DAVIDS ISLAND

New Rochelle, New York

PHASE II SUBSURFACE INVESTIGATION REPORT

AKRF Project Number 70103

Prepared for:
Westchester County Department of Planning
432 Michaelian Office Building
White Plains, NY 10601

Prepared by:
AKRF, Inc.
34 South Broadway
White Plains, NY 10601
(914) 949-7336

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1.0 INTRODUCTION

1.1 Purpose and Scope

This Subsurface Investigation report presents results from investigation activities conducted at Davids Island, located in the Long Island Sound, approximately 0.6 miles east of the mainland in New Rochelle, in Westchester County, New York. The island currently contains abandoned buildings and related infrastructure from a closed military base. Westchester County plans to acquire the island for County park purposes. The objective of this Subsurface Investigation was to investigate potential contamination from former transformers, chemical and waste handling, petroleum storage and pesticide use on the island identified during previous environmental investigations.

1.2 Site Background

1.2.1 Site Description

Davids Island consists of an approximately 80-acre island (plus approximately 40 submerged acres) located in the Long Island Sound, approximately 0.6 miles east of the mainland of New Rochelle, New York. The legal definition of the property is Tax Block 780, Lot 1 in the City of New Rochelle in Westchester County, New York. This study only included the 80 upland acres. A site location map is provided as Figure 1.

Abandoned buildings and related infrastructure from a closed military base occupy the entire island. The original layout of the military base buildings and structures are illustrated in Figure 2. Because the military base has been closed since the 1960s, vegetation covers much of the site, obscuring the original configuration of the base shown in this figure. Vandalism, arson and years of neglect have either significantly damaged or destroyed many of the former buildings.

1.2.2 Topography, Geology and Hydrogeology

The surface topography of Davids Island slopes in all directions towards the Long Island Sound. Based on U.S. Geological Survey map of the Mount Vernon, New York Quadrangle, dated 1966 (photorevised 1979), the island lies at an average elevation of approximately 20 feet above mean sea level. The southeastern section of the island has a more uneven terrain and contains a topographic high lying at approximately 50 feet above mean sea level.

Davids Island consists of bedrock covered by unconsolidated surficial material. Bedrock outcrop is visible along the southeastern shoreline of the island. *The Geologic Map of New York State* (Fisher, et al, 1970) indicates that the Island bedrock consists of metamorphic rock of the Hartland Formation (amphibolite and schist). Based on the *Surficial Geologic Map of New York State* (Cadwell, et al, 1989), the unconsolidated surficial material on the island is a glacial till, which generally consists of a mixture of unstratified, poorly sorted sand, gravel and silt.

During site investigation activities, marine sand deposits also were observed at locations near the shoreline.

According to the *Final Environmental Impact Statement (FEIS), Davids Island Project, New Rochelle, New York* (U.S. Coast Guard, 1989), no significant groundwater was observed in bedrock borings advanced at the site, however, perched groundwater was encountered in the unconsolidated, surficial materials. Groundwater was encountered at approximately five to seven feet below grade (depending on the tide) in soil borings advanced in the southwestern portion of the island during this current investigation. Groundwater is expected to flow in a radial pattern towards the Long Island Sound. Groundwater on Davids Island is not currently used as a source of potable water.

1.2.3 Previous Investigations

Energy & Environmental Analysts, Preliminary Environmental Studies, 1984

Energy & Environmental Analysts, Inc. (EEA) of Garden City, New York conducted a preliminary soil testing study on Davids Island in October of 1984. A summary of EEA's investigation included in the 1989 FEIS for the island (U.S. Coast Guard, 1989) was available and was reviewed by AKRF. In addition, during AKRF's 1996 Phase I Environmental Assessment of the subject site, Roy Stoeker of EEA was interviewed to verify the FEIS's summary of the 1984 testing program.

Mr. Stoeker reported that a preliminary soil testing study was conducted in response to finding canisters of dichloro diphenyl trichloroethane (DDT) pesticide stored in a shed on Davids Island. These canisters were subsequently drummed and removed from the site by an independent firm, Chemical Waste Disposal. The surface testing conducted by EEA consisted of collecting random grab samples throughout the island and analyzing them for DDT and its derivatives, dichloro diphenyl dichloroethane (DDD) and dichloro diphenyl ethane (DDE).

Analytical results indicated that low levels of DDT and its derivatives, DDD and DDE, were found in the soil. These pesticides were found at five sampling locations, with concentrations of DDT ranging from not detected to 0.430 parts per million (ppm). None of these levels exceed published guidance values for these chemicals as established by the New York State Department of Environmental Conservation (NYS DEC). The FEIS attributed these levels of DDT and its derivatives to the eradication of insects when military personnel inhabited Davids Island.

U.S. Army Corps of Engineers, Defense Environmental Restoration Program for Formerly-Used Sites

The U.S. Army Corps of Engineers, through the Defense Environmental Restoration Program for Formerly-Used Sites, performed a site survey of Davids Island to assess the presence of unsafe debris, hazardous waste contamination, and unexploded ordnance. This report was reviewed during AKRF's 1996 Phase I

Environmental Site Assessment. No specific dates of the investigation were noted in the final report issued by the U.S. Army Corps of Engineers, but a cost estimate sheet for the proposed project, dated December of 1988 was included in the Army Corps' Inventory Project Report.

