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RESPONSE TO COMMENTS FROM U S EPA REGION IV AND REGULATORY COMMENTS REGARDING TECHNICAL MEMORANDUM BACKGROUND CHARACTERIZATION ACTIVITIES NS MAYPORT FL

3/1/1994

ABB ENVIRONMENTAL

RESPONSE TO COMMENTS FROM U.S. ENVIRONMENTAL PROTECTION AGENCY AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION TECHNICAL MEMORANDUM BACKGROUND CHARACTERIZATION ACTIVITIES RCRA FACILITY INVESTIGATION

U.S. NAVAL STATION MAYPORT, FLORIDA

UIC: N60201

Contract No. N62467-89-D-0317

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Technical Memorandum Background Characterization Activities
RCRA Facility Investigation, NAVSTA Mayport, Florida

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1.0 INTRODUCTION

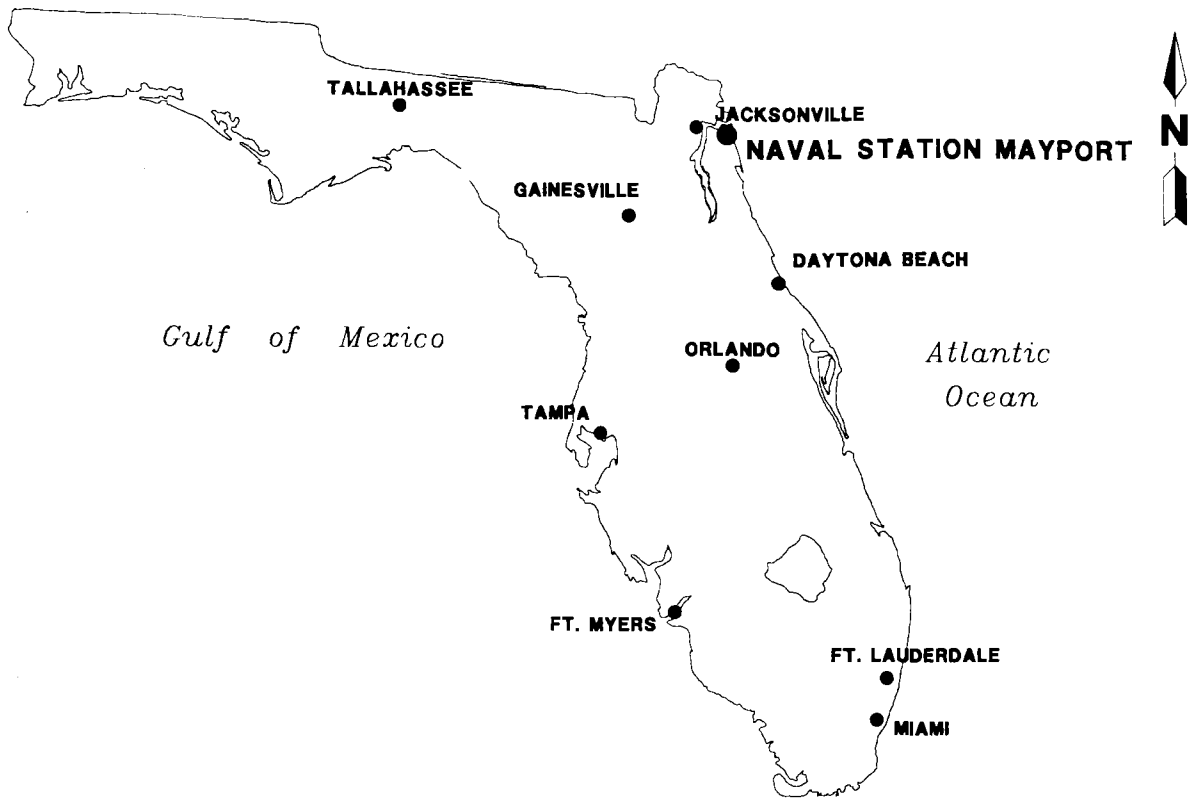
ABB Environmental Services, Inc, (ABB-ES) under the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract, No. N62467-89-D-0317, is conducting a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) on behalf of the U.S. Navy at the Naval Station (NAVSTA) Mayport, Florida. The location of NAVSTA Mayport is illustrated in Figure 1-1 and sites being investigated under the RFI are illustrated on Figure 1-2. This investigation is being conducted in accordance with the Hazardous and Solid Waste Amendment (HSWA) permit No. FL9-170-024-260, issued by the U.S. Environmental Protection Agency (USEPA) on March 25, 1988 and revised and reissued June 15, 1993.

The purpose of this document is to respond to comments made in correspondence dated February 11, 1994, by the USEPA to Commanding Officer, NAVSTA Mayport, and February 15, 1994 by the Florida Department of Environmental Protection (FDEP) concerning the report entitled *Technical Memorandum Background Characterization Activities RCRA Facility Investigation*, U.S. Naval Station Mayport (ABB-ES, 1993). The following sections of this response to comments provide point-by-point responses to USEPA and FDEP comments. The report is organized to include:

- Section 2.0 contains responses to general comments made by the USEPA on the Technical Memorandum Background Characterization Activities, NAVSTA Mayport;

- Section 3.0 contains responses to specific comments made by the USEPA on the Technical Memorandum Background Characterization Activities, NAVSTA Mayport; and

- Section 4.0 contains responses to general comments made by the FDEP on the Technical Memorandum Background Characterization Activities, NAVSTA Mayport



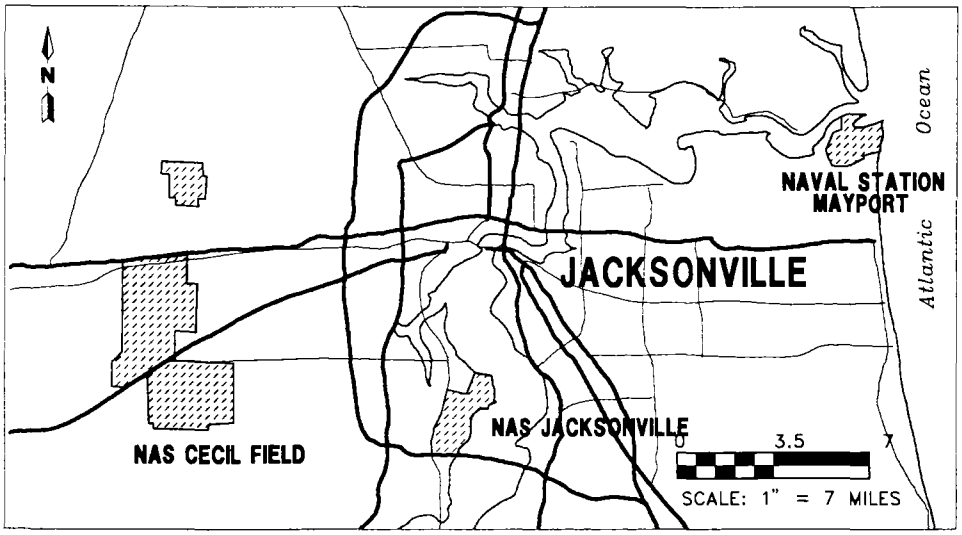


FIGURE 1-1
FACILITY LOCATION MAP

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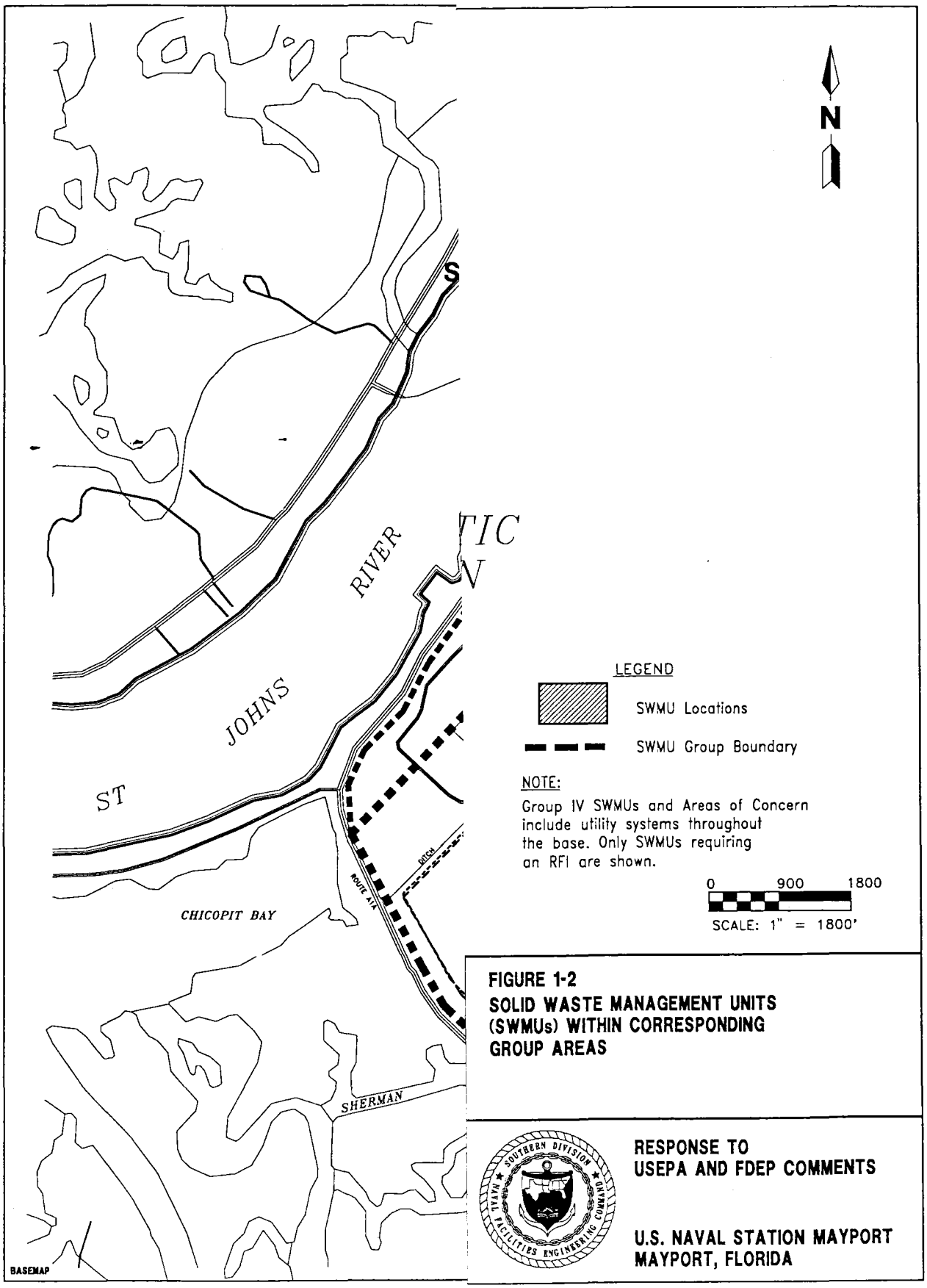

FIGURE 1-2
SOLID WASTE MANAGEMENT UNITS (SWMUs) WITHIN CORRESPONDING GROUP AREAS

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2.0 USEPA GENERAL COMMENTS

2.1 USEPA General Comment, Paragraph 1 *The Draft Technical Memorandum presents methodologies used to collect numerous soil, surface water, sediment and groundwater samples and the analytical results of chemical characterizations of these samples to define existing background concentrations of chemicals in various environmental media at NAVSTA Mayport. Additionally, geologic and hydrogeologic studies were conducted to characterize the spatial variability of subsurface conditions of the extensive dredge spoil depositions that have occurred at NAVSTA Mayport. The Draft Technical memorandum proposes comparing the background analytical data for all media to SWMU specific analytical data to determine if releases of chemicals above computed "background screening values" have occurred at any of the SWMUs.*

USEPA's comment is noted. One purpose of the background characterization is to determine the identity of a chemical and its concentration as either a naturally occurring parameter or as resulting from man-made sources unrelated to waste disposal practices. The background information will be used to assess comparable environmental samples from similar media, soil, surface water, sediment, and groundwater, to determine whether a release has occurred from a SWMU or group of SWMUs, evaluate human health and ecological risks posed by contamination attributed to a SWMU and ultimately, if required, will be one of the considerations used to determine preliminary remediation goals (PRGs) for mitigation of contamination.

2.2 USEPA General Comment, Paragraph 2 *The background location analytical data were used to compute "background screening values", which were used to define if a chemical concentration at a SWMU requires a Health and Environmental Assessment as defined in the RFI Guidance Document. This process has resulted in numerous, very conservative screening values and several screening values that exceed promulgated standards. It should be apparent that a "background screening value" that is greater than a promulgated, risk-based standard (e.g., maximum contaminant levels for chemical in groundwater media) is not a justifiable screening value.*

USEPA's comment is noted. The proposed background screening values are to be used in assessing whether a release has occurred from a SWMU. The background screening values are a calculated approximation for anthropogenic concentrations of various chemicals in the environment at NAVSTA Mayport. In an industrial setting it is possible that anthropogenic background constituents may exceed promulgated and unpromulgated regulatory criteria or guidance. Therefore, background screening values that exceed a promulgated regulatory criteria will be noted in the text and the promulgated regulatory criteria will be used for the background screening value. This will be consistent with paragraph 1 of Section 4.2.2, Use of Background Data (Page 4-6) which states the use of the background screening values:

"Target analytes detected in each media that exceed the background screening values will be screened against promulgated regulatory criteria, and unpromulgated guidelines or advisories. Target analytes detected in soil, surface water, sediment, and groundwater samples, but not detected in background samples of the same media will require a Health and Environmental Assessment (HEA) and also will be screened against promulgated regulatory criteria and unpromulgated guidelines or advisories. Target analytes that exceed promulgated health-based regulatory screening criteria will be considered contaminants-of-potential-concern for the media in which the contaminant is detected."

2.3 USEPA General Comment, Paragraph 3 *The background characterization study at NAVSTA Mayport has adequately defined the ambient conditions at NAVSTA Mayport with the exception of the following two data gaps.*

No. 1 No subsurface soil samples were collected for chemical analysis. Subsurface soil samples should be collected and analyzed for full scan parameters to define background chemical concentrations at locations that have not been impacted by past waste management activities for comparison to analytical results from subsurface soil samples collected at the SWMUs.

USEPA's comment is noted, however, paragraph 1 of Section 4.2.1 Additional Samples (Page 4-6) of the Technical Memorandum Background Characterization Activities, NAVSTA Mayport (ABB-ES, 1993) suggested the following:

"Additional background samples to be collected include subsurface soil samples, surface water and sediment samples and groundwater samples. The subsurface soil samples should include shallow subsurface soils 1 to 3 feet beneath the land surface (bls), and deep subsurface soil samples from immediately above the groundwater table. Surface water and sediment samples should be collected from the St. Johns River and Mayport Turning Basin."

No. 2 Insufficient information exists on the groundwater flow direction, gradient and velocity in the deeper portions of the surficial aquifer at NAVSTA Mayport. Additional monitoring wells should be installed, hydraulically tested, sampled and analyzed by full scan parameters to define background chemical concentrations at locations that have not been impacted by past waste management activities for comparison to analytical results from groundwater samples collected from deep monitor wells adjacent to the SWMUs.

USEPA's comment is noted, however, paragraph 2 of Section 4.2.1 Additional Samples (Page 4-6) of the Technical Memorandum (ABB-ES, 1993) suggested the following:

> "To address temporal variability of target analytes in the surficial aquifer, additional groundwater samples should be collected from the three shallow surficial aquifer background monitoring wells. The direction of groundwater flow for the deeper portions of the surficial aquifer also needs to be determined. This data should be used to determine locations for background groundwater samples from deep portions of the surficial aquifer."

The collection of additional background subsurface soils, surface water, sediment and groundwater samples are proposed in the Resource Conservation and Recovery Act Facility Investigation (RFI) Workplan Supplemental Sampling Plan Addendum 4, Group I and II SWMUs, NAVSTA Mayport, Mayport, Florida (ABB-ES, 1993b). Additionally, the collection of hydrogeologic data to characterize the aquifer properties is described in the NAVSTA Mayport RFI Workplan (ABB-ES, 1991).

2.4 USEPA General Comment, Paragraph 4 *An alternate approach to defining screening values is the use of the "action levels" listed in the Proposed Rule: Corrective Action. These action levels are defined as health and environmental-based levels determined by USEPA to be indicators for protection of human health and the environment. Contamination that exceeds the action levels indicates a potential threat to human health or the environment which may require further study. Conversely, contamination at levels less than the action levels is unlikely to require remediation. The action levels are designed to be used for the same purpose as the "background screening values", but the action levels provide the additional evaluation step of defining risk-based concentrations of chemicals that indicate if additional studies are required.*

USEPA's comment is noted. However, on September 16, 1993, a meeting was held between the Navy, Florida Department of Environmental Protection (FDEP), USEPA and ABB-ES, and guidance was received from USEPA to conduct the risk assessment for the RFI in accordance with CERCLA baseline risk assessment methodology and not to use the media action levels in proposed RCRA Subpart S regulation, 57 FR 30798 dated July 27, 1990. These action levels have been proposed, but not promulgated, and are subject to change.

3.0 USEPA SPECIFIC COMMENTS

3.1. Page 2-9, Paragraph 3 *Please specify in the text if the cement grout was tremied in place or poured in from ground surface during the construction of the "intermediate zone" depth monitoring wells.*

The text will be amended with the following sentence to indicate that the cement grout was placed with a tremie pipe.

> After allowing sufficient time (minimum 2 hours) for the bentonite to hydrate, a bentonite-cement grout was placed using a tremie pipe in the remaining annular space to a depth of approximately 2 feet bls.

3.2. Page 2-11, Paragraph 3 *Please specify in the text if the cement grout was tremied in place or poured in from ground surface during the construction of the "deep zone" depth monitoring wells.*

The text will be amended with the following sentence to indicate that the cement grout was placed with a tremie pipe.

> Bentonite-cement grout was then placed using a tremie pipe in the remaining annular space to a depth of approximately 2 feet bls.

3.3 Page 2-18, Paragraph 3, Figure 2-7 *The sample location descriptions for the surface water/sediment samples do not appear to agree with the locations shown on Figure 2-7. Please correct this discrepancy.*

The text describing the locations of surface water and sediment samples MPT-B-SW\SD4 and MPT-B-SW/SD5 were reversed, Figure 2-7 is correct in depicting the locations. The third and fourth sentences of paragraph 2 in Section 2.1.3 Surface Water and Sediment Sampling will be amended as follows:

> MPT-B-SW/SD4 was collected near Dawson Island, located adjacent to the Intracoastal waterway approximately 5,500 feet southwest of the station boundary. MPT-B-SW/SD5 was collected from Sherman Creek approximately 700 feet east of Highway A1A.

3.4 Page 2-36, Table 2-6 *Provide a justification for not collecting and analyzing any duplicate samples from the groundwater medium, as shown on this table.*

Duplicate groundwater samples have been collected during field activities at Group I and II SWMUs, but not specifically for the background monitoring well locations. Duplicate samples for each media (soil, surface water, sediment and groundwater) have been collected at a frequency of 10 percent (one duplicate per 10 environmental samples of the same matrix) as stated in the Naval Energy and Environmental Support Agency (NEESA) guidance documents

entitled *Sampling and Chemical Quality Assurance Guidance Requirements for the Navy Installation Restoration Program*, NEESA 20.2-047B, June 1988. This is also in conformance with the USEPA's document entitled *Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual*, USEPA, Region IV, Environmental Services Division, February, 1991. The guidance documents do not specify that separate duplicate samples be collected for the background and environmental samples of the same media. Because of the importance of the background groundwater samples, during a future sampling event for completing data gaps Group I and II RFI SWMUs, a background groundwater sample will be selected as a location to collect a duplicate sample.

An additional paragraph will be added below the first paragraph on page 2-27 and will state the following:

> Field quality control samples were collected by media at a frequency in accordance with NEESA (NEESA, 1988) and USEPA (USEPA, 1991) guidance documents. Background soil, surface water and sediment samples were submitted to the laboratory as individual sample delivery groups and incorporate trip, field, and equipment rinseate blanks and duplicate samples. Background groundwater samples were collected along with other Group I and II SWMU environmental samples and sample delivery groups for these samples incorporate trip, field, and equipment rinseate blanks and duplicates. However, it should be noted that a background groundwater sample location was not selected as a duplicate

3.5 Page 3-70, Paragraph 2 *The proposed background screening value for iron in surface water exceeds the Florida Surface Water Classification Standard (FSWCS) of 300 micrograms per liter (µg/ℓ). The background screening value should not exceed a promulgated standard.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> Iron was detected in three background surface water samples and one duplicate at concentrations ranging from 85.7 to 435 µg/ℓ. The FSWCS Class III marine standard for iron is 300 µg/ℓ. This standard was exceeded at one sample location, MPT-B-SW4, at which the sample contained iron at 435 µg/ℓ. Based on an arithmetic mean of 192, the background screening value would be 384, which also exceeds the FSWCS Class III marine standard. The FSWCS Class III marine standard will be used for the background screening value. Currently, no AWQC criteria have been established for iron. Iron is an essential nutrient for biological organisms (Doull, et. al., 1991).

3.6 Page 3-71, Paragraph 2 *The proposed background screening value for manganese in surface water exceeds the Federal Drinking Water Regulation (FDWR) of 50 µg/ℓ. The*

background screening value should not exceed a promulgated standard.

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> Manganese was detected in four background surface water samples and one duplicate at concentrations ranging from 10.4 to 98.7 μg/ℓ. Currently no FSWCS or AWQC have been established for manganese. The FDWR drinking water criteria for manganese is 50 μg/ℓ, which was exceeded in one sample MPT-B-SW7 and its duplicate. The arithmetic mean for manganese is 52.66, which also exceeds the FDWR drinking water criteria. The FDWR drinking water criteria value will be used as the background screening value.

3.7 Page 3-72, Paragraph 2 *The proposed background screening value for thallium in surface water exceeds the FDWR of 2 μg/ℓ. The background screening value should not exceed a promulgated standard.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> Thallium was detected in one background surface water sample at a concentration of 73.7 μg/ℓ. The FSWCS for thallium is 48 μg/ℓ, which was exceeded at sample location MPT-B-SW5. The value for the FSWCS will be used for the background screening value.

3.8 Page 3-72, Paragraph 5 *The proposed background screening value for cyanide in surface water exceeds the FSWCS of 5 μg/ℓ. The background screening value should not exceed a promulgated standard.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> Cyanide was detected in one background surface water sample at an estimated concentration of 3 μg/ℓ. The FSWCS for Class III marine waters is 1 μg/ℓ, which was exceeded at sample location MPT-B-SW1. The value for the FSWCS will be used for the background screening value. AWQC have been established for protection of aquatic marine life at a value of 1 μg/ℓ for acute exposure and 200 μg/ℓ for water and fish consumption.

3.9 Page 3-88, Paragraph 5 *The proposed background screening value for benzo(a)anthracene in groundwater exceeds the proposed FDWR of 0.1 µg/ℓ. The background screening value should not exceed a promulgated standard.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> The detected SVOC, benzo(a)anthracene, also was detected in the groundwater sample from monitoring well MPT-S-1 at a concentration of 2 µg/ℓ. Both the FDWS and FDWR have proposed an MCL of 0.1 µg/ℓ for benzo(a)anthracene, which was exceeded in the sample from monitoring well MPT-S-1. The value for the proposed MCL for benzo(a)anthracene was exceeded and will be used as the background screening value.

3.10 Page 3-94, Paragraph 5 *The proposed background screening value for manganese in groundwater exceeds the FDWR of 50 µg/ℓ. The background screening value should not exceed a promulgated standard.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. Therefore, the text will be amended as follows:

> Manganese was detected in two background groundwater samples, MPT-S-1(2) and MPT-8-MW5S, at concentrations of 39.9 and 36.0 µg/ℓ, respectively. The MCL for manganese is 50 µg/ℓ, which was not exceeded. Based on an arithmetic mean of 37.95, the background screening value for manganese is 75.9 µg/ℓ, which would exceed the MCL, therefore, the MCL for manganese will be used for the background screening value.

3.11 Pages 4-6 paragraph 3 *As discussed in the General Comments section of these comments, a background screening value that exceeds a promulgated standard is not a rational screening mechanism to determine if chemical concentrations require additional study and/or remediation. Promulgated standards, where applicable, should replace the calculated background screening value unless sufficient justification to the contrary can be provided.*

USEPA's comment is noted and pertinent sections of the Technical Memorandum Background Characterization Activities, NAVSTA Mayport will be amended as previously described.

4.0 FDEP GENERAL COMMENTS

4.1 FDEP General Comment No. 1 *On base tours, the area around the "old Mayport library/church" was discussed as the only area on the station that was undisturbed by construction or covered by dredge spoil material. It would be useful to sample this area and compare the analytes and levels detected to the other background sample areas as a means to determine if the levels of analytes detected is biased by the dredge material or is the natural background level. The determination of background levels for the areas with and without dredge material influence could affect the feasibility and cost benefit of specific remediation levels/goals of the dredge spoil area (RFA SWMU 50).*

Background surface soil sample MPT-B-SS4 (See Figure 3-20, in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport) was collected in the area that is typified as "undisturbed by construction" and not covered by dredge spoil material (See Figure 1-3b in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport). Evidence that supports the non-deposition of dredge material in this portion of NAVSTA Mayport is the existence of large diameter live oak trees. This portion of NAVSTA Mayport has not been completely undisturbed during the development of NAVSTA Mayport, as evidenced by the construction of buildings and recreational areas.

In consideration of anthropogenic target analytes and concentrations, it also is necessary to consider the environment of deposition of this "undisturbed area". In section 1.4.5.1 Surficial Deposits the following was stated:

> "The surficial deposits consist of sediments of upper Miocene age and younger. These deposits can be divided into undifferentiated sediments of the Pleistocene and Recent age and sediments of upper Miocene age and Pliocene age. These sediments were deposited in lagoon and estuarine environments. The Pleistocene and Recent age sediments extend from the surface to about 40 feet below the land surface. The highly variable sediments include sands, shelly sands. coquina, silts, slay and shell beds. The upper Miocene and Pliocene deposits consist of silty clays, clay and clayey sand."

The sediments deposited in the area of the "undisturbed area" have been relatively stable as illustrated in Figure 1-3a in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport (ABB-ES, 1993). These sediments in the "undisturbed area" would likely have resulted from the redeposition of estuarine sediments from eolian (wind) processes which built a ridge of sand. It is not likely that the source of these sandy sediments, the St. Johns River channel and beach deposits, have changed significantly through time, and would likely have similar chemical compositions. Therefore, it is likely that the chemical composition of the "undisturbed area" should be a subset of the sediments obtained from the St. Johns River.

Only one synthetic organic compound, a pesticide 4,4'-DDE was detected at a concentration of 2.3 micrograms per kilogram (μg/kg) in the background surface soil sample MPT-B-SS4, no

other synthetic organic compounds were detected in the other background soil samples (see Table 3-9 in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport).

Inorganic target analytes detected in the background surface soil samples consist of barium, beryllium, cadmium, chromium, copper, selenium, thallium, vanadium and zinc (see Table 3-10 in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport). The following presents a discussion of the target analytes and concentrations in the background surface soil sample from the "undisturbed area" MPT-B-SS4 and the other 5 background surface soil samples.

Barium was detected at a concentration of 3.6 milligram per kilogram (mg/kg) in sample MPT-B-SS4 and ranged from 0.76 to 5.0 mg/kg in the other five background soil samples.

Beryllium was detected in two samples MPT-B-SS4 and MPT-B-SS6 at concentrations of 0.06 and 0.09 mg/kg, respectively.

Cadmium was detected as a single occurrence at a concentration of 1.0 mg/kg in sample MPT-B-SS2.

Chromium was detected at a concentration of 0.72 mg/kg in sample MPT-B-SS4 and ranged from 0.72 to 2.5 mg/kg in the other five background soil samples.

Copper was detected as a single occurrence at a concentration of 2.1 mg/kg in sample MPT-B-SS1.

Selenium was detected at a concentration 0.69 mg/kg in sample MPT-B-SS4 and ranged from 0.47 to 0.86 in four other background soil samples.

Thallium was detected at a concentration of 1.1 mg/kg in sample MPT-B-SS4 and ranged from 0.77 to 0.94 mg/kg in three other background soil samples.

Vanadium was detected at a concentration of 2.3 mg/kg in sample MPT-B-SS4 and ranged from 1.2 to 2.5 mg/kg in the four other background soil samples.

Zinc was detected at a concentration of 1.4 mg/kg in sample MPT-B-SS4 and ranged from 0.35 to 1.9 mg/kg in the other five background soil samples.

With exception of beryllium and thallium, the inorganic target analytes detected in sample MPT-B-SS4 were within the range of detected values for the other background soil samples, as would be expected for soils or sediments of similar lithology.

4.2 FDEP General Comment No. 2 *The conclusion should include a discussion of which target analytes exceeded regulatory standards and criteria for each media (e.g. soil, sediment, surface water, and groundwater). Additionally, a discussion of the different analytes and*

levels detected in the undisturbed area (except for construction) south of Alpha pier (Figures 1-3a and 1-3b) compared with the rest of the base would be useful in determining spatial variability of analytes.

The conclusion sections 4.1.5 Target Analytes Detected in Background Surface Water Samples, 4.1.6 Target Analytes Detected in Background Sediment Samples, and 4.1.7 Target Analytes Detected in Background Groundwater Samples include a discussion of what analytes exceeded promulgated and unpromulgated standards and criteria. Except for soil cleanup guidance criteria established by the State of Florida in Chapter 17-775.400 FAC, no other soil guidance criteria was available at the time of the preparation of the Technical Memorandum Background Characterization Activities, NAVSTA Mayport report. None of the analytes detected in the background soil samples exceeded the state of Florida soil cleanup guidance criteria values.

A discussion of the target analytes detected in the "undisturbed area" is provided in Section 4.1 of this document.

4.3 FDEP General Comment No. 3 *Was arsenic detected in soil samples? The purpose for additional background samples (RFI Group I/Phase 1, November 1992) was warrented by the low concentrations and frequency of chemicals detected in all media and the need to determine the range for arsenic in groundwater and soil.*

Arsenic was not detected in the background surface soil samples, which were collected from the land surface to a depth of 1 foot below the land surface (bls) (Table 3-10). Arsenic was detected in six of the seven background surface water samples and a duplicate at concentrations ranging from 0.86 to 8.1 $\mu g/\ell$ (Table 3-13). Arsenic was detected in three background sediment samples and a duplicate at concentrations ranging from 0.68 to 6.6 mg/kg. Arsenic was detected in two of the three background monitoring wells, MPT-1-1 and MPT-8-5S at concentrations of 14.3 and 2.9 $\mu g/\ell$, respectively (Table 3-21).

This data suggest that arsenic is an anthropogenic constituent in surface water, sediment and groundwater and not an anthropogenic constituent of background surface soils (0 to 1 foot bls). However, background subsurface soil samples (depths of 1 foot to the saturated zone of the surficial aquifer) have not been collected, therefore it is not known if arsenic is an anthropogenic constituent of subsurface soil. The collection of background subsurface soil samples were recommended in Section 4.2.1 Additional Samples in the Technical Memorandum Background Characterization Activities, NAVSTA Mayport. Additionally, the collection of the background subsurface soil samples were included in Section 2.1 BACKGROUND SOIL SAMPLES of the Resource Conservation and Recovery Act Facility Investigation (RFI Workplan Supplemental Sampling Plan Addendum 4 Group I and II SWMUs U.S. Naval Station Mayport, Mayport , Florida (ABB-ES, 1993). The frequency and concentrations of target analytes detected in these media will be evaluated for the Group I and II SWMUs after collection and analysis of this data.

4.4 FDEP General Comment No. 4 *The values for Class III marine Florida Surface Water Quality Standards (Florida Administrative Code (F.A.C.) 17-302) listed in the text differ with the current standards. Specifically, the current standard for cyanide is 1 µg/ℓ not 5 µg/ℓ, lead is 5.6 µg/ℓ not 50 µg/ℓ, nickel is 8.3 µg/ℓ not 100 µg/ℓ, selenium is 71 µg/ℓ not 25 µg/ℓ, thallium is 48 µg/ℓ not undefined and zinc is 86 µg/ℓ not 1,000 µg/ℓ. Therefore, the background screening values (two times the detected arithmetic average) exceeded the FSWCS for copper, cyanide, iron, manganese, nickel, and thallium.*

As indicated in section **2.2 USEPA General Comment, Paragraph 2**, background screening values that exceed a promulgated criteria for an environmental media will be excluded and the promulgated criteria will be used as the background screening value. The following paragraphs individually address each of the inorganic target analytes listed in the last two sentences of FDEP's comment.

Copper. The FSWCS Class III water quality standard for copper is hardness dependent as described by the following equation $[Cu] = e^{(1.273(\ln H)-4.705)}$; where [Cu] is the concentration of copper in micrograms per liter and "H" is the hardness as calcium carbonate ($CaCO_3$) in milligrams per liter. Calculated values for the FSWCS Class III marine copper standard were 18.8, 100.8 and 204 µg/ℓ, and the proposed background screening value calculated from an arithmetic mean of 14 µg/ℓ was 28.0 µg/ℓ (ABB-ES, 1993b). The last sentence in the paragraph describing the concentrations of copper will state the following:

> Because the calculated background screening value for copper exceeds the lowest calculated FSWCS Class III marine hardness criteria value, this lower value, 18.8 µg/ℓ, will be used for the background screening value.

