT NO: 9970058

PROJECT NAME: NAVSTA Mayport
CLIENT: U.S. Navy
PROJECT LOCATION: UST 245
DRILLING MTHD: 4 1/4 Inch Hollow Stem Auger
SAMPLE MTHD: Drill Cuttings
DATE STARTED: 5/30/97 DATE FINISHED: 5/30/97
ENGINEER/GEOLOGIST: D. Trapp

ELEV.	LITHOLOGIC DESCRIPTION	DEPTH. (FT.)	SAMPLE	TPH (mg/kg)	WATER LEVEL	WELL SECTION	ANNULAR AND WELL CONSTRUCTION MATERIALS
	Brown, silty fine sand with organics, grassed	0.0					FLUSH MOUNTED COVER WITH LOCKING CAP Top of casing approximately 0.21 feet bgs.
	Tan, loose, dry, well sorted, subrounded, quartz, fine sand with shell fragments (no odor)						Approximately 1.5 feet of cement grout Approximately 0.5 feet thick Bentonite Seal Well Casing consists of a 2-inch diameter Schedule 40 PVC Section
	Light gray, wet, firm, well sorted, fine sand, (no odor)	5.0			6/10/97		Sand packed Material of 20/30 gradation
		10.0					Well Screen Consists of a 10-foot section Schedule 40 0.010 inch factory slotted PVC screen (2-inch diameter)
	BORING TERMINATED @ 13.5 FEET BELOW GROUND SURFACE	15.0					

BOTTOM OF TEST BORING: 13.0' BGS

BGS = BELOW GROUND SURFACE

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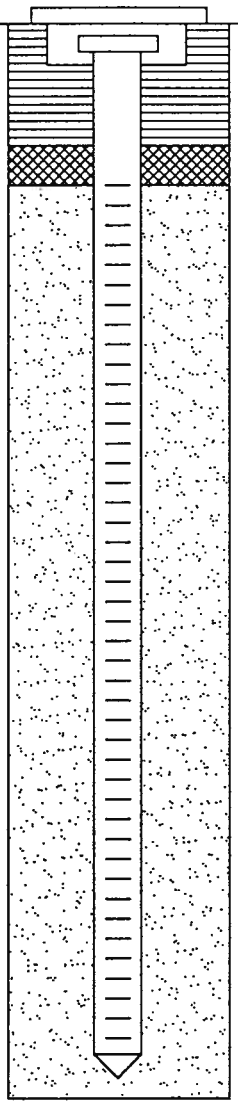
MONITORING WELL LOG

BORING NO: 245-MW-2
PROJECT NO: 9970058

PROJECT NAME: NAVSTA Mayport
CLIENT: U.S. Navy
PROJECT LOCATION: UST 245
DRILLING MTHD: 4 1/4 Inch Hollow Stem Auger
SAMPLE MTHD: Drill Cuttings
DATE STARTED: 5/30/97
DATE FINISHED: 5/30/97
ENGINEER/GEOLOGIST: D. Trapp

ELEV.	LITHOLOGIC DESCRIPTION	DEPTH. (FT.)	SAMPLE	TPH (mg/kg)	WATER LEVEL	WELL SECTION	ANNULAR AND WELL CONSTRUCTION MATERIALS
	Brown, silty fine sand with organics, grassed	0.0					FLUSH MOUNTED COVER WITH LOCKING CAP Top of casing approximately 0.21 feet bgs.
	Light tan, loose dry, well sorted, subrounded, quartz fine sand with shell fragments, (no odor)						Approximately 1.5 feet of cement grout Approximately 0.5 feet thick Bentonite Seal Well Casing consists of a 2-inch diameter Schedule 40 PVC Section
	Light gray, firm, wet, well sorted fine sand, (no odor)	5.0			5/10/97		Sand packed Material of 20/30 gradation
		10.0					Well Screen Consists of a 10-foot section Schedule 40 0.010 inch factory slotted PVC screen (2-inch diameter)
	BORING TERMINATED @ 13.5 FEET BELOW GROUND SURFACE	15.0					

BOTTOM OF TEST BORING: 13.5' BGS

BGS = BELOW GROUND SURFACE

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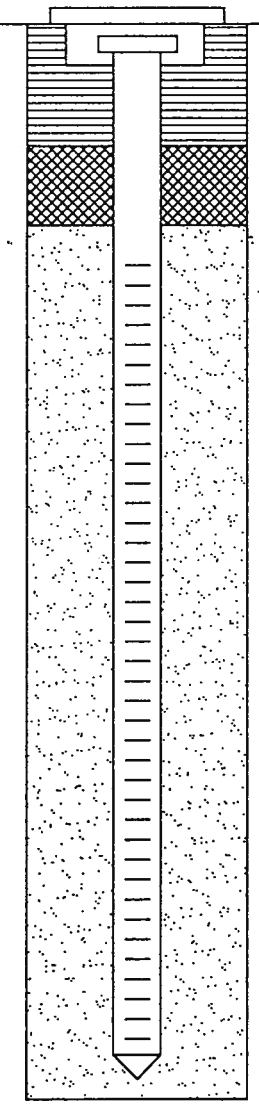
MONITORING WELL LOG

BORING NO: 245-MW-3
PROJECT NO: 9970058

PROJECT NAME: NAVSTA Mayport
CLIENT: U.S. Navy
PROJECT LOCATION: UST 245
DRILLING MTHD: 4 1/4 Inch Hollow Stem Auger
SAMPLE MTHD: Drill Cuttings
DATE STARTED: 5/30/97 DATE FINISHED: 5/30/97
ENGINEER/GEOLOGIST: D. Trapp

ELEV.	LITHOLOGIC DESCRIPTION	DEPTH. (FT.)	SAMPLE	TPH (mg/kg)	WATER LEVEL	WELL SECTION	ANNULAR AND WELL CONSTRUCTION MATERIALS
	Brown, silty fine sand with organics, grassed	0.0					FLUSH MOUNTED COVER WITH LOCKING CAP Top of casing approximately 0.33 feet bgs.
	Light tan, loose, dry, well sorted, subrounded, quartz fine sand with shell fragments, (no odor)						Approximately 1.5 feet of cement grout Approximately 1.0 feet thick Bentonite Seal Well Casing consists of a 2-inch diameter Schedule 40 PVC Section
	Light gray, firm, wet, well sorted fine sand, (no odor)	5.0			6/10/97		Sand packed Material of 20/30 gradation
		10.0					Well Screen Consists of a 10-foot section Schedule 40 0.010 inch factory slotted PVC screen (2-inch diameter)
	BORING TERMINATED @ 13.5 FEET BELOW GROUND SURFACE	15.0					

BOTTOM OF TEST BORING: 13.5' BGS

BGS = BELOW GROUND SURFACE

Bhate Environmental, Inc.
Environmental Engineers & Scientists

MONITORING WELL LOG

BORING NO: 245-MW-4
PROJECT NO: 9970058

PROJECT NAME: NAVSTA Mayport
CLIENT: U.S. Navy
PROJECT LOCATION: UST 245
DRILLING MTHD: 4 1/4 Inch Hollow Stem Auger
SAMPLE MTHD: Drill Cuttings
DATE STARTED: 5/30/97 DATE FINISHED: 5/30/97
ENGINEER/GEOLOGIST: D. Trapp

ELEV.	LITHOLOGIC DESCRIPTION	DEPTH. (FT.)	SAMPLE	TPH (mg/kg)	WATER LEVEL	WELL SECTION	ANNULAR AND WELL CONSTRUCTION MATERIALS
							FLUSH MOUNTED COVER WITH LOCKING CAP
	Brown, fine sand with organics, grassed	0.0					Top of casing approximately 0.21 feet bgs.
	Tan, loose, dry, well sorted, quartz, well rounded fine sand with shell fragments, (petroleum odor)						Approximately 1.5 feet of cement grout Approximately 1.0 feet thick Bentonite Seal Well Casing consists of a 2-inch diameter Schedule 40 PVC Section
					5/10/97		
	Medium gray, firm, wet, well sorted, well rounded fine sand with clay, (strong petroleum odor)	5.0					Sand packed Material of 20/30 gradation
		10.0					Well Screen Consists of a 10-foot section Schedule 40 0.010 inch factory slotted PVC screen (2-inch diameter)
	BORING TERMINATED @ 13.5 FEET BELOW GROUND SURFACE	15.0					

BOTTOM OF TEST BORING: 13.5' BGS

BGS = BELOW GROUND SURFACE

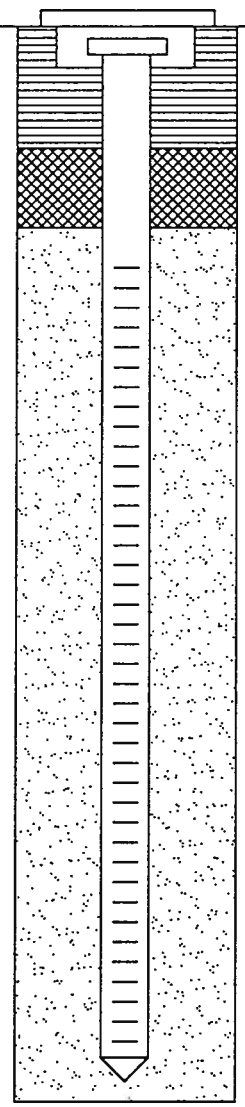
Bhate Environmental, Inc.
Environmental Engineers & Scientists

MONITORING WELL LOG

BORING NO: 245-MW-5
PROJECT NO: 9970058

PROJECT NAME: NAVSTA Mayport
CLIENT: U.S. Navy
PROJECT LOCATION: UST 245
DRILLING MTHD: 4 1/4 Inch Hollow Stem Auger
SAMPLE MTHD: Drill Cuttings
DATE STARTED: 5/30/97 DATE FINISHED: 5/30/97
ENGINEER/GEOLOGIST: D. Trapp

ELEV.	LITHOLOGIC DESCRIPTION	DEPTH. (FT.)	SAMPLE	TPH (mg/kg)	WATER LEVEL	WELL SECTION	ANNULAR AND WELL CONSTRUCTION MATERIALS
							FLUSH MOUNTED COVER WITH LOCKING CAP
	Asphalt cover	0.0					Top of casing approximately 0.25 feet bgs.
	Tan, loose, dry, well sorted fine sand, (no odor)						Approximately 1.5 feet of cement grout Approximately 1.0 feet thick Bentonite Seal Well Casing consists of a 2-inch diameter Schedule 40 PVC Section
	Light grey, firm, wet, well sorted, fine sand, (no odor)				5/10/97		
		5.0					Sand packed Material of 20/30 gradation
		10.0					Well Screen Consists of a 10-foot section Schedule 40 0.010 inch factory slotted PVC screen (2-inch diameter)
	BORING TERMINATED @ 13.5 FEET BELOW GROUND SURFACE						
		15.0					



BOTTOM OF TEST BORING: 13.5' BGS

BGS = BELOW GROUND SURFACE

FLORIDA

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

Petroleum or Petroleum Products
Water Sampling Log

FDEP FACILITY NO.: 245	WELL NO.:	SAMPLE ID:	DATE: 6/10/97
SITE NAME: NAUSTA MAYport	SITE LOCATION:		

PURGE DATA

WELL DIAMETER (in): 2"	TOTAL WELL DEPTH (ft): 12.90	DEPTH TO WATER (ft): 5.75	WELL CAPACITY (gal/ft): 0.75

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) x WELL CAPACITY = 1.32

= (–) x =

PURGE METHOD: Bailing	PURGING INITIATED AT: 0755	PURGING ENDED AT: 0825
	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):

WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER
1.	1.5	7.40	41.3	43	BRW/GRAY	N/O	F. SAND	CLOUDY
	3.0	7.36		12	"	"		"
	4.5	7.62		4	GRAY	"		"
	6.0	7.62		2	"	"		"

SAMPLING DATA

SAMPLED BY / AFFILIATION	SAMPLER(S) SIGNATURE(S)
SAMPLING METHOD(S):	SAMPLING INITIATED AT: / SAMPLING ENDED AT:

FIELD DECONTAMINATION: Y N | FIELD-FILTERED: Y N | DUPLICATE: Y N

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	
			See Log			

REMARKS:

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

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

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

FLORIDA

DEP Form # 62-770.900(1)
Form Title: Petroleum or Petroleum Products Water Sampling Log
Effective Date: _____

Petroleum or Petroleum Products
Water Sampling Log

FDEP FACILITY NO.: 245	WELL NO.: 2	SAMPLE ID:	DATE: 6/10/97
SITE NAME: NAV STA mayport	SITE LOCATION:		

PURGE DATA

WELL DIAMETER (in): 2"	TOTAL WELL DEPTH (ft): 12.77	DEPTH TO WATER (ft): 3.82	WELL CAPACITY (gal/ft): 8.95

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) x WELL CAPACITY = 1.52

= (–) x =

PURGE METHOD: Bailing	PURGING INITIATED AT: 8:45	PURGING ENDED AT: 0900
	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):

WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER
1	1.5+	7.61		4	GRAY	N/O	F. SAND	CLOUDY
2	3.0+	7.58		2	"	N/O		"
3	4.5+	7.61		Ø	"	"		"

SAMPLING DATA

SAMPLED BY / AFFILIATION	SAMPLER(S) SIGNATURE(S)	
SAMPLING METHOD(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N	DUPLICATE: Y N

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	
			See Logs			

REMARKS:

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

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

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

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

Petroleum or Petroleum Products
Water Sampling Log

FDEP FACILITY NO.: 345	WELL NO.: 3	SAMPLE ID:	DATE: 6/16/97
SITE NAME: NAVSTA MAYPORT	SITE LOCATION:		

PURGE DATA

WELL DIAMETER (in): 2"	TOTAL WELL DEPTH (ft): 12.93	DEPTH TO WATER (ft): 3.68	WELL CAPACITY (gal/ft): 9.25

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) x WELL CAPACITY = 1.57

= (–) x =

PURGE METHOD: Bailing	PURGING INITIATED AT: 0920	PURGING ENDED AT: 1000
	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):

WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER
1	1.75	7.62		3	L. GRAY	N/O		F. SAND
2	3.50	7.64		1	GRAY	N/O		"
3	5.25	7.58		1	"	"		"

SAMPLING DATA

SAMPLED BY / AFFILIATION	SAMPLER(S) SIGNATURE(S)	
SAMPLING METHOD(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N	DUPLICATE: Y N

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	

See Logs

REMARKS:

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

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

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

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

Petroleum or Petroleum Products
Water Sampling Log

FDEP FACILITY NO.: 245	WELL NO.: 4	SAMPLE ID:	DATE: 6/10/97
SITE NAME: NAS STA MAYPORT		SITE LOCATION:	

PURGE DATA

WELL DIAMETER (in): 2"	TOTAL WELL DEPTH (ft): 12.99	DEPTH TO WATER (ft): 3.32	WELL CAPACITY (gal/ft): 9.67

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) x WELL CAPACITY = 1.64

= (–) x =

PURGE METHOD: Bailing	PURGING INITIATED AT: 1100	PURGING ENDED AT:
	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):

WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER
1	1.25	7.20		Ø	GRAY	FUEL		
2	3.50	7.17		0	"	SWAMPY		
3	5.25	7.17		0	"	FUEL		

SAMPLING DATA

SAMPLED BY / AFFILIATION	SAMPLER(S) SIGNATURE(S)	
SAMPLING METHOD(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N	DUPLICATE: Y N

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	

See Logs

REMARKS:

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

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

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

FLORIDA

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

Petroleum or Petroleum Products
Water Sampling Log

FDEP FACILITY NO.: 245	WELL NO.: 5	SAMPLE ID:	DATE: 6/10/97
SITE NAME: NAV STA MAYPORT	SITE LOCATION:		

PURGE DATA

WELL DIAMETER (in): 2"	TOTAL WELL DEPTH (ft): 12.78	DEPTH TO WATER (ft): 3.84	WELL CAPACITY (gal/ft): 8.94

1 WELL VOLUME (gal) = (TOTAL WELL DEPTH – DEPTH TO WATER) x WELL CAPACITY = 1.82

= (–) x =

PURGE METHOD: Bailing	PURGING INITIATED AT: 1015	PURGING ENDED AT:
	PURGE RATE (gpm):	TOTAL VOLUME PURGED (gal):

WELL VOLS. PURGED	CUMUL. VOLUME PURGED (gal)	pH	TEMP. (°C)	COND. (µmhos)	COLOR	ODOR	APPEARANCE	OTHER
1	1.5	7.65		8	GRAY	N/O		F. SAND
2	3.0	7.64		4	"	N/O		"
3	4.5	7.63		8	"	NO		"

SAMPLING DATA

SAMPLED BY / AFFILIATION	SAMPLER(S) SIGNATURE(S)	
SAMPLING METHOD(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N	DUPLICATE: Y N

SAMPLE CONTAINER SPECIFICATIONS			SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD
NO.	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOLUME ADDED IN FIELD (ml)	FINAL pH	
			See Logs			

REMARKS:

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

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

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

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-3

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-1-2
Date Sampled: 05/07/97
Time Sampled: 07:55
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	86	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	44000 L	mg/kg	FLPRO	1000	05/15	05/20	SP
Dilution Factor	100		FLPRO		05/15	05/20	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-3

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-4

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-2-2
Date Sampled: 05/07/97
Time Sampled: 09:14
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	86	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	31000 L	mg/kg	FLPRO	500	05/15	05/20	SP
Dilution Factor	50		FLPRO		05/15	05/20	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G
SUB HRS# 86122,86109,E86048
SC CERT# 96031
ELPAT# 13801
VA CERT# 00395

HRS# E86240,86356
ADEM ID# 40850
TN CERT# 02985
CA CERT# I-1068
AZ CERT# AZ0529

NC CERT# 444
ND CERT# R-148
CT CERT# PH-0122
USACE CERT
MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-4

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-9

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-3-2
Date Sampled: 05/07/97
Time Sampled: 15:21
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	84	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	22000 L	mg/kg	FLPRO	500	05/15	05/20	SP
Dilution Factor	50		FLPRO		05/15	05/20	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-9

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-5

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-4-2
Date Sampled: 05/07/97
Time Sampled: 10:20
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	82	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/kg	FLPRO	10	05/15	05/16	SP
Dilution Factor	1.0		FLPRO		05/15	05/16	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,

Project Manager

L19019-5

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-6

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-5-2
Date Sampled: 05/07/97
Time Sampled: 11:27
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	80	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/kg	FLPRO	10	05/15	05/16	SP
Dilution Factor	1.0		FLPRO		05/15	05/16	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

DAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,

Project Manager

L19019-6

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-8

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-6-2
Date Sampled: 05/07/97
Time Sampled: 14:15
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	82	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/kg	FLPRO	10	05/15	05/16	SP
Dilution Factor	1.0		FLPRO		05/15	05/16	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-8

Our Quality Control Is Your Quality Assurance

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-1

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-7-2
Date Sampled: 05/06/97
Time Sampled: 15:55
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	82	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/kg	FLPRO	10	05/15	05/16	SP
Dilution Factor	1.0		FLPRO		05/15	05/16	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-1

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-7

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-8-2
Date Sampled: 05/07/97
Time Sampled: 12:35
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	82	%	SM2540B	0.10	05/12	05/12	SMP
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/kg	FLPRO	10	05/15	05/16	SP
Dilution Factor	1.0		FLPRO		05/15	05/16	SP

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-7

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Page: Page 1 of 1
Date: 05/29/97
Log #: L19019-10

Sample Description:

NAVSTA Mayport Proj#9970058

Label: 245-R
Date Sampled: 05/07/97
Time Sampled: 17:40
Date Received: 05/09/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Petroleum Range Organics							
TPH(C8-C40)	BDL	mg/l	FLPRO	0.65	05/13	05/17	SH
Dilution Factor	1.0		FLPRO		05/13	05/17	SH

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L19019-10

14502 Q835

Mobile

19019

BHATE Environmental Engineers and Scientists

CHAIN-OF-CUSTODY

NO.: 00001
Page: 1 of 1

1608 18th Avenue South
Birmingham, Alabama 35205
(205) 918-4000 (FAX) (205) 918-4050

PROJECT NO.: 99068-52
PROJECT NAME: NAVSTA Mayport
P.O. NO.:
LAB DESTINATION: V.O.C. Laboratories
SAMPLER(s) NAME: Dewey Trapp
TITLE: Geologist

Preserved (Code):
Iced (yes/no):
Code: A – None, B – HNO3, C – H2SO4, D – NaOH, E – HCl, F –

Lab Code – for Lab use only	Yr. / Date	Time	Comp	Grab	Sample No./ Sample Location	Soil	Water	Solid Waste	Non-Aqueous Liquid	No.	Volume	Type	Florida PRO	Test Method	Test Method	Test Method	Test Method	Test Method	REMARKS
	5/4/97	1555			245-7-2	☑	☐	☐	☐	1	8oz		✓						
	5/4/97	1700			350-R	☐	☑	☐	☐	1	1l		✓						
	5/7/97	0755			245-1-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	0914			245-2-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1020			245-4-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1127			245-5-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1235			245-8-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1415			245-6-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1524			245-3-2	☑	☐	☐	☐	1	8oz		✓						
	5/7/97	1740			245-R	☐	☑	☐	☐	1	1l		✓						

Relinquished by: (Signature):	Date:	Time:	Received by: (Signature):	Date:	Time:
Dewey Trapp	5/8/97	1639	J. Carr	5/8/97	1639
Relinquished by: (Signature):	Date:	Time:	Received by: (Signature):	Date:	Time:
Relinquished by: (Signature):	Date:	Time:	Received for Laboratory by: (Signature):	Date:	Time:

LAB COMMENTS

REMARKS ON SAMPLE RECEIVED BY LAB:		SAMPLE SHIPPING METHOD		SAMPLE CONTAINER TYPE
Bottle Intact:	☐	Hand Delivery	☐	P = Plastic
Preserved:	☐	Air (specify)	☐	G = Glass
Chilled:	☐	Other (specify)	☐	SA = Glass
Other:	☐			

DISTRIBUTION: WHITE COPY - Project File YELLOW COPY - Lab copy PINK COPY - Working File

Due 5/16

Our Quality Control Is Your Quality Assurance

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-1

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-1
Date Sampled: 06/10/97
Time Sampled: 08:30
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.014	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	40.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	46.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	80.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-1

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-1
Date Sampled: 06/10/97
Time Sampled: 08:30
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	BDL	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	BDL	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	100	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-1

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-2

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-2
Date Sampled: 06/10/97
Time Sampled: 09:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.032	mg/l	3010/6010A	0.10	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	56.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	57.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	83.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-2

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-2
Date Sampled: 06/10/97
Time Sampled: 09:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	BDL	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	BDL	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	113	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-2

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-4

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-3
Date Sampled: 06/10/97
Time Sampled: 10:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.012	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	50.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	55.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	80.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-4

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-3
Date Sampled: 06/10/97
Time Sampled: 10:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	BDL	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	BDL	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	98.0	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G	HRS# E86240,86356	NC CERT# 444
SUB HRS# 86122,86109,E86048	ADEM ID# 40850	ND CERT# R-148
SC CERT# 96031	TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13801	CA CERT# I-1068	USACE CERT
VA CERT# 00395	AZ CERT# AZ0529	MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-4

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-5

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-4
Date Sampled: 06/10/97
Time Sampled: 11:25
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.011	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	33	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	42	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	41	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	3.4	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	3.9	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	3.7	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	48.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	43.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	86.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	6.5	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-5

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-4
Date Sampled: 06/10/97
Time Sampled: 11:25
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	22	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	18	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	46.5	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	94.0	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G
SUB HRS# 86122,86109,E86048
SC CERT# 96031
ELPAT# 13801
VA CERT# 00395

HRS# E86240,86356
ADEM ID# 40850
TN CERT# 02985
CA CERT# I-1068
AZ CERT# AZ0529

NC CERT# 444
ND CERT# R-148
CT CERT# PH-0122
USACE CERT
MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-5

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-6

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-5
Date Sampled: 06/10/97
Time Sampled: 10:45
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.026	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	48.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	55.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	88.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-6

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-5
Date Sampled: 06/10/97
Time Sampled: 10:45
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	BDL	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	BDL	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	100	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
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Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G
SUB HRS# 86122,86109,E86048
SC CERT# 96031
ELPAT# 13801
VA CERT# 00395

HRS# E86240,86356
ADEM ID# 40850
TN CERT# 02985
CA CERT# I-1068
AZ CERT# AZ0529

NC CERT# 444
ND CERT# R-148
CT CERT# PH-0122
USACE CERT
MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-6

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-7

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-4A
Date Sampled: 06/10/97
Time Sampled: 11:25
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.010	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	26	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	28	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	33	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	3.4	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	3.5	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	2.1	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	57.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	59.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	90.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	6.3	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-7

Sample Description:

Navsta Mayport
9970082

Label: 245 MW-4A
Date Sampled: 06/10/97
Time Sampled: 11:25
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	21	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	16	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	43.3	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	94.0	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G
SUB HRS# 86122,86109,E86048
SC CERT# 96031
ELPAT# 13801
VA CERT# 00395

HRS# E86240,86356
ADEM ID# 40850
TN CERT# 02985
CA CERT# I-1068
AZ CERT# AZ0529

NC CERT# 444
ND CERT# R-148
CT CERT# PH-0122
USACE CERT
MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-7

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-3

Sample Description:

Navsta Mayport
9970082

Label: 245 R/A
Date Sampled: 06/10/97
Time Sampled: 10:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Metals							
Lead	0.0056	mg/l	3010/6010A	0.0050	06/13	06/13	GP
Polynuclear Aromatic Hydrocarbons							
Naphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
2-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
1-Methylnaphthalene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Acenaphthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluorene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Phenanthrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Chrysene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(b)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(k)fluoranthene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(a)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dibenzo(a,h)Anthracene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Indeno(1,2,3-c,d)pyrene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Benzo(g,h,i)perylene	BDL	ug/l	3510/8270	1.0	06/16	06/19	SW
Dilution Factor	1.0		3510/8270		06/16	06/19	SW
Surrogate Recoveries:							
Nitrobenzene-d5	56.0	%	3510/8270	35-114	06/16	06/19	SW
2-Fluorobiphenyl	59.0	%	3510/8270	43-116	06/16	06/19	SW
Terphenyl-d14	95.0	%	3510/8270	33-141	06/16	06/19	SW
Purgeable Aromatics							
Benzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Chlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME

Client #: MOB-97-020803
Address: Bhate Environmental
1608 13th Ave South
Suite 300
Birmingham, AL 35205
Dewey Trapp

Date: 06/23/97
Log #: L20391-3

Sample Description:

Navsta Mayport
9970082

Label: 245 R/A
Date Sampled: 06/10/97
Time Sampled: 10:05
Date Received: 06/10/97
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Purgeable Aromatics (continued)							
1,2-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,3-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
1,4-Dichlorobenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Ethylbenzene	BDL	ug/l	602	1.0	06/17	06/17	ME
Toluene	BDL	ug/l	602	1.0	06/17	06/17	ME
Total Xylenes	BDL	ug/l	602	1.0	06/17	06/17	ME
Total BTEX	BDL	ug/l	602	1.0	06/17	06/17	ME
MTBE	BDL	ug/l	602	1.0	06/17	06/17	ME
Dilution Factor	1.0		602		06/17	06/17	ME
Surrogate Recoveries:							
a,a,a-Trifluorotoluene	100	%	602	50-150	06/17	06/17	ME

BDL = Below Detection Limits
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All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 900376G
SUB HRS# 86122,86109,E86048
SC CERT# 96031
ELPAT# 13801
VA CERT# 00395

HRS# E86240,86356
ADEM ID# 40850
TN CERT# 02985
CA CERT# I-1068
AZ CERT# AZ0529

NC CERT# 444
ND CERT# R-148
CT CERT# PH-0122
USACE CERT
MA CERT# M-FL449

Respectfully submitted,
Project Manager
L20391-3

N-L90 R335

BHATE
Environmental Engineers and Scientists

1608 13th Avenue South
Birmingham, Alabama 35205
(205) 918-4000 (FAX) (205) 918-4050

CHAIN-OF-CUSTODY

L20404 LP

NO.: 00001
Page: 1 of 2

L20391

PROJECT NO.: 9970082 PROJECT NAME: NAVSTA MAYPORT

P.O. NO.: LAB DESTINATION:

SAMPLER(s) NAME: KRKW42

TITLE:

CONTAINERS

Preserved (Code)

Iced (yes/no)

Code: A – None, B – HNO3, C – H_2SO_4, D – NaOH, E – HCl, F –

Lab Code – for Lab use only	Yr. 97 Date	Time	Comp	Grab	Sample No./ Sample Location	SOIL	WATER	SOLID OTHER	NON-AQUEOUS LIQUID	No.	Volume	Type	TEST: METHOD: 602	TEST: METHOD: 610	TEST: METHOD: pb	TEST: METHOD:	TEST: METHOD:	REMARKS
	6/10	0830			245MW-1		X			5			3	1	1			
		0905			245MW-2		X			5			3	1	1			
		1005			245RA		X			5			3	1	1			
		1005			245MW-3		X			5			3	1	1			
		1125			245MW-4		X			5			3	1	1			
		1045			245MW-5		X			5			3	1	1			
		1125			245MW-4A		X			5			3	1	1			
		1410			1556BMW1		X			5			3	1	1			
		1445			1556BMW2		X			5			3	1	1			
		1445			1556BMW2A		X			5			3	1	1			

Relinquished by: (Signature):	Date:	Time:	Received by: (Signature):	Date:	Time:
KRKW	6/10/97	1613	EMCTW	6/10/97	1613
EMCTW	6/10/97	1657	[illegible]	6/10/97	1700
[illegible]	6/11/97	1700	Received for Laboratory by: (Signature): [illegible]	6/12/97	1120

LAB COMMENTS

3°C

REMARKS ON SAMPLE RECEIVED BY LAB:		SAMPLE SHIPPING METHOD		SAMPLE CONTAINER TYPE
Bottle Intact:	☐	Hand Delivery	☐	P = Plastic
Preserved:	☐	Air (specify)	☐	G = Glass
Chilled:	☐	Other (specify)	☐	GA = Glass Amber
Other:	☐			

DISTRIBUTION: WHITE COPY - Project File YELLOW COPY - Lab copy PINK COPY - Working File

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BHATE
Environmental Engineers and Scientists

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Birmingham, Alabama 35205
(205) 918-4000 (FAX) (205) 918-4050

CHAIN-OF-CUSTODY

L20391

~~L20404~~ NP

NO.: 001
Page: 2 of 3

PROJECT NO.: 9970082
PROJECT NAME: NAVSTA MAYPORT
P.O. NO.:
LAB DESTINATION:
SAMPLER(s) NAME:
TITLE: KR Kivlin

Preserved (Code)
Iced (yes/no)

Code: A – None, B – HNO3, C – H_2SO_4, D – NaOH, E – HCl, F –

Lab Code – for Lab use only	Yr. 97 Date 6/10	Time	Comp	Grab	Sample No./ Sample Location	SOIL	WATER	SOLID OTHER	NON-AQUEOUS LIQUID	No.	Volume	Type	TEST: METHOD: 602	TEST: METHOD: 610	TEST: METHOD: Pb	TEST: METHOD:	TEST: METHOD:	REMARKS
	6/10	1515			1556B RA		☒			5			3	1	1			
		1530			1556B MW3		☒			5			3	1	1			
					Trip Blank		☒			2			X					Added by L.P. Per mobile

Relinquished by: (Signature):	Date:	Time:	Received by: (Signature):	Date:	Time:
KRK	6/10/97	1613	EMCtk	6/10/97	1613
EMCtk	6/10/97	1657	[illegible]	6/10/97	1710
[illegible]	6/11/97	1700	Linda [illegible]	6/12/97	1120

LAB COMMENTS
3°C

REMARKS ON SAMPLE RECEIVED BY LAB:		SAMPLE SHIPPING METHOD		SAMPLE CONTAINER TYPE
Bottle Intact:	☐	Hand Delivery	☐	P = Plastic
Preserved:	☐	Air (specify)	☐	G = Glass
Chilled:	☐	Other (specify)	☐	GA = Glass Amber
Other:	☐			

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HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 1363
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 07-18-1997

USER NAME: cvc
DATE: 07-22-1997

Rw - BORING RADIUS (IN): 4.55
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 10.03
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.629 i

---

TIME (H,M,S)	DEPTH (FT)
0,0,0	4.91
0,0,1.16	4.72
0,0,2.32	4.29
0,0,3.48	3.99
0,0,4.63	3.81
0,0,5.79	3.68
0,0,6.94	3.62
0,0,8.11	3.55
0,0,9.26	3.5
0,0,10.42	3.45
0,0,11.58	3.44
0,0,12.73	3.42
0,0,13.89	3.39
0,0,15.05	3.39
0,0,16.21	3.37
0,0,17.36	3.37
0,0,18.52	3.34
0,0,23.15	3.34
0,0,24.31	3.34
0,0,25.46	3.34
0,0,26.63	3.31
0,0,27.78	3.31
0,0,35.88	3.31
0,0,35.88	3.29
0,0,38.2	3.29
0,0,38.2	3.31
0,0,39.36	3.29
0,0,39.36	3.31
0,0,40.51	3.29
0,0,40.51	3.29
0,0,41.67	3.29
0,0,41.67	3.27
0,0,42.83	3.29
0,0,42.83	3.29
0,0,43.98	3.29
0,0,43.98	3.29
0,0,45.14	3.27
0,0,45.14	3.27
0,0,46.3	3.29
0,0,46.3	3.29
0,0,47.46	3.27
0,0,47.46	3.29
0,0,48.61	3.27
0,0,48.61	3.27
0,0,49.77	3.27
0,0,49.77	3.27
0,0,50.93	3.27

(1/t) (ln(Yo/Yt))= 0.0381560

PARTIALLY PENETRATING: A= 2.35 B= 0.37

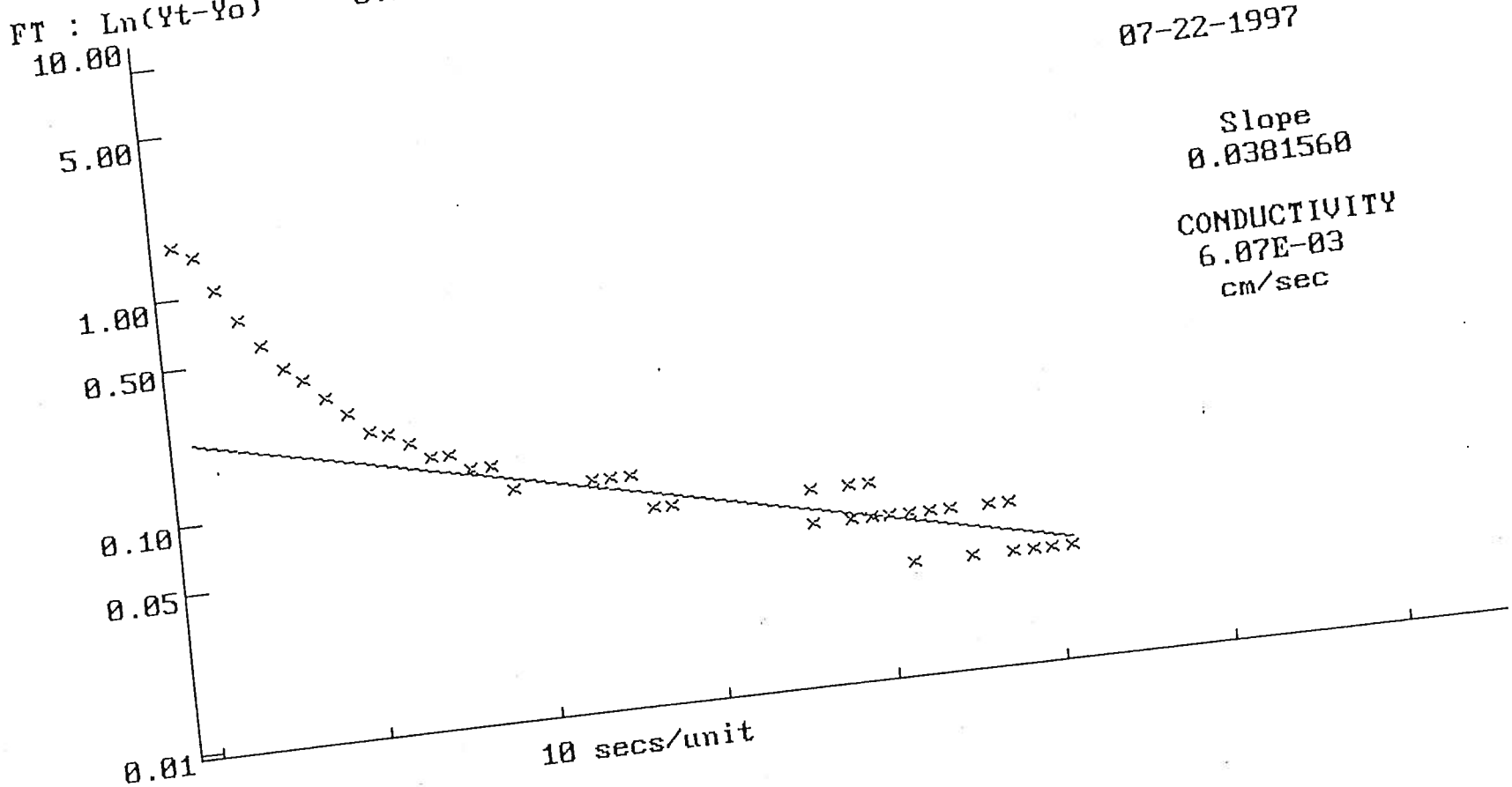
HYDRAULIC CONDUCTIVITY: 1.99E-04 ft/sec
6.07E-03 cm/sec

9970058 NAVSTA Mayport - UST 1363

cvc

Well: MW-3

07-22-1997



Slope
0.0381560

CONDUCTIVITY
6.07E-03
cm/sec

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-2

PROJECT NAME: NAVSTA Mayport - UST 1388
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-17-1997

USER NAME: cvc
DATE: 07-28-1997

Rw - BORING RADIUS (IN): 5.49
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 8.13
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 3.121 i