The final report by the U.S. Army Corps of Engineers identified the following:

- Two transformers were identified near the southeast end of the island, adjacent to the Command Bunker.
- Several drums containing unknown liquids were observed in a small wooden structure on the southern corner of the island, approximately 100 feet inland from Parker Road.
- Several drums containing unknown liquids were found in a building east of Bomford Road.
- Coal-fired heating plants in each building contained asbestos as a form of insulation to cover piping.

This report recommended testing of the contents of drums and transformers, removal of these items with concurrent testing of the underlying soil, and a subsequent assessment of the need for removal of potentially contaminated soil. The U.S. Army Corps of Engineers prepared a cost estimate for testing, removal and disposal of all transformers and drums located on the island. The cost estimate for this remedial action totaled $227,000 at September 1988 price and did not include costs for removal of any contaminated soil or asbestos. Although remedial action was proposed for the site, the report assigned a low-level hazardous and toxic waste removal priority to the island. A telephone conversation conducted in 1995 between AKRF personnel and Robert J. Gouze, a U.S. Army Corps of Engineers representative who had been involved in the original survey, indicated that his agency had no records of taking any remedial action on Davids Island.

<u>AKRF, Inc., Phase I Environmental Site Assessment, January 1996</u>

AKRF conducted a Phase I Environmental Site Assessment of Davids Island and the former ferry terminal that had served the island (Fort Slocum Dock) in New Rochelle, New York in January 1996. The following environmental concerns were noted in AKRF's 1996 study:

- Suspect asbestos-containing materials were identified within the buildings on the island. The majority of the suspect materials was observed to be in poor and damaged condition and many of the buildings had deteriorated and collapsed.
- Abandoned drums, underground storage tanks, aboveground storage tanks and discarded containers (indicating the possible use of chemicals within one of the buildings) were observed in various areas throughout the island. Exhaust vents, typically associated with fume hood ventilation for

chemicals were observed inside two buildings. These vents suggested that volatile organic compounds might have been used at these locations.

- A former incinerator was located in the southeastern portion of the island. The incinerator may have been in operation from 1905 to 1966. The disposal site for ash generated from the incinerator was not known.
- Remains of electrical transformers were observed in three locations. These abandoned transformers may have contaminated the areas around them, or the areas where the transformers were operating, with polychlorinated biphenyls (PCBs).

<u>AKRF Inc., Phase I Environmental Site Assessment, July 2002</u>

AKRF completed a Phase I Environmental Site Assessment of Davids Island in July 2002 in conjunction with this current Phase II investigation. During the Phase I assessment, AKRF noted the following environmental concerns:

- Two aboveground storage tanks: one southwest of Building 40 and one south of Building 110.
- An abandoned gasoline pump on the western side of Building 40 and a vent pipe on the roof of the building, indicating the likely presence of an associated underground storage tank(s) in this area.
- A suspected underground storage tank fill pipe near Building 135.
- Rusted 55-gallon drums and/or smaller containers adjacent to or within Buildings 1, 32, 37, 56, 58, 113, 119 and T-11 and in a shed south of Building 115.
- Electrical transformers and/or transformer casings adjacent to Buildings 6, 9, 11, 20, 32 and 121, and a room labeled "Transformer Room" in Building 17.
- Partially destroyed extractor and ventilation systems in Buildings 124 and 110, suggesting that volatile chemicals were in use in these buildings.
- An incinerator located on the southeastern corner of the island.

This Phase II investigation was based on information gathered during these previous studies.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Soil Borings

From May 22 to June 6, 2002, AKRF collected 80 soil samples on Davids Island to characterize the surficial soil at the site and investigate potential soil contamination resulting from past site uses and environmental concerns noted during previous investigations. Additional soil samples were collected on July 24 and 25, 2002 to investigate additional areas of environmental concern noted during AKRF's 2002 Phase I Environmental Site Assessment and to attempt to delineate

PCB and lead-contaminated soil detected during the initial round of soil sampling. Additional soil samples were also collected during the second round of sampling at random locations throughout the island to determine background concentrations of metals and polycyclic aromatic hydrocarbons (PAHs) in surface soils not associated with suspected chemical/waste handling or storage. Soil boring locations are depicted in Figures 2, 3, 4, 5, 6 and 7. Table 1 summarizes the soil sample location rationale, which is based on the Scope of Work conducted under AKRF's contract with Westchester County dated April 26, 2002. Table 1 also notes any changes made to the original sampling plans based on conditions encountered in the field.

All soil borings except those collected around suspected underground storage tanks were advanced using hand augers. Once the desired depth was reached, the soil sample was collected from the auger barrel into a labeled sealable plastic bag for later classification. The hand auger barrels were decontaminated between each sample location by scrubbing with a bristle brush using a Simple Green™/distilled water solution and rinsing with distilled water.

The soil samples adjacent to the suspected underground storage tanks near Building 40 (DI-40U1-B1 through DI-40U1-B8) were collected using a soil gas sampler. At each soil sampling location, access to the subsurface soil was gained by drilling through the top three feet of surface material (concrete and asphalt) using a BOSCH hammer drill equipped with a 1-¼ inch drill bit. A ¼-inch diameter Teflon-lined, 12-inch soil sampling probe was then advanced to the water table using a ⅝-inch diameter stainless steel shaft. The water table was encountered at approximately five to seven feet below grade. The soil-sampling probe was manually removed with an automotive jack. The Teflon liner, containing the soil samples, was removed from the sampling probe and sealed at both ends using plastic caps. The stainless steel shaft and sampling probe were decontaminated between each sample location by scrubbing with a bristle brush using a Simple Green™/distilled water solution and rinsing with distilled water.