Cyanide. Cyanide was detected in one background surface water sample at an estimated concentration of 3 µg/ℓ. The FSWCS for Class III marine waters is 1 µg/ℓ, which was exceeded by the single sample. AWQC have been established for protection of aquatic marine life at a value of 1 µg/ℓ for acute exposure and 200 µg/ℓ for water and fish consumption. The value for the FSWCS will be used for the background screening value.

Iron. USEPA had a similar comment, please refer to Section 3.5 of this document.

Lead. Lead was detected in two of the seven background surface water samples, MPT-B-SW1 and MPT-B-SW3, and one duplicate, MPT-B-SW7DUP, at concentrations ranging from 0.91 to 1.5 µg/ℓ. The FSWCS for Class III marine waters is 5.6 µg/ℓ, and the surface water background samples did not exceed this value. AWQC have been established for protection of aquatic marine life at values of 220 and 8.8 µg/ℓ for acute and chronic exposures and a value of 50 µg/ℓ has been established for water and fish consumptions. Based on an arithmetic mean of 1.24, the background screening value for lead is 2.48 µg/ℓ.

Manganese. USEPA had a similar comment, please refer to Section 3.6 of this document.

Nickel. Nickel was detected in two of seven background surface water samples, MPT-B-SW2 and MPT-B-SW5, at concentrations of 13.0 and 19.0 $\mu g/\ell$, respectively. The FSWCS for Nickel is 8.3 $\mu g/\ell$, which was exceeded. AWQC have been established for protection of marine life at values of 75 and 8.3 $\mu g/\ell$ for acute and chronic exposures, and at values of 50 and 100 $\mu g/\ell$ for water and fish consumptions and fish only consumption. The arithmetic mean also exceeds the FSWCS criteria, therefore the background screening value for nickel is the FSWCS value of 8.3 $\mu g/\ell$.

Selenium. Selenium was detected in two of seven background surface water samples, MPT-B-SW1 and MPT-B-SW3, at concentrations of 2.6 and 1.8 $\mu g/\ell$, respectively. Selenium was not detected in the duplicate to sample MPT-B-SW3. The FSWCS for nickel is 71 $\mu g/\ell$, which was not exceeded. AWQC have been established for protection of marine life at values of 300 and 71 $\mu g/\ell$ for acute and chronic exposures, and 10 $\mu g/\ell$ for water and fish consumption. Based on an arithmetic mean of 2.2, the background screening value for selenium is 4.4 $\mu g/\ell$.

Thallium. USEPA had a similar comment, please refer to Section 3.7 of this document.

Zinc. Zinc was detected in one sample, MPT-B-SW1, at a concentration of 6.1 $\mu g/\ell$, and in two duplicates, MPT-B-SW1DUP and MPT-B-SW7DUP, at concentrations of 8.4 and 3.2 $\mu g/\ell$, respectively. The FSWCS for Class III marine is 86 $\mu g/\ell$, which was not exceeded. AWQC have been established for protection of aquatic marine life at values of 95 and 86 $\mu g/\ell$ for acute and chronic exposures. Based on an arithmetic mean of 5.9, the background screening value for zinc is 11.8 $\mu g/\ell$. Zinc is an essential nutrient for biological life (Doull, et. al., 1991).

References

ABB Environmental Services, Inc., (ABB-ES), 1991, Interim Final RCRA Facility Investigation (RFI) Workplan Volumes I (Workplan), II (Sampling and Analysis Plan), and III Health and Safety Plan), U.S. Naval Station Mayport, Mayport, Florida, prepared for Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), Charleston, South Carolina.

ABB-ES, 1993a, Draft Technical Memorandum Background Characterization Activities Resource Conservation and Recovery Act Facility Investigation, U.S. Naval Station Mayport, Mayport, Florida, prepared for SOUTHNAVFACENGCOM, Charleston, South Carolina.

ABB-ES, 1993b, Resource Conservation and Recovery Act Facility Investigation Workplan, Supplemental Sampling Plan, Addendum 4 Group I and II SWMUs, U.S. Naval Station Mayport, Mayport, Florida, December 1993.

E.C. Jordan C. Inc., 1988, Final Naval Installation Restoration Program (NIRP) Expanded Site Investigation, U.S. Naval Station Mayport, Mayport, Florida, prepared for the U.S. Navy.

Naval Energy and Environmental Support Agency, (NEESA), 1988, Sampling and Chemical Quality Assurance Guidance Requirements for the Navy Installation Restoration Program, NEESA 20.2-047B, June 1988.

Unites States Environmental Protection Agency (USEPA), 1991, Environmental Compliance Branch Standard Operating procedures and Quality Assurance Manual, USEPA, Region IV, Environmental Services Division, February 1, 1991.

APPENDIX A

BORING LOGS

EXPLANATION OF BORING LOG FORMAT

Monitoring wells and piezometers have been installed during three separate investigations: Initial Assessment Study (IAS), Expanded Site Investigation (ESI), and Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at Naval Station (NAVSTA) Mayport. The first investigation (IAS) was conducted in 1986. Monitoring wells installed during this investigation have the following format: S-X, where "X" is the location identifier. A prefix to designate NAVSTA Mayport ("MPT") has been added to the IAS well names (MPT-S-X).

The second investigation, ESI, was conducted from September 1987 to October 1987. Wells installed during the ESI have the following nomenclature format: MPT-X^1-X^2. The prefix "MPT" references NAVSTA Mayport, X^1 references the solid waste management unit (SWMU) number, and X^2 references the location identifier.

During the RFI investigations, the MPT-X^1-X^2 format identification system was used. For continuity and ease, all monitoring wells and piezometers from previous investigations have been altered to the final MPT-X^1-X^2 format. Other identification designations include:

MW = monitoring well and
P = piezometer,
which are added as prefixes to the location number (X^2); and

S = shallow monitoring well <15 feet below land surface,
I = intermediate monitoring well between 15 and 30 feet below land surface, and
D = deep monitoring well >30 feet below land surface,
which are added as suffixes to the location number (X^2).

Terms used on the boring logs include:

H.S.A. = hollow stem auger, which is a drilling method used to advance the boring,
Hnu = photoionization detector brand name; and
post hole = boring initially advanced using a manual method.

The following page presents an explanation of lithologic symbols used in conjunction with the "GTGS" boring logs.

NA	Crushed Limestone, Asphalt Pavement
GP	Poorly Graded Gravels, Gravel-Sand Mixtures, Little or no Fines, Shell Hash
GM	Gravel-Sand-Silt Mixtures
GC	Clayey Gravels Gravel-Sand-Clay Mixtures
SW	Well Graded Sands, Gravelly Sands, Little or no Fines
SP	Poorly Graded Sands, Gravelly Sands, Little or no Fines
SM	Silty Sands, Sand-Silt Mixtures
SC	Clayey Sands, Sand-Clay Mixtures
ML	Inorganic Silts and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity
CL	Inorganic Clays of Low to medium Plasticity, Gravelly Clays, Sandy Clays, Silty Calys, Lean Clays
OL	Organic Silts and Organic Silty Clays of low Plasticity
CH	Inorganic Clays of High Plasticity, Fat Clays
CH	Organic Clays of Medium to High Plasticity, Organic Silts

Water table Elevation Location

KEY TO LITHOLOGIC SYMBOLS

U.S. NAVAL STATION
MAYPORT, FLORIDA

GTLEGEND/KGP/09/09/93

TITLE: Naval Station Mayport, Mayport, FL.		**LOG of WELL:** MPT-B-MW1S	**BORING NO.** MPT-B-MW1S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/17/94	**COMPLTD:** 08/17/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.19 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/28/94		**SITE:** Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SM		
					Top Soil.				
				0	Silty Sand, fine.			Posthole	
					Silty Sand-fine, light gray to tan.				
5									
					Silty Sand-fine, brown.				
10					Silty Sand-fine, yellowish brown.				
15					Silty Sand-fine, with shell fragments, yellowish green.				
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-B-MW1D				
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

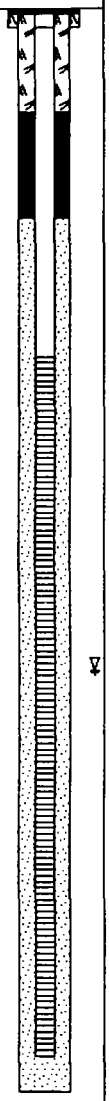


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.		**LOG of WELL:** MPT-B-MWII	**BORING NO.** MPT-B-MWII
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/18/94	**COMPLTD:** 08/18/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 33-38 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.19 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 38.5FT.	**DPTH TO ▽** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/28/94		**SITE:** Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil over Silty Sand, fine.		SM		
				0				Posthole	
					Silty Sand-fine, light gray to tan.				
5									
					Silty Sand-fine, moist to wet, brown.				
10					Silty Sand-fine, yellowish brown.				
15					Silty Sand-fine, with shell fragments, yellowish green.				
20					Silty Sand-fine, with shell fragments, yellowish green.				
25									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-B-MWII	**BORING NO.** MPT-B-MWII
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/18/94	**COMPLTD:** 08/18/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 33-38 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.19 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 38.5FT.	**DPTH TO ∇** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/28/94	**SITE:** Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
					Silty Sand-fine, few shells, light gray.		SM		
30					Silty Sand- (30-31'), fine, tan to light gray, over Silty Clay, (31- 31.5'), medium to high plasticity, few shells, greenish gray, over Sandy Clay (31.5-33.5'), estimated contact, low to medium plasticity, grayish green.		CH CL		
35					Silty Sand-fine, light gray to white.		SM		
					Shelby Push Tube Attempted - Refusal				
					Estimated contact		CL		
					Clay-dense, white with few medium sized shells.				
40					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-B-MWID				
					TOTAL DEPTH OF BORING = 38.5' BLS				
45									
50									

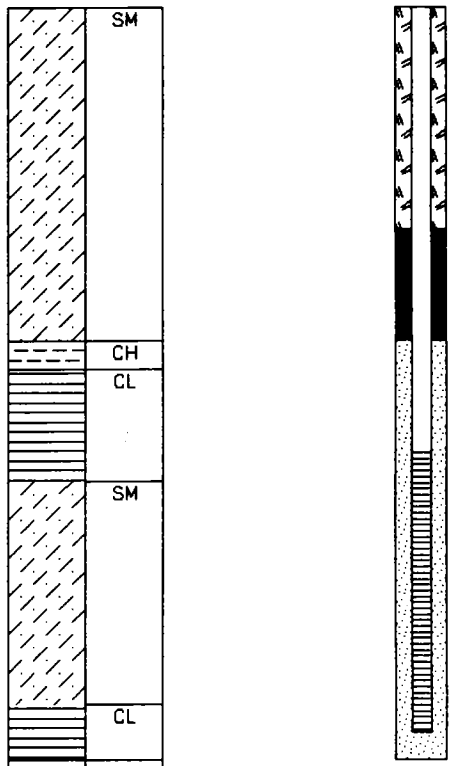


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-B-MW1D		**BORING NO.** MPT-B-MW1D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06-08-94	**COMPLTD:** 06-15-94
METHOD: Mud Rotary 7 7/8" tricone	**CASE SIZE:** 4"	**SCREEN INT.:** 62-72 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.50 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 74FT.	**DPTH TO ∇** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/28/94		**SITE:** BACKGROUND

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Top Soil over Silty Sand, fine.		SM	Posthole	
5			1.0/2.0	0	Silty Sand-fine, light gray to tan.			7,17,18,9	
					Silty Sand-fine, moist to wet, brown.				
10			1/2	0	Silty Sand-fine, saturated, yellowish brown.			3,4,8,7	∇
15			2/2	0	Silty Sand-fine, with shell fragments, yellowish green.			13,13,24,28	
20			2/2	0	Silty Sand-fine, with shell fragments, yellowish green.			4,5,7,18	
25			1.5/2.0	0	Silty Sand-fine, with shell fragments, light gray.			8,10,25,50	
30			2/2	0	Silty Sand- (30-31'), fine, tan to light gray, over Silty Clay, (31- 31.5'), medium to high plasticity, few shells, greenish gray, over Sandy Clay (31.5-33.5'), estimated contact, low to medium plasticity, grayish green.		CH CL	4,3,1,3	
35				0	Silty Sand-fine, light gray to white.		SM	12,44,50/4"	
					Estimated contact		CL		
40									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-B-MW1D		**BORING NO.** MPT-B-MW1D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06-08-94	**COMPLTD:** 06-15-94
METHOD: Mud Rotary 7 7/8" tricone	**CASE SIZE:** 4"	**SCREEN INT.:** 62-72 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.50 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 74FT.	**DPTH TO ∇** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/28/94		**SITE:** BACKGROUND

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.5/2	0	Clay-dense, white with few medium size shell fragments.		CL	22,21,16,16	
45			1/2	0	Clay-dense, white with few medium size shell fragments.			10,4,10,14	
50			1/2	0				11,16,29,19	
					Clay-dense, white with few medium size shell fragments				
55			1/2	0				6,12,11,24	
					Estimated contact		SM		
60			1/1.5	0	Silty Sand-fine, with shell fragments.			12,18,33	
					Estimated contact		SC		
65			1.8/2	0	Clayey Sand-fine, wet, olive green to yellowish green.			6,10,14,19	
					Estimated contact		CL		
70			2/2	0	Sandy Clay-fine, wet, few clayey sand stringers.			5,8,6,6	
			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample	
75					TOTAL DEPTH OF BORING = 74' BLS				
80									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-S-MW1R		**BORING NO.** MPT-S-MW1R
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/07/94	**COMPLTD:** 06/07/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 14.59 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.6 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/30/94		**SITE:** Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Clayey Sand- (0-0.67'), dense, with shell fragments.		SC	
							CH	
							SM	
				0	Clay- (0.67-1'), high plasticity, tan.			Posthole
					Silty Sand-fine, with shell fragments, tan.			
5								
			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample
					Silty Sand-fine, with shell fragments, grayish green.			Observation
			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample
10								
			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample
					TOTAL DEPTH OF BORING = 12.5' BLS			
15								
20								

WELL DATA

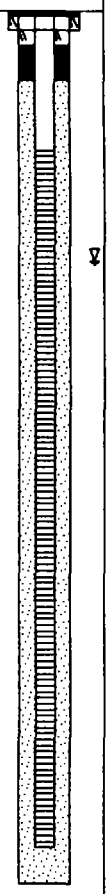


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-1-MW1S	**BORING NO.** MPT-1-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/9/87	**COMPLTD:** 9/9/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.30 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15FT.	**DPTH TO ∇** 7 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 9/9/87		**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.6/2'	3.3	Sand-fine to coarse, brown, moist, some organic matter		SP	3,7,18,18
		SS2	1.6/2'	3.0	Sand-as above, gray with some shell fragments Sand-as above, 2" brown layer at 1.2' of spoon			2,21,28,30
		SS3	1.5/2'	6.5	Sand-fine, dark brown, moist Sand-fine to medium, gray, some shell fragments			9,19,23,29
5	YES	SS4	1/2'	2.8	Sand-as above Clay-stiff, saturated at bottom		CL	10,11,8,9
		SS5		7.2	Sand-light tan to gray, saturated, small shell fragments		SP	7,7,18,18
10								
		SS6	2/2'	3.5	Sand-light gray, saturated with some shell fragments			5,28,50,+
15								
20								
25								
30								

WELL DATA

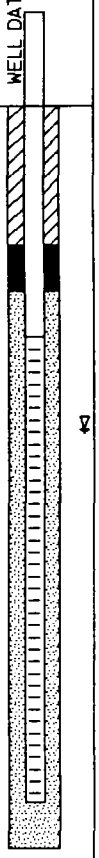


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-1-MW2S		**BORING NO.** MPT-1-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 10/9/87	**COMPLTD:** 10/9/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 18.93 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 10/10/87		**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.3/2'	10.0	Fill-gravel, dark brown, moist Sand-fine, lt. brown to lt. gray, moist, few shell fragments		SP	22,22,37,31
5	YES	SS2	1.3/2'	4.8	Sand-fine, gray, moist, few shell fragments, trade gravel			24,25,17,22
10		SS3	2.0/2'	13.5	Sand-fine, brown to gray, saturated, few shell fragments, with a 0.4' fine clay layer, dark gray, saturated, high plasticity		CL SP	8,2
15		SS4	2.0/2'	2.8	Sand-fine, light grey, few shells and shell fragments, saturated			12,32,51+
20								
25								
30								

WELL DATA

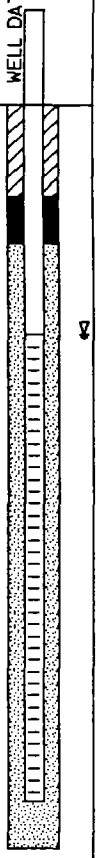


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-1-MW3S	**BORING NO.** MPT-1-3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 10/9/87	**COMPLTD:** 10/9/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.00 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 10/10/87	**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.5/2'	8.3	Sand-fine, lt. brown to gray, dry to moist, few shells and shell fragments, silt Sand-fine, gray, moist, few shell fragments		SP	7,14,19
5	YES	SS2	1.3/2'	7.0				13,14,8,12
10		SS3	2.0/2'	13.8	Sand-fine, dark gray, saturated, few shell fragments, with a 0.171' clay lens			5,24,50+
15		SS4	1.5/2'	3.1	Sand-fine, tanish, grey to lt. gray with a few shell fragments, (diminish with depth)			24,38,50+
20								
25								
30								

WELL DATA

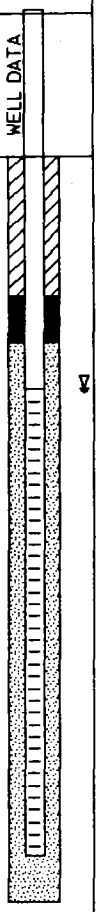


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-1-P1		**BORING NO.** MPT-1-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.11 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 10FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to medium, lt.brown w/ abundance of shell fragaments		SP		
5			2/2	N/A	SAND-as above, saturated below 5'			6,6,6,7	∇
10									
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-1-P2	**BORING NO.** MPT-1-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 10-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.77 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 10.0 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine to silty, tan, w/ some shell fragaments		SM		
5			2/2	0	Same as above			4,5,4,5	
10			2/2	0	SAND-fine to silty, gray, saturated			6,8,8,5	∇
15					Boring terminated @ 15'				
20									
25									
30									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-1-P3		**BORING NO.** MPT-1-P3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 10-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.04 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 7.00 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to medium, tan, w/ some shell fragments		SP		
5			2/2	0	Same as above, dry			10,10,7,8	
			1.7/2	0	SAND-very fine to silty, tan, saturated		SM	6,8,7,8	∇
10									
15					Boring terminated @ 15'				
20									
25									
30									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MWIS	**BORING NO.** MPT-2-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/22/87	**COMPLTD:** 9/22/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.43 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 10.0FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 9/22/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.5/2'	93.1	Sand-fine to medium sand, dark brown, dry Sand-fine, tan, dry, trade shell		SP	13,14,18,26
	YES	SS2	1.8/2'	35.7	Sand-fine, tan, dry Sand-fine, tan, moist, few shell fragments, bottom saturated			7,13,13,14
5		SS3	0.7/2'	10.4	Sand-fine to medium, gray, few shell fragments, saturated			18,12,5,4
10		SS4	2.0/2'	0				11,10,1,2
15								
20								
25								
30								

WELL DATA

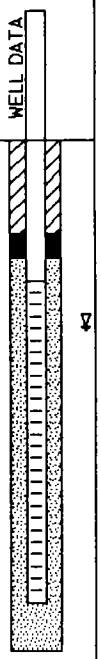


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW2S		**BORING NO.** MPT-2-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/22/87	**COMPLTD:** 9/22/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.56 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 10.0FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 9/22/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.8/2'	0	Sand - Top (0.2') fine, dark brown, dry / Middle (0.7') fine, tan, moist / Bottom clayey, dark brown to black, moist, trade shell, stiff		SP SC SP	4,13,14,14
	YES	SS2	1.5/2'	0	Sand- Top (0.5') as above / Middle (0.5') fine to medium, gray moist / Bottom as above, saturated			13,17,29,30
5		SS3	1.9/2'	0	Sand-fine to medium, dry, silt, few shell fragments with a clay lens (0.5')			11,8,2,1
10		SS4	0.5/2'	0	Clay - dry, olive		CL	5
15								
20								
25								
30								

WELL DATA

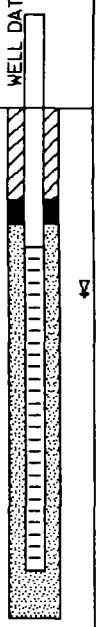


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW3S	**BORING NO.** MPT-2-3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/11/87	**COMPLTD:** 9/14/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 17.34 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ∇** 7.00 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 9/11/87 ?		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.4/2'	0	Sand-Top (0.4') / fine to medium, top soil, dark brown, dry, trade shell, Bottom / fine, brown, few shell fragments decreaseing with depth		SP	8,15,8,9
		SS2	1.7/2'	34.4	Sand-fine, tan, dry, incesing moisture with depth			24,35,30,13
		SS3	1.5/2'	6.7	Sand-fine to medium, gray, moist, few shell fragments, trade coarse sand concretion			23,36,29,35
5	YES	SS4	1.4/2'	0				7,9,8,9
10		SS5	2.0/2'	17	Sand-fine, gray, saturated, few shell fragments, trade gravel size sand concretions			5,14,28,55
					Clay-		CL	
15		SS6	2.0/2'	7	Sand-fine, grey, saturated, few shell fragments		SP	7,50
20								
25								
30								

WELL DATA

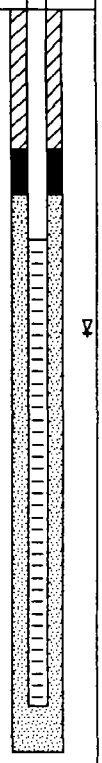


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW4S	**BORING NO.** MPT-2-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/11/87	**COMPLTD:** 9/11/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.28 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ▽** 5.10 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/11/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.5/2'		Sand-fine to medium with top soil, vegitation, gravel, small shell fragments with a layer (0.5') of clayey sand, orange, moist at 1' depth		SP SC SP	4,12,17,20
5	YES	SS2	1.3/2'		Sand-fine, light grey, small shell fragments, saturated			8,11,5,10
10		SS3	2.0/2'		Clay-uniform, olive, decomposed organics		CL	4,5,9,10
15		SS4	1.5/2'		Clay-same as above Sand- top (0.4') very fine, greenish grey, bottom interbedded with sand and clay		SP SC	3,6,11,16
20								
25								
30								

WELL DATA

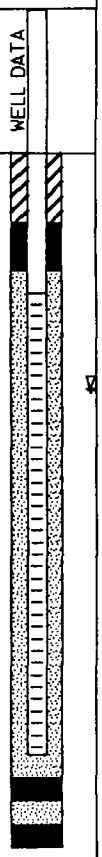


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-5		**BORING NO.** MPT-2-5
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/23/87	**COMPLTD:** 9/23/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.81 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1	1.8/2'		Sand-top (0.5') fine to medium sand, top soil, dark brown, dry/ bottom (1.1') light to dark grey, trace coarse sand and shell fragments, dry to moist		SP	17,23,30,S
5		SS2	1.4/2'	38.2	Sand-fine to coarse, light grey, few shell fragments, saturated			1,7,10,9
10		SS3	0.7/1'		Clay-dark, olive, saturated		CL SP	11,13
					WELL DESTROYED BY PIPELINE CONSTRUCTION (1993)			
15								
20								
25								
30								

WELL DATA

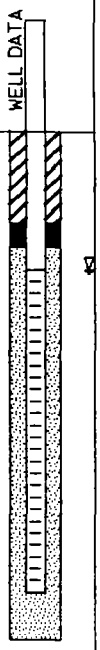


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW6S	**BORING NO.** MPT-2-6
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/22/87	**COMPLTD:** 9/22/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.429 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 10.0FT.	**DPTH TO ∇** 4.0 FT.
LOGGED BY: R. M. Nugent	**WELL DEVELOPMENT DATE:** 9/22/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.8/2'	0	Sand-top (0.4') fine, top soil, dark brown, dry/ middle (0.4') fine to medium, light tan, dry, few shell fragments/ bottom same as above, trade gravel, moist with a clay layer (0.4') interbedded with some sand, some shell		SP	14,31,35,41
							CL	
	YES	SS2	1.5/2'	0			SP	19,27,28,28
5		SS3	1.5/2'	0	Sand-fine to medium, gray, saturated, few shell fragments			2,5,7,12
10		SS4	1.8/2'	0	Clay-dark olive, organic		CL	4,5,5,10
15								
20								
25								
30								

WELL DATA

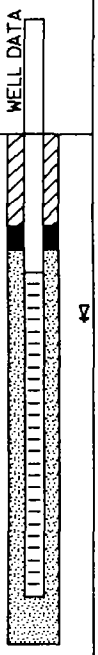


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW7S	**BORING NO.** MPT-2-7S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 7/15/87	**COMPLTD:** 7/22/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3.5-10.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.58 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 12.0FT.	**DPTH TO ∇** 4.75 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1		2.8	Clay-dark brown, stiff, some vegitation on the top soil		CL	9,20,38,27
	YES	SS2		5.2	Sand-fine to medium, few shells, dry		SP	13,13,9,11
					Sand-same as above, tan, dry to moist			
		SS3		8.2				11,27,3,1
5								
10		SS4		4.80	Sand-fine to medium, light grey, few shell fragments, saturated			5,2,2,5
					Clay-dark olive, shelly, moist		CL	
15								
20								
25								
30								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW7I	**BORING NO.** MPT-2-7D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/23/87	**COMPLTD:** 9/23/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 15-25'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.08 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 25.0FT.	**DPTH TO ∇** 7.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Top soil (0.2') clayey with vegitation		SP	
					Clayey sand-middle (0.2-0.4') dark brown, stiff, shell fragments and sand , dry		CL	
					Sand-fine to medium, light tan with few shell fragments, dry		SP	
					Sand-same as above		SC	
5					Sand-same as above, dry to moist with a layer (0.3') clay interstetial with sand, few gravel/pebble concretions		SP	
10		SS1	1.4/2'	0	Sand-fine to coarse, grey, some shell fragments, saturated			20,31,19,16
		SS2	0.9/2'	0.3	Claayey Sand-dark brown, saturated, trace shell fragments		CL	3,4,12,17
					Clay-dark olive, saturated		SC	
15		SS3	1.2'	0	Sand-fine to medium, brown, saturated, few shell fragments, bottom grey to green, no shells		SP	-
		SS4		25				20,21,21,19
20								
25		SS5	2.0/2'	0	Clay-grey to green, plastic, stickey		CL	-
					Sandy Clay-grey to green, grading back to clay			
30								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW8S	**BORING NO.** MPT-2-8
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5087-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/23/87	**COMPLTD:** 9/23/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.5 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1	1.2/2'	8.8	Sand-top (0.4')/ top soil, fine, brown, dry, middle (0.4-1')/ fine to medium, tan, bottom/ black, similar to burnn asphalt, dry		SP	13,12,11,14
		SS2	0.2/2'		No sample in spoon-Augured mat black gravel with fine to coarse sand			18,17,19,25
5		SS3	0.8/2'	8.0	Sand-fine to coarse, dark grey, few shells, trac clay, saturated bottom/ as above, light gray, few shell fragments, saturated			13,19,17,21
10		SS4	2/2'	0	Clay-dark olive clay, saturated		CL	2,3,2,1
15								
20								
25								
30								

WELL DATA

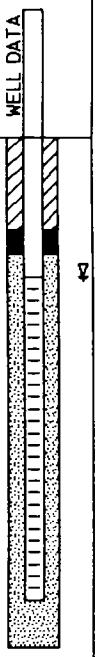


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW9I	**BORING NO.** MPT-2-9I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/22/87	**COMPLTD:** 9/22/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 15-25'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.58 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 25.0FT.	**DPTH TO ∇** 7.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1	1.6/2'	3.5	Sand-fine to medium, dark brown, dry Sand-fine to medium, light brown, dry, few shell fragments		SP	8,9,27,30
			1.65/2'					
5		SS2	1.6/2'	78.3	Sand-as above Sand-fine, gray, moist, trade shell fragments, bottom saturated			19,26,30,21
			2.0/2'					
		SS3	2/2'	2.3				2,2,3,4
10		SS4	1.5/2'	13.0	Clay-dark olive, saturated		CL	6,6,37,22
		SS5	1.3/2'	6.7	Sand-fine, light brown, saturated, bottom gray with few shell fragments		SP	?
15		SS6	2.0/2'	0.6	Sand-as above			9,15,31,?
20		SS7	1.3/2'	11.2	Sand-as above			?
25		SS8	–	14.5	Sand-fine, gray, saturated, some shell fragments in the bottom			?
6@					WELL ABANDONED BY GROUTING (1994)			
30								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW9S		**BORING NO.** MPT-2-9S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/22/87	**COMPLTD:** 9/22/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 15-25'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.53 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: R. M. Neugent	**WELL DEVELOPMENT DATE:** 9/22/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Sand-fine to medium, dark to light brown, dry, few shell fragments		SP	
5								
10					Clay-dark olive, saturated		CL	
					Sand-fine, light brown, saturated, bottom gray with few shell fragments		SP	
15					WELL ABANDONED BY GROUTING (1994)			
20								
25								
30								

WELL DATA

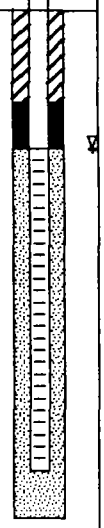


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW10S	**BORING NO.** MPT-2-10
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/10/87	**COMPLTD:** 9/10/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.3 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ∇** 5.8 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/17/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.5/2'	7.1	Sand-fine to medium, light gray, shell fragments, well sorted with a top sandy clay layer, slightly moist		SP	40,34,40,34
5	YES	SS2	-	15.3	Sand-fine to medium, shells and fragments, very moist			9,21,18,13
			-					
10		SS3		5.1	Silty Clay-dark olive to black, decomposed organic matter, very moist		OL	5,4,4,7
15		SS4	-	5.3	Sand-fine, light tan, organic matter, saturated		SP	8,9,11,17
20								
25								
30								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW11S	**BORING NO.** MPT-2-MW11S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/21/92	**COMPLTD:** 1/21/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.73 FT.	**MONITOR INST.:** PORTA-FID / **TOT DPTH:** 12FT.	**DPTH TO ∇** 2.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 1/28/92	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT-2-11-1.5-1	☒	N/A	0	SAND-very fine to fine, grey Note: Resampled on 1/24/92 utilizing a stainless steel hand auger		SP	3,4,3,4
5			1.7/2	0	CLAY-dark brown, highly organic		OH	1,2,1,-
10								
					Boring terminated @ 12'			
15								
20								
25								
30								

WELL DATA

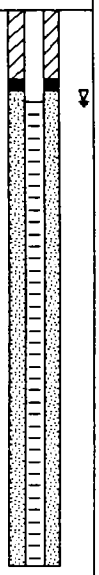


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW11I	**BORING NO.** MPT-2-MW11I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/27/94	**COMPLTD:** 08/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 5.77 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32.0FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	Silty Sand-fine, dark brown to tan.		SM	Posthole
5			1.8/2	0	Silty Sand-fine, brown to gray.			1,1,1,1
10			0/2		Shelby push tube attempted - no recovery			UD/Shelby Push Tube Sample
15			1.5/2	0	Silty Sand-estimated contact fine, yellowish brown to brown with trace clay.			2,2,2,3
20			2/2	1	Clayey Sand-fine, trace silt, yellowish green.		SC	1,1,1,2
25			1.8/2	0	Clayey Sand-fine, yellowish green.			1,1,1,1
30			1/2		Estimated contact Silty Sand-fine to medium, few shells.		SM	2,2,2,8
35					TOTAL DEPTH OF BORING = 32' BLS			

WELL DATA

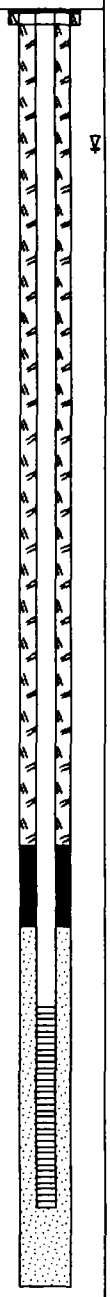


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW12S	**BORING NO.** MPT-2-MW12S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.51 FT.	**MONITOR INST.:** FID / **TOT DPTH:** 12FT.	**DPTH TO ∇** 3.00 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** 1/28/92	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SAND-fine, tan		SP		
	MPT-2-12-2.5-1	☒			Note: Sample obtained with stainless steel hand auger				
5				0	SAND-fine, dk. brown, high clay content w/ organics		SC		
10				0	CLAY-dk. brown, highly organic		OL		
					Boring terminated @ 12'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW12I	**BORING NO.** MPT-2-MW12I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/27/92	**COMPLTD:** 1/27/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 14-24'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.42 FT.	**MONITOR INST.:** FID / **TOT DPTH:** 24.5FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 1/28/92	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					SAND-fine, tan		SP	
					SAND-fine, dk. brown, high clay content w/ organics		SC	
5								
10					CLAY-dark brown, highly organic		OL	
15			1.8/2	5.5	SAND-very fine to silty, dark grey, saturated		SM	1,1,2,6
20			0.5/2	1.2	GRAVEL SIZE SHELL FRAGMENTS		GP	6,5,6,6
			2/2	2.4	SAND-very fine to silty, grey, w/ abundance of shell fragments		SP	4,5,6,8
25					Boring terminated @ 25'			
30								