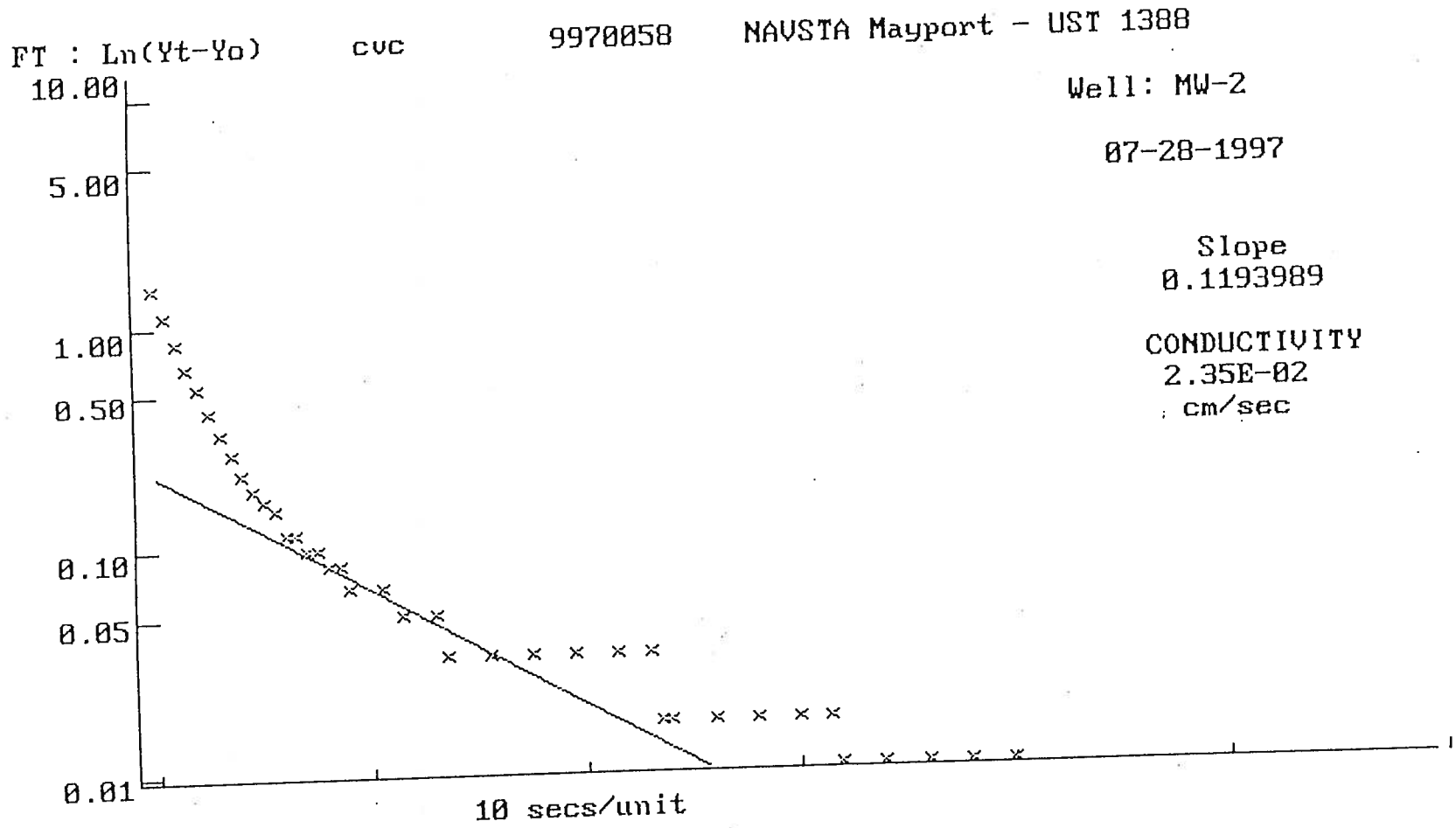
---

TIME (H,M,S)	DEPTH (FT)
0,0,0	5.3696
0,0,.5	5.0252
0,0,1	4.7628
0,0,1.5	4.566
0,0,2	4.4348
0,0,2.5	4.32
0,0,3	4.238
0,0,3.5	4.1724
0,0,4	4.1232
0,0,4.5	4.0904
0,0,5	4.074
0,0,5.5	4.0576
0,0,6	4.0248
0,0,6.5	4.0248
0,0,7	4.0084
0,0,7.5	4.0084
0,0,8	3.992
0,0,8.5	3.992
0,0,9	3.9756
0,0,10.5	3.9756
0,0,11.5	3.9592
0,0,13	3.9592
0,0,13.5	3.9428
0,0,15.5	3.9428
0,0,17.5	3.9428
0,0,19.5	3.9428
0,0,21.5	3.9428
0,0,23	3.9428
0,0,23.5	3.9264
0,0,24	3.9264
0,0,26	3.9264
0,0,28	3.9264
0,0,30	3.9264
0,0,31.5	3.9264
0,0,32	3.91
0,0,34	3.91
0,0,36	3.91
0,0,38	3.91
0,0,40	3.91

(1/t) (ln(Yo/Yt))= 0.1193989

PARTIALLY PENETRATING: A= 2.22 B= 0.35

HYDRAULIC CONDUCTIVITY: 7.72E-04 ft/sec
2.35E-02 cm/sec

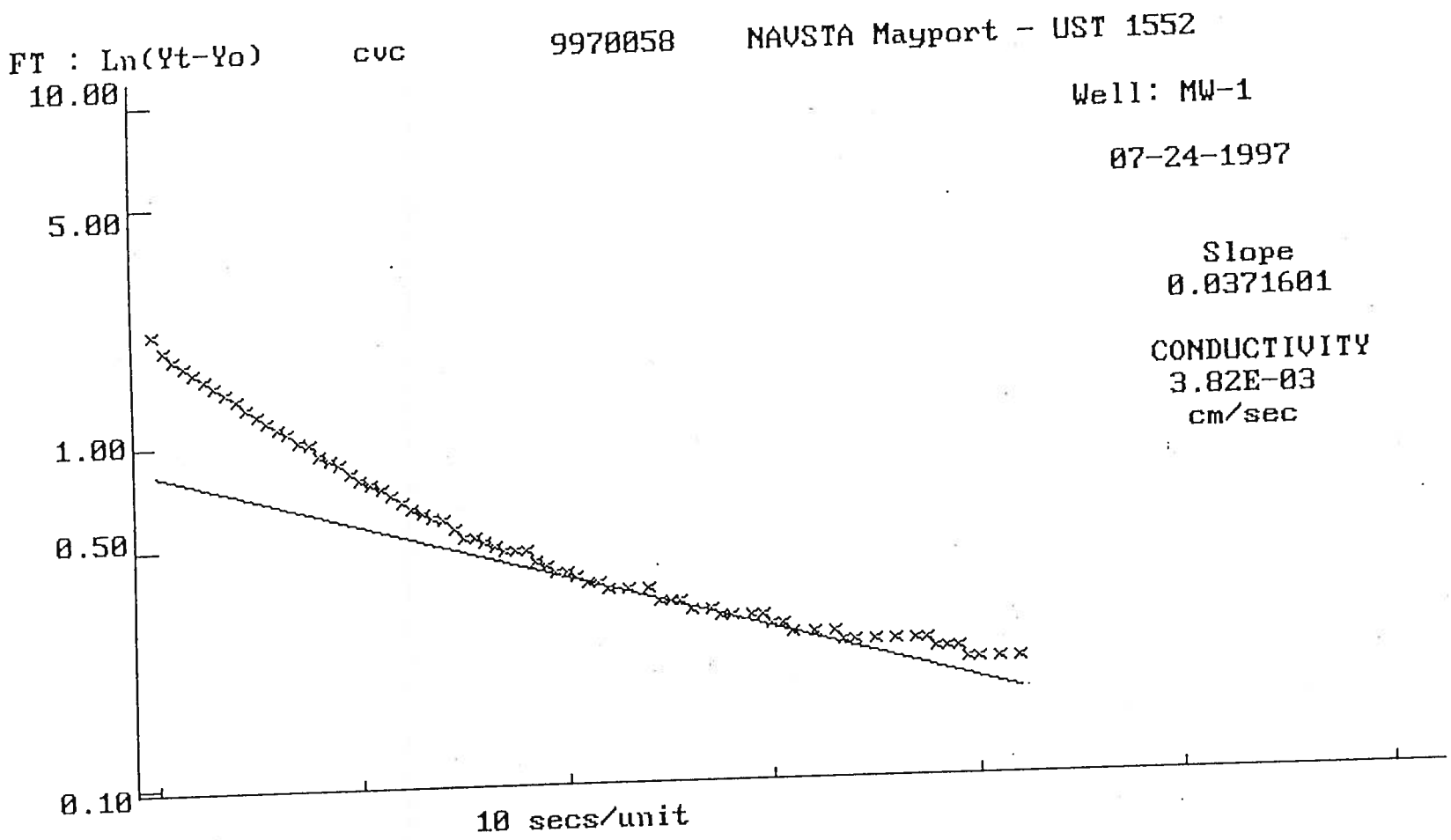

FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 1388
Well: MW-2
07-28-1997
Slope
0.1193989
CONDUCTIVITY
2.35E-02
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit

TIME (H,M,S)	DEPTH (FT)
0,0,33	3.3724
0,0,33.5	3.356
0,0,34	3.356
0,0,35	3.356
0,0,36	3.356
0,0,37	3.356
0,0,37.5	3.356
0,0,38	3.3396
0,0,38.5	3.3396
0,0,39	3.3396
0,0,39.5	3.3232
0,0,40	3.3232
0,0,41	3.3232
0,0,42	3.3232

(1/t) (ln(Yo/Yt))= 0.0371601

PARTIALLY PENETRATING: A= 2.58 B= 0.42

HYDRAULIC CONDUCTIVITY: 1.25E-04 ft/sec
3.82E-03 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 1552
Well: MW-1
07-24-1997
Slope
0.0371601
CONDUCTIVITY
3.82E-03
cm/sec
10.00
5.00
1.00
0.50
0.10
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 1556
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-17-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 6.06
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 7.88
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 3.423 i

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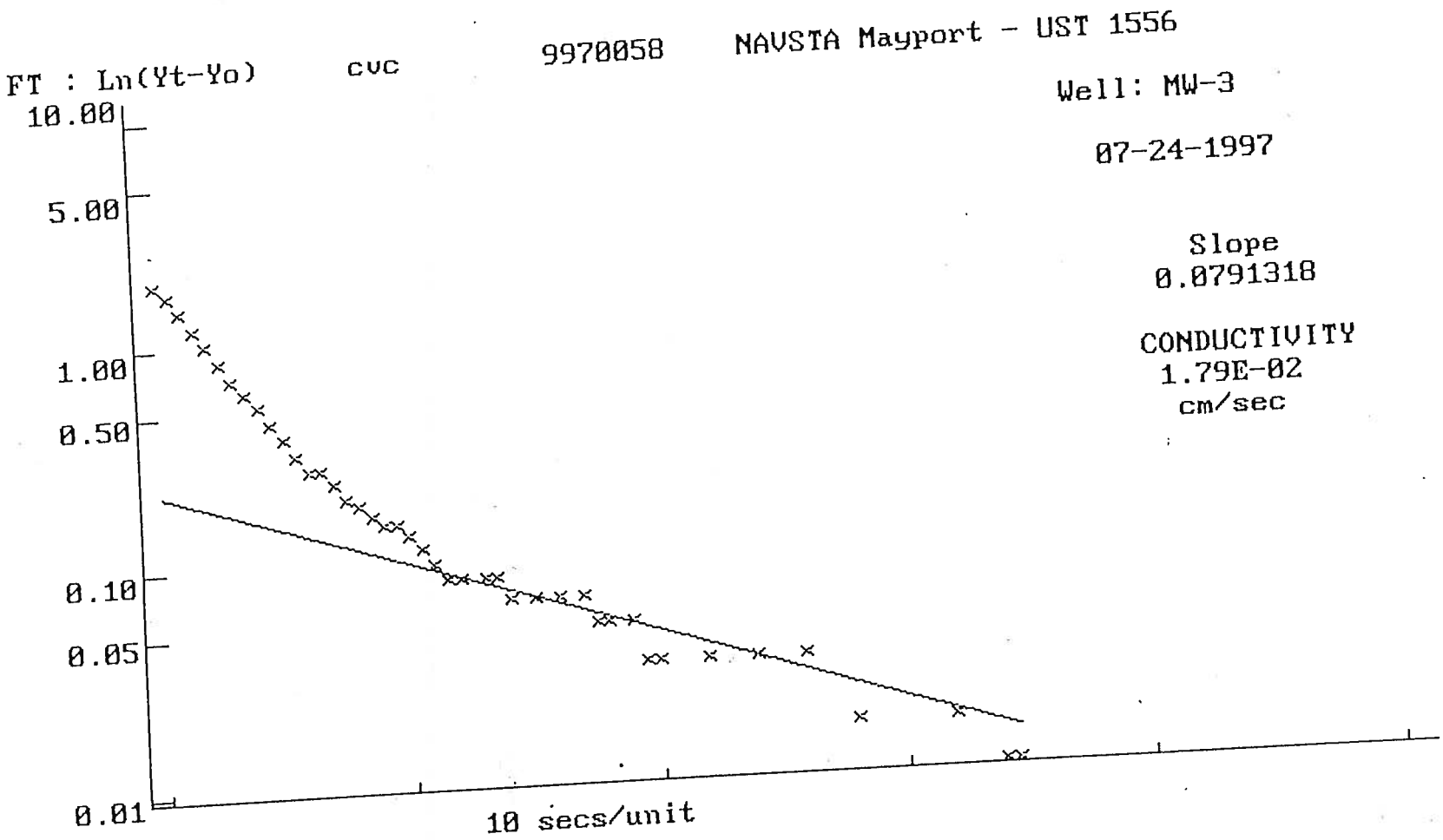
TIME (H,M,S)	DEPTH (FT)
0,0,0	6.836
0,0,.5	6.6556
0,0,1	6.3768
0,0,1.5	6.1472
0,0,2	5.9668
0,0,2.5	5.7864
0,0,3	5.6552
0,0,3.5	5.5568
0,0,4	5.4748
0,0,4.5	5.3928
0,0,5	5.3272
0,0,5.5	5.2616
0,0,6	5.2124
0,0,6.5	5.2124
0,0,7	5.1796
0,0,7.5	5.1468
0,0,8	5.1304
0,0,8.5	5.114
0,0,9	5.0976
0,0,9.5	5.0976
0,0,10	5.0812
0,0,10.5	5.0648
0,0,11	5.0484
0,0,11.5	5.032
0,0,12	5.032
0,0,13	5.032
0,0,13.5	5.032
0,0,14	5.0156
0,0,15	5.0156
0,0,16	5.0156