In general, samples were collected from the surface to two feet below grade to investigate potential contamination from surface spills. Soil borings were advanced to greater depths (up to four feet deep) at locations where samples could not be obtained close to the potential source of contamination and/or where the potential contamination source was located below ground or in a building basement (DI-16D-B3, DI-78U-B1, DI-78U-B2, DI-56D-B1, DI-56D-B2, DI-INC-B5, DI-INC-B14). The sample depths around the suspected underground tank ranged from three to five feet below grade at boring DI-40U1-B1 to five to seven feet below grade at boring DI-40U1-B8.

Following sample collection, each soil sample was described according to the modified Burmister Soil Classification System. Tables summarizing soil descriptions are included as Appendix A to this report. In general, surface soils on the island consisted of silty sand with a high percentage of roots and other plant material, and with increasing clay content at depths greater than one foot below ground surface. Soils collected from greater than two feet below ground surface typically consisted of stiff brown-gray clayey silt. In the area around the former incinerator and coal pile in the southwestern portion of the island, near the suspected underground storage tanks west of Building 40, and around Building 32, gravel-sized fragments of coal were observed in many soil samples. Some of the samples collected from around the former incinerator and west of Building 32 contained material that felt and/or looked like ashes or cinders. In samples taken from west and south of Building 40 (around the aboveground and underground storage tanks), soil disturbance was minimal and the samples consisted primarily of beach sand.

Samples slated to be analyzed in the laboratory for volatile organic compounds (VOCs) were screened in the field for organic vapors using the headspace screening method (see Section 3.1). All hand-auger samples were transferred to laboratory-supplied glass jar, placed in chilled coolers and transported to Alpha Analytical Laboratories in Westborough, Massachusetts, a New York State Department of Health (NYSDOH) certified laboratory. The samples collected using the soil gas sampling probe were placed directly in the cooler without removing them from the sealed Teflon liner. Soil samples were analyzed for volatile organic compounds (VOCs) using EPA method 8260, VOCs STARS using method 8021, semivolatile organic compounds (SVOCs) using EPA method 8270 (including acid/base/neutral extractables and polycyclic aromatic hydrocarbons), polycyclic aromatic hydrocarbons (PAHs) using EPA method 8270, polychlorinated biphenyls (PCBs) using EPA method 8082, pesticides using EPA method 8081, and/or Target Analyte List (TAL) metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, magnesium, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc) or RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.) Table 1 lists the parameters for which each sample was analyzed.

2.2 Quality Control/Quality Assurance (QA/QC) of Soil Samples

For quality control purposes, one set of duplicate samples and one set of aqueous field blank samples per phase of sampling were analyzed for all prescribed parameters. The duplicate samples were included to assess the reproducibility of laboratory data. The aqueous field blanks were included to ensure that sampling equipment did not cross contaminate soil samples. In addition, one trip blank per samples shipment was analyzed for VOCs. The trip blanks were included to ensure that volatile compounds (e.g., gasoline vapors) encountered during sample shipment did not contaminate the samples. Duplicate, field blank and trip blank samples results are summarized in the appropriate soil analytical results summary tables (see Section 3.0).

2.3 Electromagnetic Survey

An electromagnetic (EM) survey was conducted on May 22 and 23, 2002 to investigate the presence of underground storage tanks west of Building 40 and south of the coal yard located near the former dock. An EM survey is a non-invasive remote sensing technique that measures subsurface conductivity through the use of low frequency EM induction. EM is able to identify anomalies in subsurface conductivity caused by the presence of buried metal objects (including tanks).

A Geonics® EM-31 Conductivity Meter was used. This meter measures conductivities from 0 to 1,000 millimhos and is capable of detecting conductance from 0 to approximately 20 feet below land surface in the vertical dipole mode (but does not allow exact depths to be determined). Subsurface conductivities were determined by measuring both the quadrature phase (90°) and the in-phase (180°) component of the EM field. The quadrature phase component is linearly proportional to the earth's conductivity and measures the absolute conductance of the subsurface material within its zone of influence. The in-phase component is not directly related to the earth's conductivity and measures relative conductance. However, this component is significantly altered by highly conductive objects and is, therefore, typically more sensitive to buried metals.

The survey was conducted along 12 east-west trending transects in the area of suspected underground storage tanks. The transects were spaced approximately five feet apart and varied from 60 to 103 feet in length. Conductivity and in-phase readings were recorded along each transect at 0.5 second intervals using an Omnidata® Digital Polycorder. The data collected was processed using a Dat31 software package and profiles were plotted for both the conductivity and the in-phase measurements.

The data was used to produce three maps that are included in Appendix B. The maps show contours of quadrature phase or soil conductivity (Map 1), contours of the in-phase component (Map 2), and locations of magnetic anomalies (Map 3). Figure 3 illustrates two irregularly shaped anomalies (shown in red) interpreted to represent large blocks or/and slabs of concrete with steel bars. These anomalies indicated the likely presence of at least two underground storage tanks (with estimated capacities of 1,000 gallons) encased in concrete. These anomalies are shown on Figure 3.