WELL DATA

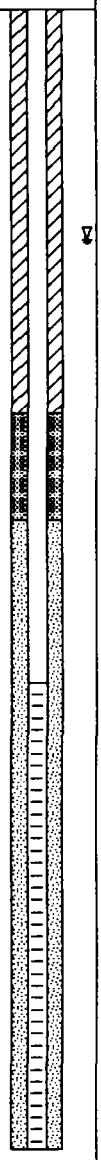


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW13S		**BORING NO.** MPT-2-MW13S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/21/94	**COMPLTD:** 07/21/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.57 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine to medium, tan to brown.		SM	Posthole	
5			1/2	0	Silty Sand-fine to medium, light gray with minor % shells.			7,20,20,19	
								Observation	
10			2/2	0	Sandy Clay Shelby Push Tube Attempted - Full Recovery		CL	UD/Shelby Push Tube Sample	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

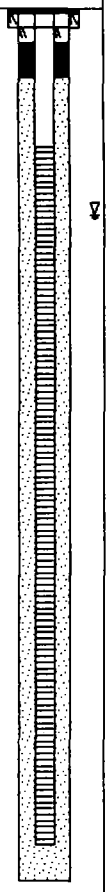


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW15I	**BORING NO.** MPT-2-MW15I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/23/87	**COMPLTD:** 9/23/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 15-25'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.88 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 25.0FT.	**DPTH TO ∇** 7.4 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/23/87		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Clay-dark olive, saturated, some organic matter		SP	
					Sand - top (0.4-0.8') fine, uniform, tan, shell fragments, middle (0.8-0.7') dark brown clay with some sand bottom/ fine to medium, mottled grayish brown, poorly sorted			
					Sand - top (0.4') fine to medium, light gray to tan, dry middle (0.4-1.0) medium to coarse, dark to light gray bottom (1.0-1.85) light gray to tan, with a layer of plastic clay interbedded with sand, Fe Oxide bands			
5								
10		SS1	2.0/2'	0	Sandy clay- fine to medium, dark brown, dry		SC	1,1,3,3
					Clay- light gray, moist, bottom/ dark green to olive with organic material, plastic, moist		CL	
	YES	SS2	2.0/2'	0				10,3,7,4
					Clayey Sand-dark grey Clayey Sand-with vegitation		SC	
					Sand- top (0.4-0.8')/ fine, uniform, tan, shell fragments, middle (0.8-0.7')/ dark brownn clay with some sand bottom/ fine to medium, motteled greyish brown, poorly sorted			
15		SS3	0.8/2'	8.8			SP	8,8,13,15
					Sand- top (0.4')/ fine to medium, light gray to tan, dry middle (0.4-1.0)/ medium to coarse, dark to light gray bottom (1.0-1.85)/ light grey to tan, with a layer of plastic clay interbedded with sand, Fe Oxide bands			
20					Sandy clay-fine to medium, dark brown, dry			
					Clay-light gray, moist, bottom/ dark green to olive with organic material, plastic, moist			
					Clay-green/brown to olive, organic matter, moist			
					Clayey Sand-very fine, light grey, moist			
25		SS4	2.0/2'	2.8				8,9,8,4
30								

WELL DATA

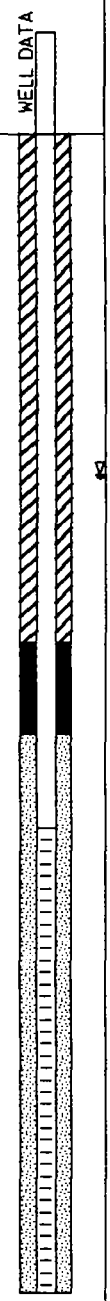


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW15S	**BORING NO.** MPT-2-MW15S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/14/87	**COMPLTD:** 9/14/87
METHOD: H.S.A.	**CASE SIZE:** 2" **SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.85 FT.	**MONITOR INST.:** Hnu **TOT DPTH:** 15.0FT.	**DPTH TO ∇** 4.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/14/87	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.1/2'	2.7	Clayey Sand-with vegitation		SP	11,17,20,26
	YES	SS2	1.85/2'	0	Sand- top (0.4-0.8')/ fine, uniform, tan, shell fragments, middle (0.8-0.7')/ dark brownn clay with some sand bottom/ fine to medium, motteled greyish brown, poorly sorted			9,10,18,20
5			2.0/2'		Sand- top (0.4')/ fine to medium, light gray to tan, dry middle (0.4-1.0)/ medium to coarse, dark to light gray bottom (1.0-1.85)/ light grey to tan, with a layer of plastic clay interbedded with sand, Fe Oxide bands			
10		SS3		4.1	Sandy clay-fine to medium, dark brown, dry		SC	1,2,2,2
					Clay-light gray, moist, bottom/ dark green to olive with organic material, plastic, moist		CL	
15		SS5	2.0/2'	4.3	Clay-green/brown to olive, organic matter, moist			4,9,20,13
					Clayey Sand-very fine, light grey, moist		SP	
20								
25								
30								

WELL DATA

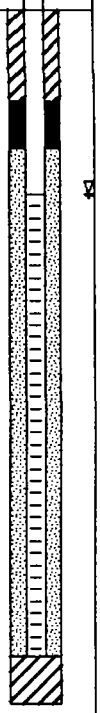


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW16S	**BORING NO.** MPT-2-MW16S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/21/92	**COMPLTD:** 1/21/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.51 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 12FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 1/22/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Sandy brown fill w/ shell fragments		SP	
	MPT-2-16-2-1	☒			No sample recovered			
			0/2		Note: Resampled 1/24/92 utilizing stainless steel hand auger			22,14,14,12
5								
					SAND-fine, grey, saturated			
10			2/2	1.0	CLAY-dark brown, highly organic		PT	6,4,3,4
					Boring terminated @ 12'			
15								
20								
25								
30								

WELL DATA

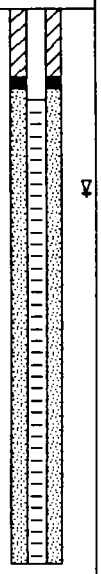


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW16D	**BORING NO.** MPT-2-MW16D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/92	**COMPLTD:** 1/20/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 80-100'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.69 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 100FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** 2/14/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, brown, w/ shell fragments		SP		
5			1/2	0				3,5,14,10	
10			1.7/2	1.0	CLAY-silty, dk. brown, some organics, soft		OL	N/A	
15			0.7/2	0	SAND-fine to medium, dk. brown, saturated		SP	1,1,3,4	
20			1.8/2	0.3	SAND-very fine to fine, gray, w/ shell fragments			1,1,4,3	
25			N/A	0.7	SAND-very fine to silty, gray, trace shell fragments		SM	1,2,2,3	
30			1.8/2	N/A	SAND-clayey, fine to medium, olive green, w/ shell fragments		SC	2,4,5,4	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW16D		**BORING NO.** MPT-2-MW16D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/92	**COMPLTD:** 1/20/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 90-100'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.89 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 100FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** 2/14/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.8/2				SC		
35			1/2	N/A				3,3,4,4	
							GC		
					CLAY-olive green, stiff, good plasticity (21") over		CH		
40			1.8/2	N/A	SAND-fine to medium, silty, gray (3")		SM	5,4,11,22	
45			1/2	N/A				15,18,27,33	
					SAND-silty, gray, w/ small clay lenses 1" thick every 4"		SC		
50			1.2/2	N/A				15,21,34,50	
					SAND-very fine to fine, w/ some silt, tan, tight, wet		SM		
			1.2/2	N/A				15,28,21,37	
55									
			1.2/2	N/A				15,10,20,22	
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW16D		**BORING NO.** MPT-2-MW16D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/92	**COMPLTD:** 1/20/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 90-100'	**PROTECTION LEVEL:** D
TOC ELEV.: 6.69 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 100FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** 2/14/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
							SM		
65			2/2	0	SAND-as above (3") over Gravel size shell fragments and quartz, loose (1") over SAND-as above (3")		GC SM	15,29,41,32	
70			1/2	1.0	CLAY-silty, olive green, some interbedded limestone fragments		CL	8,8,22,25	
75			1.2/2	1.2	CLAY-as above			24,8,8,8	
80			1.8/2	0	CLAY-as above			19,29,50,-	
85			1.8/2	0	CLAY-as above			15,25,29,33	
90			1.8/2	0	CLAY-as above			12,18,17,19	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW16D		**BORING NO.** MPT-2-MW16D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/92	**COMPLTD:** 1/20/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 90-100'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.69 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 100FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** 2/14/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 3				
			1.8/2				CL		
					CLAY-as above (8") over SAND-fine, gray, wet				
95			1.5/2	1.8				27,33,50,-	
					SAND-as above (1") over CLAY-as above (3")		SM		
			1.2/2	3.7			CL	18,22,22,35	
100									
					Boring terminated @ 100'				
105									
110									
115									
120									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW17S	**BORING NO.** MPT-2-MW17S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/21/92	**COMPLTD:** 1/21/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-13'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.73 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 13FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, shell fragments		SP		
			N/A	0	No sampled recovered			4,2,1,1	
5			1.5/2	0	SAND-fine, gray, shell fragments, saturated			1,1,1,-	∇
10									
15					Boring terminated @ 13'				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW17I	**BORING NO.** MPT-2-MW17I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/27/94	**COMPLTD:** 08/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.83 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32.0FT.	**DPTH TO ∇** 2.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-dark brown over Silty Sand-brown, w/cobble sized cemented sands		SM	Posthole	
5				0	Silty Sand-fine, grey, w/shell fragments			Observation	
10					Silty Sand-As above				
15					Silty Sand-As above			Observation	
20					Silty Sand-As above, w/ some shell fragments				
25					Silty Clay-olive green		CL	Observation	
30					Silty Sand-fine, saturated		SM		
					TOTAL DEPTH OF BORING = 32' BLS				
35									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW17D	**BORING NO.** MPT-2-MW17D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/21/92	**COMPLTD:** 1/29/92
METHOD: Mud Rotary	**CASE SIZE:** 4" / **SCREEN INT.:** 115-125'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.79 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 125FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, shell fragments		SP		∇
5					SAND-fine, fine, gray, shell fragments, saturated				
10									
15			1.8/2	0	SAND-as above			4,3,2,2	
20			1.8/2	0.2	SAND-as above, w/ abundance of shell fragments			5,5,7,8	
							CL		
25			2/2	0	CLAY-very silty, olive green			2,2,3,4	
							SM		
30			1/2	0.3				7,8,18,25	

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW17D		**BORING NO.** MPT-2-MW17D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/21/92	**COMPLTD:** 1/29/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 115-125'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.79 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 125FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1/2		SAND-very fine to silty, saturated		SM		
35			1.5/2	0.2	SAND-fine to medium, tan, w/ some shell fragments (1") over SAND-very fine to silty, w/ abundance of shell fragments (8")			39,31,30,32	
							SP		
40			0.8/2	0.2	SAND-very fine to fine, gray, w/ some shell fragments, wet			39,50,-,-	
45			0.8/2	1.3	SAND-as above			14,19,24,21	
50			0.5/2	0	SAND-as above			10,18,25,22	
							CL		
55			0.5/2	0	CLAY-silty, gray			6,10,10,14	
60							SM		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW17D	**BORING NO.** MPT-2-MW17D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/21/92	**COMPLTD:** 1/29/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 115-125'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.79 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 125FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2		SM		
65			2/2	0.4	SAND-very fine to silty, tan, w/ a few shell fragments + 1" bands of clay every 4"			24,18,14,27	
							SP		
70			1.5/2	0.3	SAND-very fine, gray, hard, w/ some shell fragments			24,42,50,-	
75			2/2	0.2	SAND-as above, w/ phosphate nodules			4,18,29,28	
80			2/2	0.2	SAND-fine to medium, olive green, wet (9") over CLAY-sandy, olive green, hard (15")		CL	10,11,8,22	
							SM		
85			2/2	0.3	SAND-very fine to silty, olive green, moist, w/ black phosphate nodules			5,5,8,11	
90									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-MW17D	**BORING NO.** MPT-2-MW17D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/21/92	**COMPLTD:** 1/29/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 115-125'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.79 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 125FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 3				
			2/2	0.2	SAND-as above		SM	4,8,8,8	
95			2/2	0.2	SAND-as above			5,6,14,18	
100			2/2	0.3	SAND-as above			9,11,17,17	
							SC		
105			2/2	0.8	SAND-as above			14,21,20,30	
110			2/2	0.2	SAND-as above, w/ higher clay content			12,10,18,20	
115			2/2	0.2	CLAYEY SAND- as above			14,12,18,21	
120			1/2	0.2				12,16,17,21	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-MW17D		**BORING NO.** MPT-2-MW17D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/21/92	**COMPLTD:** 1/29/92
METHOD: Mud Rotary	**CASE SIZE:** 4"	**SCREEN INT.:** 115-125'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.79 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 125FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 2/12/92		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 4				
			1/2		CLAYEY SAND- as above		SC		
125			1.5/2	0.2	CLAYEY SAND- as above			3,4,7,10	
					Boring terminated @ 125'				
130									
135									
140									
145									
150									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW18S	**BORING NO.** MPT-2-MW18S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/02/94	**COMPLTD:** 08/02/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.37 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 2.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/29/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan to white.		SM	Posthole	
			1.5/2	0	Silty Sand-fine, minor % shells, light gray.			7,10,9,5	
5								Observation	
10			2/2	0	Silty Sand (10-10.5')-fine, gray, over Clay (10.5-11.5')-medium plasticity, greenish gray, over Silty Sand (11.5-12')-fine, greenish gray.		CL SM	1,2,2,2	
15					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW18I TOTAL DEPTH OF BORING = 12.5' BLS				
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW18I	**BORING NO.** MPT-2-MW18I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/28/94	**COMPLTD:** 08/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.51 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 2.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	Silty Sand-fine, tan to white.		SM	Posthole
			1.5/2	0	Silty Sand-fine, few shells, light gray.			7,10,9,5
5								
10			2/2	0	Silty Sand (10-10.5')-fine, gray, over Clay (10.5-11.5')-medium plasticity, greenish gray, over Silty Sand (11.5-12')-fine, greenish gray.		CL SM	1,2,2,2
15			1.2/2		Silty Sand-fine, greenish brown with trace clay.			2,2,2,2
20			1.5/2	0	Silty Sand-As above			1,1,1,2
25			1.5/2	0	Silty Sand-fine, minor % shells, gray.			2,2,2,2
30			1.8/2	0	Silty Sand-As above			2,8,8,15
35					TOTAL DEPTH OF BORING = 32' BLS			

WELL DATA

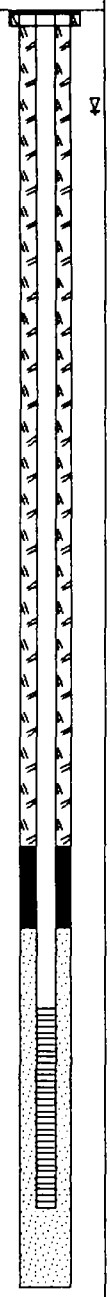


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW19S	**BORING NO.** MPT-2-MW19S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-35 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.50 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine to medium, dark brown to tan.		SM	Posthole	
5					Silty Sand-fine, tan.				
				0				Observation	
10					Silty Sand-as above.				
				0				Observation	
15					Silty Sand-as above.				
				0				Observation	
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW19S		**BORING NO.** MPT-2-MW19S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-35 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.50 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Continued from PAGE 1			
			1.5/2	0	Silty Sand-fine to medium, few shells, wet, gray.		SM	8,4,4,6
25			1/2	0	Silty Sand-fine to medium, few shells, gray.			8,4,4,6
30			1.5/2	4	Silty Sand-fine to medium, medium sized shell fragments, saturated gray.			2,4,4,5
35			1.5/2	3	Silty Sand (35-35.5')-As above over Silty Clay (35.5-37')- minor % organics, dry, greenish brown.		OL	4,6,3
					TOTAL DEPTH OF BORING = 37' BLS			
40								

WELL DATA

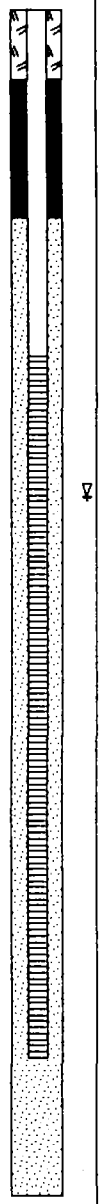


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW20S	**BORING NO.** MPT-2-MW20S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/07/94	**COMPLTD:** 07/07/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24.5-34.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.09 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-fine, brown to tan.		SM	Posthole	
5									
				0	Silty Sand-fine, tan.			Observation	
10									
15				0				Observation	
					Silty Sand-estimated contact, fine, tan.				
20							SC		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW20S	**BORING NO.** MPT-2-MW20S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/07/94	**COMPLTD:** 07/07/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24.5-34.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.09 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1/2	2	Clayey Sand-fine to medium, trace clay, dark gray to light gray.		SC	4,4,4,3	
25			1/2	>1000	Clay (25-25.25')-dark greenish gray with trace organics, over Silty Sand-fine, wet, grayish green.		CL SM	3,2,6,8	∇
30			1.5/2		Silty Sand (30-30.5')-fine, trace clay, light gray to white over Clay (30.5-30.75')-greenish gray over Silty Sand (30.75-30.88')-fine, light gray, over Clay-low plasticity, trace organics, grayish green.		CL SM CL	5,4,1,1	
35			1.7/2	30	Clay-stiff, low to medium plasticity, trace organics, brownish gray.			1,1,1,4	
					TOTAL DEPTH OF BORING = 37' BLS				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW21S		**BORING NO.** MPT-2-MW21S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/03/94	**COMPLTD:** 08/03/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.56 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 13.5FT.	**DPTH TO ∇** 4.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/28/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-fine to medium, tan to white.		SM		
					Silty Sand-as above, saturated at 4', white to gray.			Posthole	
5			1.5/2	15	Silty Sand-fine, green to gray.			3,1,1,1	
				0	Silty Sand- (observed from cuttings) as above.			Observation	
					Estimated contact between Silty Sand and Clay.		CL		
10			2/2	5	Clay (10-10.5')-low to medium plasticity, olive green to gray, over Silty Sand (10.5-13.5')-fine, greenish gray.		SM	1,1,4,5	
					TOTAL DEPTH OF BORING = 13.5' BLS				
15									
20									

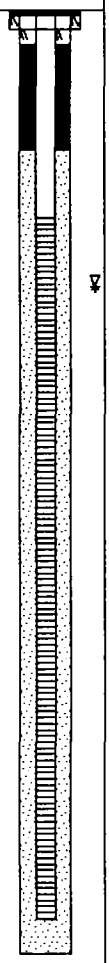


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW22I		**BORING NO.** MPT-2-MW22I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/20/94	**COMPLTD:** 07/20/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.09 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-dark brown to tan with trace debris.		SM	Posthole	
5			0.7/2	0	Silty Sand-fine to medium, tan with trace shells.			1,2,2,1	
10			0.7/2	0	Silty Sand-fine to medium, gray.			1,1,1,1	
15			1/2	0	Silty Sand-fine, greenish gray with trace clay.			1,2,2,2	
20			0.7/2	0	Silty Sand-As above			4,1,1,1	
25			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample	
30			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample	
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW22S	**BORING NO.** MPT-2-MW22S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/21/94	**COMPLTD:** 07/21/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.09 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/22/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-dark brown to tan with trace debris.		SM		
				0				Posthole	
					Silty Sand-fine to medium, tan with trace shells.				
5			0.7/2	0				1,2,2,1	
10			0.7/2	0	Silty Sand-fine to medium, gray.			1,1,1,1	
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW22I LOG.				
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

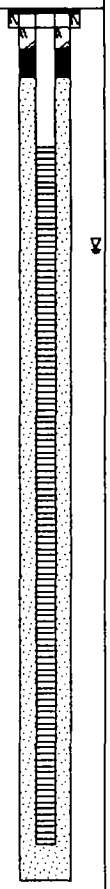


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, Fl.	**LOG of WELL:** MPT-2-MW23S	**BORING NO.** MPT-2-MW23S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/29/94	**COMPLTD:** 08/29/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 5.22 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 13.5FT.	**DPTH TO ∇** 4 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-light brown to tan.		SM	Posthole	
5			2/2	0	Clay-sand lenses with minor % shells, gray.		CL	1,1,WOR	
10			1.5/2	0	Clay (10-11.5')-dark olive green, over Silty Sands.			1,1,1,1	
					Silty Sand-grayish green with trace clay.		SM		
15					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW23I LOG. TOTAL DEPTH OF BORING = 13.5' BLS				
20									

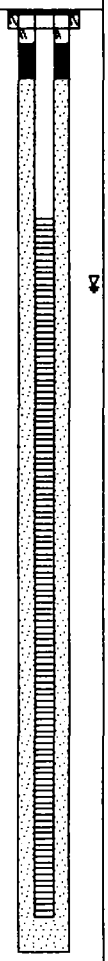


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW23I	**BORING NO.** MPT-2-MW23I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/27/94	**COMPLTD:** 08/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 5.38 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ▽** 4 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-light brown to tan.		SM	Posthole	
5			2/2	0	Clay-sand lenses with minor % shells, gray.		CL	1,1,WOR	
10			1.5/2	0	Clay (10-11.5')-dark olive green, over Silty Sands.		SM	1,1,1,1	
15			1.5/2	0	Silty Sand-grayish green with trace clay.			1,1,2,1	
20			1.8/2	0	Silty Sand-fine to medium, yellowish green.			WOR	
25			1.8/2	0	Silty Sand-fine to medium, yellowish green.			1,1,1,1	
30			0.5/2	0	Silty Sand-fine to medium, minor % shells.			1,1,1,3	
35					TOTAL DEPTH OF BORING = 32' BLS				

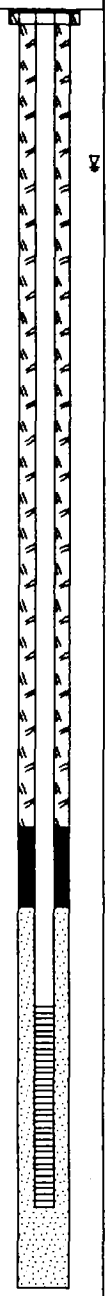


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW24S		**BORING NO.** MPT-2-MW24S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/30/94	**COMPLTD:** 08/30/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24.5-34.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.29 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-fine, dark brown to light tan.		SM		
				0				Posthole	
5				0	Silty Sand-tan.			Observation	
10					Silty Sand-fine, tan.				
				0				4,15,21,33	
15					Silty Sand- (observed from cuttings) as above.				
				0				Observation	
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW24S		**BORING NO.** MPT-2-MW24S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/30/94	**COMPLTD:** 06/30/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24.5-34.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.29 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 37FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			2/2	0	Silty Sand-fine, gray to dark gray.		SM	7,14,21,27	
25			1.5/2	0	Silty Sand-fine to medium, black and white shell fragments, light gray.			3,6,6,5	∇
30			2/2	0	Silty Sand-light gray to white over Sandy Clay (31.5-35')-olive green mottled with black.			1,2,1,2	
							CL		
					Estimated contact between Sandy Clay and Silty Sand.		SM		
35			1.5/2	0	Silty Sand-fine, minor % shells, organics, light gray, black to brown.			6,12,1,1	
					TOTAL DEPTH OF BORING = 37' BLS				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW25S	**BORING NO.** MPT-2-MW25S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-35 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.07 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 35.5FT.	**DPTH TO ∇** 25.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan with trace shells.		SM	Posthole	
5				0	As above			Observation	
10					As above				
				0				Observation	
15					As above				
				0				Observation	
20					Silty Sand (20-20.25')-fine, gray, over Sandy Clay (20.25-25')- estimated contact, gray with trace organic material.		CL		
25				0	Silty Sand-fine to medium, light gray to dark gray with trace shell fragments.		SM	Observation	∇
30							SC		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW25S		**BORING NO.** MPT-2-MW25S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-35 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.07 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 35.5FT.	**DPTH TO ∇** 25.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
					Clayey Sand-fine, greenish gray with trace shell fragments.		SC		
35					Silty Sand (35-35.5') over Clay-greenish gray with trace silt.				
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW25I LOG.				
					TOTAL DEPTH OF BORING = 35.5' BLS				
40									
45									
50									
55									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW25I	**BORING NO.** MPT-2-MW25I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 50-55 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 31.78 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 57FT.	**DPTH TO ∇** 25 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan with trace shells.		SM	Posthole	
5				0	As above			Observation	
10					As above				
				0				Observation	
15					As above				
				0				Observation	
20			1.5/2	0	Silty Sand- (20-20.25'), fine, gray, over Sandy Clay, (20.25-25'), estimated contact, gray with trace organics.		CL	1,6,8,10	
25			1/2	0	Silty Sand-fine to medium, light gray to dark gray with trace shell fragments.		SM	3,4,4,4	∇
30							SC		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW25I		**BORING NO.** MPT-2-MW25I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 50-55 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 31.78 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 57FT.	**DPTH TO ∇** 25 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/13/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.8/2	8	Clayey Sand-fine, greenish gray with trace shell fragments.		SC	1,2,1,1	
35			2/2	0	Silty Sand (35-35.5') over Clay-greenish gray with trace silt.		SM	WOR,1,1,2	
40			1.8/2	0	Clayey Sand-fine, yellowish brown.		SC	1,1,1,1	
			0/2					UD/Shelby Push Tube Sample	
45			1.5/2	0	As above			WOR	
					Shelby Push Tube Attempted - No Recovery				
50			1.8/2	0	Silty Sand-gray with trace shell fragments.		SM	1,1,1,2	
55			2/2	0	As above			1,2,7,5	
					TOTAL DEPTH OF BORING = 57' BLS				
60									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW26S	**BORING NO.** MPT-2-MW26S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 06/29/94	**COMPLTD:** 06/29/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 30-40 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.41 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 40.5FT.	**DPTH TO ∇** 22 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil-brown		SM		
5				0	Silty Shelly Sand-brown, over Silty Sand (1.25-10')-fine, tan.			Observation	
10					Silty Sand-fine, tan to white with minor % black grains.				
15				0	Silty Sand- (observed from cuttings) as above.			Observation	
20					Silty Sand-fine, saturated, tan to white w/ minor % black grains.				∇
25				0	Silty Sand-light gray with minor % black grains.			Observation	
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW26S		**BORING NO.** MPT-2-MW26S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/29/94	**COMPLTD:** 08/29/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 30-40 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.41 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 40.5FT.	**DPTH TO ∇** 22 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
					Silty Sand-as above.		SM		
35				0				Observation	
					Silty Sand-light gray with minor % black grains over Clay (38.5-40')- low plasticity, dry, black to grayish green.		CL		
40					Clay-stiff, medium to high plasticity, grayish green with a trace of brown to red organic material.		CH		
					LITHOLOGIC DESCRIPTION OBTAINED FROM MPT-2-MW26I LOG.				
					TOTAL DEPTH OF BORING = 40.5' BLS				
45									
50									
55									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW26I	**BORING NO.** MPT-2-MW26I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/29/94	**COMPLTD:** 08/29/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 50-55 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.35 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 57FT.	**DPTH TO ∇** 22 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil-brown		SM		
5				0	Silty Shelly Sand-brown, over Silty Sand (0.25-10')-fine, tan.			Observation	
10			0.5/2	0	Silty Sand-fine, tan to white with minor % black grains.			5,4,3,3	
15				0	Silty Sand- (observed from cuttings) as above.			Observation	
20			1/2	0	Silty Sand-fine, wet, tan to white with minor % black grains.			4,5,5,3	∇
25			1/2	0	Silty Sand-light gray with minor % black grains.			2,2,2,2	
30			1.5/2	0	Silty Sand-as above.			4,7,9,7	
35									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW26I		**BORING NO.** MPT-2-MW26I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/29/94	**COMPLTD:** 06/29/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 50-55 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 32.35 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 57FT.	**DPTH TO ∇** 22 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.5/2	0	Silty Sand-light gray with minor % black grains over Clay (36.5-40')- low plasticity, dry, black to grayish green.		SM CL	3,4,1,1	
40			0.8/2	0	Clay-stiff, medium to high plasticity, grayish green with a trace of brown to red organic material.		CH	2,3,3,4	
					Estimated contact		SM		
45			1/2	0	Silty Sand-light greenish gray.			1,1,1,1	
50			2/2	0	Silty Sand-w/ minor % shell fragments, light gray to greenish gray.			2,3,4,6	
55			1/1	0	Silty Sand-fine, minor % shells, grayish green.			3,2,1,1	
					TOTAL DEPTH OF BORING = 57' BLS				
60									
65									
70									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW27I		**BORING NO.** MPT-2-MW27I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/28/94	**COMPLTD:** 08/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.99 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil		SM		
				0	Silty Sand-fine, tan.			Posthole	
5			1.5/2	0	Silty Shelly Sand-fine, lt. brown to lt. gray at 5.5'.			4,6,7,7	
					Estimated contact		CL		
10			1.5/2	0	Clay-organics, brown with intermittent 1" fine sand lenses.			2,2,2,2	
			0/2		Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample	
15			2/2	0	Clay (15-15.33')-over Silty Sand (15.33-15.83')-over Clayey Sand.		SM	1,1,1,1	
20			1.8/2	0	Silty Sand-fine, yellowish green with minor clays.			2,2,2,2	
25			1/2	0	Silty Shell Sand-fine, abundant shell fragments, yellowish green.			0,0,0,1	
30			1.5/2	0	Silty Sand (30-30.67')-fine over Silty Shelly Sand-lt. gray.			3,1,6,14	
					TOTAL DEPTH OF BORING = 32' BLS				
35									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW28S		**BORING NO.** MPT-2-MW28S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/21/94	**COMPLTD:** 07/21/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 4-14 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 17.38 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 14.5FT.	**DPTH TO ∇** 5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan.		SM	Posthole	
					Silty Sand-fine, tan.				
5			1/2	0				5,8,14,23	∇
					Silty Sand-fine, saturated.				
			1.5/2	0				28,22,30,21	
10					Estimated from cuttings				
					As above				
			0/2					UD/Shelby Push Tube Sample	
15					TOTAL DEPTH OF BORING = 14.5' BLS				
20									

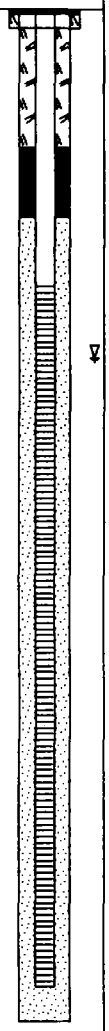


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW29S	**BORING NO.** MPT-2-MW29S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/05/94	**COMPLTD:** 08/05/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.43 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil (0-0.5')		SM		
					Silty Sand-fine, trace shell fragments and fine gravel, tan.			Posthole	
					Silty Sand-fine to medium, shell fragments, tan to gray, wet.				∇
5			1.5/2	0	Silty Sand-fine, shell fragments, brown to lt gray, gravel lenses at 5.5'.			6,9,9,7	
					Estimated contact		CL		
10			2/2	0	Silty Clay-brown (10-10.67') over Silty Sands with a trace of organic material, brown.		SM	3,3,6,7	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW30S		**BORING NO.** MPT-2-MW30S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/04/94	**COMPLTD:** 06/04/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.91 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 13.5FT.	**DPTH TO ∇** 3.8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil (0-1')-highly organic, clay, silt, and sand, brown.		SM		
				0	Crushed Limestone-sand size shells, tan to white.			Posthole	
					Crushed Limestone-sand size shell lens over Silty Sand-lt. gray, wet wet at 3' and saturated at 4'.				∇
5			1.5/2	0	Silty Sands-fine, minor gravel, lt gray, (0.5') over Silty Sand, fine, gray over (0.5') over Silty Sand, fine, minor % shell fragments, saturated.			7,10,10,8	
				0	Silty Sands-As above (observed from cuttings).			Observation	
10			1/2	0	Silty Sand-fine, gray, (0.33') over Silty Clay-medium to low plasticity, few organics, greenish brown.		CL	5,1,1,1	
					Silty Clay- (no spoon taken, lithology assumed to be the same as above).				
					TOTAL DEPTH OF BORING = 13.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW31S	**BORING NO.** MPT-2-MW31S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/04/94	**COMPLTD:** 08/04/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.
TOC ELEV.: 9.14 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, light brown to tan.		SM	Posthole	
5					Silty Sand-fine, light brown to tan.			Observation	
10					Silty Sand-fine, minor % shell fragments, trace clay, gray.			Observation	
					Sandy Clay-tan over Silty Sand, light brown to tan.		CL		
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW31I LOG.				
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