TIME (H,M,S)	DEPTH (FT)
0,0,17	5.0156
0,0,17.5	4.9992
0,0,18	4.9992
0,0,19	4.9992
0,0,19.5	4.9828
0,0,20	4.9828
0,0,22	4.9828
0,0,24	4.9828
0,0,26	4.9828
0,0,28	4.9664
0,0,32	4.9664
0,0,34	4.95
0,0,34.5	4.95

(1/t) (ln(Yo/Yt))= 0.0791318

PARTIALLY PENETRATING: A= 2.15 B= 0.34

HYDRAULIC CONDUCTIVITY: 5.86E-04 ft/sec
1.79E-02 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 1556
Well: MW-3
07-24-1997
Slope
0.0791318
CONDUCTIVITY
1.79E-02
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-2

PROJECT NAME: NAVSTA Mayport - UST 1864
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-16-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 3.2
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 9.16
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 1.942 i

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TIME (H,M,S)	DEPTH (FT)
0,0,0	7.0048
0,0,.5	6.89
0,0,1	6.7588
0,0,1.5	6.726
0,0,2	6.808
0,0,2.5	6.726
0,0,3	6.6276
0,0,3.5	6.5948
0,0,4	6.48
0,0,4.5	6.2504
0,0,5	6.5456
0,0,5.5	6.5784
0,0,6	6.562
0,0,6.5	6.4636
0,0,7	6.316
0,0,7.5	6.4636
0,0,8	6.316
0,0,8.5	6.2504
0,0,9	6.316
0,0,9.5	6.0864
0,0,10	5.8732
0,0,10.5	5.7256
0,0,11	5.6764
0,0,11.5	5.6436
0,0,12	5.6108
0,0,12.5	5.5944
0,0,13	5.5616
0,0,13.5	5.5288
0,0,14	5.5124
0,0,14.5	5.496
0,0,15	5.4796
0,0,15.5	5.4468
0,0,16	5.4304
0,0,16.5	5.414
0,0,17	5.3976
0,0,17.5	5.3812
0,0,18	5.3812
0,0,18.5	5.3484
0,0,19	5.3484
0,0,19.5	5.332
0,0,20	5.332
0,0,20.5	5.332
0,0,21	5.2992
0,0,21.5	5.2992
0,0,22	5.2992
0,0,22.5	5.2828
0,0,23	5.2664
0,0,23.5	5.2664
0,0,24	5.2664
0,0,24.5	5.2664
0,0,25	5.25
0,0,25.5	5.25
0,0,26	5.2336
0,0,26.5	5.2336
0,0,27	5.2172
0,0,27.5	5.2172
0,0,28	5.2172
0,0,28.5	5.2172
0,0,29	5.2172
0,0,29.5	5.2172

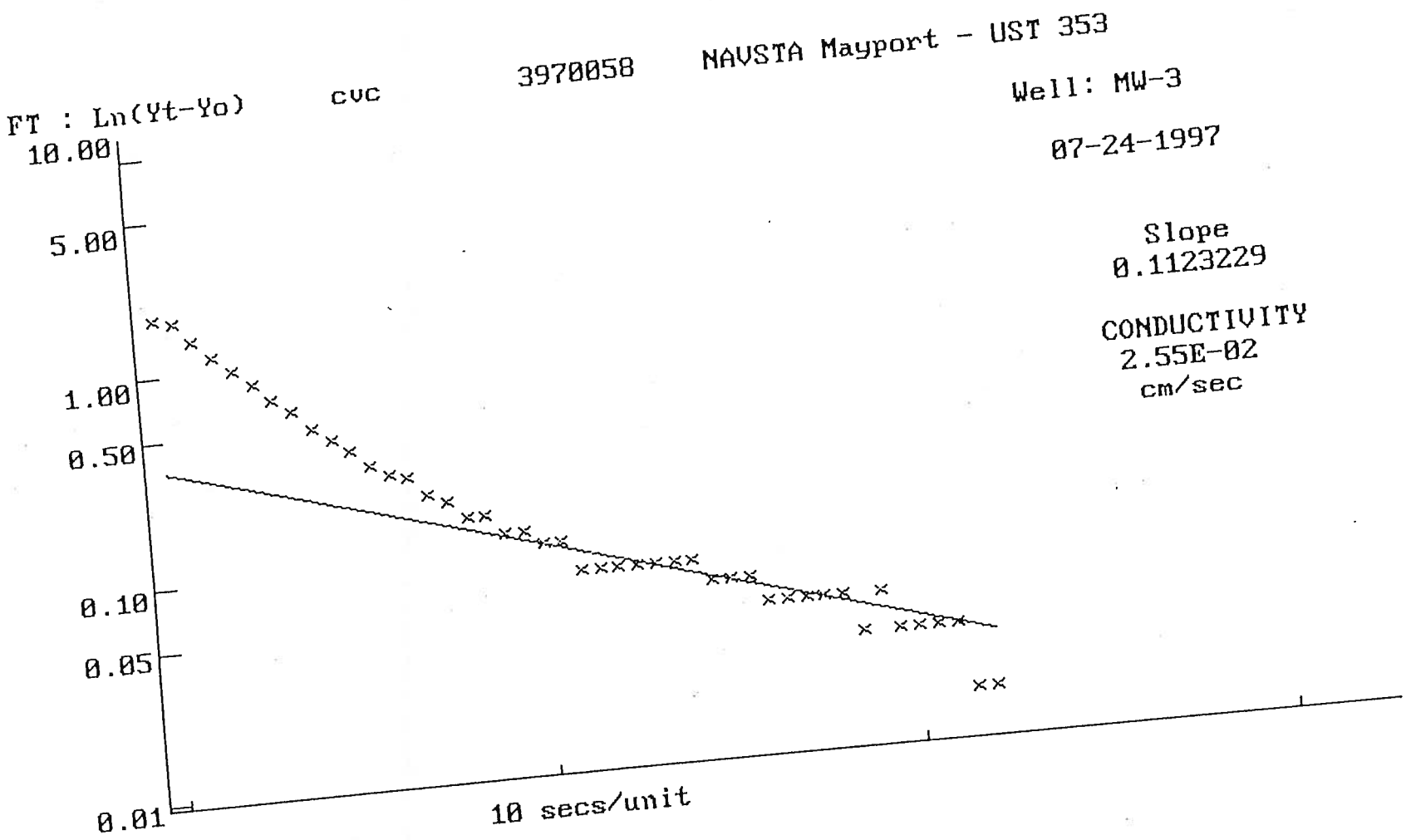
TIME (H,M,S)	DEPTH (FT)
0,0,30	5.2172
0,0,30.5	5.2008
0,0,31	5.1844
0,0,31.5	5.1844
0,0,32	5.1844
0,0,32.5	5.1844
0,0,33	5.1844
0,0,33.5	5.1844
0,0,34	5.168
0,0,34.5	5.168
0,0,35	5.1516
0,0,35.5	5.168
0,0,36	5.1516
0,0,36.5	5.1516
0,0,37	5.1516
0,0,37.5	5.1516
0,0,38	5.1516
0,0,38.5	5.1516
0,0,39	5.1516
0,0,39.5	5.1516

TIME (H,M,S)	DEPTH (FT)
0,0,40	5.1352
0,0,40.5	5.1352
0,0,41	5.1188
0,0,41.5	5.1188
0,0,42	5.1352
0,0,42.5	5.1188
0,0,43	5.1188
0,0,43.5	5.1188
0,0,44	5.1188
0,0,44.5	5.1188

(1/t) (ln(Yo/Yt))= 0.0272113

PARTIALLY PENETRATING: A= 2.62 B= 0.44

HYDRAULIC CONDUCTIVITY: 8.64E-05 ft/sec
2.63E-03 cm/sec


NAVSTA Mayport - UST 353
3970058
cvc
Well: MW-3
07-24-1997
FT : Ln(Yt-Yo)
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit
Slope
0.1123229
CONDUCTIVITY
2.55E-02
cm/sec

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 365
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-14-1997

USER NAME: cvc
DATE: 07-28-1997

Rw - BORING RADIUS (IN): 5.02
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 9.63
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.874 i

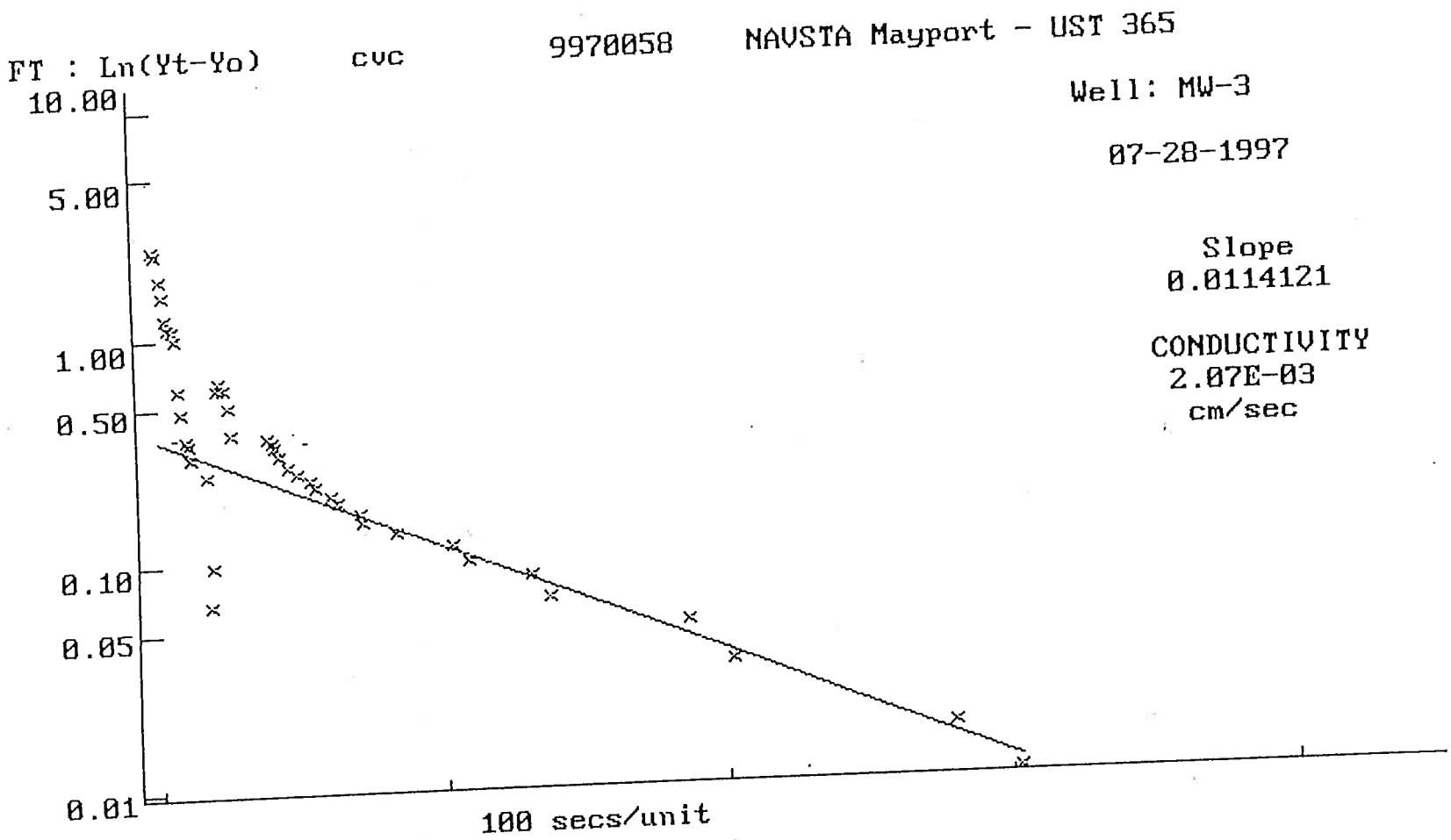
---

TIME (H,M,S)	DEPTH (FT)
0,0,0	5.8464
0,0,1	5.7316
0,0,2	5.174
0,0,3	4.9116
0,0,4	4.6
0,0,5	4.4852
0,0,6	4.4524
0,0,7	4.3704
0,0,8	3.9604
0,0,9	3.8456
0,0,10	3.7308
0,0,11	3.7144
0,0,12	3.6652
0,0,17	3.616
0,0,18	3.4356
0,0,19	3.4684
0,0,21	3.9604
0,0,22	4.0096
0,0,24	3.9604
0,0,25	3.862
0,0,26	3.7472
0,0,39	3.7308
0,0,40	3.7144
0,0,41	3.698
0,0,43	3.6652
0,0,46	3.6324
0,0,49	3.616
0,0,54	3.5996
0,0,55	3.5832
0,1,1	3.5668
0,1,3	3.5504
0,1,11	3.534
0,1,12	3.5176
0,1,24	3.5012
0,1,43	3.4848
0,1,49	3.4684
0,2,11	3.452
0,2,17	3.4356
0,3,6	3.4192
0,3,22	3.4028
0,4,40	3.3864
0,5,3	3.37