An EM survey was also planned to investigate a suspected underground storage tank reported near Building 78 during the 1996 Phase I investigation. However, metal fragments and piping present throughout the area surrounding Building 78 prevented use of the EM technology at this location. Upon inspection of the building, no evidence of an underground storage tank (i.e., a fill cap or vent pipe) was noted; however, a wall-mounted expansion tank for a boiler was observed in the building basement. It was concluded that the 1996 Phase I report was referring to the observed expansion tank.

2.4 Magnetic Locator Survey

Prior to collecting soil samples on the western side of Building 40 on June 6, 2002, AKRF used a Schoendstedt MAC51B magnetometer (metal detector) to mark-out the location of suspected underground storage tanks in the vicinity of the abandoned gasoline pump. The magnetometer was also used to investigate a suspected fill port observed outside of Buildings 135 on July 25, 2002. In each case, a transmitter was attached to the fill cap to induce a signal in any attached metal, and the magnetometer receiver was then passed over the ground surface to identify the signal. Three suspected tanks with estimated capacities of 1,000 gallons were identified on the western side of Building 40, as pictured in Figure 3. As indicated in the figure, the location of these suspected tanks approximately coincide with one of the magnetic anomalies identified during the EM survey. Two suspected tanks were also identified at Building 135 - one approximately 1,000-gallon tank on the southern side of the building and one approximately 500-gallon tank on the eastern side of the building.

3.0 ANALYTICAL RESULTS

3.1 Field Results

Soil samples collected to investigate potential VOC contamination were field screened for organic vapors using the headspace screening method and a Rae Systems MiniRAE 2000 portable photoionization detector (PID). Each sample was placed into a labeled Ziploc™ bag, the bag was sealed and the soil sample was shaken. The MiniRAE probe was then placed into a small opening in the seal and the PID readings were recorded. PID readings are included in the sample description tables provided in Appendix A. Organic vapors were not detected above background levels in any of the soil samples analyzed using this method.

3.2 Laboratory Results

The following sections present results from laboratory analysis of soil samples collected at the site. Laboratory data reports are included in Appendix C and are summarized in tables provided at the end of this report. The data summary tables also list New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) from the Technical and Administrative Guidance Memorandum (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046). RSCOs are general guidance values created for NYSDEC investigators to determine clean-up levels for inactive hazardous waste sites. Davids Island site is not considered an inactive hazardous waste site, however, RSCOs are used as a basis for comparison.

3.2.1 Volatile Organic Compounds

The soil samples collected from areas around abandoned drums and former exhaust fume hoods were analyzed for the target compound list (TCL) of volatile organic compounds (VOCs). Those samples collected from around the aboveground storage tank and suspected underground storage tanks outside of Building 40 were analyzed for only those VOCs listed in NYSDEC Spill Technology and Remediation Series (STARS) Memo #1, which is a shorter list of compounds associated with petroleum fuels. Table 2 summarizes analytical results for VOCs in the soil samples. Complete laboratory reports are included in Appendix C. VOCs were not detected at concentrations exceeding NYSDEC RSCOs in any of the soil samples tested.

3.2.2 Semivolatile Organic Compounds

Soil samples collected from areas around abandoned drums and in the vicinity of the former incinerator were analyzed for the entire target compound list (TCL) of acid- and base/neutral-extractable semivolatile organic compounds (SVOCs). Soil samples collected from around the aboveground storage tank and suspected underground tanks outside of Building 40 were analyzed for only those SVOCs listed in STARS Memo #1. Site-specific background samples collected at random locations throughout the island were analyzed for polycyclic aromatic hydrocarbons (PAHs), a specific class of SVOCs which are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, and are also found in petroleum products. Table 3 summarizes analytical results for SVOCs and PAHs detected in the soil samples. Complete laboratory reports are included in Appendix C.

Semivolatile organic compound (SVOCs) were detected at concentrations exceeding TAGM soil clean-up objectives in the following areas:

- Three surface samples collected by abandoned drums north of Building 37 (DI-37D-B2, B3 and B4);
- One surface sample collected on the eastern side of Building 16, where an abandoned drum was observed during the 1996 Phase I (DI-16D-B2);
- Three surface samples collected on the western and southern side of incinerator building (DI-INC-B6, B10 and B14);
- Three subsurface samples collected around the underground storage tanks outside Building 40 (DI-40U-B5, B7 and B8); and
- One subsurface sample collected on the northern side of Building 56, near where several discarded one-gallon containers were observed (DI-56D-B2).

SVOCs that exceeded the clean-up objectives included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h) anthracene, chrysene, and indeno(1,2,3-cd)pyrene are all considered PAHs. PAHs were also detected in all of the site-specific background soil samples (DI-BGD-B1 through DI-BGD-B6) at concentrations consistent with those detected in areas of suspected waste/chemical handling. Based on these results, it is likely that the elevated PAH levels in surface soil throughout the island are a result of emissions from the coal-fired boilers and/or various fires that have occurred during and after operation of the army base, rather than leaks or releases of petroleum-products. The elevated PAH concentrations in surface soil could also be a result of deposition of incinerator ash throughout the island. The elevated PAH concentrations in subsurface soil samples collected in the vicinity of underground storage tanks near Building 40 may be a result of past releases from the tanks.