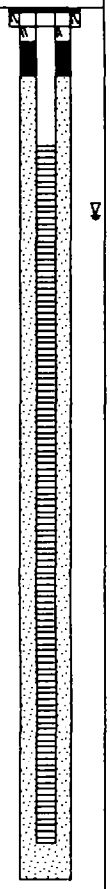


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW31I	**BORING NO.** MPT-2-MW31I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/09/94	**COMPLTD:** 07/09/94
METHOD: 4.25" HSA	**CASE SIZE:** 2" / **SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.08 FT.	**MONITOR INST.:** FID / **TOT DPTH:** 32FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, light brown to tan.		SM	Posthole	
5					Shelby Push Tube Attempted - No Recovery			UD/Shelby Push Tube Sample	
10					Silty Sand-fine, minor % of shell fragments, trace clay, gray.				
			1/2	0	Sandy Clay-tan, to Silty Sand, light brown to tan.		CL	4,1,1,1	
15					Estimated contact		SC		
					Estimated contact		CL		
20			0.5/2	0	Sandy Clay-yellowish green.			4,1,2,2	
25			1/2	0	Silty Sand- (25-25.87') fine, light yellowish green to white, over Clayey Sand, fine, yellowish green.		SM SC	3,1,1,1	
30			1/2	0	Silty Sand-fine, minor % shell fragments, lt. greenish gray with a 1" gray clay lens.		SM	18,43,28,11	
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW32S	**BORING NO.** MPT-2-MW32S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/05/94	**COMPLTD:** 08/05/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.49 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 7 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, brown to tan.		SM	Posthole	
5			1.3/2	20	Silty Sand- (5-5.87') fine, light gray, over Clay, high plasticity, wet, gray.		CL	1,3,6,4	∇
10			1/2	10	Clay-medium plasticity, soft, brown.			1,1,1,1	
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW32I LOG. TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW32I	**BORING NO.** MPT-2-MW32I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/08/94	**COMPLTD:** 07/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.39 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 7 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/19/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, brown to tan.		SM	Posthole	
5			1.3/2	20	Silty Sand- (5-5.87') fine, light gray, over Clay, high plasticity, wet, gray.		CL	1,3,8,4	∇
10			1/2	10	Clay-medium plasticity, soft, brown.			1,1,1,1	
					Estimated contact		SC		
15			1.5/2	0	Clayey Sand- (15-15.5') fine, brown, over Silty Sand, fine, brown.		SM	2,2,4,5	
20									
25			1/2	0	Silty Sand-fine to medium, minor % shell fragments, greenish gray.			2,4,12,12	
30			1.8/2		Silty Sand-as above.			4,8,8,4	
					TOTAL DEPTH OF BORING = 32' BLS				
35									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW33S	**BORING NO.** MPT-2-MW33S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/04/94	**COMPLTD:** 08/04/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.47 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-saturated at 3', tan to gray.		SM		
				0				Posthole	
				0				Observation	
5			1.5/2	0	Silty Sand-fine, saturated, minor % black and white shell fragments, light gray.			7,7,8,8	
10			1/2	0	Silty Sand (10-10.5')-fine, gray, over Organic Clay, gray to brown.		OL	1,4,2,2	
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW33I LOG. TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW33I	**BORING NO.** MPT-2-MW33I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/10/94	**COMPLTD:** 07/10/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.33 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/19/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-saturated at 3', tan to gray.		SM	Posthole	
				0				Observation	
5			1.5/2	0	Silty Sand-fine, saturated, minor % black and white shell fragments, light gray.			7,7,6,6	
10			1/2	0	Silty Sand (10-10.5')-fine, gray over Organic Clay-gray to brown.		OL	1,4,2,2	
15			0/2		Silty Sand-fine, brown. Shelby Push Tube Attempted - No Recovery		SM	UD/Shelby Push Tube Sample	
20			2/2	0	Silty Sand-fine, light gray to white with few 1" clay lenses at 21.5'.			1,1,1,1	
25			2.2	0	Clay (25-25.25')-brown, over Silty Sand-fine, yellowish green with trace clay.		CL SM	1,1,2,4	
30			1.8/2	0	Silty Sand-fine, yellowish green to gray with trace clay.			1,2,3,5	
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW34S	**BORING NO.** MPT-2-MW34S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/05/94	**COMPLTD:** 08/05/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.48 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ▽** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine to medium, dark brown to light gray.		SM	Posthole	
5			1/2	0	Silty Sand-fine, light gray over Clay-medium to high plasticity, gray.		CH	3,7,8,11	
10			1/2	0	Clay-medium to high plasticity, soft, gray.			1,1,1,1	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

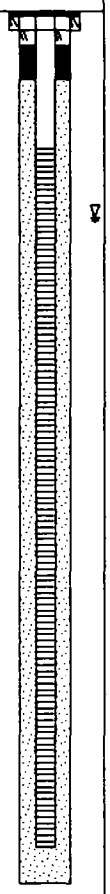


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW34I	**BORING NO.** MPT-2-MW34I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/10/94	**COMPLTD:** 07/10/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.81 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/22/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine to medium, dark brown to light gray.		SM	Posthole	
5			1/2	0	Silty Sand-fine, light gray over Clay-medium to high plasticity, gray.		CH	3,7,8,11	
10			1/2	0	Clay-medium to high plasticity, soft, gray.			1,1,1,1	
15			2/2		Clay-As above			Shelby	
20			0.5/2	0	Clay-medium to high plasticity, greenish gray over Clayey Sand-medium, minor % of shell fragments.		SC	3,4,2,2	
25			1/2	0	Clayey Sand-medium, minor % of shell fragments, greenish gray.			1,3,1,1	
30			2/2	0	Sandy Clay-soft, gray.		CL	1,1,1,1	
					TOTAL DEPTH OF BORING = 32' BLS				
35									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW35S	**BORING NO.** MPT-2-MW35S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 06/4/94	**COMPLTD:** 06/4/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.36 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5')		SM		
				0	Silty Sand-tan to white with gray mottling.			Posthole	
5			1/2	0	Clay-high plasticity, some organics, grayish green.		CH	1,1,1,1	
					Estimated contact		SM		
10			0.5/2	0	Silty Sand-fine, trace of shells, light tan.			2,2,4,5	
					LITHOLOGIC DESCRIPTION OBTAINED FROM MPT-2-MW35I LOG. TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

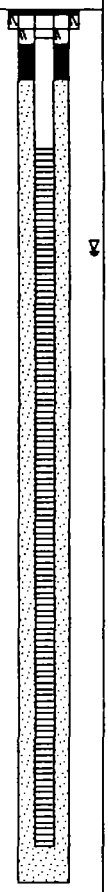


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW35I	**BORING NO.** MPT-2-MW35I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/22/94	**COMPLTD:** 08/22/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24-29 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.40 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	Top Soil- (0-0.5') Silty Sand-tan to white with gray mottling.		SM	Posthole
5			1/2	0	Clay-high plasticity, some organics, grayish green.		CH	1,1,1,1
					Estimated contact		SM	
10			0.5/2	0	Silty Sand-fine, trace of shell fragments, light tan.			2,2,4,5
15			1.5/2	0	Clayey Silty Sand-fine, shell fragments, saturated, grayish green.			1,2,2,3
20			2/2	0	Silty Sand-fine, grayish green to light brown, 1" white layers.			6,7,17,12
25			1.8/2	0	Silty Sand-As above, with trace of shell fragments.			2,4,4,3
30			2/2	0	Silty Sand- (30-31') fine, light gray to white, over Silty Sand-light green (31-31.167') over Clay-stiff, yellowish green to grayish green, very fine yellowish brown sand stringers.		CL	2,2,4,4
35					TOTAL DEPTH OF BORING = 32' BLS			

WELL DATA

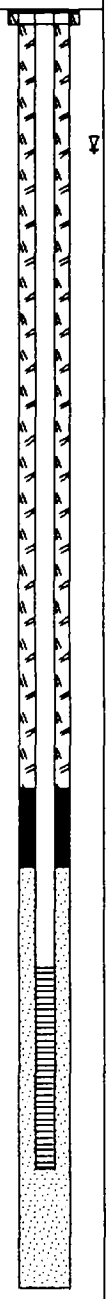


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW36S	**BORING NO.** MPT-2-MW36S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/05/94	**COMPLTD:** 08/05/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.58 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: PVC	**WELL DEVELOPMENT DATE:** 07/08/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5')				
					Silty Sand, tan.			Posthole	
					Silty Sand-fine, saturated, light gray to white.				
5			1/2	0				6,8,2,2	
10			2/2	5	Clay-some organics, High to Medium plasticity, light gray.			WOR	
					LITHOLOGICAL DESCRIPTION TAKEN FROM MPT-2-MW36D				
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

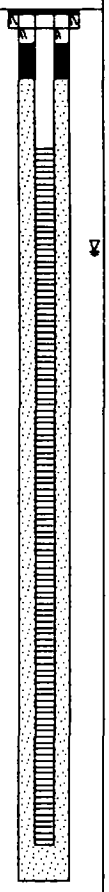


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW36I	**BORING NO.** MPT-2-MW36I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 06/20/94	**COMPLTD:** 06/20/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.57 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 30.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5'),			Posthole	
					Silty Sand, tan				
					Silty Sand-fine, saturated, light gray to white.				
5									
10					Clay-some organics, High to medium plasticity, saturated, light gray.				
15					Clay-high plasticity, trace silty, gray.				
20					Silty Sand-fine, light gray to black with shell fragments.				
25					Silty Sand-fine, light gray to black with shell fragments.				
30					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW36D LOG TOTAL DEPTH OF BORING = 30.5' BLS				
35									

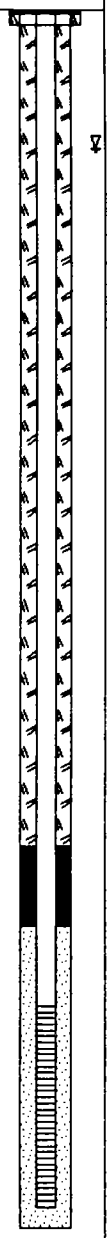


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW36D		**BORING NO.** MPT-2-MW36D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/20/94	**COMPLTD:** 06/20/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 50-60 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.47 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 62FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/10/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5')				
					Silty Sand, tan.			Posthole	
5			1/2	0	Silty Sand-fine, saturated, light gray to white.			6,8,2,2	
10			2/2	5	Clay-some organics, high to medium plasticity, saturated, light gray.			WOR	
15			2/2	0	Clay-high plasticity, trace silty, gray.			0,0,1,1	
20			1/2	0	Silty Sand-fine, light gray to black with shell fragments.			1,1,2,3	
25			1/2	0	Silty Sand-fine, light gray to black with shell fragments.			0,0,1,1	
30			1/2	0	Sandy Clay-grayish green with a trace of shell fragments.			1,2,1,1	
35									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW36D		**BORING NO.** MPT-2-MW36D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/20/94	**COMPLTD:** 06/20/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 50-60 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.47 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 62FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/10/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.8/2	0	Clayey Sand-fine, grayish green with trace clay.			4,4,8,10	
40			2/2		Sandy Clay-dense, grayish green with shell fragments.			Shelby	
45			1.8/2	0	Clayey Sand- (45-46.6'), fine to medium, tan to white, over Silty Sand, light gray to white.			2,2,2,4	
50			1.5/2	0	Clayey Sand-medium, shell fragments, orange to yellow.			1,2,4,6	
55			1.8/2	0	Silty Sand-fine to medium, yellowish brown to grayish green.			5,5,20,22	
60			1.8/2	0	Silty Sand-fine to medium, green to black, trace clay.			12,20,26,54	
					TOTAL DEPTH OF BORING = 62' BLS				
65									
70									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW37S	**BORING NO.** MPT-2-MW37S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/04/94	**COMPLTD:** 08/04/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.93 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ▽** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-1'),		SM		
					Silty Sand, tan to light gray			Posthole	
					Silty Sand-fine, light gray to white with trace organics.				
5			1/2	0				4,1,8,8	
10					Sandy Clay- (10-10.5'), over Clayey Sand, fine, grayish green.		CL		
			1/2	0			SC	1,1,1,1	
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW38I LOG				
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW37I	**BORING NO.** MPT-2-MW37I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/22/94	**COMPLTD:** 08/22/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 24.5-29.5 FT. **PROTECTION LEVEL:** D
TOC ELEV.: 8.84 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT. **DPTH TO ∇** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/09/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-1')		SM		
					Silty Sand, tan to light gray			Posthole	
5			1/2		Silty Sand-fine, light gray to white with trace organics.			4,1,6,8	
10			1/2		Sandy Clay- (10-10.5'), over Clayey Sand, fine, grayish green.		CL SC	1,1,1,1	
15			2/2		Silty Sand- (15-18'), fine, over Clay, brown.		SM CL	1,1,1,1	
					Shelby Push Tube Attempted - Full Recovery			UD/Shelby Push Tube Sample	
20			2/2		Clay-brown.			1,1,1,1	
25			1/2		Silty Sand-fine, saturated, light gray.		SM	3,5,7,10	
30			1.8/2		Silty Sand-fine, saturated, light gray.			2,3,3,3	
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW38S	**BORING NO.** MPT-2-MW38S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/05/94	**COMPLTD:** 08/05/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.14 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 6 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/08/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5'), over Silty Sand, fine, shells.		SM		
					Silty Sand-fine, with shell fragments			Posthole	
5			1.3/2	0	Silty Sand-fine, with shell fragments			8,9,7,12	∇
					Estimated contact		CL		
10			1.8/2	0	Clay-wet, some silt, greenish gray.			1,1,1,1	
					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-2-MW38D				
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-2-MW38I	**BORING NO.** MPT-2-MW38I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/19/94	**COMPLTD:** 07/19/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.18 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5').		SM		
					Silty Sand, fine, with shell fragments			Posthole	
5					Silty Sand, with shell fragments				
					Estimated contact		CL		
10					Clay-wet, some silt, greenish gray.				
15					Clay-wet,some silt, greenish gray.				
					Estimated contact		SC		
20					Silty Sand- (20-21.5'), fine, estimated contact, light gray to white, over Clayey Sand, light gray to green.		SM		
							SC		
					Estimated contact		SM		
25					Silty Sand-fine, saturated, light gray to white.				
30					Silty Sand-fine, saturated, light gray to white.				
					LITHLOGIC DESCRIPTION OBTAINED FROM MPT-2-MW38D				
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-2-MW38D	**BORING NO.** MPT-2-MW38D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/18/94	**COMPLTD:** 08/18/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 50-80 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.38 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 87FT.	**DPTH TO ▽** 8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/10/94	**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil- (0-0.5')		SM		
					Silty Sand, fine, shells.			Posthole	
5			1.3/2	0				8,9,7,12	▽
					Estimated contact		CL		
10			1.8/2	0	Clay-wet, some silt, greenish gray.			1,1,1,1	
15			2/2	0				1,1,1,1	
					Estimated contact		SC		
20			1.8/2	0	Silty Sand- (20-21.5'), fine, light gray to white, over Clayey Sand, light gray to green estimated contact.		SM	1,1,1,1	
							SC		
					Estimated contact		SM		
25			1.8/2	0	Silty Sand-fine, saturated, light gray to white.			1,1,1,1	
30			2/2	0	Silty Sand-fine, saturated, light gray to white			1,1,1,1	
35									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-2-MW38D	**BORING NO.** MPT-2-MW38D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/18/94	**COMPLTD:** 08/18/94
METHOD: 4.25" HSA	**CASE SIZE:** 4"	**SCREEN INT.:** 50-80 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.38 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 87FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/10/94		**SITE:** 2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.8/2	0			SM	1,1,1,1	
40			2/2	0				1,1,2,3	
45			2/2	0	Silty Sand-fine, trace clay, light gray to white.			2,3,1,2	
50			1.5/2	1	Silty Sand-fine, trace clay, light gray to white			1,2,6,6	
55			1.8/2	0				1,3,6,6	
60			1.8/2	0				3,7,8,6	
65			1.8/2	0	Silty Sand-fine, light gray to white with a 1" clay lense, few shell fragemts			5,2,2,2	
					TOTAL DEPTH OF BORING = 87' BLS				
70									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P1	**BORING NO.** MPT-2-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/14/92	**COMPLTD:** 1/14/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-8'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.75 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 8FT.	**DPTH TO ∇** 3.00 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
5			1.8/2	100	SAND-fine to medium, silty, olive green, w/ shell fragaments			3,3,3,3	
10					Boring terminated @ 8'				
15									
20									
25									
30									

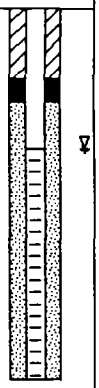


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P2	**BORING NO.** MPT-2-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/14/92	**COMPLTD:** 1/14/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 4-9'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.97 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 9FT.	**DPTH TO ∇** N/A FT.
LOGGED BY: PAT CRAINE	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
5			1.8/2	0.2	SAND-fine to medium, olive green to gray, w/ shell fragments			8,6,4,5	
10					Boring terminated @ 9'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P3		**BORING NO.** MPT-2-P3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/14/92	**COMPLTD:** 1/14/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 27-32'	**PROTECTION LEVEL:** D
TOC ELEV.: 31.93 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 28 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, w/ shell fragments		SP		
				4	SAND-very fine to fine, olive green, w/ shell fragments, moist				
5									
10				12	SAND-fine, tan, moist				
15				7	SAND-as above				
20				7	SAND-as above				
25				9.6	SAND-very fine to fine, olive green, moist				
30			1.8/2	30	SAND-very fine, olive green, w/ shell fragments, saturated			4,7,7,7	
					Boring terminated @ 32'				
35									
40									

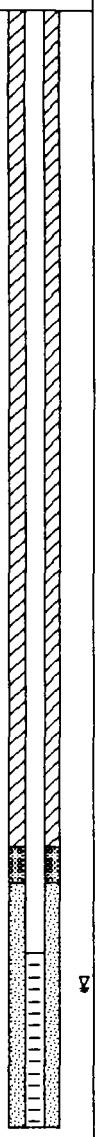


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P4		**BORING NO.** MPT-2-P4
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/14/92	**COMPLTD:** 1/15/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 30-35'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.74 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 35FT.	**DPTH TO ∇** 28 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				2.0	SAND-very fine to fine, tan, loose		SP		
5									
10				10	SAND-very fine to fine, lt. brown, loose				
15									
20				9.0	SAND-as above				
25									
30			1.8/2	20	CLAY-silty, black, organic, moist		OL	8,7,4,4	
35									
					Boring terminated @ 35'				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P5	**BORING NO.** MPT-2-P5
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/15/92	**COMPLTD:** 1/15/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 6-11'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.15 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 11FT.	**DPTH TO ∇** 5.50 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, w/ abundance of shell fragments		SP		
5			1.7/2	7.8	SAND-very fine to fine, gray, w/ shell fragments, saturated			4,5,7,8	∇
10									
					Boring terminated @ 11'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-P6	**BORING NO.** MPT-2-P6
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/15/92	**COMPLTD:** 1/15/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.09 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: R.W. HOLLOWAY	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Black sandy top soil		SP		
5			1.8/2	58.6	SAND-fine to very fine, grey, saturated, trace organics			1,2,1,-	
					SAND-silty, gray, saturated		SM		
10									
					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P7	**BORING NO.** MPT-2-P7
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.95 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 10FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: R.W. HOLLOWAY	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Black sandy top soil		SP		
					SAND-very fine to fine, tan, loose				
5			1.2/2	22	SAND-fine to very fine, grey, abundance of shell fragments			6,4,5,4	∇
10									
					Boring terminated @ 10'				
15									
20									
25									
30									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P8	**BORING NO.** MPT-2-P8
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.35 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 10FT.	**DPTH TO ∇** 4 FT.
LOGGED BY: R.W. HOLLOWAY	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				18.8	CLAY-silty, organic, dk. brown, w/ some shell fragments		CL	1,-	
					SAND-fine to very fine, grey, abundance of shell fragments		SP		
5			2/2						
				50.2	CLAY-organic, dk. brown, moist		OL		
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P9	**BORING NO.** MPT-2-P9
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/16/92	**COMPLTD:** 1/16/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 30-35'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.18 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 35FT.	**DPTH TO ∇** 28.5 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, loose, few shell fragments		SP		
5				2.3	SAND-as above				
10				11.9	SAND-as above				
15				2.3	SAND-as above				
20				3.1	SAND-as above				
25									
30			0.5/2	4.0	SAND-very fine to fine, gray, saturated			7,9,8,6	
35									
					Boring terminated @ 35'				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-2-P10	**BORING NO.** MPT-2-P10
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 30-35'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.02 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 35FT.	**DPTH TO ∇** 27 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, loose, few shell fragments		SP		
5					NOTE: Split-spoon sampling was not performed while penetrating material used to construct berm.				
10									
15									
20									
25									
30			1.2/2	4.0	SAND-very fine to fine, grey, saturated, over 8" of clay, silty dark grey, low plasticity		CL	8,5,8,8	
35					Boring termintated at 35'				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P11	**BORING NO.** MPT-2-P11
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/16/92	**COMPLTD:** 1/16/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 30-35'	**PROTECTION LEVEL:** D
TOC ELEV.: 31.85 FT.	**MONITOR INST.:** N/A / **TOT DPTH:** 35FT.	**DPTH TO ∇** 28 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, w/ some shell fragments		SP		
5									
10									
15					SAND-very fine to silty, gray, w/ shell fragments		SM		
20									
25									
30			0.9/2	5.2	SAND-as above, saturated			15,14,18,18	
35									
					Boring terminated @ 35'				
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P12	**BORING NO.** MPT-2-P12
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30'	**PROTECTION LEVEL:** D
TOC ELEV.: 32.75 FT.	**MONITOR INST.:** N/A	**TOT DPTH:** 30FT.	**DPTH TO ∇** 25 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, w/ some shell fragments		SP		
5									
10									
15									
20									
25									∇
30			1.5/2	0.5	SAND-fine, gray, saturated, over 1' CLAY-black, highly organic		OH	1,2,4,6	
					Boring terminated @ 31'				
35									
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-2-P13		**BORING NO.** MPT-2-P13
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/23/92	**COMPLTD:** 1/23/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.87 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 2.0 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #2

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-clayey, lt. gray, organic, w/ shell fragments		SC		
			1.5/2	0.2				4,3,2,3	
					CLAY-dark gray, plastic, minor silt & sand		CL		
5									
					CLAY-same as above, grading to higher sand content				
10									
					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW1S	**BORING NO.** MPT-8-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/17/87	**COMPLTD:** 9/17/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-16.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 15.74 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 17.0FT.	**DPTH TO ∇** 9.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/17/87		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.8/2'	0.8	Sand-uniform, light tan, dry with dark brown to black top soil		SP	5,5,24,38
5		SS2	1.6/2'	186	Sand- top/ fine, dark brown, organic sandy soil, middle/ light brown bottom/ fine to medium, light grey			16,17,33,41
	YES	SS3	1.1/2'		Sand-fine to medium, few shell fragments			6,9,6,2
10		SS4	2.0/2'	140	Sand-top/ fine to medium, dark gray with black silty sand layers bottom/ light grey, with clay lens			1,3,1,2
15		SS5	1.7/2'	52.3	Sand-fine, uniform, with small clay, a clay, a layer (0.15') uniform, plastic, grey , some shell fragments at the bottom			7,16,17,8
20								
25								
30								

WELL DATA

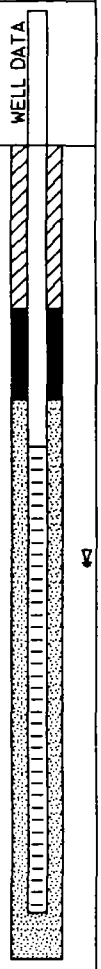


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW2S	**BORING NO.** MPT-8-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/17/87	**COMPLTD:** 9/17/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-17' ?	**PROTECTION LEVEL:** D
TOC ELEV.: 14.00 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ∇** 9.50 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/17/87		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	2.0/2'		Sand-fine to medium, tan, few shell fragments, dry, bottom/ tan to grey, many shells		SP	13,20,22,36
5		SS2	1.7/2'		Sand-same as above, dark brown on the top, light grey at the bottom			17,21,30,56
	YES	SS3	1.1/2'		Sand-same as above			12,13,20,22
10		SS4	1.1/2'		Sand-fine to medium, grey, shells and fragments, grading to fine sand			8,9,13,19
15		SS5	2.0/2'		Sand-same as abov, light grey, with many shells			4,7,9,13
20								
25								
30								

WELL DATA

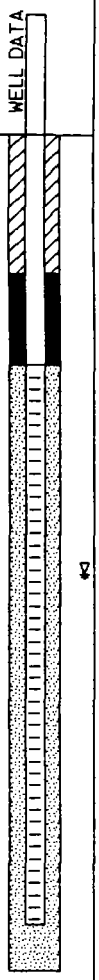


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-MW3S	**BORING NO.** MPT-8-3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/18/87	**COMPLTD:** 9/18/87
METHOD: H.S.A.	**CASE SIZE:** 2" **SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.10 FT.	**MONITOR INST.:** Hnu **TOT DPTH:** 15.0FT.	**DPTH TO ∇** 9.50 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/18/87	**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.4/2'		Sand-fine to medium, light tan, shell fragments, dry		SP	7,13,20,28
5		SS2	1.1/2'		Sand-same as above, interbedded with dark brown shells			13,14,16,7
	YES	SS3	1.8/2'		Sand-same as above, some dark brown Sand-top (0.5')/ fine, tan, shells, middle (0.5-0.55')/ blue shells bottom/ fine to medium, graded to light grey, shells			10,10,12,8
10		SS4	1.4/2'		Sand-fine to medium, grey, shells and fragments, grading to fine sand			17,17,15,7
15		SS5	2.0/2'		Sand-same as abov, many shells and fragments			17,21,21,37
20								
25								
30								

WELL DATA

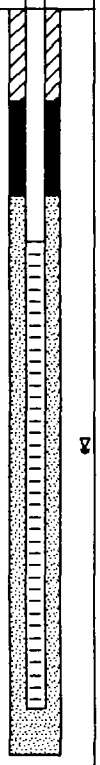


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-MW4S		**BORING NO.** MPT-8-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/14/93	**COMPLTD:** 1/14/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.90 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10.18 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT8 MS04-2	X	100%	0.0	ORGANIC SOIL - dark brown, loamy, w/ some shell fragments over SAND - fine, tan, dry (bottom 2")		OL	12,10,14,15*
							SP	
5			50%	0.0	ORGANIC SOIL - dark brown, loamy, w/ some shell fragments		OL	2,2,1,2
			100%	0.0	ORGANIC SOIL -same as above (top 8") over SAND - fine, tan, moist, w/ some fine shell fragments		SP	4,4,6,8
	MPT8 MS04-8	X	100%	80	SAND - fine, tan, some shells, w/ hydrocarbon odor			12,12,12,20*
10								
15					Boring Terminated at 15.5 feet			
20					* Use of non-standard 3" split-spoon sampler for sample recovery at these depths is reflected in the higher blow counts			
25								
30								

WELL DATA

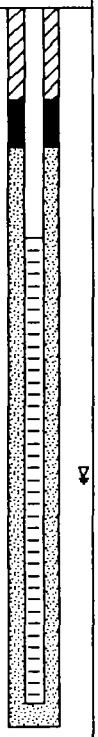


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW5S	**BORING NO.** MPT-8-MW5S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/13/93	**COMPLTD:** 1/13/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.00 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 7.28 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/18/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT8 MS05-2	X	100%	0.0	ORGANIC SOIL - dark brown, sandy, w/ plant matter (top 8") over SAND - fine to medium , tan, shelly, moist		OL / SP	8,8,11,18
5					SAND - fine, tan, moist			
	MPT8 MS05-9	X	100%	80	SAND - fine to medium, tan, shelly, moist SAND - fine, lt. gray, wet			8,10,11,12
10					ORGANIC SOIL - dark brown, silty, w/ plant matter over SAND - fine, silty, dk. gray, wet		OL / SM	
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

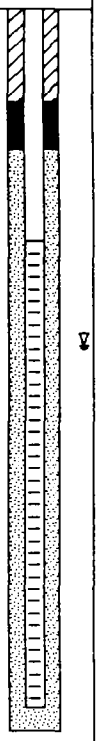


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-MW5I		**BORING NO.** MPT-8-MW5I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/11/94	**COMPLTD:** 07/11/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 13.34 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/22/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-brown to gray with few shells.		SM	Posthole	
5				0	Clay- (6-6.5'), over Clayey Sand-greenish gray with few shells.		CL SC	Observation	∇
10					Silty Sand-fine, grayish green with trace clay.		SM		
				0				Observation	
15					Silty Sand-as above.				
				0				Observation	
20					Silty Sand-as above.				
				0				Observation	
25					Silty Sand-fine, grayish green with trace clay.				
				0				Observation	
30				0	As above			Observation	
					SEE LITHOLOGY FROM MPT-8-MW5DD TOTAL DEPTH OF BORING = 32' BLS				
35									

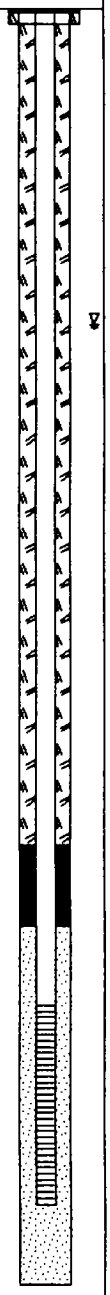


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW5D	**BORING NO.** MPT-8-MW5D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/11/93	**COMPLTD:** 1/13/93
METHOD: MUD ROTARY	**CASE SIZE:** 4"	**SCREEN INT.:** 80-70'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.29 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 87.0FT.	**DPTH TO ∇** 9.20 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/18/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0.0	ORGANIC SOIL - dark brown, sandy, w/ plant matter (top		OL	POST-HOLE	
							SP		
5			40%	0.0	SAND - fine, tan, moist			1,2,5,5	
					SAND - fine to medium, tan, shelly, moist				
					SAND - fine, lt. gray, wet				∇
10			40%	50	ORGANIC SOIL - dark brown, silty, w/ plant matter over SAND - fine, silty, dk. gray, wet		OL SM	2,6,5,6	
15			50%	30	SAND - fine, light gray, silty, moist			7,10,10,11	
20			70%	0.0	SAND - fine, light gray, silty, wet			17,26,37,41	
25			50%	0.0	Same as above			8,16,38,40	
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW5D	**BORING NO.** MPT-8-MW5D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/11/93	**COMPLTD:** 1/13/93
METHOD: MUD ROTARY	**CASE SIZE:** 4"	**SCREEN INT.:** 80-70'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.29 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 87.0FT.	**DPTH TO ∇** 9.20 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/18/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			60%	0.0	Same as above		SM	16,17,34,37	
35			50%	0.0	SAND - fine, light gray, silty (top 2") over CLAY - olive gray, silty ,laminated (8") over SAND - fine, light gray, wet		CL SP	10,11,25,20	
40			50%	0.0	SAND - fine, light gray, interlayered with olive gray, silty clay		CL SP CL SP CL SP	11,14,35,37	
45			50%	0.0	Same as above		CL SP CL SP	19,32,84,30	
50			50%	0.0	Same as above		CL SP	30,35,90,R	
55			50%	0.0	SANDY SHELL unit over CLAYEY SAND unit (bottom		GM SC GM	9,8,4,6	
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW5D	**BORING NO.** MPT-8-MW5D
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/11/93	**COMPLTD:** 1/13/93
METHOD: MUD ROTARY	**CASE SIZE:** 4"	**SCREEN INT.:** 80-70'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.29 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 87.0FT.	**DPTH TO ∇** 9.20 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/16/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			80%	0.0	SHELL - shell hash unit, grading downward from fine to coarse (top 8") over CLAY - olive gray, silty, medium plasticity, wet		GM CL GM	2,4,6,2	
65			50%	0.0	SHELL - shell hash unit, grades downward into Clay -olive gray, silty, wet		CL	5,8,5,6	
70			50%	0.0	SAND - fine to medium, dark gray, coatings of organic matter and sulfurous odor, moist		SP	17,28,28,36	
75			60%	0.0	CLAY - greenish gray, silty, stiff, med. to low plasticity, dry		CL	15,30,31,70	
80			100%	0.0	CLAY - light gray, nodular, stiff to hard, low plasticity, slightly moist			18,41,80,R	
85			100%	5.0	CLAY - light gray, black nodules, mod. stiff, low plasticity, slightly moist			8,10,18,27	
					Boring Terminated at 87 feet				
90									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-MW8S		**BORING NO.** MPT-8-MW8S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/15/93	**COMPLTD:** 1/15/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.57 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 8.54 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT8 MS06-2	X	100%	0.0	ORGANIC SOIL - dark brown, loamy (3 inch.) over SAND - fine, tan, dry w/ shell fragments		OL SP	18,22,25,19
5			100%	0.0	SAND - fine, tan, w/ some shell fragments, moist			5,8,10,21
	MPT8 MS06-7	X	100%	0.0	SAND - fine, tan, wet, w/ some shell fragments (top 12") over SAND - fine, silty, gray, wet		SM	4,6,5,5
10								
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

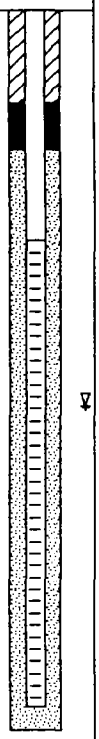


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW7S	**BORING NO.** MPT-8-MW7S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/93	**COMPLTD:** 1/18/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.73 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 8.38 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 2/1/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT8 MS07-2	X	100%	0.0	ORGANIC SOIL - dark brown, loamy, w/ some shell fragments		OL	4,8,8,10
							SP	
5			75%	0.0	SAND - fine, tan, shelly (approx. 30%), moist			4,11,9,15
	MPT8 MS07-9	X	100%	3000	SAND - medium to fine, dark gray, shelly w/ hydrocarbon odor			21,20,19,25*
10								
15					Boring Terminated at 15.5 feet			
20					*Use of non-standard 3" split-spoon for sample recovery is reflected in the higher blow counts at these depths			
25								
30								