(1/t) (ln(Yo/Yt))= 0.0114121

PARTIALLY PENETRATING: A= 2.28 B= 0.36

HYDRAULIC CONDUCTIVITY: 6.78E-05 ft/sec
2.07E-03 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 365
Well: MW-3
07-28-1997
Slope
0.0114121
CONDUCTIVITY
2.07E-03
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
100 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 1326
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-18-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 4.28
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 10.34
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.489 i

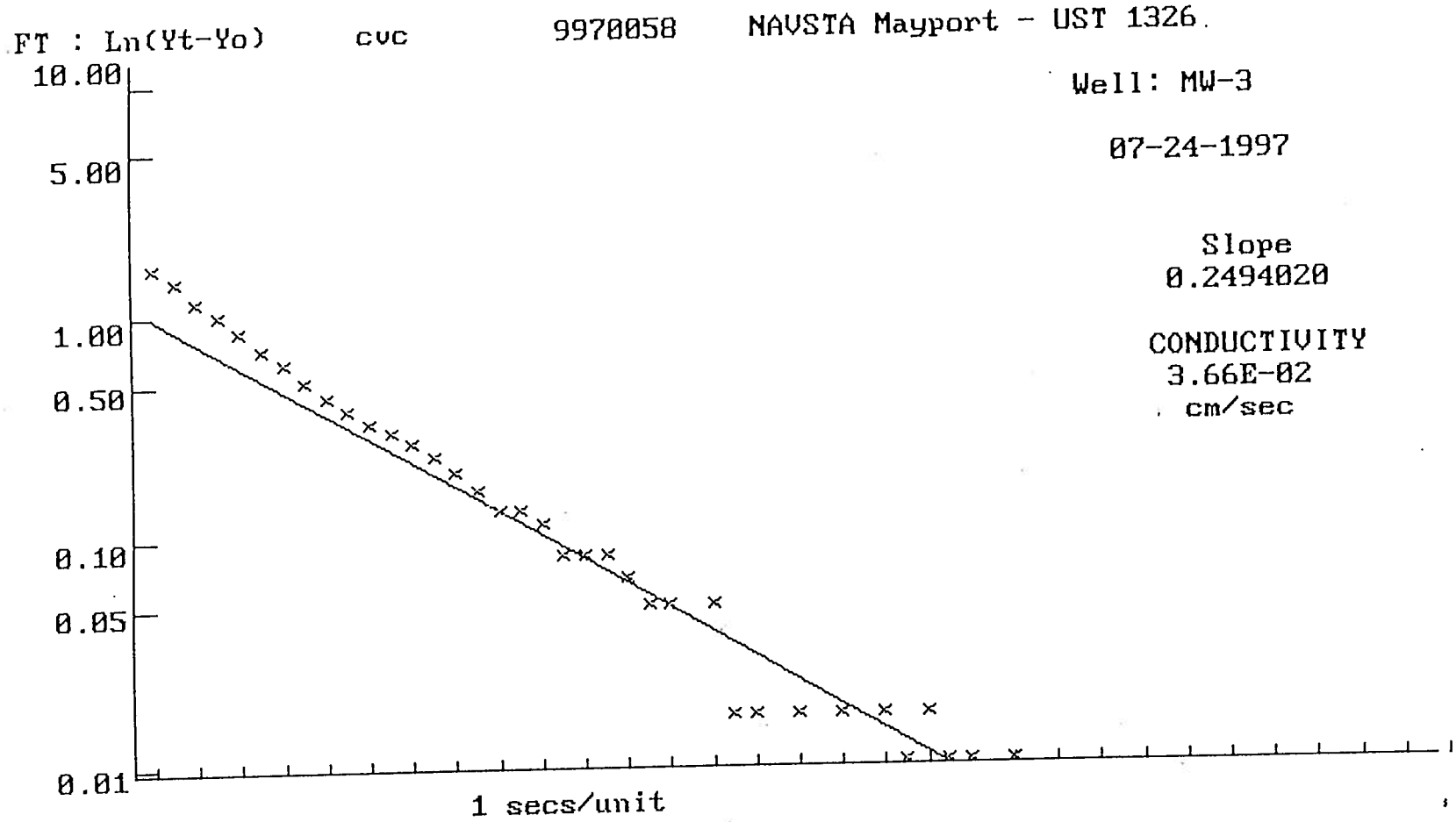
---

TIME (H,M,S)	DEPTH (FT)
0,0,0	3.6136
0,0,.5	3.384
0,0,1	3.138
0,0,1.5	2.974
0,0,2	2.8264
0,0,2.5	2.6952
0,0,3	2.5968
0,0,3.5	2.4984
0,0,4	2.4164
0,0,4.5	2.3672
0,0,5	2.318
0,0,5.5	2.2852
0,0,6	2.2524
0,0,6.5	2.2196
0,0,7	2.1868
0,0,7.5	2.154
0,0,8	2.1212
0,0,8.5	2.1212
0,0,9	2.1048
0,0,9.5	2.072
0,0,10	2.072
0,0,10.5	2.072
0,0,11	2.0556
0,0,11.5	2.0392
0,0,12	2.0392
0,0,13	2.0392
0,0,13.5	2.0064
0,0,14	2.0064
0,0,15	2.0064
0,0,16	2.0064
0,0,17	2.0064
0,0,17.5	1.99
0,0,18	2.0064
0,0,18.5	1.99
0,0,19	1.99
0,0,20	1.99

(1/t) (ln(Yo/Yt))= 0.2494020

PARTIALLY PENETRATING: A= 2.40 B= 0.38

HYDRAULIC CONDUCTIVITY: 1.20E-03 ft/sec
3.66E-02 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 1326
Well: MW-3
07-24-1997
Slope
0.2494020
CONDUCTIVITY
3.66E-02
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
1 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-2

PROJECT NAME: NAVSTA Mayport - UST 1343
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-14-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 3.5
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 9.39
START TIME (H,M,S): 0,0,0

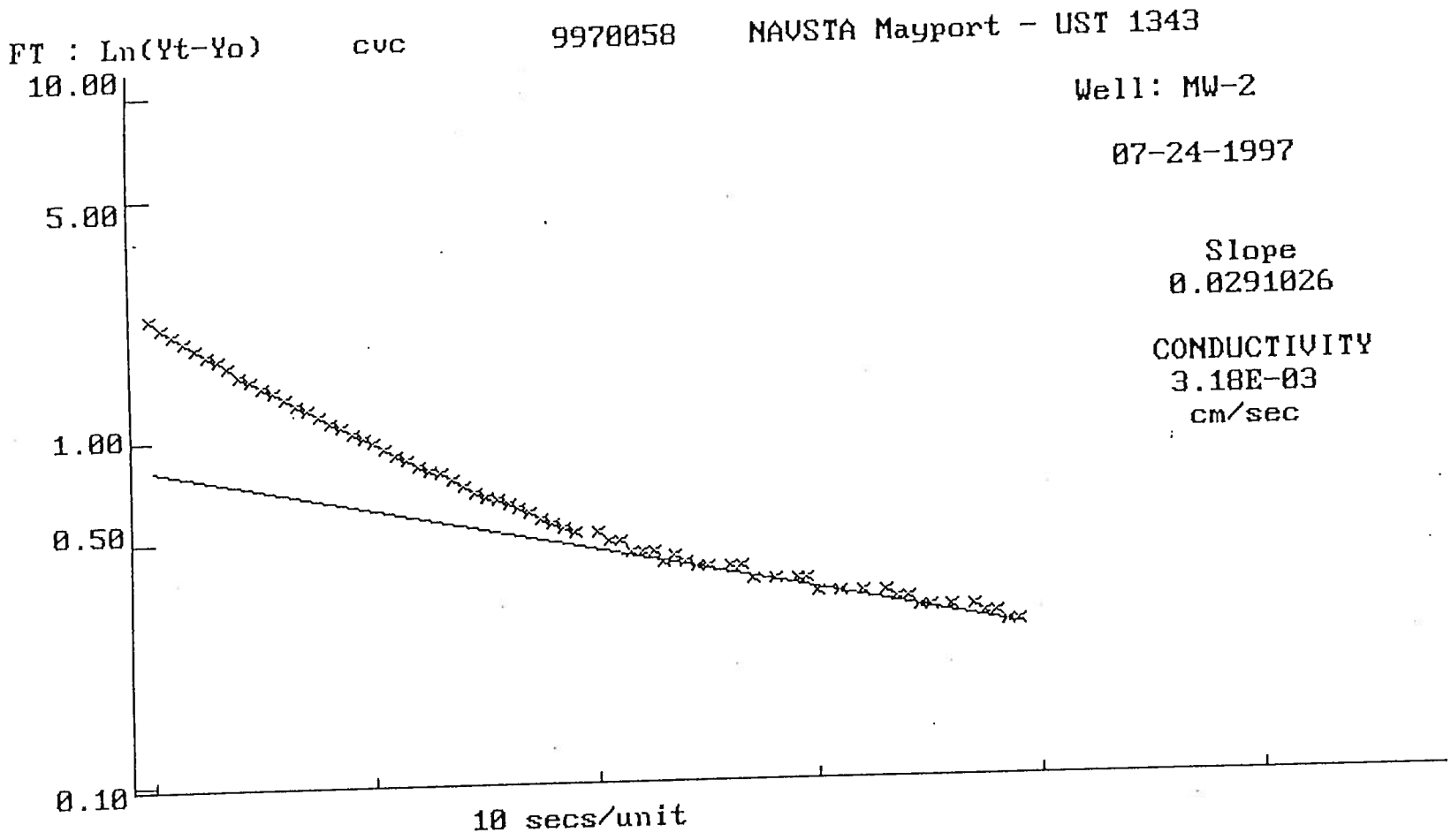
Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.092 i

---

TIME (H,M,S)	DEPTH (FT)
0,0,0	6.4368
0,0,.5	6.2892
0,0,1	6.1908
0,0,1.5	6.0924
0,0,2	6.0104
0,0,2.5	5.9284
0,0,3	5.8628
0,0,3.5	5.7972
0,0,4	5.6988
0,0,4.5	5.6496
0,0,5	5.584
0,0,5.5	5.5348
0,0,6	5.4692
0,0,6.5	5.42
0,0,7	5.3708
0,0,7.5	5.3216
0,0,8	5.2724
0,0,8.5	5.2396
0,0,9	5.1904
0,0,9.5	5.1576
0,0,10	5.1248
0,0,10.5	5.0756
0,0,11	5.0428
0,0,11.5	5.01
0,0,12	4.9772
0,0,12.5	4.9444
0,0,13	4.928
0,0,13.5	4.8952
0,0,14	4.8624
0,0,14.5	4.8296