3.2.3 PCBs

PCBs are chlorinated compounds, which were widely used for their cooling properties in electrical equipment such as transformers, capacitors, switches, and voltage regulators prior to 1979. Soil samples collected in the vicinity of abandoned drums, transformers, and transformer casings observed on the island during the AKRF's 1996 and/or 2002 Phase I investigations were analyzed for PCBs. Table 4 summarizes analytical results for PCBs in the soil samples. Complete laboratory reports are included in Appendix C.

The TAGM RSCO is 1,000 microgram per kilogram (μg/kg) for PCBs in surface soils (i.e., soil two feet deep or shallower) and 10,000 μg/kg for PCBs in subsurface soils. In general, surface soil samples were collected at locations adjacent to transformers and transformer casings. Subsurface soil samples were collected at Buildings 16, 78 and 56 because the suspected sources of contamination at these locations (drums and/or former building operations) were located in the building basements. During the initial soil sampling survey (conducted from May 22 to June 6, 2002), total PCB concentrations greater than the surface soil clean-up objective were detected in soil samples at the following locations:

- One sample collected next to transformers north of Building 32 (DI-32-B1);
- Two samples collected next to discarded transformer casings west of Building 20 (DI-22T-B1 and DI-22T-B2); and
- One sample collected by abandoned drums in western part of Building 32 (DI-32D-B1).

During the second round of soil sampling conducted on July 24 and 25, 2002, additional soil samples were collected at each of these locations in an attempt to delineate the volume of soil containing PCBs at concentrations greater than the applicable RSCO. Samples were collected according to an evenly spaced sampling grid centered on the source of contamination (i.e., transformer casing) and/or the original soil sampling location, however, several of the delineation borings had to be relocated due to refusal on concrete or tree roots, resulting in somewhat irregularly spaced sample points. Figures 4, 5, and 6 depict the locations of delineation soil samples collected on the western side of Building 20, on the western side of Building 32, and near the transformer pad northeast of Building 32, respectively. These figures also summarize the depth and detected PCB concentrations of the soil samples. Analytical results are summarized in Table 5. Complete laboratory reports are included in Appendix C.

As depicted in Figure 4, PCB concentrations exceeded the 1,000 μg/kg RSCO for surface soil in 12 of the 16 samples collected at Building 20, including samples collected from the northern, western and southern edge of the sampling grid. In general, concentrations decreased with distance from the discarded transformer casings, however, a relatively high concentration (14,900 μg/kg) was detected in sample DI-20T-17, located on the western edge of the sampling grid and greater than five feet from the nearest discarded transformer. PCBs were not detected in samples DI-20T-16 or DI-20T-19, therefore, these sample locations may indicate the northeastern and southwestern limits of the contamination. The estimated extent of PCB-contaminated soil near Building 20 encompasses an area of at least 230 square feet, as depicted in Figure 4. Soil sample DI-20T-7, collected from 2 to 2.5 feet below grade, exhibited a concentration of 336,000 μg/kg, which exceeds the RSCO for subsurface soil of 10,000 μg/kg, indicating that PCB-contaminated soil extends below two feet deep.

As indicated in Figure 5, PCBs were detected in soil samples both north and south of the initial Building 32 sample location at concentrations ranging from 689 to 1,960 mg/kg. Only one of the delineation soil samples, collected from six inches below grade at DI-32D-4, exceeded 1,000 mg/kg. The estimated extent of PCB-contaminated soil near Building 32 encompasses in area of at least 250 square feet, as indicated in Figure 5. Concentrations were less than 1,000 mg/kg in the two samples collected from two feet or deeper (DI-32D-5 and DI-32D-8), indicating that contamination does not likely extend significantly deeper than two feet below grade.

PCBs were not detected in any of the delineation samples collected in the vicinity of the transformer pad located northeast of Building 32. Based on these results, PCB contamination in this area appears to be limited to the immediate vicinity of the discarded transformer casings and original sampling location, as depicted in Figure 6.

During the second soil sampling survey, samples were also collected to investigate potential PCB contamination from discarded transformers on the southern side of Building 11, from a room labeled "transformer room" on the southeastern corner of Building 17, and from drum storage in Buildings 113 and 119. Analytical results from these soil samples are included in Table 4. A total PCB concentration of 1,210 µg/kg, greater than the 1,000 µg/kg surface soil RSCO was detected in sample DI-17T-2 collected six inches below grade on the southern side of Building 11. PCBs were below the 1,000 µg/kg RSCO and/or not detected in all other soil samples collected at these locations.

The following table summarizes the locations containing PCB-contaminated soil and the estimated quantities of soil exceeding applicable RSCOs:

Estimated Quantities of PCB-Contaminated Soil
Davids Island, New Rochelle, New York

Location	Estimated Aerial Extent of PCB-Contaminated Soil	Estimated Depth of PCB-Contaminated Soil
Western side of Building 20	230 square feet	Greater than two feet
Western side of Building 32	250 square feet	Approximately two feet (conditions below concrete unknown)
Southern side of Building 11	100 square feet	Unknown
Near transformer pad northeast of Building 32	100 square feet	Approximately two feet (conditions below concrete unknown)

3.2.4 Metals

Soil samples collected in areas of suspected hazardous materials handling and in the vicinity of the former incinerator were analyzed for TAL metals or RCRA metals. Soil samples collected at random locations throughout the island were also analyzed for RCRA metals to determine site-specific background metal concentrations. Table 6 summarizes analytical results for metals. Complete laboratory reports are included in Appendix C. TAGM HWR-94-4046 indicates that site background levels for metals can be used as clean-up objectives in lieu of the listed RSCOs. Therefore, the metals concentrations detected in the Davids Island soil samples were compared with Eastern US Background levels for metals and to concentrations detected in site-specific background samples.