WELL DATA

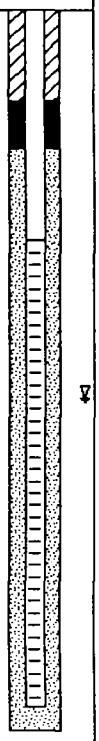


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW8S	**BORING NO.** MPT-8-MW8S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/93	**COMPLTD:** 1/18/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.12 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 9.04 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 2/1/93		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT8 MS08-2	X	100%	30	ASPHALT PAVEMENT - artificial surface (6") over SAND - fine, silty, tan, w/ some shell,dry (6") over ORGANIC SOIL - dark brown, loamy, dry (12")		SM OL SP	8,16,17,28 *
5			75%	0.0	SAND - fine, laminated, tan, shelly, moist			5,12,11,15
	MPT8 MS08-9	X	100%	0.0	SAND - fine, silty, lt. brown, shelly, moist (12") over SAND - fine, lt. gray, w/ some shell		SM SP	15,30,31,38*
10								
15					Boring Terminated at 15.5 feet			
20					*Use of non-standard 3" split-spoon for sample recovery is reflected in the higher blow counts at these depths			
25								
30								

WELL DATA

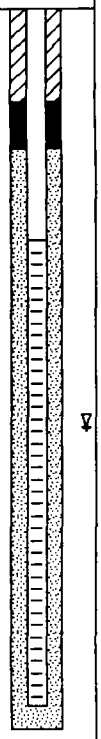


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW9S		**BORING NO.** MPT-8-MW9S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/27/94	**COMPLTD:** 07/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.55 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/05/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Silty Sand with medium sized gravel- (0-0.5').		SM	
					Silty Clay, red brown.		CL	
				0	Silty Sand, with shell fragments, gray.		SM	Posthole
					Silty Sand, with coarse sized gravel, gray.			
					Silty Sand, with shell fragments, tan.			
5			1.6/2	>1000				11,9,11,12
10					Silty Sand-fine to medium, with shell fragments, gray.			
			1.6/2	0				3,3,3,3
15					Silty Sand, with shell fragments, gray.			
			1/2	0				2,3,1,1
					TOTAL DEPTH OF BORING=15.5' BLS			
20								

WELL DATA

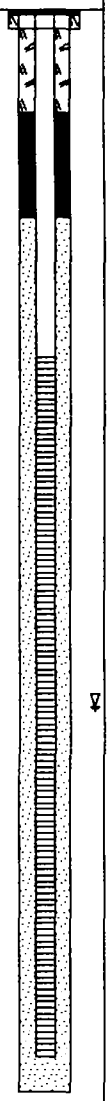


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW10S		**BORING NO.** MPT-8-MW10S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/27/94	**COMPLTD:** 07/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 13.11 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 09/07/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, dark brown with a trace of shell fragments.		SM	Posthole	
5			1/2	0	Silty Sand-fine to medium, tan with shell fragments.			7,8,9,9	
10			1/2	0	Silty Sand-fine, tan with shell fragments, 1" of low plasticity clay			4,4,4,2	∇
15			1/2	0	Silty Sand-fine to medium, gray with shell fragments.			3,4,7,8	
					TOTAL DEPTH OF BORING=15.5' BLS				
20									

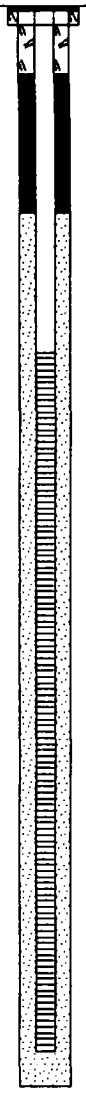


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW11S	**BORING NO.** MPT-8-MW11S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/28/94	**COMPLTD:** 07/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 11.48 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/05/94	**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine to medium, with shell fragments.		SM	Posthole	
5			1/2		Silty Sand-fine, gray, with trace of shell fragments.			11,8,7,8	
10			0.8/2	250	Silty Sand-fine, tan to gray with shell fragments.			3,4,6,8	
15			1/2	30	Silty Sand-fine to medium, brown to dark gray with trace of shell fragments.			2,1,1,1	
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

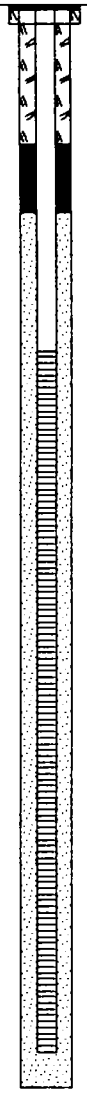


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-MW12S	**BORING NO.** MPT-8-MW12S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/02/94	**COMPLTD:** 08/02/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 8.0-18.0 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.93 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 18.5FT.	**DPTH TO ∇** 12 FT.
LOGGED BY: D. Mustonen	**WELL DEVELOPMENT DATE:** 08/05/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-tan with shell fragments .		SM	Posthole	
5			1.5/2	0	Silty Sand-dark tan with shell fragments, high plasticity clay at 5'.			4,3,5,5	
10			1.4/2	8	Silty Sand-gray with shell fragments.			6,7,8,9	
15			1.2/2	2	Silty Sand-gray with shell fragments.			6,3,4,7	
					TOTAL DEPTH OF BORING = 18.5 BLS				
20									

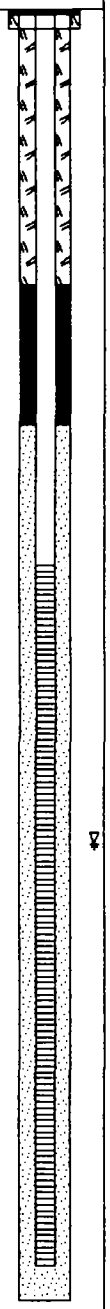


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW13S	**BORING NO.** MPT-8-MW13S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/28/94	**COMPLTD:** 08/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 8 FT. FT.
LOGGED BY: D. Mustonen	**WELL DEVELOPMENT DATE:** 08/05/94	**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil (0-0.5').		SM		
					Silty Sand, with coarse shell fragments, tan.			Posthole	
5			1.5/2	2.0	Silty Sand, light tan.			5,9,7,9	
10			1.4/2	1000	Silty Sand-fine, with shell fragments, petroleum stained, tan.			3,4,5,5	
15			1.8/2	300	Silty Sand, with coarse shell fragments, gray.			4,2,3,8	
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

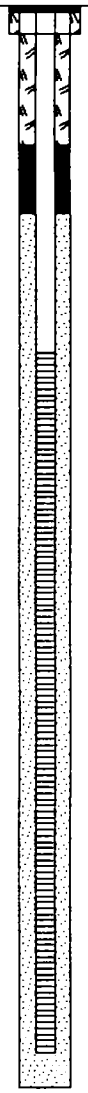


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW13I		**BORING NO.** MPT-8-MW13I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/28/94	**COMPLTD:** 08/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 35-40 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 11.33 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 40.5FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: K. Mish	**WELL DEVELOPMENT DATE:** 09/12/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
							SM	Posthole
5			1.5/2	0.5	Silty Sand-fine, damp, with shell fragments, tan.			7,11,12,14
10			0.7/2	98	Silty Sand-fine, saturated, with shell fragments, petroleum odor, dark gray.			2,5,7,7
15			0.9/2	150	Silty Sand-fine to medium, with shell fragments, strong petroleum odor, dark gray.			5,4,7,8
20			1.2/2	1.2	Silty Sand, light gray with shell fragments.			4,10,42,32
25			1.8/2	0.2	Silty Sand-fine, with shells fragments, light gray.			8,23,53,42
30			1/2	1.0	Silty Sand-fine, trace organic material, gray.			6,18,40,8

WELL DATA

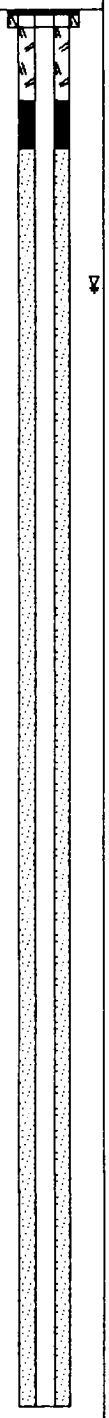


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-8-MW13I	**BORING NO.** MPT-8-MW13I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/26/94	**COMPLTD:** 08/26/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 35-40 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 11.33 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 40.5FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: K. Mish	**WELL DEVELOPMENT DATE:** 09/12/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1/2				SM		
35					Silty Sand-fine, trace organic material, gray				
40					TOTAL DEPTH OF BORING = 40.5' BLS				
45									
50									
55									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW14S		**BORING NO.** MPT-8-MW14S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/27/94	**COMPLTD:** 07/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.72 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 9.0 FT.
LOGGED BY: D. Mustonen	**WELL DEVELOPMENT DATE:** 08/05/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
							SM	
				80	Silty Sand-fine, with shell fragments, gray to black.			Posthole
					Silty Sand-fine to medium, with shell fragments, gray.			
5			1.6/2	70				6,4,4,2
10					Silty Sand-fine, with shell fragments, gray.			
			1/2	>1000				6,11,11,15
15					Silty Sand-fine, with shell fragments.			
			1/2	300				4,4,4,4
					TOTAL DEPTH OF BORING = 15.5' BLS			
20								

WELL DATA

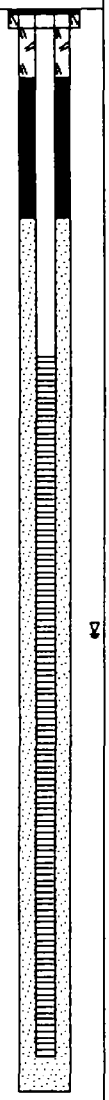


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW15S	**BORING NO.** MPT-8-MW15S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/27/94	**COMPLTD:** 07/27/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.03 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ▽** 9.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/05/94	**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	Silty Sand-fine, dark brown.		SM	Posthole
5			1.8/2	0	Silty Sand-fine, trace clay, tan to brown.			2,2,4,6
10			1/2	80	Silty Sand-fine to medium, with shell fragments, gray.			3,5,8,9
15			1/2	300	Silty Sand-fine, gray.			1,1,1,1
					TOTAL DEPTH OF BORING = 15.5' BLS			
20								

WELL DATA

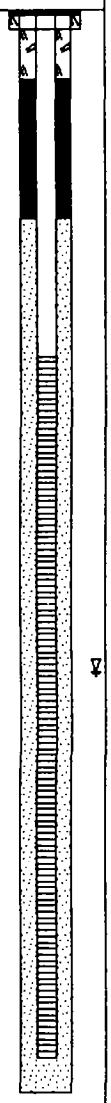


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-8-MW15I	**BORING NO.** MPT-8-MW15I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/30/94	**COMPLTD:** 09/01/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 34 -39 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.98 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 40FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: K. Mish & A. Tolman	**WELL DEVELOPMENT DATE:** 09/12/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SM	Posthole	
5			2/2	0.5	Sand-very fine to fine, loose, damp, light tan.			3,4,3,3	
10			1/2	2.5	Shelly Sand-very fine to medium, saturated, faint petroleum odor, gray			8,7,9,11	
15			2/2	2.5	Sand-very fine to fine, strong petroleum odor, light gray.			3,4,5,8	
20			1.2/2	3.0	Sand-fine to medium, petroleum odor, dark to light gray, w/ a minor amount of shell fragments.			5,6,5,8	
25			2/2	2.5	Sand-very fine to fine, trace shell fragments, sulfur odor, light gray.			7,16,23,28	
30			1.8/2	5.0				8,13,12,10	

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW15I	**BORING NO.** MPT-8-MW15I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 08/30/94	**COMPLTD:** 09/01/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 34 -39 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 9.86 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 40FT.	**DPTH TO ▽** 8 FT.
LOGGED BY: K. Mish & A. Tolman	**WELL DEVELOPMENT DATE:** 09/12/94	**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.8/2		Sand-very fine to fine, sulfur odor, light gray w/ two 1/2" black beds.		SM		
35			1/2	-	Sand (0-8")-very fine, light gray, over Clay (8-12")-silty, some shells, saturated, slight sulfur odor.		CL	27,38,48,-	
					Sand-very fine, saturated, light gray.		SM		
40					TOTAL DEPTH OF BORING = 40' BLS				
45									
50									
55									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW16S	**BORING NO.** MPT-8-MW16S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/26/94	**COMPLTD:** 07/26/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.03 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5 FT.FT.	**DPTH TO ∇** 10 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/04/94	**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-fine, with shell fragments, brown.		SM	Posthole	
5			1.8/2	0	Silty Sand-fine, with a trace of shell fragments, light brown to gray			4,4,4,6	
10			1/2	0	Silty Sand-fine, with shell fragments, grayish green.			6,7,8,9	∇
15			1/2	0	Silty Sand-fine, with shell fragments, gray.			2,2,4,5	
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

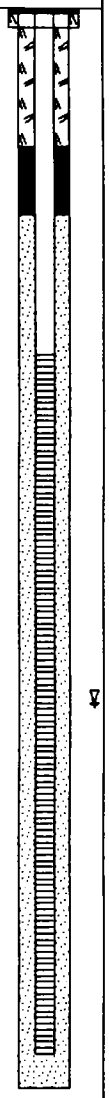


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW17S		**BORING NO.** MPT-8-MW17S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/22/94	**COMPLTD:** 07/22/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.89 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, with a trace shell fragments, tan.		SM	Posthole	
5			1/2	0	Silty Sand-fine, with a trace shell fragments, tan.			2,2,2,3	
10			1/2	1	Silty Sand-fine to medium, trace clay, greenish gray.			4,4,7,8	∇
15			1/2	20	Silty Sand-fine to medium, with shell fragments.			1,5,4,3	
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL.	**LOG of WELL:** MPT-8-MW18S		**BORING NO.** MPT-8-MW18S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/22/94	**COMPLTD:** 07/22/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 4.5-14.5 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.80 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/28/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
							SM	
				0	Silty Sand-fine, with shell fragments, tan.			Posthole
					Silty Sand-fine, with a trace of shell fragments, tan.			
5			1/2	0				7,10,8,9
10					Silty Sand-fine, with a trace of shell fragments, gray.			
			1/2	0				4,4,4,2
15					Silty Sand-fine, greenish gray.			
			1/2	0				3,3,4,1
					TOTAL DEPTH OF BORING = 15' BLS			
20								

WELL DATA

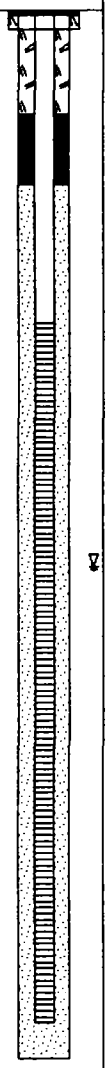


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-8-MW19S		**BORING NO.** MPT-8-MW19S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/08/94	**COMPLTD:** 08/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 4-14 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 5.24 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 14.5FT.	**DPTH TO ∇** 0.5 FT.
LOGGED BY: L. Smith	**WELL DEVELOPMENT DATE:** 09/13/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand-fine to medium, tan to light gray		SP	Observation	
5					As above			Observation	
10					As above			Observation	
15					TOTAL DEPTH OF BORING = 14.5' BLS				
20									

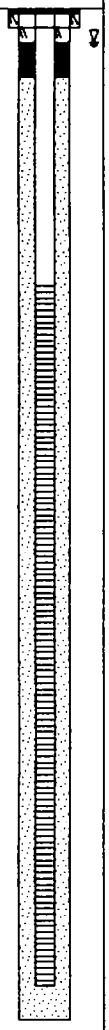


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-8-MW20S	**BORING NO.** MPT-8-MW20S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: N/A		**DATE STARTED:** 10/27/94	**COMPLTD:** 10/27/94
METHOD: Hand Install w/ Hydro Asst	**CASE SIZE:** 2"	**SCREEN INT.:** 7-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: Not Surveyed FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** Inter-tidal Zone FT.
LOGGED BY: D. Mustonen	**WELL DEVELOPMENT DATE:** 11/07/94		**SITE:** 8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand-fine to medium, tan to light gray Temporary Monitoring Well installed by hand with hydraulic jet assist, No Lithology taken.		SP	Observation	
5									
10									
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8D-P1		**BORING NO.** MPT-8D-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/23/92	**COMPLTD:** 1/23/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 10-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.89 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 9.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #8D

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, gray, w/ a few shell fragaments		SP		
5			2/2	7.5	SAND-as above			11,12,11,14	
10			1/2	8.5	SAND-as above, saturated			6,7,7,3	
15									
					Boring terminated @ 15'				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-P2		**BORING NO.** MPT-8-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.70 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10.24 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					ORGANIC SOIL - dark brown, loamy (top 6")		OL	
							SM	Post-Hole
					SAND - medium to fine, silty, tan to gray, laminated			
5			70%					8,8,5,8
							SP	
10					SAND - coarse to fine, laminated w/ shell stringers			
			50%					5,15,18,13
15								
					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

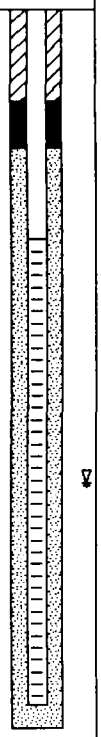


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-P3		**BORING NO.** MPT-8-P3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.17 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 10.52 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					ORGANIC SOIL - dark brown, loamy (top 4")		OL	
					SAND - coarse to fine, well-graded,tan, compacted		SP	Post-Hole
					SAND - medium to fine, silty, tan, w/ shell fragments		SM	
5			70%					13,21,14,12
10			60%		SAND - medium to fine, silty, tan			10,9,9,23
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

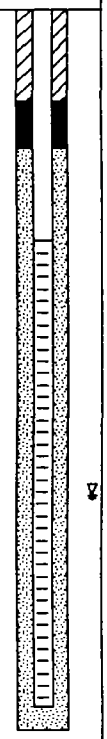


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-P4	**BORING NO.** MPT-8-P4
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.87 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 8.26 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N.A.	**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					ORGANIC SOIL - dark brown, sandy (top 6")		OL	
					SAND - coarse, tan to light gray, shelly		SP	Post-Hole
5			70%		SAND - coarse to fine, tan, w/ shell fragments			10,11,14,13
10			40%		Same as above, no shell fragments			2,3,4,4
					SAND - fine, silty, gray		SM	
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

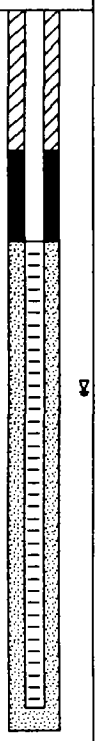


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-8-P5		**BORING NO.** MPT-8-P5
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/93	**COMPLTD:** 1/18/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.00 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 4.04 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					ORGANIC SOIL - dark brown, loamy (top 6")		OL		
					SAND - fine, tan , w/ shell fragments		SP		
					SAND - fine, tan, shelly, moist				
5					SAND - fine, silty, gray, wet		SM		
10					SILT - dark gray, wet		ML		
15					SAND - fine, dark gray, wet		SP		
					Boring Terminated at 15.5 feet				
					Lithologic descriptions from drill cuttings				
20									
25									
30									

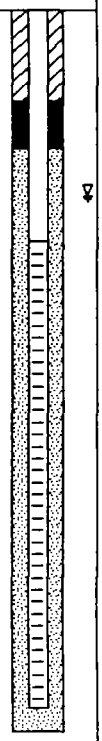


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-8-P6	**BORING NO.** MPT-8-P6
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/93	**COMPLTD:** 1/18/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.87 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 7.72 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #8

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					ORGANIC SOIL - dark brown, loamy (top 6") over		OL	
					SAND - fine, tan , w/ shell fragments		SP	
					SAND - fine, tan, moist			
5								
					Same as above			
10								
					SAND - fine, light gray, wet			
					SAND - fine, silty, dark gray, wet		SM	
					SILT - black, wet		ML	
15					SAND - fine, dark gray, wet		SP	
					Boring Terminated at 15.5 feet			
					Lithologic descriptions from drill cuttings			
20								
25								
30								

WELL DATA

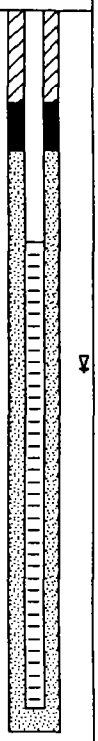


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-9-MWIS	**BORING NO.** MPT-9-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/15/87	**COMPLTD:** 9/15/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 8-18'	**PROTECTION LEVEL:** D
TOC ELEV.: 14.39 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 20.0FT.	**DPTH TO ∇** 12.31 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/15/87		**SITE:** #9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.55/2'		Sand-top (0.8')/ medium to coarse, light to dark grey, shell fragments bottom/ fine to medium, light tan, shell fragments		SP	7,11,21,27
		SS2	1.2/2'		Sand-same as above			
		SS3	1.7/2'		Sand-same as above, bottom dark brown, dry			20,22,29,31
5	YES	SS4	1.3/2'		Sand-top (0.8')/ same as above			7,13,14,19
		SS5	1.6/2'		Clay-uniform, plastic, grey mottled with brown stringers of clay, dry middle (1-1.4')/ fine to medium, white, shell fragments		CL	16,21,27,17
					Sandy Clay-grey, plastic, moist		SC	
10								
15		SS6	2.0/2'		Sand-fine to medium sand, light gray, shells		SP	8,32,50/ST
20								
25								
30								

WELL DATA

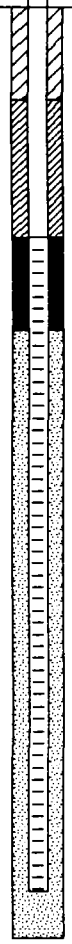


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-9-MW2S		**BORING NO.** MPT-9-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/18/87	**COMPLTD:** 9/18/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.38 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ⊽** 9.00 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/18/87		**SITE:** #9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.3/2'				SP	12,12,15,13
5		SS2	1.5/2'		Sand-same as above			17,9,8,8
	YES	SS3	1.3/2'		Sand-top (0.5')/ fine, tan, shells, middle (0.5-0.55')/ blue shells bottom/ fine to medium, graded to light grey, shells			7,9,12,3
10		SS4	1.5/2'		Sand-fine to medium, light grey, shells and fragments, saturated			4,8,12,13
15		SS5	0.4/2'		Sand-same as above			2,12,50/
20								
25								
30								

WELL DATA

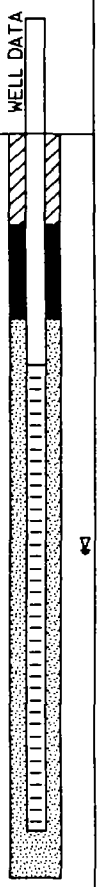


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-9-MW3S	**BORING NO.** MPT-9-3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/16/87	**COMPLTD:** 9/16/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.49 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 15.0FT.	**DPTH TO ▽** 8.00 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/16/87		**SITE:** #9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.5/2'		Sand-fine to medium, uniform, with 0.4' top organic soil and vegitation, bottom/ light tan, shell fragments		SP	4,13,27,29
		SS2	1.8/2'		Sand-same as above, 0.1' thick clayey sand layer, dry			18,20,20,19
		SS3	1.5/2'		Sand-same as above, 0.35' thick layer of interbedded brown clay, red sand with shells			22,13,11,12
5	YES	SS4	1.55/2'					12,8,8,7
			1.8/2'		Sand-fine to medium, tan, 50 % shelly, grading very fine, llight tan sand at the bottom			
10		SS5						7,22,22,35
15		SS6	2.0/2'		Sand-fine to medium, grey, many shells and fragments			7,11,22,30
20								
25								
30								

WELL DATA

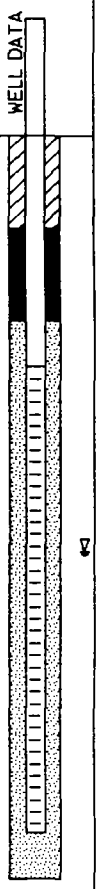


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-9-P1		**BORING NO.** MPT-9-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/23/92	**COMPLTD:** 1/23/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 12-17'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.22 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 17.0FT.	**DPTH TO ∇** 12 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					SAND-fine, dk. brown, w/ a few shell fragaments		SP	
5			2/2	60	SAND-fine, gray			7,7,7,10
			2/2	N/A	SAND-as above			11,10,11,12
10			2/2	N/A	Sand-as above			11,14,11,12
15			2/2	0.2	SAND-as above, wet			3,4,6,11
					Boring terminated @ 17'			
20								
25								
30								

WELL DATA

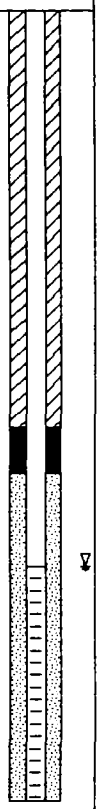


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-10-P1		**BORING NO.** MPT-10-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/28/92	**COMPLTD:** 1/28/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 10-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.68 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 8.0 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #10

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, shell fragments		SP		
5			1.8/2	0.2	SAND-as above			7,6,7,9	
10			2/2	0.8	SAND-as above, saturated			4,3,4,4	
15					Boring terminated @ 15'				
20									
25									
30									

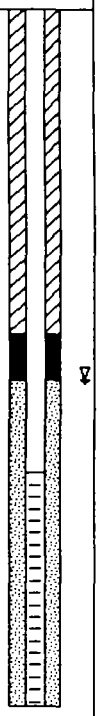


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-11-MWIS	**BORING NO.** MPT-11-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 4/25/89	**COMPLTD:** 4/25/89
METHOD: H.S.A.	**CASE SIZE:** 2" **SCREEN INT.:** 10 - 19.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.18 FT.	**MONITOR INST.:** PID **TOT DPTH:** 20.0FT.	**DPTH TO ∇** 10.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/22/87	**SITE:** SWMU 12 (Site 11)

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand- brown and gray ,fine sand with shells		SM	Post-hole	
		SS1					SP	8,10,9,13	
					Sand- tan, fine sand with interlayered shell lenses				
5		SS2						8,12,11,14	
10		SS3						8,9,10,7	∇
15					Sand - gray, fine sand with shell				
		SS4						8,30,14,13	
20					Boring Terminated				
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-11-MW2S	**BORING NO.** MPT-11-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-05
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 4/25/89	**COMPLTD:** 4/25/89
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 10 - 19.5'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.42 FT.	**MONITOR INST.:** PID / **TOT DPTH:** 17.0FT.	**DPTH TO ▽** 12.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/22/87	**SITE:** SWMU 12 (Site 11)

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Sand- brown and tan, fine sand		SM	
							SP	
		SS1			Sand- tan, fine with interlayered shell lenses			3,2,2,1
5								
		SS2						3,2,2,4
10								
		SS3						4,6,4,6
15		SS4			Sand - gray, fine with shell			
					Boring Terminated			
20								
25								
30								

WELL DATA

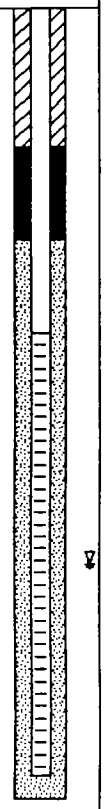


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-11-MW3S	**BORING NO.** MPT-11-MW3S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 7-17'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.97 FT.	**MONITOR INST.:** N/A	**TOT DPTH:** 17FT.	**DPTH TO ∇** 9.0 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #14

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine to medium, lt. gray, w/ shell fragments		SP		
5									
10					SAND-fine to medium, lt. green, saturated				∇
15									
					Boring terminated @ 17'				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-MW1S	**BORING NO.** MPT-13-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/18/87	**COMPLTD:** 9/18/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.03 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/18/87	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1	1.4/2'	79.9	Sand-fine to medium, well graded, light tan, shell fragments, dry		SW	33,42,43,50
5		SS3	1.4/2'	132	Sand-top (0.15')/ very fine, brown, shell fragments, bottom (0.15-1.4')/ fine, uniform, light grey, few shells, saturated		SP	7,9,14,9
10		SS4		70.1	Clayey Sand- top (1')/ very fine interbedded, medium plastic, grey middle (1-1.2')/ uniform, medium plastic, grey		SC	1,2,2,2
							CL	
					Sand-very fine, brown, saturated		SP	
15								
20								
25								
30								

WELL DATA

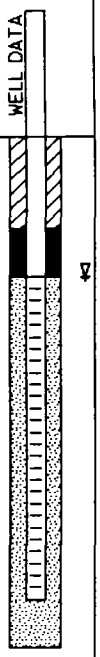


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-MW2S	**BORING NO.** MPT-13-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/15/87	**COMPLTD:** 9/15/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.77 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/15/87	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1		1.4	Sand- top (0.25')/ dark brown, top soil, bottom /fine to medium, shell fragments		SP	
		SS2	1.2/2'		Sand-same as above, middle (0.2-0.5')/ medium, tan, many shell fragments (coquina), bottom/ fine, well sorted, uniform, grey		SW	17,31,50/
							SP	
5		SS3	1.3/2'	1.0	Sand-top (0.2')/ fine to medium, light grey, shell fragments, middle (0.2-0.45')/ dark brown sandy peat, saturated, (0.45-0.9')/fine, light grey, with shell fragments, bottom/ fine, uniform, no shells			9,12,22,27
10		SS4	2.0/2'	1.5	Sand-same as above			4,4,8,8
					Clay- (0.3-1')/ soft, plastic, uniform, grey, (1-1.8')/ stiff, dark brown, with mud dump vegitation, bottom/ stiff, uniform, dark olive		CL	
15								
20								
25								
30								

WELL DATA

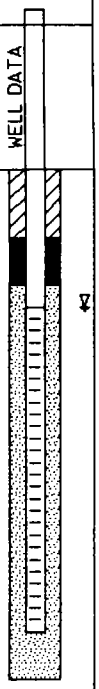


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-MW3S	**BORING NO.** MPT-13-3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/18/87	**COMPLTD:** 9/18/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.45 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 10.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/18/87	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.4/2'		Sand- top (0.25')/ dark brown, top soil, middle (2.5-0.9')/ fine to medium, light tan, shells, Fe Oxide layer at 0.9'		SP	40,40,50,30+
5		SS3	1.4/2'	30.2	Sand-top (0.5')/ fine, dark grey, shells middle (0.5-0.9')/ same as above, light grey bottom/ fine, uniform, no shells, saturated			13,15,26,40
10		SS4	2.0/2'	5.1	Clayey Sand- very fine, grey		SC	1,1,1,2
					Clay- (0.6-1.1') dark brown, decomposed vegitation / (1.1-1.5') firm, uniform, dark olive / (1.5-2.0) medium plastisity, grey		CL	
15								
20								
25								
30								

WELL DATA

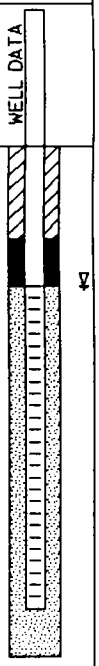


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-MW4S		**BORING NO.** MPT-13-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.88 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 1/28/92		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, brown, loose, very few shell fragments		SP		
	MPT-13 -4-3-1	☒			Note: Sample and MS & MSD obtained above water table, 2.5-3.5'				∇
5			1.2/2	0	SAND-fine, tan, w/ shell fragments, saturated			9,10,9,14	
10			2/2	0	SAND-very fine, gray, saturated			11,12,8,8	
					Boring terminated @ 12'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-MW5S		**BORING NO.** MPT-13-MW5S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.04 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 13FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** 1/28/92		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					SAND-fine, tan, w/ shell fragments		SP	
	MPT-13 -5-3-1	☒			Note: Sampled approximately 3.5'			
5			2/2	20	SAND-fine, gray, w/ shell fragments, saturated			4,3,2,3
10			2/2	N/A				3,2,3,3
					CLAY-black, organic, low plasticity		OL	
15					Boring terminated			
20								
25								
30								

WELL DATA

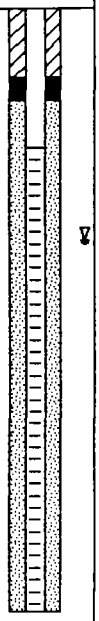


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-13-MW6S	**BORING NO.** MPT-13-MW6S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.86 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12FT.	**DPTH TO ∇** N/A FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** 1/28/92		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
	MPT-13 6-2.5-1	☒			SAND-very fine to fine, tan to gray, w/ shell fragments Note: Sampled by hand with decontaminated stainless steel spoon @ 2.5' Due to location of well on the flight ramp and active flight operation , samples were not obtained. Observation of drill cuttings indicate saturated fine tan to gray sands to 12'.		SP		
					Boring terminated @ 12'				

5 10 15 20 25 30

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-13-MW7S	**BORING NO.** MPT-13-MW7S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/28/94	**COMPLTD:** 07/28/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.58 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: D. Mustonen	**WELL DEVELOPMENT DATE:** 09/07/94	**SITE:** 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				4	Silty Sand-fine to medium, tan.		SM	Posthole	
5			1/2	80	Silty Sand-medium, light gray.			7,17,24,21	
10			1.5/2	80	Organic Clay-high plasticity, dark brown to black.		OH	2,2,1,1	
					TOTAL DEPTH OF BORING = 12.5' BLS.				
15									
20									

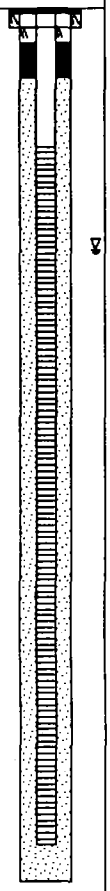


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-13-MW8S	**BORING NO.** MPT-13-MW8S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/08/94	**COMPLTD:** 08/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 10.47 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ⊻** 3 FT.
LOGGED BY: P. Craine, & K. Mish	**WELL DEVELOPMENT DATE:** 08/07/94		**SITE:** 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan, few shells.		SM	Posthole	
5					Silty Sand-fine, gray with trace shells.			Observation	
10									
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