TIME (H,M,S)	DEPTH (FT)
0,0,15	4.8132
0,0,15.5	4.7968
0,0,16	4.7804
0,0,16.5	4.764
0,0,17	4.7476
0,0,17.5	4.7148
0,0,18	4.6984
0,0,18.5	4.682
0,0,19	4.6656
0,0,20	4.6656
0,0,20.5	4.6328
0,0,21	4.6328
0,0,21.5	4.6
0,0,22	4.6
0,0,22.5	4.6
0,0,23	4.5672
0,0,23.5	4.5836
0,0,24	4.5672
0,0,24.5	4.5508
0,0,25	4.5508
0,0,26	4.5508
0,0,26.5	4.5508
0,0,27	4.518
0,0,28	4.518
0,0,29	4.518
0,0,29.5	4.518
0,0,30	4.4852
0,0,31	4.4852
0,0,32	4.4852
0,0,33	4.4852


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 1343
Well: MW-2
07-24-1997
Slope
0.0291026
CONDUCTIVITY
3.18E-03
cm/sec
10.00
5.00
1.00
0.50
0.10
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-2

PROJECT NAME: NAVSTA Mayport - Fuel Farm MW-2
PROJECT NUMBER: 9970058
FIELD WORK DATE(S):

USER NAME: cvc
DATE: 07-28-1997

Rw - BORING RADIUS (IN): 5.2
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 4.07
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.969 i

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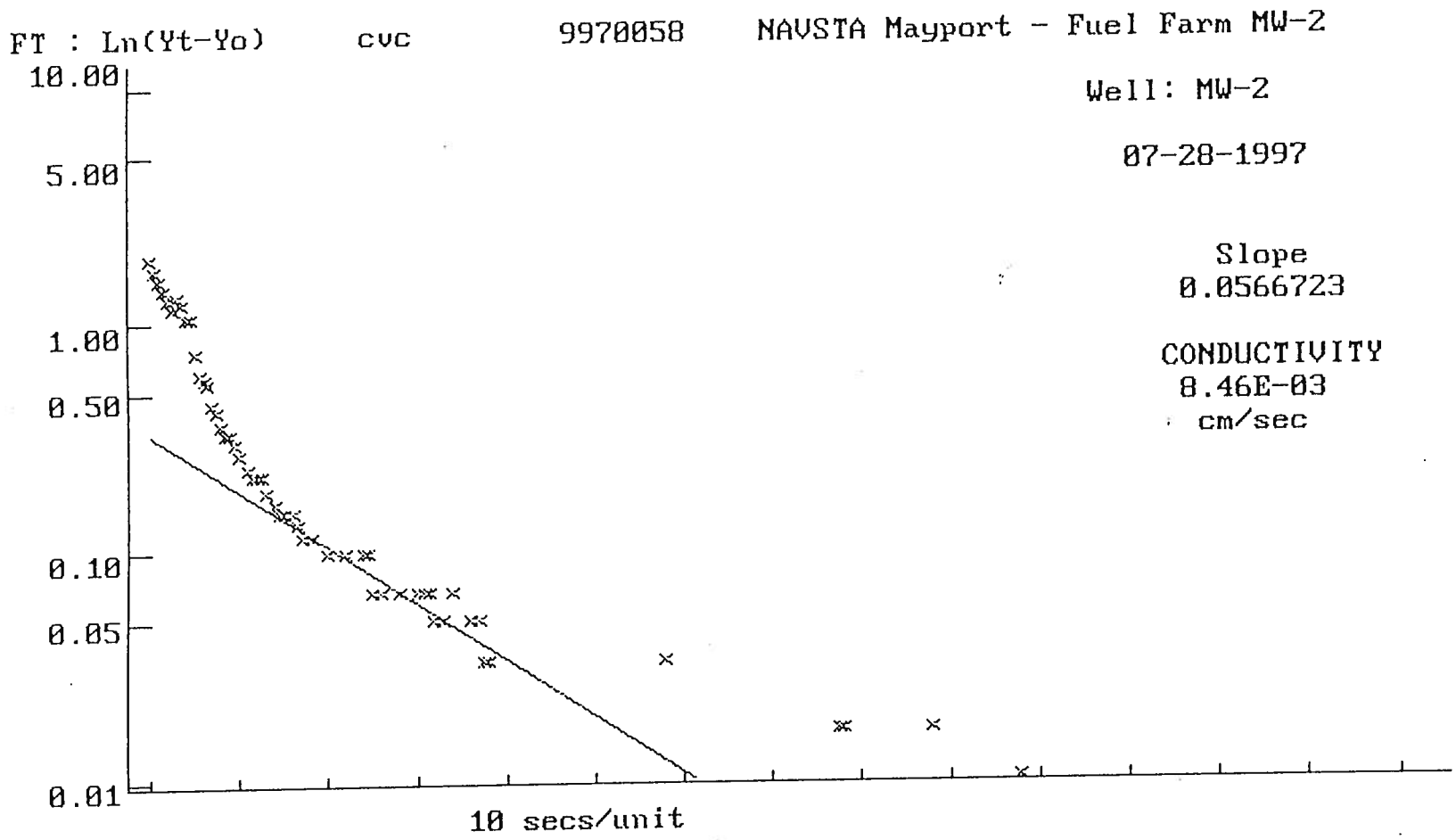
TIME (H,M,S)	DEPTH (FT)
0,0,0	14.2232
0,0,.5	14.0264
0,0,1	13.8624
0,0,1.5	13.7476
0,0,2	13.6328
0,0,2.5	13.5016
0,0,3	13.6492
0,0,3.5	13.5672
0,0,4	13.4196
0,0,4.5	13.4032
0,0,5	13.108
0,0,5.5	12.9604
0,0,6	12.944
0,0,6.5	12.9112
0,0,7	12.8128
0,0,7.5	12.78
0,0,8	12.7308
0,0,8.5	12.698
0,0,9	12.698
0,0,9.5	12.6652
0,0,10	12.6324
0,0,11	12.5996
0,0,11.5	12.5832
0,0,12	12.5832
0,0,12.5	12.5832
0,0,13	12.5504
0,0,14	12.534
0,0,14.5	12.5176
0,0,15	12.5176
0,0,16	12.5176
0,0,16.5	12.5012
0,0,17	12.4848
0,0,18	12.4848
0,0,20	12.4684
0,0,22	12.4684
0,0,24	12.4684
0,0,24.5	12.4684
0,0,25	12.4356
0,0,26	12.4356
0,0,28	12.4356
0,0,30	12.4356
0,0,31	12.4356
0,0,31.5	12.4356
0,0,32	12.4192
0,0,33	12.4192
0,0,34	12.4356
0,0,36	12.4192
0,0,37	12.4192
0,0,37.5	12.4028
0,0,38	12.4028
0,0,58	12.4028
0,1,17.5	12.3864
0,1,18	12.3864
0,1,28	12.3864
0,1,38	12.37

(1/t) (ln(Yo/Yt))= 0.0566723

PARTIALLY PENETRATING: A= 2.26 B= 0.36

HYDRAULIC CONDUCTIVITY: 2.78E-04 ft/sec
8.46E-03 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - Fuel Farm MW-2
Well: MW-2
07-28-1997
Slope
0.0566723
CONDUCTIVITY
8.46E-03
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-5

PROJECT NAME: NAVSTA Mayport - Fuel Farm MW-5
PROJECT NUMBER: 9970058
FIELD WORK DATE(S):

USER NAME: cvc
DATE: 07-28-1997

Rw - BORING RADIUS (IN): 5.07
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 4.14
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.900 i

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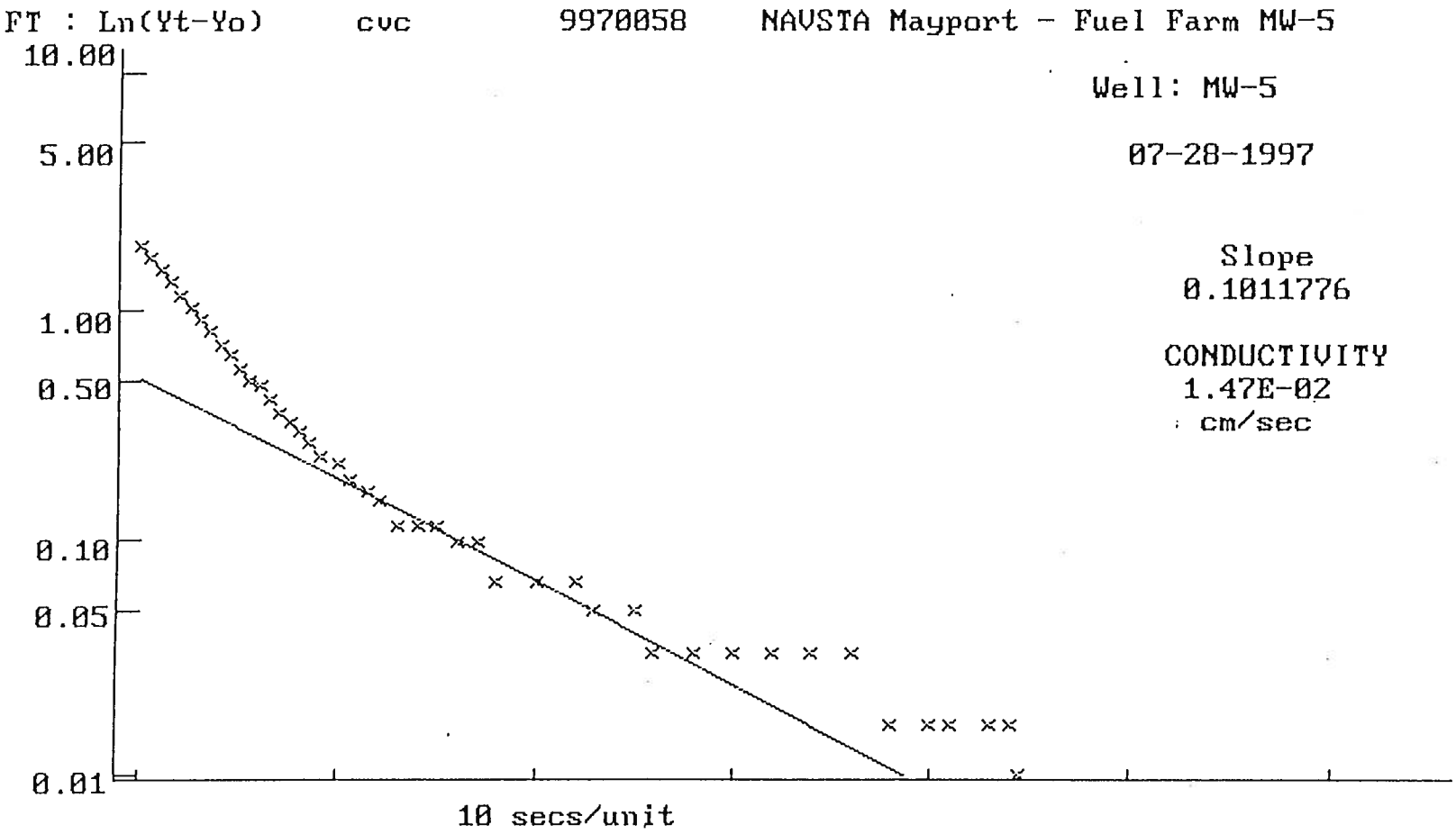
TIME (H,M,S)	DEPTH (FT)
0,0,0	11.8232
0,0,.5	11.6264
0,0,1	11.4296
0,0,1.5	11.282
0,0,2	11.118
0,0,2.5	10.9868
0,0,3	10.872
0,0,3.5	10.7736
0,0,4	10.6752
0,0,4.5	10.6096
0,0,5	10.5276
0,0,5.5	10.462
0,0,6	10.4456
0,0,6.5	10.38
0,0,7	10.3308
0,0,7.5	10.298
0,0,8	10.2652
0,0,8.5	10.2324
0,0,9	10.1996
0,0,10	10.1832
0,0,10.5	10.1504
0,0,11.5	10.134
0,0,12	10.1176
0,0,13	10.0848
0,0,14	10.0848
0,0,15	10.0848
0,0,16	10.0684
0,0,17	10.0684
0,0,18	10.0356
0,0,20	10.0356

TIME (H,M,S)	DEPTH (FT)
0,0,22	10.0356
0,0,23	10.0192
0,0,25	10.0192
0,0,26	10.0028
0,0,28	10.0028
0,0,30	10.0028
0,0,32	10.0028
0,0,34	10.0028
0,0,36	10.0028
0,0,38	9.9864
0,0,40	9.9864
0,0,41	9.9864
0,0,43	9.9864
0,0,44	9.9864
0,0,44.5	9.97

(1/t) (ln(Yo/Yt))= 0.1011776

PARTIALLY PENETRATING: A= 2.27 B= 0.36

HYDRAULIC CONDUCTIVITY: 4.82E-04 ft/sec
1.47E-02 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - Fuel Farm MW-5
Well: MW-5
07-28-1997
Slope
0.1011776
CONDUCTIVITY
1.47E-02
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 245
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-14-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 4.88
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 8.44
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.801 i