TAGM HWR-94-4046 does not list an Eastern US background level for lead in soil, instead, average levels are listed for rural and suburban areas. Average lead levels in undeveloped, rural areas may range from 4 to 61 mg/kg, whereas average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 mg/kg. Since Davids Island was developed, detected lead levels were compared to the 500 mg/kg level. Federal regulations addressing dangerous levels of lead (40 CFR Part 745) define a soil-lead hazard as "bare soil on residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 400 parts per million (mg/kg) in a play area or average of 1,200 parts per million of bare soil in the rest of the yard based on soil samples." Detected lead levels were also compared to these US EPA standards.

3.2.4.1 Areas of Suspected Hazardous Materials Handling

Analytical results indicated that nickel and zinc were detected at concentrations greater than Eastern US background levels in all areas that were sampled. The nickel concentrations, ranging from 36 to 130 milligrams per kilogram (mg/kg), only slightly exceeded the background level of 25 mg/kg. The zinc concentrations (52 to 420 mg/kg) were also not, in general, significantly higher than the Eastern US background level of 50 mg/kg. Mercury was detected at concentrations exceeding Eastern US background levels in all areas except one, at concentrations ranging from 0.22 to 1.2 mg/kg. The detected concentrations were not significantly higher than the Eastern US background level of 0.2 mg/kg or the site-specific background levels of 0.20 to 0.88 mg/kg.

Elevated chromium (5,200 mg/kg) and lead (620 and 980 mg/kg) levels each exceeding their respective Eastern US background level of 40 and 500 mg/kg were detected in samples collected in the vicinity of 55-gallon drums and one-gallon containers in Building 113 (DI-113-B1 and Di-113-B2). These elevated levels can likely be attributed to the spilled yellow substance observed in the building, which is suspected to be dried paint containing lead chromate ($PbCrO_4$), also known as chrome yellow, historically used as a yellow pigment in paints.

Elevated arsenic (220 to 310 mg/kg), chromium (59 mg/kg) and lead (560 and 1,100 mg/kg) were detected at concentrations exceeding their respective Eastern US background levels of 12, 40 and 500 mg/kg in soil samples collected outside of Building 119 (DI-119-B2 and DI-119-Bl). These elevated metal concentrations may be attributed to spills from 55-gallon drums noted in Building 119 or incinerator ash (Building 119 is located immediately adjacent to the former incinerator building).

Copper was detected in DI-32-B1 collected near the abandoned drums in the western part of Building 32 (140 mg/kg), DI-16D-B2 collected on the eastern side of Building 16 (96 mg/kg), and DI-78U-B2 collected on the eastern side of Building 78 (81 mg/kg) at concentrations greater than the Eastern US background of 50 mg/kg. Chromium was detected at 45 mg/kg, slightly higher than the 40 mg/kg Eastern US background, in DI-37D-B1 sample collected near the abandoned drums north of Building 37. Lead was detected at one location near Building 16 (DI-16D-B2) at a concentration of 460 mg/kg, which slightly exceeds the US EPA standard for lead soil in play areas (400 mg/kg).

3.2.4.2 Area of Former Incinerator

Locations of soil borings advanced in the vicinity of the former incinerator are illustrated in Figure 7. Of the twenty soil samples collected during the initial round of sampling, eight exhibited concentrations of arsenic, chromium, cadmium and/or copper exceeding their respective Eastern US background levels. Elevated chromium (50 to 79 mg/kg) concentrations only slightly exceeded the Eastern US background level of 40 mg/kg and the site-specific background levels of 16 to 32 mg/kg. Elevated cadmium concentrations (1.5 to 1.7 mg/kg) only slightly exceeded the Eastern US background level of 1 mg/kg and the site-specific background level of not detected to 0.77 mg/kg. Elevated arsenic levels ranged from 24 to 72 mg/kg, compared with the 12 mg/kg Eastern US background level. The elevated copper concentrations ranged from 91 to 3,900 mg/kg, compared with the 50 mg/kg Eastern US background level. Site-specific background soil samples were not analyzed for arsenic or copper.

During the initial round of sampling, samples from eight locations around the incinerator contained lead at concentrations ranging from 400 to 1,600 mg/kg, exceeding the US EPA standard of 400 mg/kg for bare soil in play areas and/or typical Eastern US background levels of 500 mg/kg. Lead concentrations in three of the samples exceed the US EPA standard of 1,200 mg/kg for bare soil in non-play areas of a yard.

During the second round of soil sampling, additional soil samples were collected in the vicinity of the incinerator to better delineate the extent of lead-contaminated soil. Delineation soil samples were collected around each initial soil boring that displayed a lead concentration of greater than 1,000 mg/kg. All delineation soil samples were analyzed for total lead. Analytical results are summarized in Table 7. Figure 7 depicts the locations of the initial and delineation soil samples at the incinerator and summarizes the sample depths and lead concentrations. The pattern of lead contamination in this figure does not indicate a single source area of disposed incinerator ash, but is consistent with incidental dispersal of ash throughout the area as a result of historic incinerator operations. The estimated extent of lead-contaminated soil requiring remediation encompasses a total area of at least 9,800 square feet, as depicted in Figure 7. As indicated on the figure, the initial soil borings exhibiting copper, cadmium, chromium, and arsenic concentrations exceeding Eastern US background levels are generally located within the areas of lead-contaminated soil.