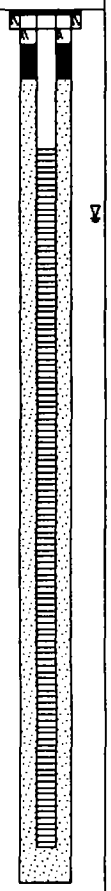


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-13-MW9S	**BORING NO.** MPT-13-MW9S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/07/94	**COMPLTD:** 08/07/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 9.29 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ▽** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 09/07/94		**SITE:** 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SM		
				0	Silty Sand-fine, gray, some clay.			Posthole	
5					Silty Sand-fine, gray, some clay.			Observation	
10									
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

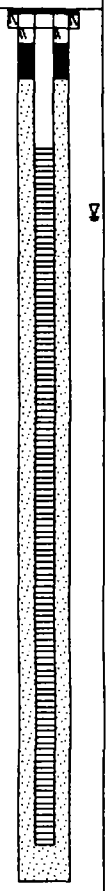


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-13-MW10S		**BORING NO.** MPT-13-MW10S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/08/94	**COMPLTD:** 08/08/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 9.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 09/07/94		**SITE:** 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, dark brown.		SM	Posthole	
5			2/2	0	Silty Sand-fine, light gray.			12,8,7,8	
10			2/2	4	Silty Clay-medium plasticity, grayish green to brown with some organics.		CL	1,1,1,1	
					TOTAL DEPTH OF BORING = 12.5' BLS.				
15									
20									

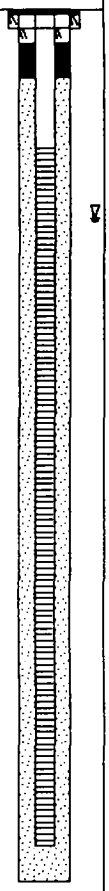


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-P1		**BORING NO.** MPT-13-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.03 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, w/ shell fragaments		SM		
5			1.7/2	4.0	SAND-fine, tan, saturated over 1' of SAND-very fine to silty, gray, w/ shell fragments			4,2,1,-	∇
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-P3	**BORING NO.** MPT-13-P3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.18 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 5.0 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to fine, tan, w/ coarse shell fragaments		SP		
5			2/2	22	SAND-silty, gray, w/ a trace of shell fragments		SM	4,4,2,2	∇
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-P4	**BORING NO.** MPT-13-P4
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 9.31 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 5.0 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, black, organic		ML		
					SAND-very fine to fine, tan, w/ abundance of shell fragaments		SP		
5			1.2/2	8.0	SAND-very fine to fine, gray, saturated			6,5,5,6	∇
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-13-P5	**BORING NO.** MPT-13-P5
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.45 FT.	**MONITOR INST.:** PID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 4.0 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, w/ shell fragaments		SP		
5			1.0/2	0.3	SAND-very fine to silty, gray, w/ shell fragments, saturated		SM	10,2,1,2	
10									
					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-13-P6		**BORING NO.** MPT-13-P6
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.16 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 3.50 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, gray, abundant shell fragments		SP		
					SAND-fine, gray, abundant shell fragments, saturated				
5			1.3/2	0				9,15,16,16	
10									
					boring terminated @10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-14-MW1S		**BORING NO.** MPT-14-1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING		**DATE STARTED:** 9/17/87	**COMPLTD:** 9/17/87
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 3-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.41 FT.	**MONITOR INST.:** Hnu	**TOT DPTH:** 13.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/17/87		**SITE:** #14

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	YES	SS1	1.4/2'		Sand-fine to medium, light tan, with few shell fragments, visible layering, dry		SP	7,14,20,29
5		SS3	1.4/2'	160	Sand-same as above, saturated			9,16,31,50
10		SS4	2.0/2'	141	Sand-fine to medium, uniform sand with shell fragments, saturated			7,23,50/5in
15								
20								
25								
30								

WELL DATA

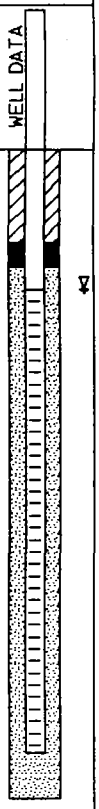


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-14-MW2S	**BORING NO.** MPT-14-2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 5097-04
CONTRACTOR: MONITOR TESTING	**DATE STARTED:** 9/17/87	**COMPLTD:** 9/17/87
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 3-13'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.47 FT.	**MONITOR INST.:** Hnu / **TOT DPTH:** 13.0FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: M. C. Diblin	**WELL DEVELOPMENT DATE:** 9/17/87	**SITE:** #14

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
		SS1	1.8/2'	80.2	Sand-fine, uniform with layering, light tan bottom/ dark tan, some shell fragments, visible bedding		SP	7,12,20,30
	YES	SS2	1.5/2'	49.7	Sand-fine, uniform, light tan, dry, bottom/ some shell fragments			7,20,25,27
5		SS3	1.5/2'	59.8	Sand-fine, uniform, light grey, middle/ shelly, gravelly sand, saturated, bottom/ fine to medium, light grey, saturated			5,16,26,50
10		SS4	1.8/2'	4.8	Sand-fine to medium, light gray, saturated, shell fragments			11,31,50/3cm
15								
20								
25								
30								

WELL DATA

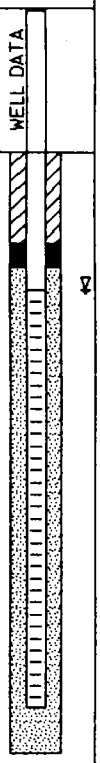


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-14-P1		**BORING NO.** MPT-14-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 8.50 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 5.00 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine to coarse, brown to tan, loose		SP		
5			2/2	2	CLAY-olive green, high water content, first 6" over SAND-very fine to fine, gray		CL SP	12,9,8,10	∇
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-14-P2	**BORING NO.** MPT-14-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/18/92	**COMPLTD:** 1/18/92
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 6-11'	**PROTECTION LEVEL:** D
TOC ELEV.: 5.71 FT.	**MONITOR INST.:** FID / **TOT DPTH:** 11FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Pat Craine	**WELL DEVELOPMENT DATE:** N/A	**SITE:** #13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-very fine to silty, tan, w/ large pieces of glass		SM		
5			2/2	N/A	SAND-very fine to silty, tan, some shell fragments, saturated			7,7,8,20	∇
					SAND-very fine to silty, tan, w/ trace CLAY, olive green		SC		
10									
					Boring terminated @ 11'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-15-MW1S	**BORING NO.** MPT-15-MW1S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/15/93	**COMPLTD:** 1/16/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.14 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 5.78 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93		**SITE:** #15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT15 MS01-2	X	100%	0.0	ORGANIC SOIL - black, loamy (top 6 inch.) over SAND - medium, tan, shelly, moist		OL SP	8,10,11,10
5	MPT15 MS01-6	X	100%	0.0	SAND - fine, tan, moist, down to 5.4 ft. over SAND - fine, tan, shelly, wet			10,14,9,10
10								
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

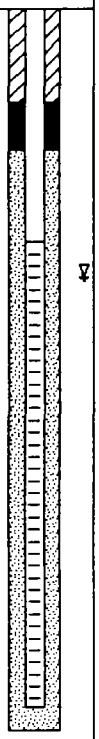


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-15-MW2S	**BORING NO.** MPT-15-MW2S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/12/94	**COMPLTD:** 07/12/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2.5-12.5 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 11.77 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 14FT.	**DPTH TO ▽** 5.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94	**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	Silty Sand-fine, dark brown with trace clay.		SM	Posthole
5			1.6/2	0	Silty Sand-fine, saturated, light gray.			6,10,11,10
					Silty Sand-fine, light gray with few shells.			Observation
10			1/2	0	Silty Sand-fine, light gray with few shells.			4,3,2,2
			1/2	70	Silty Sand- (12-12.5') fine, tan, over Sandy Clay (12.5-13.17'), light gray, over Clayey Sand (13.17-14'), light gray to dark gray.		CL SC	4,2,1,1
15					TOTAL DEPTH OF BORING = 14' BLS			
20								

WELL DATA

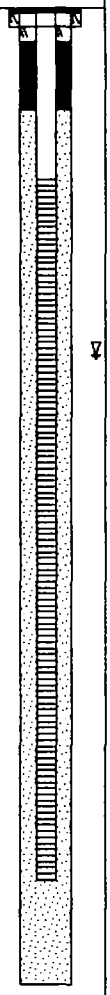


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-15-MW3S	**BORING NO.** MPT-15-MW3S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 7/13/94	**COMPLTD:** 7/13/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 6-16 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 11.26 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 17FT.	**DPTH TO ▽** 6 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94	**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand - Dark to light brown, w/ trace coarse shells.		SM	Posthole	
5			75%	0	Silty Sand - As above, w/ trace medium to coarse shells.			7,10,14,14	▽
					Silty Sand - As above, grey, wet				
10			50%	10	Silty Sand - Dark brown to grey, highly organic			2,2,5,8	
15			100%	0	Clay- (15-16.3') - moderately stiff, grayish green, over Clayey sand.		CL SC	2,1,1,1	
					TOTAL DEPTH OF BORING = 17' BLS				
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-15-MW4S		**BORING NO.** MPT-15-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 7/13/94	**COMPLTD:** 7/13/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.18 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 7.0 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0			SM	Posthole
					Silty Sand-few shells, dark brown to tan.			
				0				Posthole
5			1.3/2	0	Silty Sand - As above			4,9,12,11
								Observation
10					Silty Sand-fine, tan.			
			0.5/2	10				2,4,6,8
							CL	
15					Clay-moderately stiff, grayish green.			
			1.5/2	10				1,1,1,1
					TOTAL DEPTH OF BORING = 15.5' BLS			
20								

WELL DATA

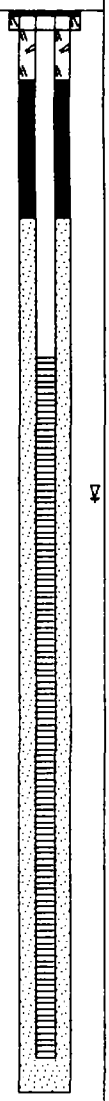


ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-15-MW5S	**BORING NO.** MPT-15-MW5S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 07/13/94	**COMPLTD:** 07/13/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 8-18 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.37 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 18.5FT.	**DPTH TO ∇** 8.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94	**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty Sand-fine, few shells, dark brown.		SM		
				0				Posthole	
					Silty Sand-fine, tan, damp at 8'.				
5			1.7/2	0				4,4,5,5	
				0				Observation	∇
10					Silty Sand-fine, wet, saturated, tan to white.				
			.9/1	0				2,5,13,13	
15					Silty Sand-fine, dark brown.				
			1/2	0				2,2,8,7	
					TOTAL DEPTH OF BORING = 18.5' BLS				
20					LITHOLOGICAL DESCRIPTION OBTAINED FROM MPT-15-MW5I				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-15-MW5I		**BORING NO.** MPT-15-MW5I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 07/12/94	**COMPLTD:** 07/12/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 12.45 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 32FT.	**DPTH TO ∇** 8.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 07/21/94		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, few shells, dark brown.		SM	Posthole	
5			1.7/2	0	Silty Sand-fine, tan, damp at 8'.			4,4,5,5	∇
				0				Observation	
10			.9/1	0	Silty Sand-fine, wet, saturated, tan to white.			2,5,13,13	
15			1/2	0	Silty Sand-fine, dark brown.			2,2,8,7	
20			1.3/2	0	Silty Sand-fine, few shells, greenish gray to white.			11,18,14,13	
25			1/2	0	Silty Sand- (25-25.33'), fine, brown to white with a 1" dark gray clay lens.			3,3,8,8	
30			.2/2	0	Silty Sand-fine, trace clay, brown to tan.			3,2,8,10	
35					TOTAL DEPTH OF BORING = 32' BLS				

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-15-P1		**BORING NO.** MPT-15-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/28/92	**COMPLTD:** 1/28/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 10-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 13.28 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ∇** 9.5 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
5			1.5/2	1.2	SAND-fine, tan, loose w/ shell fragments		SP	4,12,10,11
10			2/2	0.8	SAND-fine to silty, dk. gray, a few shell fragments, saturated		SM	3,4,6,6
15					Boring terminated @ 15'			
20								
25								
30								

WELL DATA

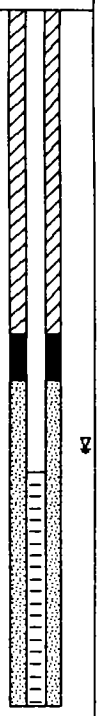


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-15-P2		**BORING NO.** MPT-15-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.83 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 5.80 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					ORGANIC SOIL - dark brown, loamy (top 3")		OL		
					SAND - coarse to med., tan to gray, w/ shell frag.		SP	Post-Hole	
5			100%		SAND - med. to fine, silty, tan, w/ large shell fragments		SM	5,8,10,18	∇
10			100%		SAND - med. to fine, silty, light gray			1,1,1,1	
					CLAY - silty (< 5%), olive gray		CL		
							SM		
15					Boring Terminated at 15.5 feet				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-15-P3		**BORING NO.** MPT-15-P3
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.07 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 5.52 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					ORGANIC SOIL - dark brown, loamy (top 3")		OL		
					over SAND - coarse to med.,silty, tan to gray, w/ shells		SM		
					SAND - med. to fine, silty, tan, w/ shell fragments				
5									∇
10									
					CLAY - silty (~ 5%), olive gray, strong odor		CL		
					SAND - fine, silty, gray		SM		
15									
					Boring Terminated at 15.5 feet				
					Lithologic descriptions from drill cuttings				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-15-P4	**BORING NO.** MPT-15-P4
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/17/93	**COMPLTD:** 1/17/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.51 FT.	**MONITOR INST.:** N.A.	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 4.81 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** N.A.		**SITE:** #15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					ORGANIC SOIL - dark brown, loamy (top 3")		OL	
					SAND - coarse to med., tan , w/ shell frag.		SP	
								Post-Hole
					SAND - med. to fine, tan, w/ shell fragments			
5			60%					21,26,19,29
10					Same as above			
			60%					8,4,2,2
					CLAY - silty (~ 5%), olive gray		CL	
					SAND - fine, silty, gray		SM	
15					Boring Terminated at 15.5 feet			
20								
25								
30								

WELL DATA

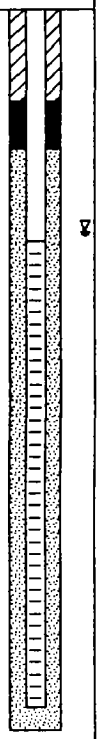


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.		**LOG of WELL:** MPT-16-MW1I	**BORING NO.** MPT-16-MW1I
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/14/93	**COMPLTD:** 1/14/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 25-30'	**PROTECTION LEVEL:** D
TOC ELEV.: 12.84 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 30.5FT.	**DPTH TO ∇** 10.78 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93		**SITE:** #16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT16 MS01-2	X	100%	0.0	ARTIFICIAL SOIL - crushed limestone (top 8") over ORGANIC SOIL - black, loamy, dry (3") over SAND - fine, tan, w/ shell fragments		OL SP	28,30,38,47*
5			100%	0.0	SAND- fine, tan, shelly, moist			3,10,10,10
			75%	0.0	SAND - fine, tan, w/ decreasing shell content			3,12,5,10
10	MPT16 MS01-8	X	100%	0.0	SAND- fine, tan, w/ coarse shell fragments (*Use of the non-standard 3" split spoon for sample recovery is reflected in the higher blow counts at these depths)			14,40,38,22*
			50%	0.0	SAND - fine to med.,tan, laminated,wet			6,6,7,10
			80%	0.0	SAND - fine to med.,tan, shelly, wet			3,2,3,9
15			100%	0.0	SHELL - shell hash unit (top 8") over SANDY SHELL unit (14") over SAND - fine, gray, wet (2")		GP GM	3,4,4,6
			75%	0.0	SAND - fine, lt. gray to dark gray, w/ occas. shell		SP	10,13,14,15
			100%	0.0	SAND - fine, dark gray, w/ some shell frag.			8,13,10,18
20			100%	0.0	SAND - same as above			4,16,18,20
			100%	0.0	SAND - same as above			10,12,16,14
25			100%	20.0	SAND - same as above			4,7,5,10
			80%	45.0	SAND - same as above			26,39,40,38
			100%	0.0	SAND - same as above			19,25,20,24
30					Boring Terminated at 30.5 feet			

WELL DATA

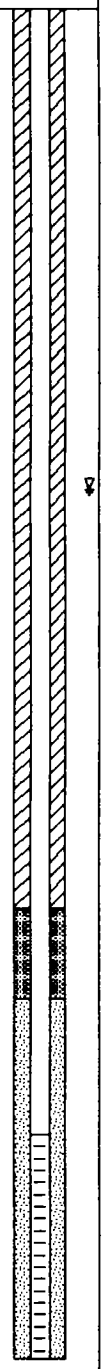


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-16-MW2S	**BORING NO.** MPT-16-MW2S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.	**DATE STARTED:** 1/14/93	**COMPLTD:** 1/14/93
METHOD: H.S.A.	**CASE SIZE:** 2" / **SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 10.85 FT.	**MONITOR INST.:** F.I.D. / **TOT DPTH:** 15.5FT.	**DPTH TO ∇** 9.44 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93	**SITE:** #16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT16 MS02-2	X	85%	0.0	ORGANIC SOIL- sandy, w/ plant matter (3 inch.) over SAND - fine, silty, tan w/ asphalt gravel (1 ft.) over SAND - fine, silty, w/ some whole shell		SM GM SM SP	21,13,13,12*
5			70%	0.0	SAND - fine, laminated, tan, shelly, moist			5,6,11,11
10	MPT16 MS02-8	X	85%	810	SAND - fine, tan to lt. gray, shelly w/ hydrocarb. odor over CLAY - med. plasticity, olive gray to black over SAND - fine, lt. gray, wet		CL SP	11,11,17,18*
15					Boring Terminated at 15.5 feet			
20					*Use of non-standard 3" split-spoon for sample recovery is reflected in the higher blow counts at these depths			
25								
30								

WELL DATA

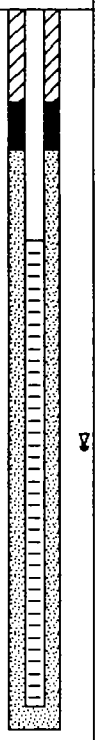


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-16-MW3S		**BORING NO.** MPT-16-MW3S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-84
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/14/93	**COMPLTD:** 1/14/93
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15'	**PROTECTION LEVEL:** D
TOC ELEV.: 11.19 FT.	**MONITOR INST.:** F.I.D.	**TOT DPTH:** 15.5FT.	**DPTH TO ▽** 9.80 FT.
LOGGED BY: Felix Rizk	**WELL DEVELOPMENT DATE:** 1/17/93		**SITE:** #16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
	MPT16 MS03-2	X	75%	0.0	ORGANIC SOIL - dark brown, loamy, w/ some asphalt rubble		OL	17,18,12,10*
							SP	
5			80%	0.0	SAND - fine, tan, shelly, moist with a 3" stringer of ORGANIC SOIL - dark brown, loamy		OL SP	2,3,2,4
10	MPT16 MS03-8	X	100%	0.0	SAND - fine to medium, tan, shelly, wet			5,12,15,15*
15					Boring Terminated at 15.5 feet			
20					*Use of non-standard 3" split-spoon sampler for sample recovery is reflected in the higher blow counts at these depths			
25								
30								

WELL DATA

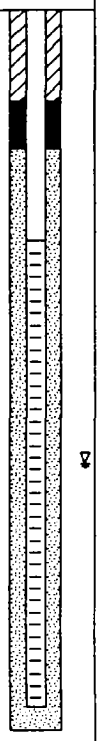


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-16-MW4S	**BORING NO.** MPT-16-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08-07-94	**COMPLTD:** 08-07-94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-15 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 14.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15.5FT.	**DPTH TO ∇** 9.7 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-medium to coarse, tan with few shells		SM	Posthole	
5			1.9/2	0	Silty Sand-As above			7,7,8,10	
					As Above-Observed from cuttings.				
10									
			0.1/2	0	Silty Sand-medium to coarse, light gray with minor % gravel.			13,4,1,1	
15									
					TOTAL DEPTH OF BORING = 15.5' BLS				
20									

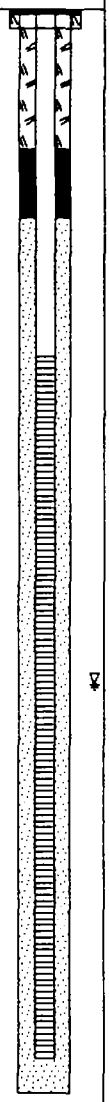


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-17-P1		**BORING NO.** MPT-17-P1
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/28/92	**COMPLTD:** 1/28/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 5-10'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.97 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 10FT.	**DPTH TO ∇** 4.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #17

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine, tan, loose		SP		
5			1.5/2	1.2	Shell fragments w/ approx. 20% SAND-fine, tan, wet		SP	3,5,9,14	
10					Boring terminated @ 10'				
15									
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-17-P2		**BORING NO.** MPT-17-P2
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-81
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/28/92	**COMPLTD:** 1/28/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 7-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.72 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12FT.	**DPTH TO ∇** 7.00 FT.
LOGGED BY: Randy Holloway	**WELL DEVELOPMENT DATE:** N/A		**SITE:** #17

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							SP		
5			1.5/2	0.2	SAND-fine, brown, loose, w/ some shell fragments			10,8,8,8	
10			1.9/2	0.2	SAND-fine, brown, w/ shell fragments, saturated			8,7,8,8	∇
15					Boring termintated @ 12'				
20									
25									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Mayport Naval Station, Mayport, Fl.	**LOG of WELL:** MPT-22-MWIS		**BORING NO.** MPT-22-MWIS
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 7533-61
CONTRACTOR: GROUNDWATER PROTECTION, INC.		**DATE STARTED:** 1/24/92	**COMPLTD:** 1/24/92
METHOD: H.S.A.	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12'	**PROTECTION LEVEL:** D
TOC ELEV.: 7.15 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12FT.	**DPTH TO ∇** 2.5 FT.
LOGGED BY: Larry Smith	**WELL DEVELOPMENT DATE:** 1/28/92		**SITE:** #22

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-fine to medium, lt. gray to tan, numerous shell fragments		SP		
5									
					CLAY-sandy, silty, gray to dk. green, organics, some shell fragments		CL		
10									
					Boring terminated @ 12'				
15									
20									
25									
30									

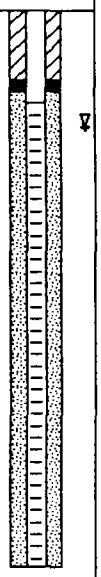


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-22-MW2S	**BORING NO.** MPT-22-MW2S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/03/94	**COMPLTD:** 08/03/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 3-13 ft.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.70 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 13.5FT.	**DPTH TO ∇** 3.8 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/29/94		**SITE:** 22

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-tan (0-0.67') over Silty Sand (0.67-1.17') with coarse to medium shell fragments over Silty Sand, tan to light gray with fine to medium shell fragments.		SM	Posthole	
					Silty Sand-tan (1.17-4.67') over Clay (4.67-5') fat, saturated.		CL		
5			0.9/2	2	Silty Sand-medium to fine, saturated, minor % shells, gray.		SM	3,5,5,4	
					Sand Clay- (observed from cuttings), minor % shells, saturated, light gray to brown.		CL		
10			0.5/2	0	Clay-high plasticity, saturated, light black to brown.		CH	1,1,1,1	
					TOTAL DEPTH OF BORING = 13.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-26-MW1S	**BORING NO.** MPT-26-MW1S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/22/94	**COMPLTD:** 06/22/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 5.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ▽** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/28/30		**SITE:** 26

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Top Soil		SM		
				0	Silty Sand (0.5-1.5') - fine over Sandy Clay (1.5-2') - gray over Silty Sand - fine, gray.		CL SM	Posthole	
					Silty Sand (4-5') estimated contact - fine, gray over Clay - gray to black, trace organics.				
5			2/2	0			SC	1,2,1,1	
				0	Clayey Sand - trace silt, greenish gray.			Observation	
10			0/2		Shelby push tube attempted - no recovery.			UD/Shelby Push Tube Sample	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-26-MW2S		**BORING NO.** MPT-26-MW2S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 06/02/94	**COMPLTD:** 06/02/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 6.88 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇:** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/29/94		**SITE:** 26

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, some shells, saturated at 3.5', tan to gray.		SM	Posthole	
5			1/2	5	Silty Sand-As above			3,4,3,3	
10			1.5/2	0	Silty Sand-fine, saturated, brown.			6,7,8,8	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

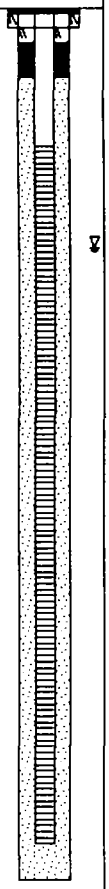


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-26-MW3S	**BORING NO.** MPT-26-MW3S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM		**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.	**DATE STARTED:** 06/02/94	**COMPLTD:** 06/02/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.05 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ▽** 3 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 06/29/94	**SITE:** 26

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, tan		SM	Posthole	
			1.6/2	0	Silty Sand-fine, tan to light gray with gravel lens from 3.5-4.7'.		GM	5,6,7,7	
5							SM		
							GM		
				0	Silty Gravel- (Observed from cuttings) fine gravel with silty and fine sands, gray.			Observation	
10							CH		
			2/2	0	Silty Clay-high plasticity, saturated, brown with clayey sand lens from 11.6 to 12'.			1,1,1,1	
							SC		
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL	**LOG of WELL:** MPT-26-MW4S		**BORING NO.** MPT-26-MW4S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/03/94	**COMPLTD:** 08/03/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 7.21 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/29/94		**SITE:** 26

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				2	Silty Sand-fine, shell fragments		SM	Posthole	
5			1.5/2	3	Silty Sand-fine, shell fragments, saturated from 3.5 to 4', tan to gray.			3,3,4,3	
					Estimated contact between Silty Sand and Clay.		CH	Observation	
10			1.8/2	0	Clay (10-10.87) - high plasticity, saturated, brown over Silty Sand - fine.		SM	1,1,3,6	
					TOTAL DEPTH OF BORING = 12.5' BLS				
15									
20									

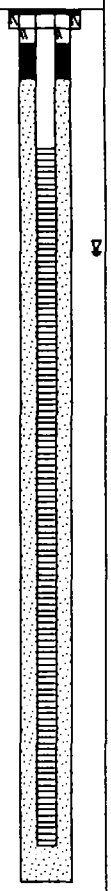


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport, FL		**LOG of WELL:** MPT-28-MW1S	**BORING NO.** MPT-28-MW1S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/07/94	**COMPLTD:** 08/07/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 8-18 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 11.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 18.5FT.	**DPTH TO ∇** 10.5 FT.
LOGGED BY: P. Craine	**WELL DEVELOPMENT DATE:** 08/30/94		**SITE:** 28

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	Silty Sand-fine, medium to coarse shells, light gray to brown.		SM	Posthole	
5			1.8/2	0	Clayey Sand-fine, wet.		SC	5,5,7,7	
					Shelby Push Tube attempted - 100% recovery.		SM	UD/Shelby Push Tube Sample	
10			1.5/2	0	Silty Sand-few shell fragments, saturated, tan to brown.			8,8,8,8	∇
15			1/2	0	Silty Sand-light gray, over Clay (16.25-16.5') - high plasticity, saturated, gray over Sand (16.5-18') - medium to coarse.		CH / SM	5,3,1,1	
					TOTAL DEPTH OF BORING = 18.5' BLS				
20									

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Station Mayport, Mayport FL		**LOG of WELL:** MPT-56-MW1S	**BORING NO.** MPT-56-MW1S
CLIENT: SOUTHERN DIVISION, NAVFACENGCOM			**PROJECT NO:** 8533-04
CONTRACTOR: LAYNE ENVIRONMENTAL SERVICES, INC.		**DATE STARTED:** 08/03/94	**COMPLTD:** 08/03/94
METHOD: 4.25" HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 2-12 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 8.97 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 12.5FT.	**DPTH TO ∇** 3.0 FT.
LOGGED BY: K. Mish	**WELL DEVELOPMENT DATE:** 08/27/94		**SITE:** 56

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				200	Sand-fine, light brown, w/ trace gravel, dry, loose.		SM	Posthole	
					Silty Sand-very fine to fine, dark gray, damp, w/ trace gravel.				
			1.8/2	5	Silty Sand-very fine to fine, light gray, saturated, w/ trace of shell fragments			12,14,16,18	
5									
10			2/2	100	Silty Clay-dark brown, saturated, w/ trace of shell fragments and wood debris, strong petroleum odor.		ML	1,1,1,1	
					TOTAL DEPTH OF BORING=12.5' BLS				
15									
20									

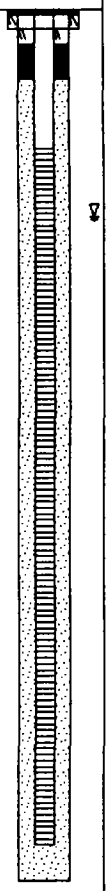


 ABB ENVIRONMENTAL SERVICES, INC.