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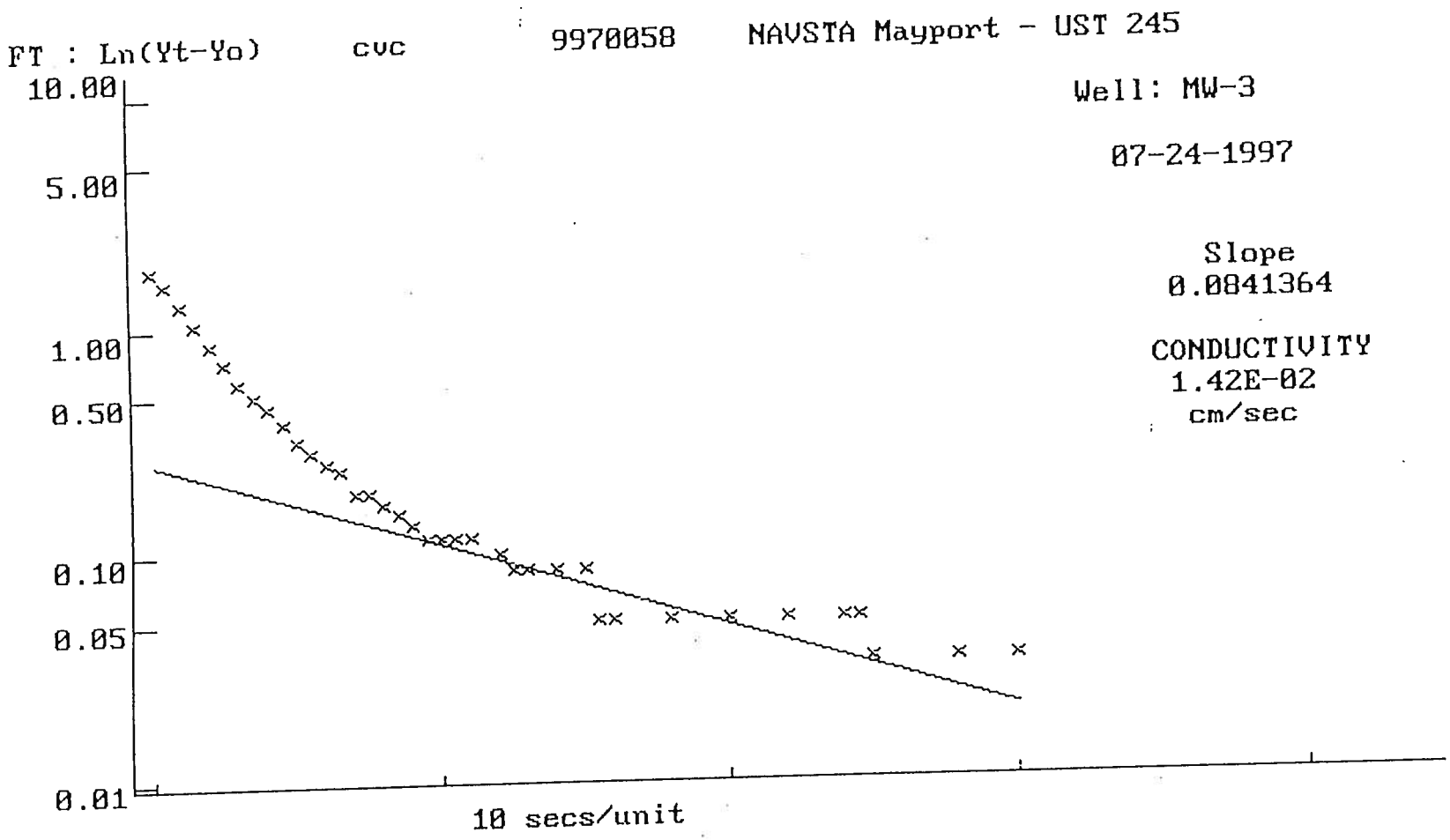
TIME (H,M,S)	DEPTH (FT)
0,0,0	5.6004
0,0,.5	5.3544
0,0,1	5.0592
0,0,1.5	4.8296
0,0,2	4.6328
0,0,2.5	4.4852
0,0,3	4.354
0,0,3.5	4.272
0,0,4	4.2228
0,0,4.5	4.1572
0,0,5	4.0916
0,0,5.5	4.0588
0,0,6	4.026
0,0,6.5	4.0096
0,0,7	3.9604
0,0,7.5	3.9604
0,0,8	3.944
0,0,8.5	3.9276
0,0,9	3.9112
0,0,9.5	3.8948
0,0,10	3.8948
0,0,10.5	3.8948
0,0,11	3.8948
0,0,12	3.8784
0,0,12.5	3.862
0,0,13	3.862
0,0,14	3.862
0,0,15	3.862
0,0,15.5	3.8292
0,0,16	3.8292
0,0,18	3.8292
0,0,20	3.8292
0,0,22	3.8292
0,0,24	3.8292
0,0,24.5	3.8292
0,0,25	3.8128
0,0,28	3.8128
0,0,30	3.8128


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 245
Well: MW-3
07-24-1997
Slope
0.0841364
CONDUCTIVITY
1.42E-02
cm/sec
10.00
5.00
1.00
0.50
0.10
0.05
0.01
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 350
PROJECT NUMBER: 9970058
FIELD WORK DATE(S): 06-14-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 3.72
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 8.7
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 2.203 i

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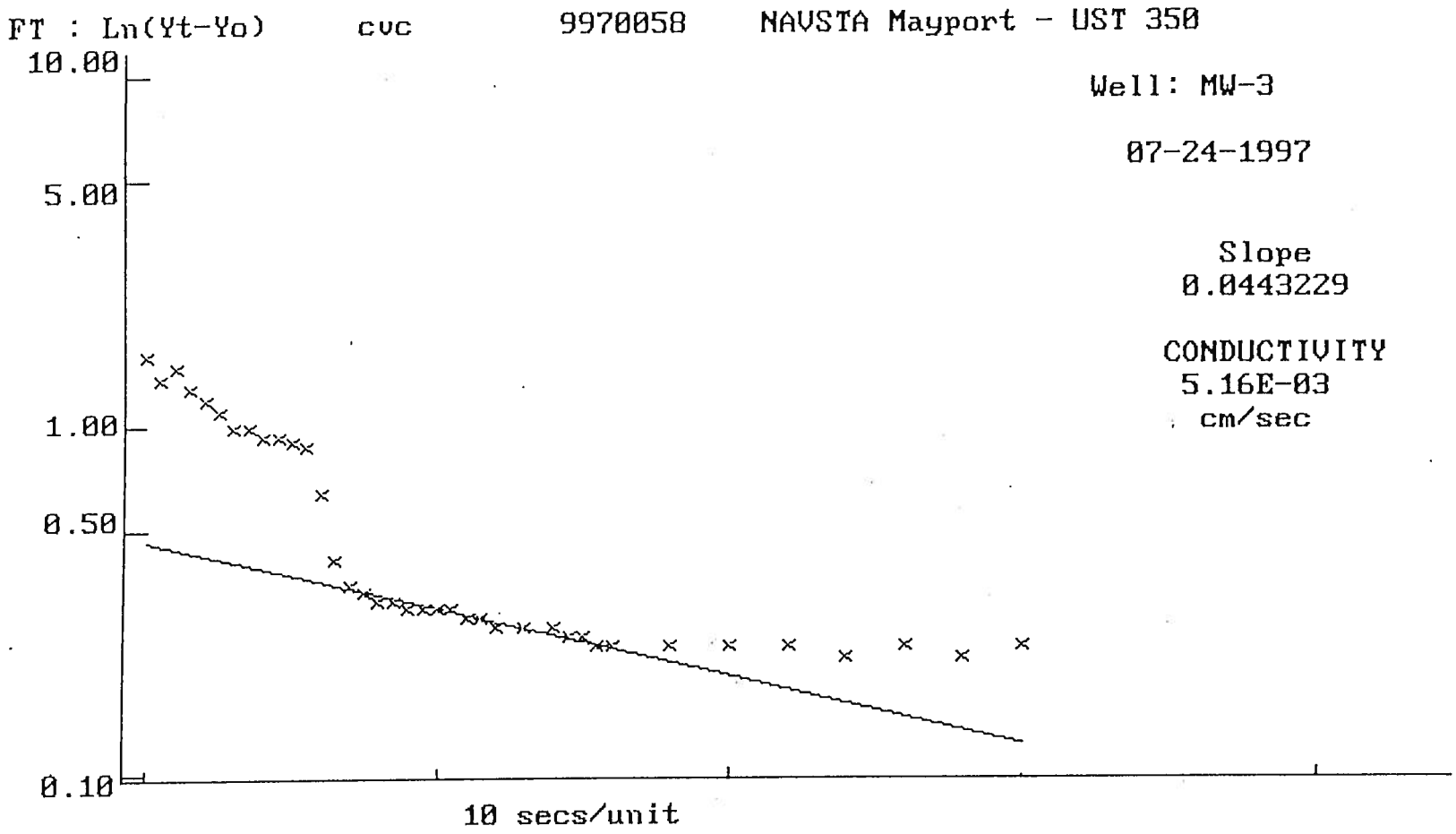
TIME (H,M,S)	DEPTH (FT)
0,0,0	6.4472
0,0,.5	6.2012
0,0,1	6.316
0,0,1.5	6.1192
0,0,2	6.0372
0,0,2.5	5.9388
0,0,3	5.824
0,0,3.5	5.824
0,0,4	5.7748
0,0,4.5	5.7748
0,0,5	5.742
0,0,5.5	5.7092
0,0,6	5.4796
0,0,6.5	5.25
0,0,7	5.1844
0,0,7.5	5.168
0,0,8	5.1516
0,0,8.5	5.1516
0,0,9	5.1352
0,0,9.5	5.1352
0,0,10	5.1352
0,0,10.5	5.1352
0,0,11	5.1188
0,0,11.5	5.1188
0,0,12	5.1024
0,0,13	5.1024
0,0,14	5.1024
0,0,14.5	5.086
0,0,15	5.086
0,0,15.5	5.0696
0,0,16	5.0696
0,0,18	5.0696
0,0,20	5.0696
0,0,22	5.0696
0,0,24	5.0532
0,0,26	5.0696
0,0,28	5.0532
0,0,30	5.0696

(1/t) (ln(Yo/Yt))= 0.0841364

PARTIALLY PENETRATING: A= 2.30 B= 0.36

HYDRAULIC CONDUCTIVITY: 4.65E-04 ft/sec
1.42E-02 cm/sec


FT : Ln(Yt-Yo)
cvc
9970058
NAVSTA Mayport - UST 350
Well: MW-3
07-24-1997
Slope
0.0443229
CONDUCTIVITY
5.16E-03
cm/sec
10.00
5.00
1.00
0.50
0.10
10 secs/unit

HYDROCON - 1.2
HYDRAULIC CONDUCTIVITY
Bouwer and Rice Method

Well: MW-3

PROJECT NAME: NAVSTA Mayport - UST 353
PROJECT NUMBER: 3970058
FIELD WORK DATE(S): 06-17-1997

USER NAME: cvc
DATE: 07-24-1997

Rw - BORING RADIUS (IN): 5.94
L - SCREEN LENGTH (FT): 9.5
HT - SCREEN BASE TO WATER TABLE (FT): 8.96
START TIME (H,M,S): 0,0,0

Rc - WELL RADIUS (IN): 1
D - AQUIFER THICKNESS (FT)
STATIC WATER LEVEL (FT):

Rc was corrected for response in well screen filter material to 3.359 i

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TIME (H,M,S)	DEPTH (FT)
0,0,0	4.6404
0,0,.5	4.542
0,0,1	4.2304
0,0,1.5	4.0008
0,0,2	3.804
0,0,2.5	3.6564
0,0,3	3.5252
0,0,3.5	3.4268
0,0,4	3.312
0,0,4.5	3.2464
0,0,5	3.1972
0,0,5.5	3.1316
0,0,6	3.0988
0,0,6.5	3.0824
0,0,7	3.0332
0,0,7.5	3.0168
0,0,8	2.984
0,0,8.5	2.984
0,0,9	2.9512
0,0,9.5	2.9512
0,0,10	2.9348
0,0,10.5	2.9348
0,0,11	2.902
0,0,11.5	2.902
0,0,12	2.902
0,0,12.5	2.902
0,0,13	2.902
0,0,13.5	2.902
0,0,14	2.902
0,0,14.5	2.8856
0,0,15	2.8856
0,0,15.5	2.8856
0,0,16	2.8692
0,0,16.5	2.8692
0,0,17	2.8692
0,0,17.5	2.8692
0,0,18	2.8692
0,0,18.5	2.8528
0,0,19	2.8692
0,0,19.5	2.8528
0,0,20	2.8528
0,0,20.5	2.8528
0,0,21	2.8528
0,0,21.5	2.8364
0,0,22	2.8364

(1/t) (ln(Yo/Yt))= 0.1123229

PARTIALLY PENETRATING: A= 2.17 B= 0.34

HYDRAULIC CONDUCTIVITY: 8.35E-04 ft/sec
2.55E-02 cm/sec