3.2.4.3 Summary

Elevated levels of zinc, nickel and mercury were detected in soil samples collected throughout the island, however, the levels do not significantly exceed Eastern US background levels and/or concentrations detected in background samples and, therefore, may be a result of emissions from the historic use of coal-fired burners rather than suspected chemical/waste handling. Elevated copper, chromium and lead concentrations were detected at isolated areas where chemical/waste handling was suspected to have taken place (Buildings 32, 16 and 78). However, the detected concentrations do not significantly exceed the Easter US background levels and do not appear to represent gross contamination.

Elevated chromium and lead levels detected in the vicinity of 55-gallon drums and one-gallon containers in Building 113 may be attributed to dried paint observed in the building. Elevated arsenic, lead and chromium levels detected in the vicinity of 55-gallon containers located in Building 119 may be attributed to suspected waste/chemical in the building and/or dispersion of ash from the adjacent incinerator. Soil exhibiting lead, chromium, cadmium, arsenic and copper concentrations exceeding applicable background levels and/or standards was detected in the vicinity of the former incinerator for the island. The detected concentrations and pattern of contamination is consistent with incidental dispersal of ash throughout the area during historic incinerator operations.

3.2.5 Pesticides

Soil samples collected in the vicinity of the former hospital buildings (Buildings 46 and 50) and on the former "Parade Grounds", located in the central portion of the Island, were analyzed for pesticides. Table 8 summarizes analytical results for pesticides. Complete laboratory reports are included in Appendix C.

DDT and its derivatives were detected in several soil samples collected at the northern end of island, but not at concentrations exceeding soil clean-up objectives. One sample, collected east of Building 13 near the former parade grounds, contained heptachlor epoxide at a concentration of 33.4 micrograms per kilogram (µg/kg), which exceeds its soil clean-up objective of 20 µg/kg. No other pesticides were detected a levels exceeding their soil clean-up objectives. These results are consistent with findings from EEA's 1984 soil sampling investigation at the site (see Section 1.2.3), which also found low levels of pesticide contamination at concentrations below NYSDEC guidance values.

4.0 CONCLUSIONS AND RECCOMMENDATIONS

AKRF, Inc. has completed a limited Subsurface (Phase II) Investigation of Davids Island, located in New Rochelle, New York, in accordance with our contract dated April 26, 2002. Field activities performed by AKRF included: collecting soil samples in areas of suspected contamination throughout the island; laboratory analysis of the soil samples; and an electromagnetic (EM) survey and magnetometer survey to investigate potential underground storage tanks southwest of Building 40 and south of Building 135. Based on results of this study, AKRF has concluded the following:

- The following suspected buried tanks were identified by the EM survey and/or pipe locator survey: three to four 1,000-gallon tanks on the western side of Building 40, one 1,000-gallon tank on the southern side of Building 135 and one 500-gallon tank on the eastern side of Building 135.
- Polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations exceeding NYSDEC recommended soil clean-up objectives (RSCOs) both in areas of suspected chemical/waste handling (Building 37, Building 16, Building 56, the former incinerator, and near suspected underground storage tanks outside of Building 40) and in site-specific background samples. Based on these results, it appears that PAHs are present in surface soils throughout the island and are likely a result of emissions from the coal-fired boilers and/or various fires that have occurred during and after operation of the army base, rather than leaks or releases of petroleum-products. The elevated PAH concentrations in surface soils could also be a result of widespread dispersal of incinerator ash throughout the island. Based on laboratory results and observations during soil sampling, it does not appear that incinerator ash was disposed of at these locations, but rather was deposited over the years during incinerator operations. The elevated PAH concentrations in subsurface soil samples collected in the vicinity of underground storage tanks near Building 40 may be a result of past releases from the tanks. The soils in the vicinity of the suspected tanks would need to be remediated during tank closure.
- Improper dumping of electrical transformers appears to have resulted in PCB soil contamination that will require remediation at several locations on the island, including on the western side of Building 20, near a concrete transformer pad located northeast of Building 32, and on the southern side of Building 11. PCB-contaminated soil requiring remediation was also discovered on the western side of Building 32 and may be attributed to suspected chemical/waste handling in this building.
- Elevated nickel and zinc soil concentrations were detected in all areas of suspected

waste/chemical handling that were sampled. Elevated soil mercury concentrations were detected in all areas sampled except one. The elevated levels were not significantly higher than their respective US Eastern background levels and the detected mercury concentrations were consistent with concentrations exhibited by site-specific background soil samples. Based on their widespread presence throughout the island, it is suspected that these metals are a result of emissions from the historic use of coal-fired boilers rather than suspected waste/chemical handling and would not necessitate remediation.

- Elevated chromium (5,200 mg/kg) and lead (620 and 980 mg/kg) levels each exceeding their respective Eastern US background levels of 40 and 500 mg/kg were detected in the vicinity of 55-gallon drums and one-gallon containers in Building 113. These elevated levels can likely be attributed to the spilled yellow substance observed in the building, which is suspected to be dried paint containing lead chromate ($PbCrO_4$), also known as chrome yellow, historically used as a yellow pigment in paints. The metal concentrations detected would necessitate remediation of soil in this area.