LAW ENGINEERING

P.O. Box 5728—3901 Carmichael Ave.
Jacksonville, Florida 32207
(904) 396-5173

REPORT of Soil Testing

Client: CH2M - Hill

Date: 2/22/93

Project: Miscellaneous Testing
Mayport ABB - 753384

Project No: 446-01953-01

On various dates starting January 26, 1993, three samples were tested for grain size ASTM D-422, moisture content ASTM D-2216, permeability ASTM D-2434, and bulk density. The samples were obtained from undisturbed sample tubes supplied to Law Engineering, Inc. by Mr. Larry Smith of ABB. The results of these tests are as follows:

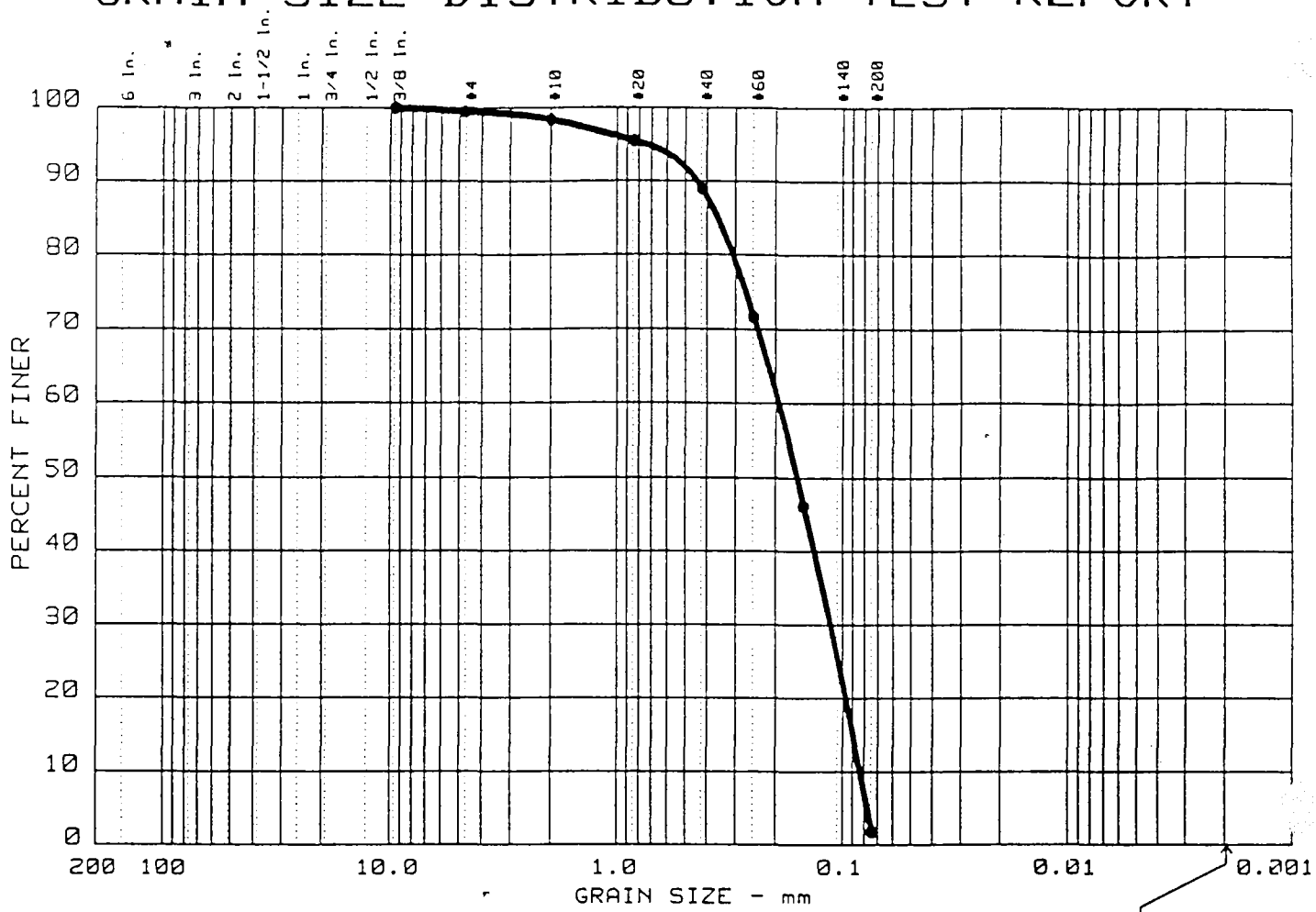
SAMPLE IDENTIFICATION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	COEFFICIENT OF PERMEABILITY (CM/SEC)
MPT - 16A 9'4" - 10'0"	13.4	109.3	9.8×10^{-4}
MPT - 8 - 6S 9'4" - 10'0"	24.4	83.4	8.4×10^{-4}
MPT - 8 - 5S 5'8" - 6'4"	12.8	108.4	1.9×10^{-3}

Respectfully submitted,
LAW ENGINEERING

Bryant B. Wilder

Bryant B. Wilder, Chief Engineering Technician

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.5	97.6	1.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.36	0.19	0.16	0.114	0.0902	0.0837	0.80	2.3

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Fine SAND w/ a few shells	SP	A-3

Project No.: 446-01953-01
Project: Mayport ABB-753384
● Location: Boring MPT-16A

Date: 2-15-93

Remarks:

Depth: 9'4"- 10'0"

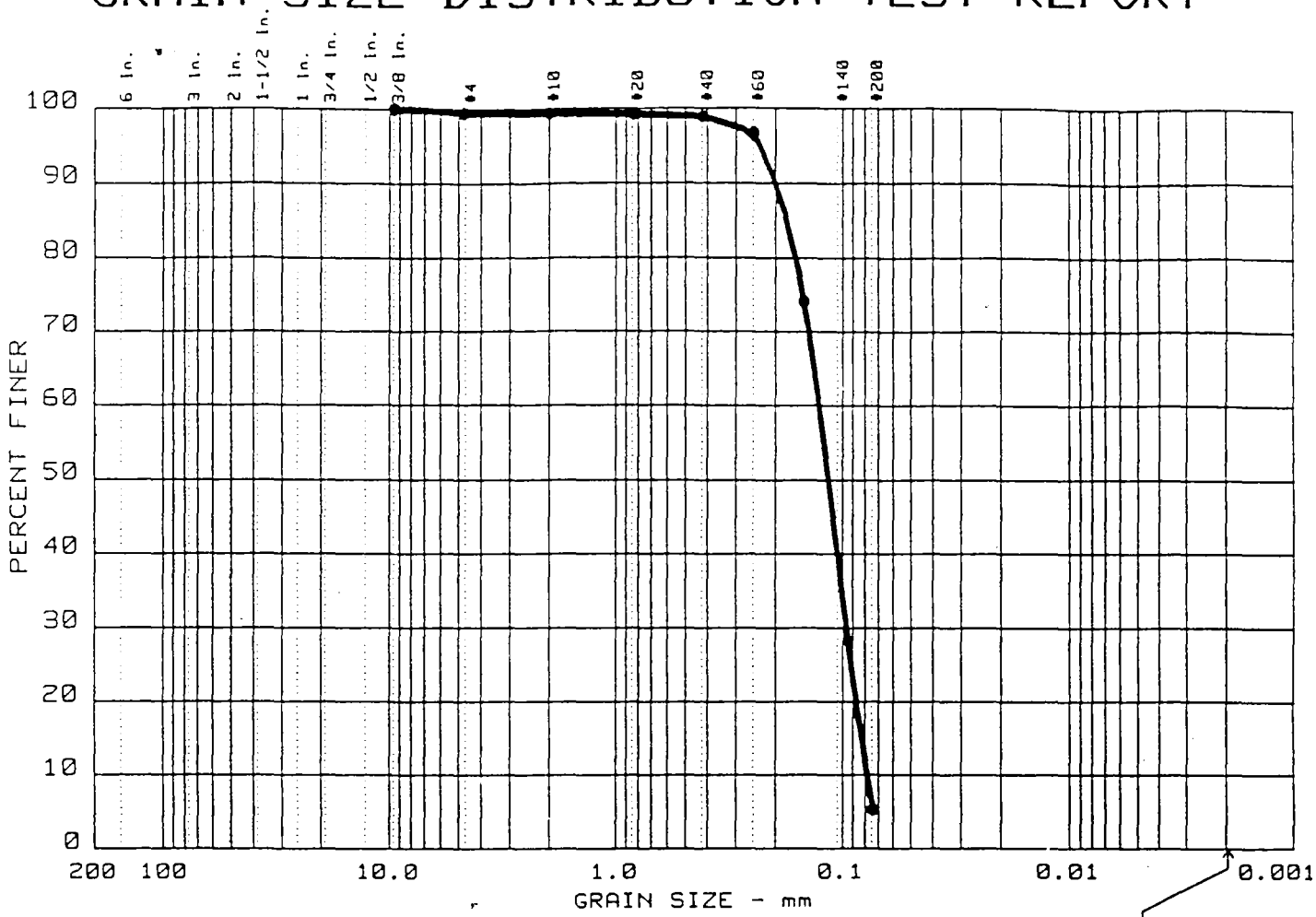
GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Bryant B Wildes

REVIEWED BY: Bryant B. Wildes

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	0.6	94.0	5.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			0.18	0.13	0.12	0.097	0.0830	0.0783	0.94	1.6

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Slightly Silty Fine SAND w/ a few shells	SP-SM	A-3

Project No.: 446-01953-01
Project: Mayport ABB-753384
● Location: Boring MPT-8-6S

Date: 2-15-93

Remarks:

Sample No. 2

Depth: 9'4"- 10'0"

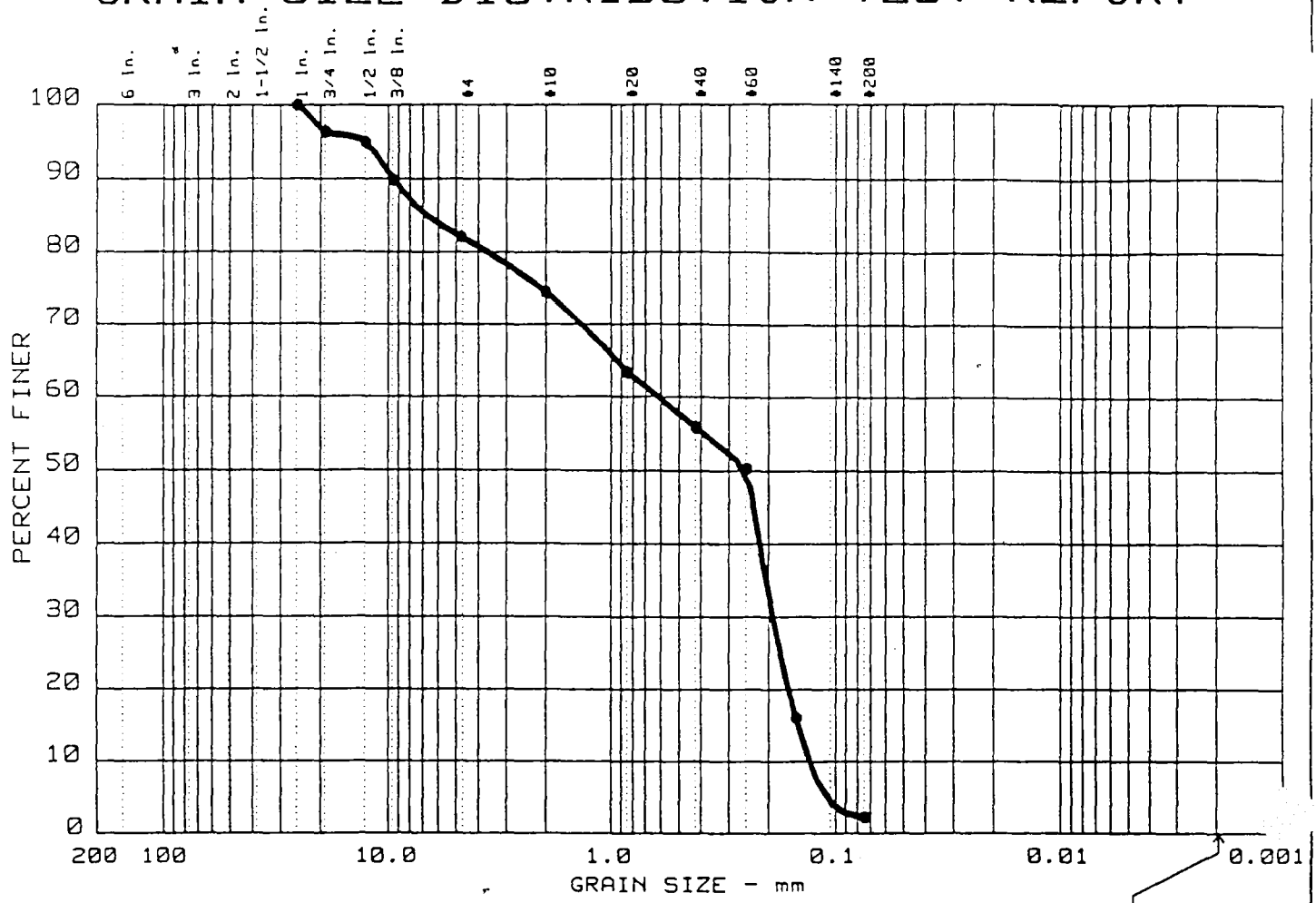
GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Bryant B. Wildes

REVIEWED BY: Bryant B. Wildes
Chief Engineering Technician

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	0.0	18.0	79.8	2.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			6.68	0.62	0.25	0.191	0.1460	0.1309	0.45	4.7

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan Fine SAND w/ shell	SP	A-3

Project No.: 446-01953-01
Project: Mayport ABB-753384
● Location: Boring MPT-8-SS

Date: 2-15-93

Remarks:

Sample No. 2

Depth: 5'8"- 6'4"

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENGINEERING, INC.

Bryant B. Wildes

REVIEWED BY: Bryant B. Wildes
Chief Engineering Technician

Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167001
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS1
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.68

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	431.39	428.80	2.6	--	5.2	5.2	0.850mm	94.8
40#	401.28	395.07	6.2	8.8	12.4	17.6	0.425mm	82.4
80#	357.56	337.15	20.5	29.3	41.0	58.6	0.180mm	41.4
100#	367.08	357.59	9.5	38.8	19.0	77.6	0.150mm	22.4
200#	386.39	376.39	10.0	48.8	20.0	97.6	0.075mm	2.4
<200#	360.42	360.29	0.1	48.9	0.3	97.9	<0.075mm	2.1

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	6	59	0	--	21.2	--	--	--
24	7	00	0.67	7.0	21.2	1.7	0.0635	3.4
24	7	30	30	5.5	21.2	0.2	0.0096	0.4
24	8	00	60	5.5	21.1	0.2	0.0068	0.4
24	11	00	240	6.0	21.2	0.2	0.0034	0.4
24	3	00	480	5.5	21.3	0.0	0.0024	0.0
25	7	00	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167P01
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS1
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00

Hydrometer No.: 87026 Type: 152H
Dispersing Agent: Sodium Hexametaphosphate
Amount Used: 50 ml

Specific Gravity: 2.68

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	416.31	414.70	1.6	--	3.2	3.2	0.850mm	96.8
40#	398.41	395.43	3.0	4.6	6.0	9.2	0.425mm	90.8
80#	372.37	353.03	19.3	23.9	38.7	47.9	0.180mm	52.1
100#	379.27	366.66	12.6	36.5	25.2	73.1	0.150mm	26.9
200#	393.60	381.41	12.2	48.7	24.4	97.5	0.075mm	2.5
<200#	415.45	415.39	0.1	48.8	0.1	97.6	<0.075mm	2.4

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	00	0	--	21.2	--	--	--
24	7	01	0.67	6.5	21.2	1.2	0.0636	2.4
24	7	31	30	5.5	21.2	0.2	0.0096	0.4
24	8	01	60	5.5	21.1	0.2	0.0068	0.4
24	11	01	240	6.0	21.2	0.2	0.0034	0.4
24	3	01	480	5.5	21.3	0.0	0.0024	0.0
25	7	01	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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BA 3-9-93
KW 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167002
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS1D
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.66

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	435.96	428.79	7.2	--	14.3	14.3	0.850mm	85.7
40#	405.44	395.07	10.4	17.5	20.7	35.1	0.425mm	64.9
80#	357.92	337.17	20.8	38.3	41.5	76.6	0.180mm	23.4
100#	363.73	357.60	6.1	44.4	12.3	88.8	0.150mm	11.2
200#	380.84	376.36	4.5	48.9	9.0	97.8	0.075mm	2.2
<200#	360.31	360.29	0.0	48.9	0.0	97.8	<0.075mm	2.2

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	01	0	--	21.2	--	--	--
24	7	02	0.67	6.5	21.2	1.2	0.0640	2.4
24	7	32	30	5.5	21.2	0.2	0.0096	0.4
24	8	02	60	5.5	21.1	0.2	0.0068	0.4
24	11	02	240	6.0	21.2	0.2	0.0034	0.4
24	3	02	480	5.5	21.3	0.0	0.0024	0.0
25	7	02	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hall Date: 3/9/93

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SF 3-8-93
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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167003
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS2
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00

Hydrometer No.: 87026 Type: 152H
Dispersing Agent: Sodium Hexametaphosphate
Amount Used: 50 ml

Specific Gravity: 2.69

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	416.67	414.70	2.0	--	3.9	3.9	0.850mm	96.1
40#	399.64	395.41	4.2	6.2	8.5	12.4	0.425mm	87.6
80#	373.73	353.03	20.7	26.9	41.4	53.8	0.180mm	46.2
100#	377.75	366.67	11.1	38.0	22.2	76.0	0.150mm	24.0
200#	392.42	381.42	11.0	49.0	22.0	98.0	0.075mm	2.0
<200#	415.42	415.41	0.0	49.0	0.0	98.0	<0.075mm	2.0

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	02	0	--	21.2	--	--	--
24	7	03	0.67	7.0	21.2	1.7	0.0633	3.4
24	7	33	30	6.0	21.2	0.7	0.0095	1.4
24	8	03	60	5.5	21.1	0.2	0.0067	0.4
24	11	03	240	6.0	21.2	0.2	0.0034	0.4
24	3	03	480	6.0	21.3	0.0	0.0024	0.0
25	7	03	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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BA 3-9-93
MW 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167004
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS3
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00

Hydrometer No.: 87026 Type: 152H
Dispersing Agent: Sodium Hexametaphosphate
Amount Used: 50 ml

Specific Gravity: 2.67

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	433.19	428.78	4.4	--	8.8	8.8	0.850mm	91.2
40#	403.31	395.06	8.3	12.7	16.5	25.3	0.425mm	74.7
80#	357.58	337.16	20.4	33.1	40.8	66.2	0.180mm	33.8
100#	364.58	357.57	7.0	40.1	14.0	80.2	0.150mm	19.8
200#	383.45	376.37	7.1	47.2	14.2	94.3	0.075mm	5.7
<200#	360.36	360.26	0.1	47.3	0.2	94.5	<0.075mm	5.5

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	03	0	--	21.2	--	--	--
24	7	04	0.67	9.5	21.2	4.2	0.0628	8.4
24	7	34	30	7.5	21.2	2.2	0.0095	4.4
24	8	04	60	7.0	21.1	1.7	0.0067	3.4
24	11	04	240	6.5	21.2	1.2	0.0034	2.4
24	3	04	480	6.0	21.3	0.8	0.0024	1.6
25	7	04	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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3/15/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167005
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS4
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00

Hydrometer No.: 87026 Type: 152H
Dispersing Agent: Sodium Hexametaphosphate
Amount Used: 50 ml

Specific Gravity: 2.67

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	417.60	414.67	2.9	--	5.9	5.9	0.850mm	94.1
40#	410.61	395.42	15.2	18.1	30.4	36.2	0.425mm	63.8
80#	378.55	353.06	25.5	43.6	51.0	87.2	0.180mm	12.8
100#	370.07	366.66	3.4	47.0	6.8	94.0	0.150mm	6.0
200#	383.52	381.42	2.1	49.1	4.2	98.2	0.075mm	1.8
<200#	415.39	415.39	0.0	49.1	0.0	98.2	<0.075mm	1.8

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	04	0	--	21.2	--	--	--
24	7	05	0.67	7.5	21.2	2.2	0.0635	4.4
24	7	35	30	6.5	21.2	1.2	0.0095	2.4
24	8	05	60	6.0	21.1	0.7	0.0068	1.4
24	11	05	240	6.0	21.2	0.7	0.0034	1.4
24	3	05	480	5.5	21.3	0.3	0.0024	0.6
25	7	05	1440	5.0	22.1	0.0	0.0014	0.0

Approved By: Donald R Hall Date: 3/9/93

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OA 3-8-93
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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167006
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS6
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00

Hydrometer No.: 87026 Type: 152H
Dispersing Agent: Sodium Hexametaphosphate
Amount Used: 50 ml

Specific Gravity: 2.67

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	428.90	428.76	0.1	--	0.3	0.3	0.850mm	99.7
40#	395.52	395.06	0.5	0.6	0.9	1.2	0.425mm	98.8
80#	358.65	337.15	21.5	22.1	43.0	44.2	0.180mm	55.8
100#	371.58	357.59	14.0	36.1	28.0	72.2	0.150mm	27.8
200#	389.19	376.38	12.8	48.9	25.6	97.8	0.075mm	2.2
<200#	360.33	360.27	0.1	49.0	0.1	97.9	<0.075mm	2.1

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	05	0	--	21.2	--	--	--
24	7	06	0.67	7.5	21.2	2.2	0.0635	4.4
24	7	36	30	6.0	21.2	0.7	0.0096	1.4
24	8	06	60	5.5	21.1	0.2	0.0068	0.4
24	11	06	240	6.0	21.2	0.2	0.0034	0.4
24	3	06	480	6.0	21.3	0.2	0.0024	0.4
25	7	06	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hall Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35167007
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSS5
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.64

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	414.70	414.68	0.0	--	0.0	0.0	0.850mm	100.0
40#	395.50	395.40	0.1	0.1	0.2	0.2	0.425mm	99.8
80#	367.45	353.40	14.1	14.2	28.1	28.3	0.180mm	71.7
100#	387.36	366.70	20.7	34.8	41.3	69.7	0.150mm	30.3
200#	395.43	381.38	14.1	48.9	28.1	97.8	0.075mm	2.2
<200#	415.37	415.36	0.0	48.9	0.0	97.8	<0.075mm	2.2

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	06	0	--	21.2	--	--	--
24	7	07	0.67	6.5	21.2	1.2	0.0644	2.4
24	7	37	30	6.0	21.2	0.7	0.0096	1.4
24	8	07	60	5.5	21.1	0.2	0.0068	0.4
24	11	07	240	6.0	21.2	0.2	0.0034	0.4
24	3	07	480	5.5	21.3	0.0	0.0024	0.0
25	7	07	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35170001
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSD7
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.66

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	429.53	428.76	0.8	--	1.5	1.5	0.850mm	98.5
40#	396.23	395.06	1.2	1.9	2.3	3.9	0.425mm	96.1
80#	351.40	337.17	14.2	16.2	28.5	32.3	0.180mm	67.7
100#	373.77	357.59	16.2	32.3	32.4	64.7	0.150mm	35.3
200#	392.27	376.36	15.9	48.3	31.8	96.5	0.075mm	3.5
<200#	360.31	360.27	0.0	48.3	0.1	96.6	<0.075mm	3.4

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	07	0	--	21.2	--	--	--
24	7	08	0.67	8.0	21.2	2.7	0.0635	5.4
24	7	38	30	7.0	21.2	1.7	0.0095	3.4
24	8	08	60	6.5	21.1	1.2	0.0068	2.4
24	11	08	240	6.0	21.2	0.7	0.0034	1.4
24	3	08	480	6.0	21.3	0.7	0.0024	1.4
25	7	08	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hall Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35170P01
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSD7
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.66

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	415.40	414.68	0.7	--	1.4	1.4	0.850mm	98.6
40#	395.65	395.40	0.3	1.0	0.5	1.9	0.425mm	98.1
80#	366.08	353.00	13.1	14.0	26.2	28.1	0.180mm	71.9
100#	385.22	366.69	18.5	32.6	37.1	65.2	0.150mm	34.8
200#	395.98	381.40	14.6	47.2	29.2	94.3	0.075mm	5.7
<200#	415.41	415.40	0.0	47.2	0.0	94.3	<0.075mm	5.7

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	08	0	--	21.2	--	--	--
24	7	09	0.67	8.0	21.2	2.7	0.0635	5.4
24	7	39	30	7.0	21.2	1.7	0.0095	3.4
24	8	09	60	6.5	21.1	1.2	0.0068	2.4
24	11	09	240	6.0	21.2	0.7	0.0034	1.4
24	3	09	480	6.0	21.3	0.7	0.0024	1.4
25	7	09	1440	5.5	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35170002
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSD7
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.65

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	429.54	428.77	0.8	--	1.5	1.5	0.850mm	98.5
40#	396.23	395.05	1.2	2.0	2.4	3.9	0.425mm	96.1
80#	351.83	337.15	14.7	16.6	29.4	33.3	0.180mm	66.7
100#	374.15	357.61	16.5	33.2	33.1	66.3	0.150mm	33.7
200#	391.42	376.36	15.1	48.2	30.1	96.5	0.075mm	3.5
<200#	360.34	360.28	0.1	48.3	0.1	96.6	<0.075mm	3.4

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	09	0	--	21.2	--	--	--
24	7	10	0.67	8.0	21.2	2.7	0.0637	5.4
24	7	40	30	7.0	21.2	1.7	0.0096	3.4
24	8	10	60	6.0	21.1	0.7	0.0068	1.4
24	11	10	240	6.0	21.2	0.7	0.0034	1.4
24	3	10	480	5.5	21.3	0.3	0.0024	0.6
25	7	10	1440	5.0	22.1	0.0	0.0014	0.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35170003
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSD6
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.66

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	419.83	414.66	5.2	--	10.3	10.3	0.850mm	89.7
40#	402.31	395.39	6.9	12.1	13.8	24.2	0.425mm	75.8
80#	369.18	353.00	16.2	28.3	32.4	56.5	0.180mm	43.5
100#	375.25	366.65	8.6	36.9	17.2	73.7	0.150mm	26.3
200#	391.00	381.38	9.6	46.5	19.2	93.0	0.075mm	7.0
<200#	415.41	415.38	0.0	46.5	0.1	93.0	<0.075mm	7.0

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	10	0	--	21.2	--	--	--
24	7	11	0.67	9.5	21.2	4.2	0.0630	8.4
24	7	41	30	8.0	21.2	2.7	0.0095	5.4
24	8	11	60	7.5	21.1	2.2	0.0067	4.4
24	11	11	240	6.5	21.2	1.2	0.0034	2.4
24	3	11	480	6.5	21.3	1.2	0.0024	2.4
25	7	11	1440	6.0	22.1	0.5	0.0014	1.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35170004
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	MPTBSD4
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.68

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	428.89	428.75	0.1	--	0.3	0.3	0.850mm	99.7
40#	395.50	395.04	0.5	0.6	0.9	1.2	0.425mm	98.8
80#	347.59	337.13	10.5	11.1	20.9	22.1	0.180mm	77.9
100#	369.75	357.59	12.2	23.2	24.3	46.4	0.150mm	53.6
200#	397.19	376.36	20.8	44.0	41.7	88.1	0.075mm	11.9
<200#	360.53	360.28	0.3	44.3	0.5	88.6	<0.075mm	11.4

Day	Reading Time Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	11	0	--	21.2	--	--	--
24	7	12	0.67	11.0	21.2	5.7	0.0621	11.3
24	7	42	30	8.0	21.2	2.7	0.0094	5.4
24	8	12	60	7.0	21.1	1.7	0.0067	3.4
24	11	12	240	6.5	21.2	1.2	0.0034	2.4
24	3	12	480	6.0	21.3	0.8	0.0024	1.6
25	7	12	1440	6.0	22.1	0.5	0.0014	1.0

Approved By: Donald R Hull Date: 3/9/93

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Soils Analysis

PARTICLE SIZE ANALYSIS
ASTM D-422

Proj. Desc. :	ABB Environmental	Sample I.D. :	35195002
Proj. Number:	LRD34817.XY.MP	Sample Desc.:	~~MPTBSW5~~ MPT8SD5
ATTENTION:	Mr. Greg Brown	Date Analyzed:	03/03/93

INITIAL SAMPLE MASS	Units		HYGROSCOPIC MOISTURE CONTENT	Units	
Mass Dry Sample	g	50.00	Can No.	--	[ ]
Moisture Cont	%	0.00	Gross Wet Mass	g	50.00
Corr. Dry Mass	g	50.00 (M)	Gross Dry Mass	g	50.00
Pass #10 sieve	%	100.00 (B)	Moisture Mass	g	0.00
Mass of total sample represented			Tare Mass	g	0.00
by mass used in hydrometer test			Dry Soil Mass	g	50.00
W = (M/B) x 100 =		50.00 g	Moisture Content	%	0.00
Hydrometer No.: 87026 Type: 152H					
Dispersing Agent: Sodium Hexametaphosphate					
Amount Used: 50 ml			Specific Gravity:		2.62

Material Retained On 75 um Sieve After Washing

STD Sieve #	Gross Mass	Tare Mass	Net Mass Indiv.	Retained Accumulative	Percent Retained Individual	Percent Retained Accumulative	STD Sieve	Accum. Percent Passing
20#	428.87	428.74	0.1	--	0.3	0.3	0.850mm	99.7
40#	395.36	395.03	0.3	0.5	0.7	0.9	0.425mm	99.1
80#	348.23	337.15	11.1	11.5	22.2	23.1	0.180mm	76.9
100#	372.96	357.58	15.4	26.9	30.8	53.8	0.150mm	46.2
200#	396.66	376.35	20.3	47.2	40.6	94.5	0.075mm	5.5
<200#	360.42	360.26	0.2	47.4	0.3	94.8	<0.075mm	5.2

Reading Time Day	Hr	Min	Elapsed Time (min)	Hydrom Reading	Temp °C	Corr. Hydrom Reading	Particle Diam. (mm)	Pct Soil Susp.
24	7	13	0	--	21.2	--	--	--
24	7	14	0.67	8.5	21.2	3.2	0.0641	6.5
24	7	44	30	7.0	21.2	1.7	0.0097	3.4
24	8	14	60	7.0	21.1	1.7	0.0068	3.4
24	11	14	240	6.5	21.2	1.2	0.0034	2.4
24	3	14	480	6.0	21.3	0.8	0.0024	1.6
25	7	14	1440	6.0	22.1	0.5	0.0014	1.0

Approved By: Donald R. [illegible] Date: 3/9/93

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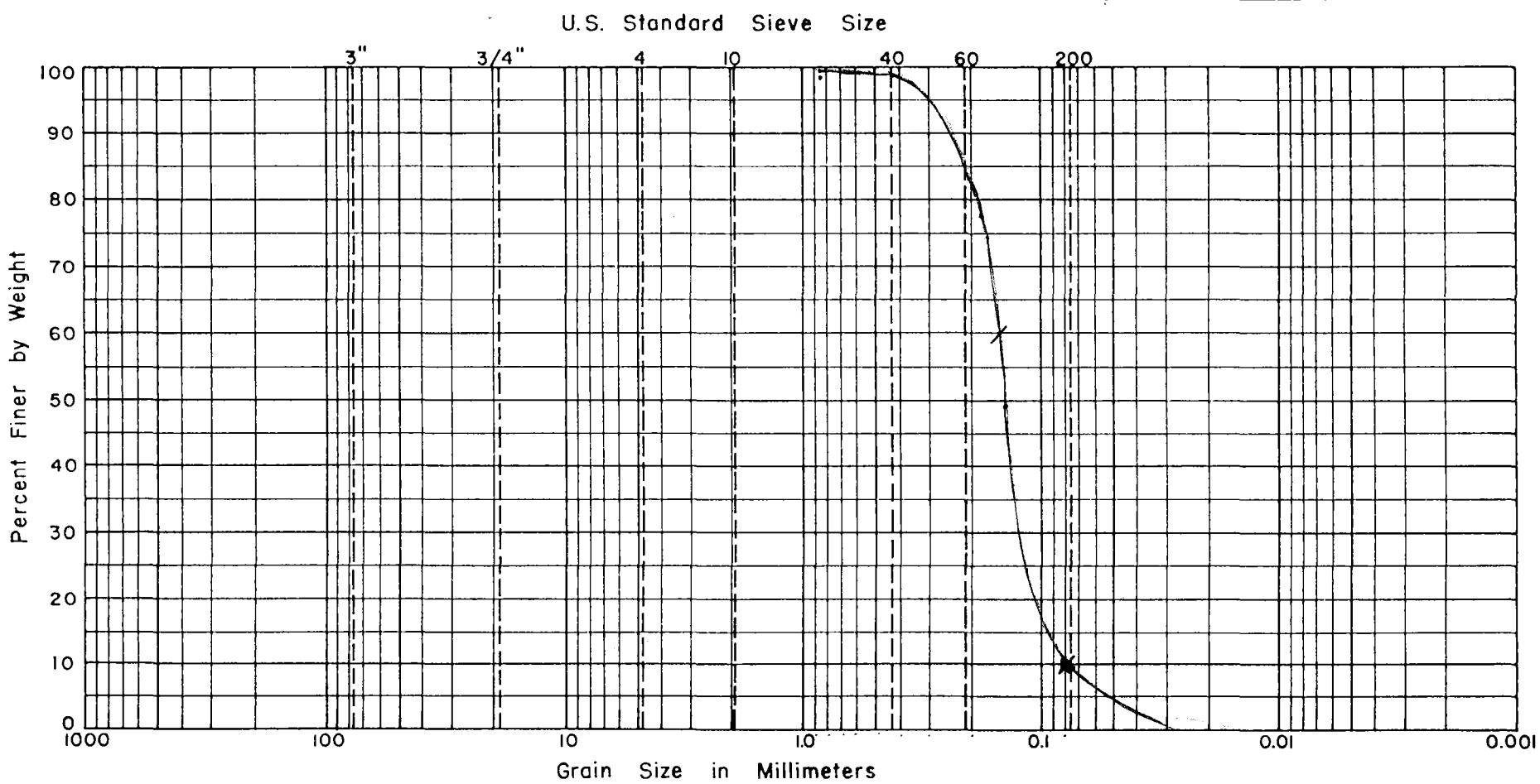
GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-2-115		2.5 ft

STATE ROAD COMMISSION
OF WEST VIRGINIA

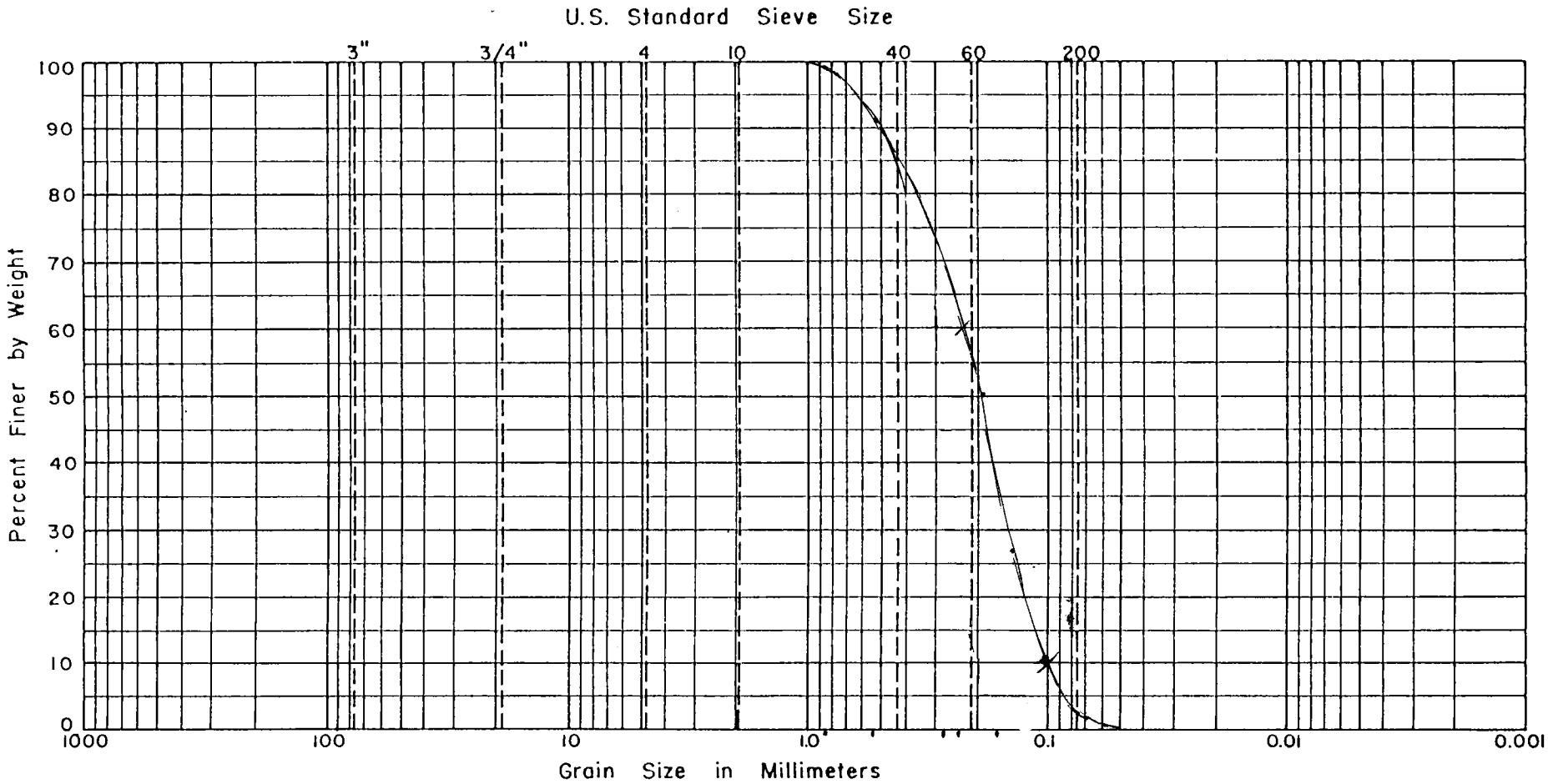
Project Mayport

Section Site 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-13-5		2.5

STATE ROAD COMMISSION
OF WEST VIRGINIA

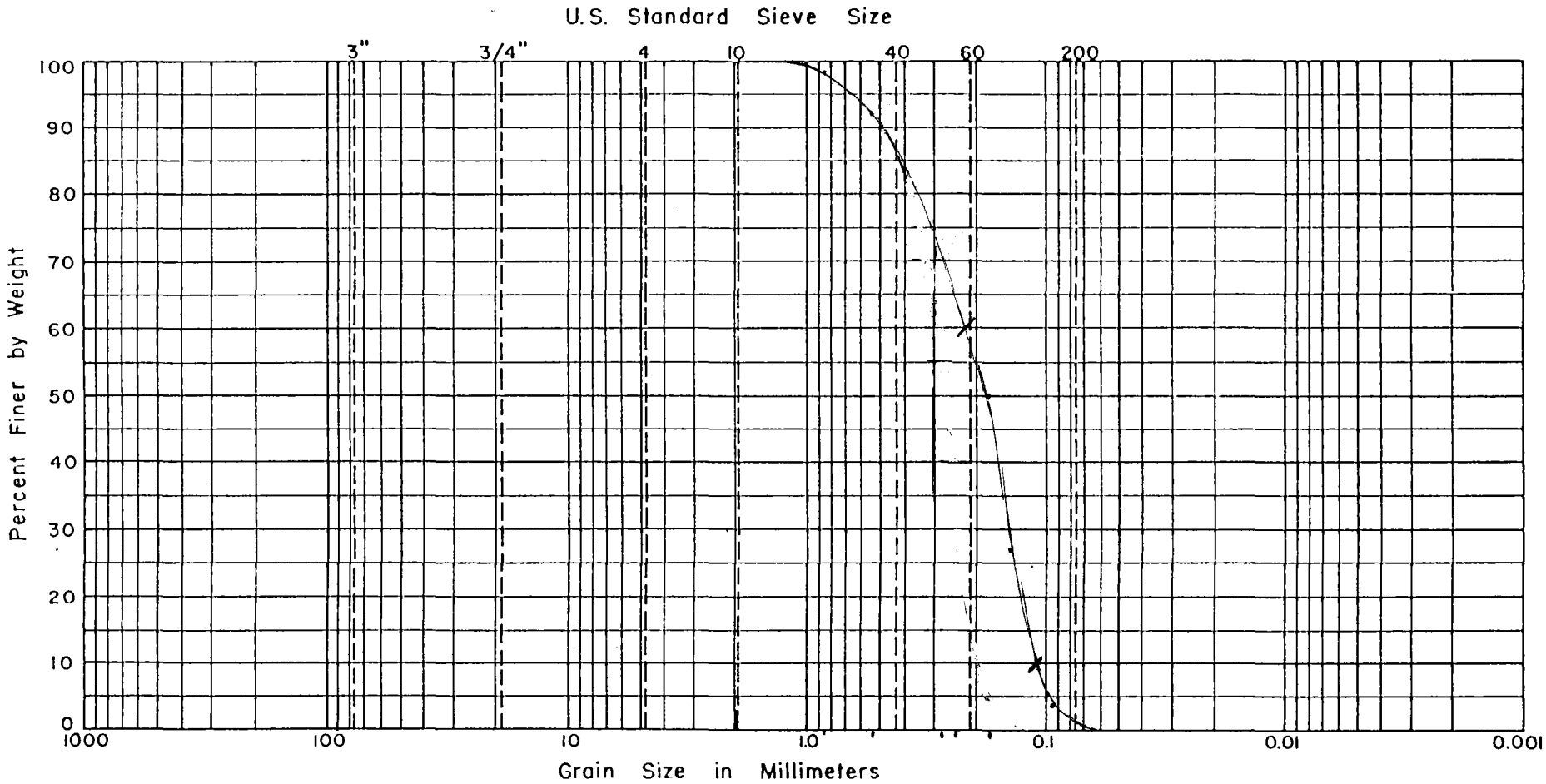
Project Mayport

Section 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-2-165		2.5 ft

STATE ROAD COMMISSION
OF WEST VIRGINIA

Project Mayport

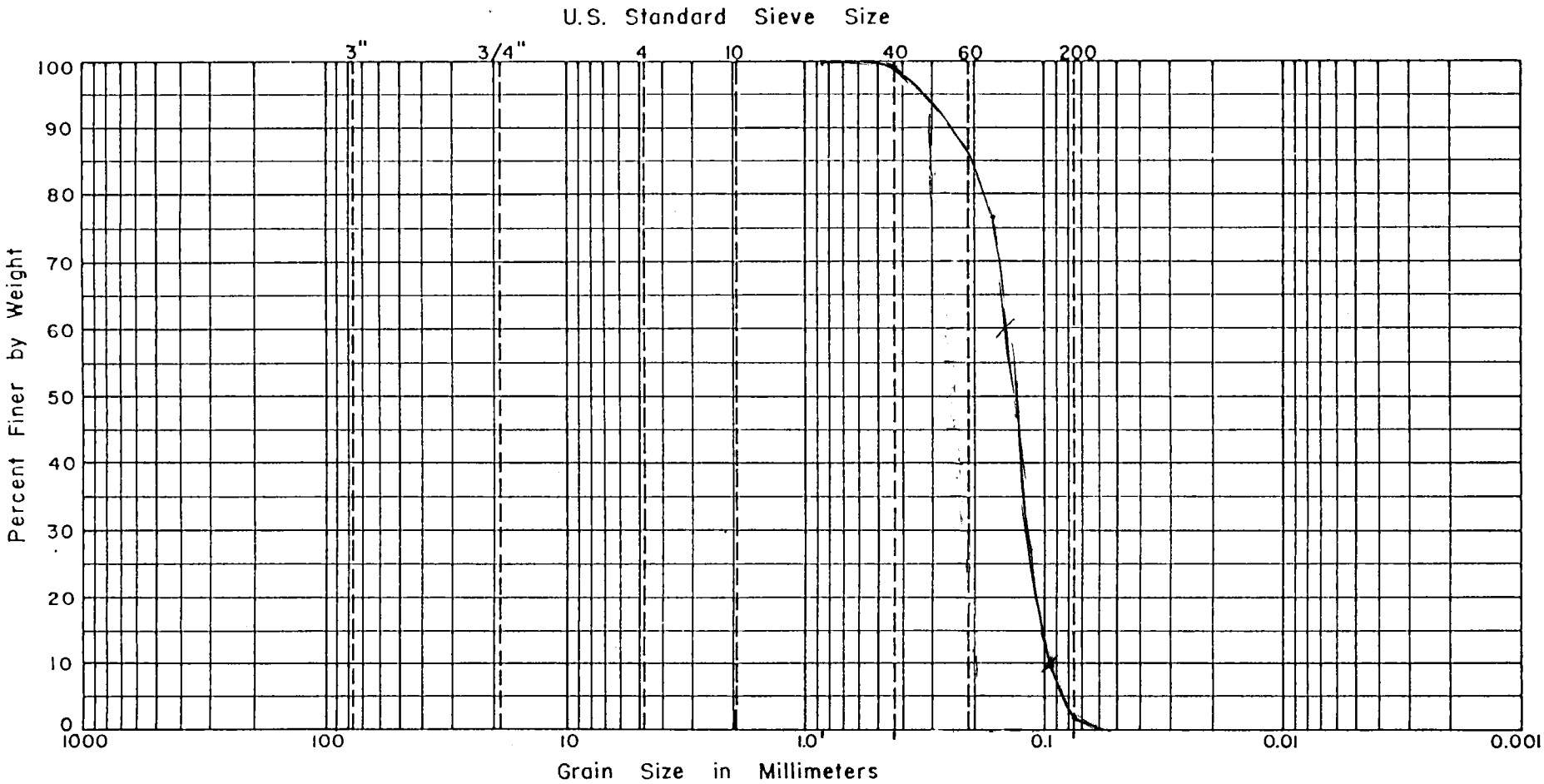
Section 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

Fine Sand

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-13-6		2.5 ft

STATE ROAD COMMISSION
OF WEST VIRGINIA

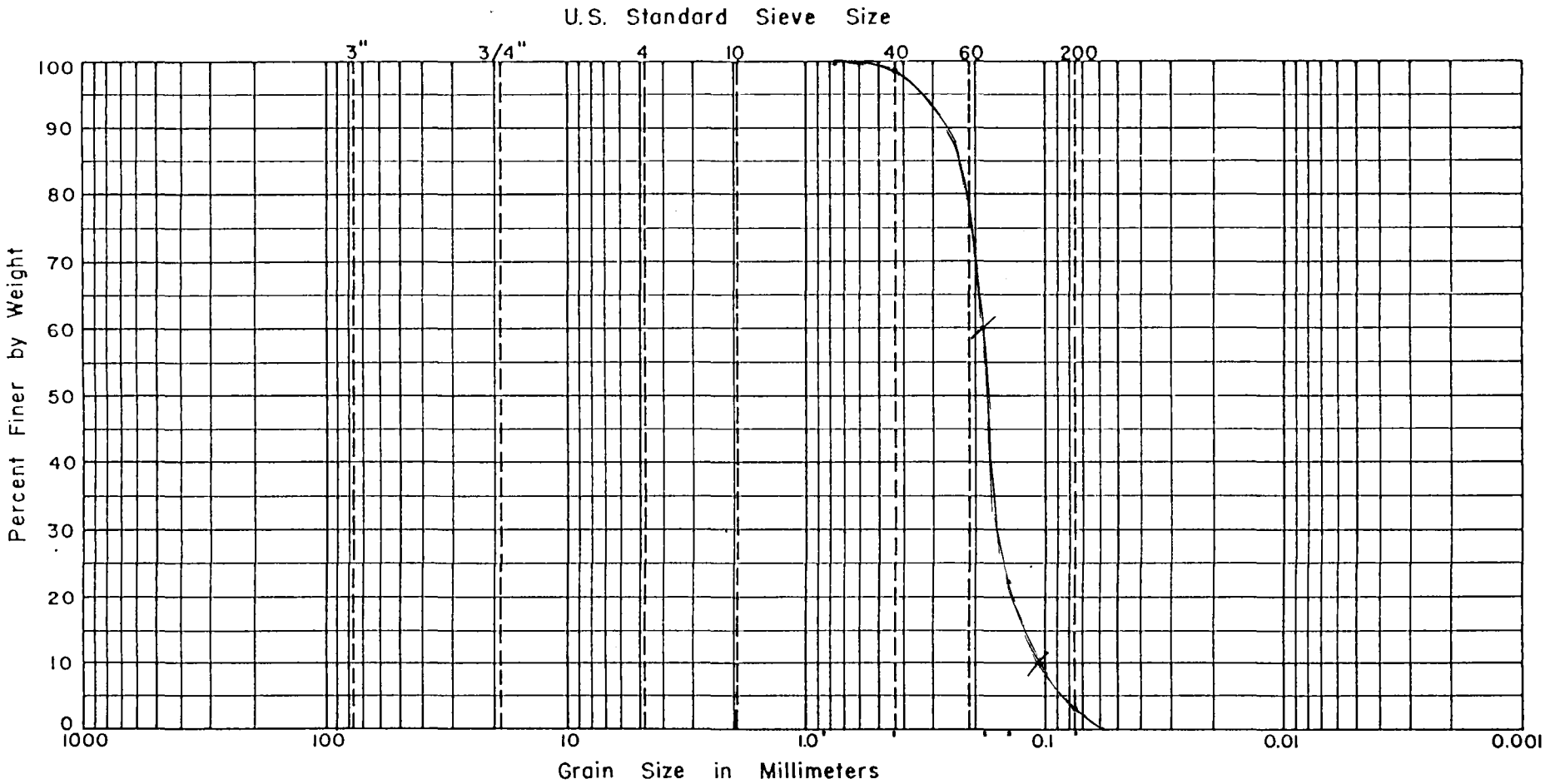
Project Mayport

Section 13

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-2-15S		2.5

STATE ROAD COMMISSION
OF WEST VIRGINIA

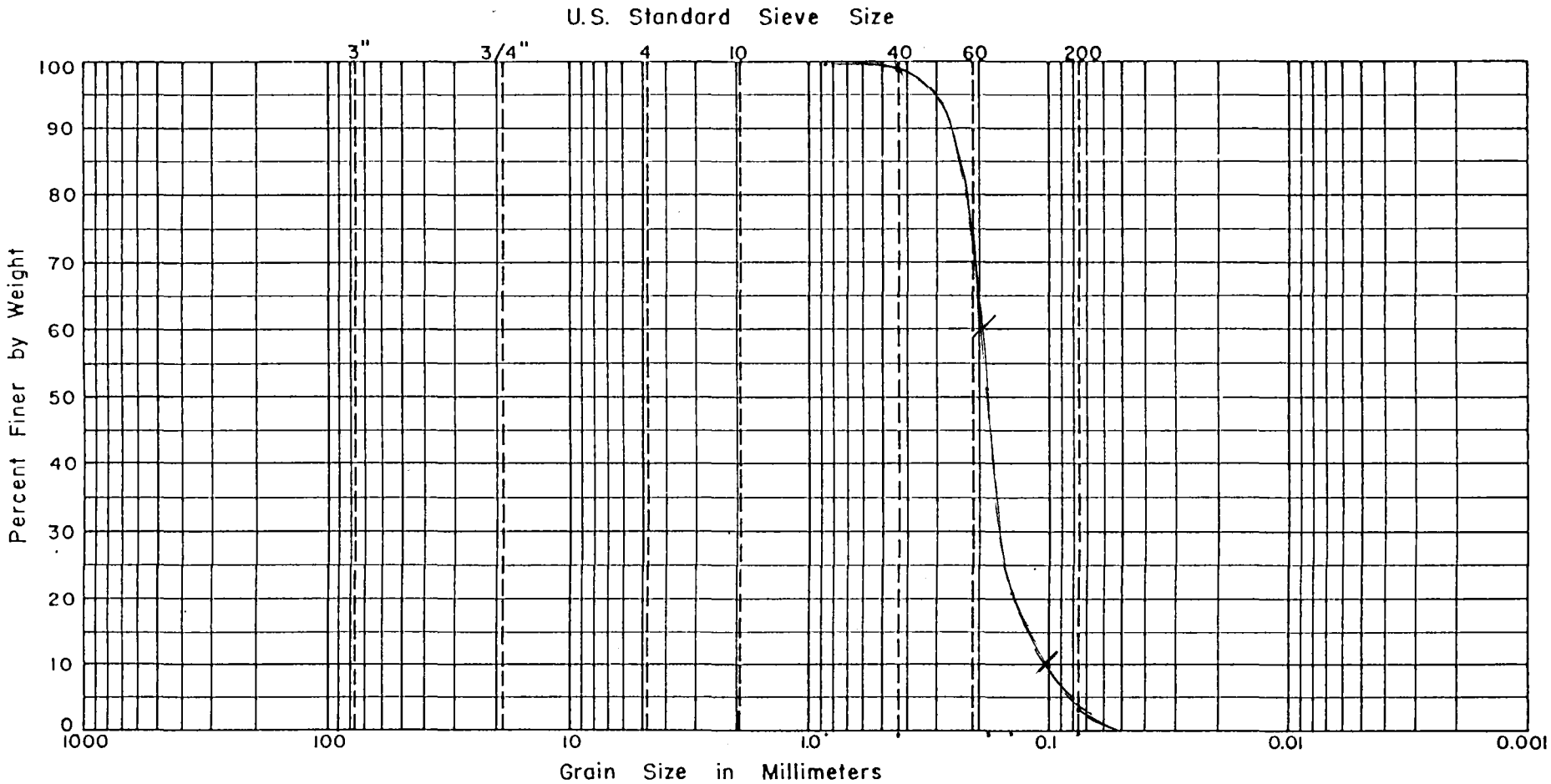
Project Mayport

Section 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
Dwo MPT-2-12.5		2.5

STATE ROAD COMMISSION
OF WEST VIRGINIA

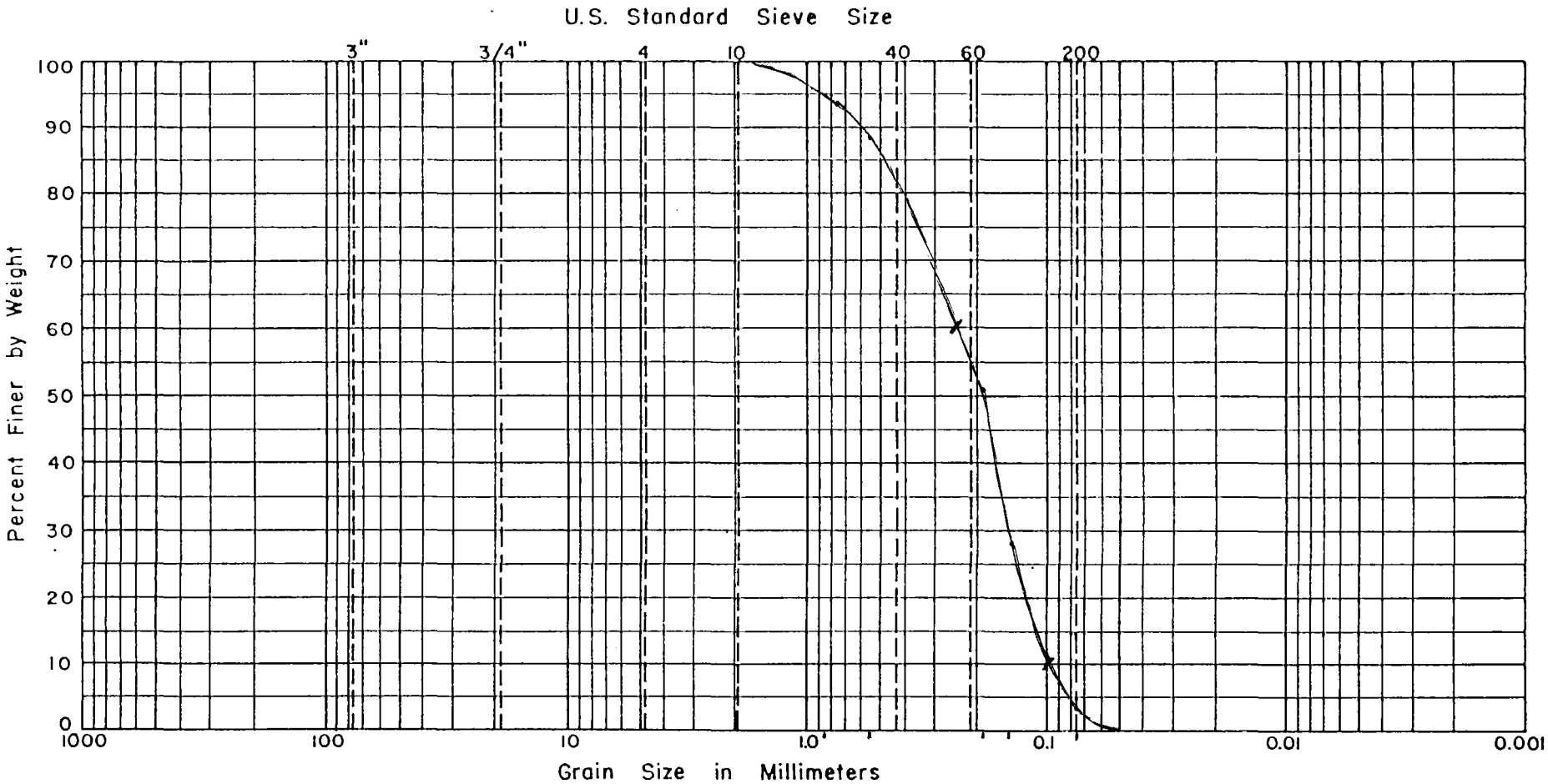
Project Mayport

Section 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-13-4		2.5 ft.

STATE ROAD COMMISSION
OF WEST VIRGINIA

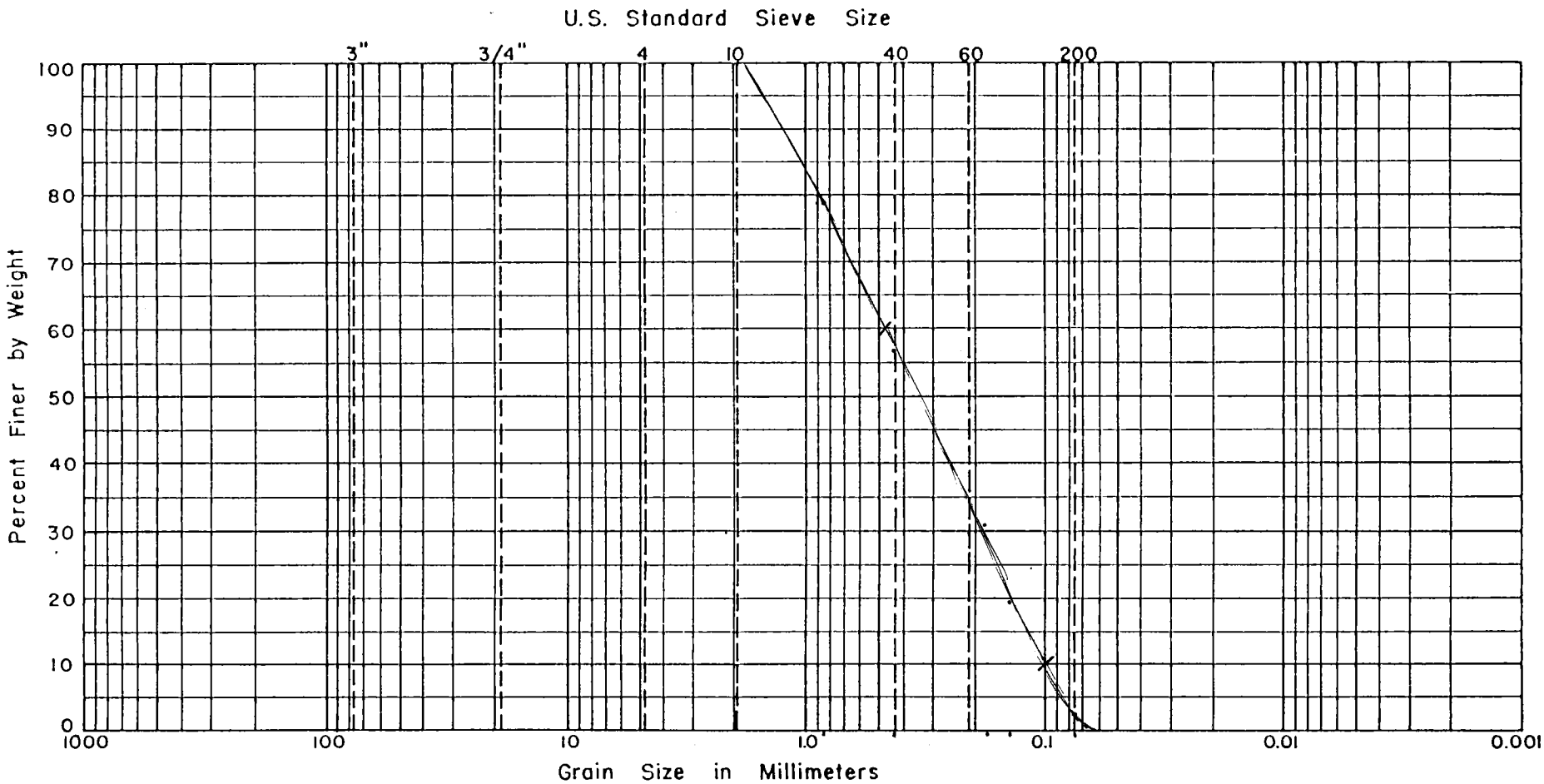
Project Mayport

Section 13

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-22-15		2.5 ft.

STATE ROAD COMMISSION
OF WEST VIRGINIA

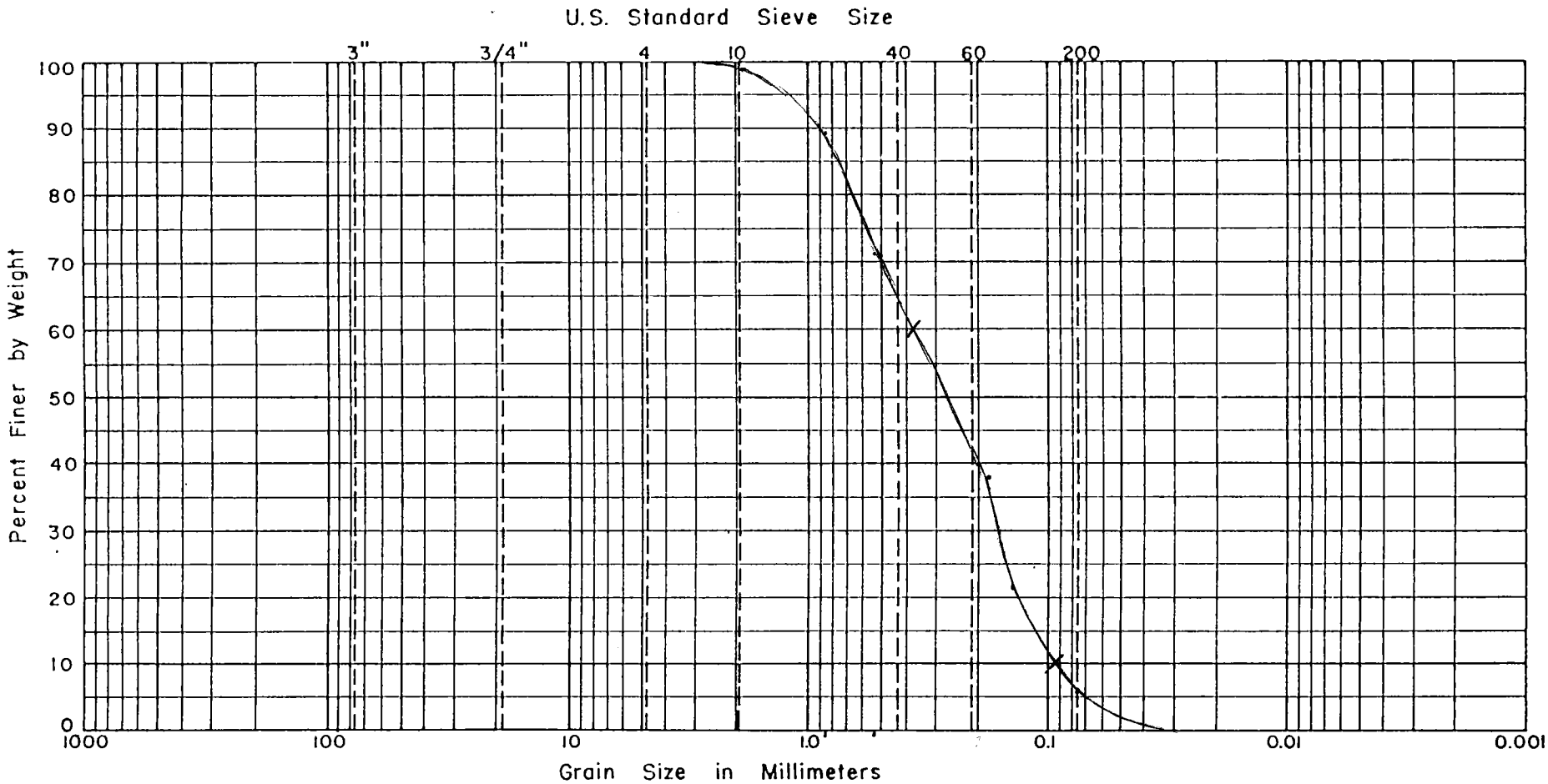
Project Mayport

Section 22

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
MPT-2-175		2.5 ft.

STATE ROAD COMMISSION
OF WEST VIRGINIA

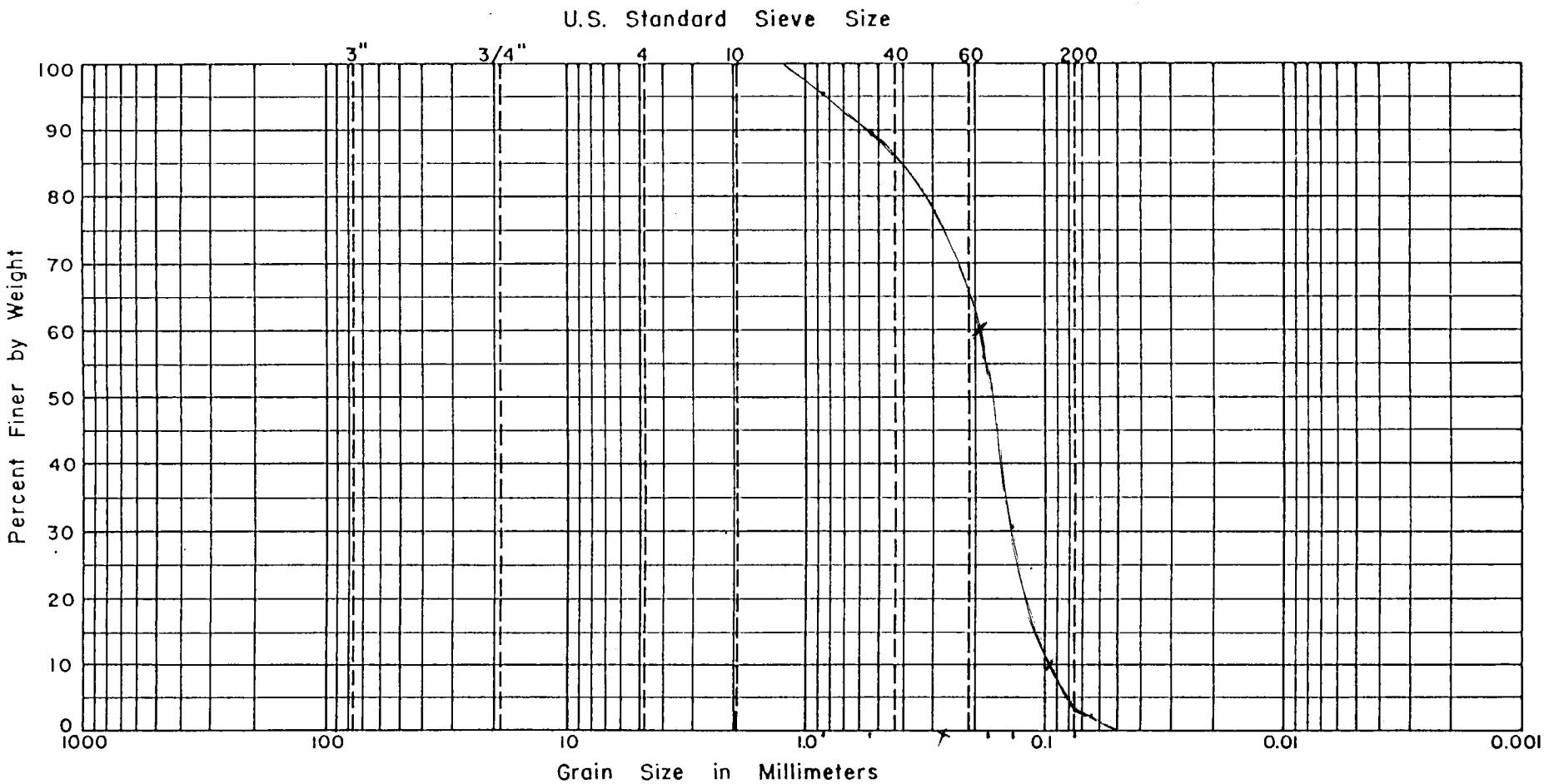
Project Mayport

Section 2

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

GRADATION CURVES



Cobbles	Gravel		Sand			Silt - Clay
	Coarse	Fine	Coarse	Medium	Fine	

Liquid Limit _____

Plasticity Index _____

AASHO Class

Boring	Sample	Depth
Dup MPT-13-4		2.5

STATE ROAD COMMISSION
OF WEST VIRGINIA

Project Mayport

Section 13

for
Albert Switzer & Associates, Inc.

by
TASK Engineers, Inc.

ABB

March 15, 1994

Commanding Officer
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
Charleston SC 29418

Attention: Mr. David Driggers (Code 1582)

SUBJECT: USEPA and FDEP Technical Review Comments
Technical Memorandum Background Characterization Activities
RCRA Facility Investigation, Naval Station (NAVSTA), Mayport, FL
Contract No. N62467-87-D-0317 CTO#028

Dear Mr. Driggers:

Enclosed is a copy of the response to comments made in correspondence dated February 11, 1994, by the United States Environmental Protection Agency (USEPA) to the Commanding Officer, U. S. Naval Station (NAVSTA) Mayport, and correspondence dated February 15, 1994 by the Florida Department of Environmental Protection (FDEP) concerning the Technical Memorandum Background Characterization Activities Resource Conservation and Recovery Act, NAVSTA Mayport, Mayport, Florida report dated October 1993.

If you have any questions, please call me at 904-656-1293.

Very truly yours,

ABB ENVIRONMENTAL SERVICES INC.

Francis K. Lesesne, P.G.
Principal Geologist

Margaret E. Layne, P.E.
Task Order Manager

cc: File: CTO-0028
Cheryl Mitchell, NAVSTA Mayport

ABB Environmental Services Inc.

2590 Executive Center Circle East
Berkeley Building
Tallahassee, Florida 32301

Telephone (904) 656-1293
Fax (904) 877-0742