- Elevated arsenic (220 to 310 mg/kg), chromium (59 mg/kg) and lead (1,100 concentrations) were detected at concentrations exceeding their respective Eastern US background levels of 12, 40 and 500 mg/kg in soil samples collected outside of Building 119. These elevated metal concentrations, that could be a result of spills from 55-gallon drums noted in Building 119 or disposal of incinerator ash (Building 119 is located immediately adjacent to the former incinerator building), would necessitate remediation of soil in this area.

- Elevated soil copper concentrations were detected in one sample collected near the abandoned drums in the western part of Building 32 (140 mg/kg), one sample collected on the eastern side of Building 16 (96 mg/kg), and one sample collected on the eastern side of Building 78 (81 mg/kg). An elevated chromium concentration (45 mg/kg) was detected in one sample collected north of Building 37 and an elevated lead concentration was detected in one sample collected near Building 16 (460 mg/kg). The detected metal concentrations in soil at these buildings may be a result of suspected waste/chemical handling practices, however, the concentrations do not significantly exceed the Eastern US background levels and do not appear to represent gross contamination. Therefore, these concentrations would not necessitate soil remediation.

- Soil exhibiting lead concentrations exceeding the US EPA standard of 400 mg/kg for bare soil in play areas and/or typical Eastern US background levels of 500 mg/kg were detected throughout the area surrounding the former incinerator building indicating that incinerator ash was likely deposited of in this area. Elevated levels of chromium, cadmium, arsenic and copper exceeding their respective Eastern US background were also detected in the area around the former incinerator. These elevated metal concentrations can likely be attributed to dispersal of ash during historic incinerator operations and would necessitate soil remediation in the area.

- Significant volatile organic compound (VOC) and pesticide contamination do not appear to be present on the Island. VOCs were not detected at concentrations exceeding NYSDEC RSCOs in any of the soil samples tested. Of the 30 samples collected and analyzed for pesticides, only one (from east of Building 13) contained a pesticide compound (heptachlor epoxide) at a concentration exceeding its recommended soil clean-up objective. This isolated occurrence of pesticide contamination would not likely necessitate remediation.

Based on the future use of the island and conclusions made during the current site investigation, AKRF recommends the following:

- The areas of suspected underground storage tanks at Buildings 40 and 135 should be excavated. Any tanks, associated piping and contaminated soil that are present should be removed and disposed of according to applicable regulations. Following tank and soil removal, confirmation soil samples should be collected in accordance with NYSDEC protocol from the tank grave walls and bottoms to ensure that no tank-related contamination remains. Confirmation samples should be analyzed for VOCs and SVOCs listed in NYSDEC Spill Technology and Remediation Series (STARS) Memo #1.
- Surface soil exhibiting elevated levels of PCBs and metals should be removed from the island to prevent exposure to future park users. Prior to removing the soils, site-specific clean-up levels should be established in consultation with the NYS DEC. These levels should account for the contemplated use for each area of concern and background metals concentrations on the Island and in Westchester County. Based on the detected contaminant concentrations, it is expected that soil removal will be required in the following areas:
    - On the western side of Building 32, on the western side of Building 20, on the southern side of Building 11 and near the transformer pad northeast of Building 32 to remediate PCB-contaminated soil. The estimated total aerial extent of PCB-contaminated soil is 680 square feet, with an average depth of 2 to 3 feet. For cost estimating purposes, approximately 110 cubic yards of PCB-contaminated soil will need to be remediated.
    - In the areas of the former incinerator and Building 119 to remove lead-contaminated soil. Removal of soil in this area should also address elevated levels of chromium, cadmium, arsenic and/or copper. The total estimated aerial extent of contaminated soil in these areas is 10,500 square feet with estimated depths of 2 to 4 feet. For cost estimating purposes, approximately 1,030 cubic yards of metal-contaminated soil will need to be remediated.
    - Within Building 113 to remediate lead- and chromium- contaminated soil. The contaminated soil in this area appears to cover the entire floor of the building (approximately 150 square feet), with an estimated depth of four inches. For cost estimating purposes, approximately 2 cubic yards of soil in this area will need to be remediated.

Some of the contaminated soil volume estimates above include a factor of safety to account for limitations encountered during soil sample collection, e.g., the presence concrete slabs, where the depth of the contamination could not be delineated fully.

- All excavated soil should be stockpiled on and covered with plastic sheeting at the end of each workday. Following soil removal, confirmation soil samples should be collected from the sides and bottoms of each excavation and analyzed for the contaminant(s) of concern to ensure that soil clean-up objectives are met. Once soil removal is complete, samples should be collected from the stockpiled soils and analyzed for appropriate waste characterization parameters. The excavated soils should then be transported off the island and disposed of at an appropriate waste receiving facility according to all applicable regulations.
- A site-specific health and safety plan (HASP) should be developed and implemented for all remediation and excavation activities conducted on the island to prevent exposure to site workers. The HASP should include specify safe work practices, appropriate personal protective equipment (PPE), and procedures for air monitoring to prevent inhalation of contaminant vapors and/or contaminant-laden dust.

5.0 REFERENCES

1. U.S. Geological Survey; *Mount Vernon Quadrangle--New York*; 7.5-Minute Series (Topographic); Scale 1:24,000; 1995.
2. AKRF Inc.; *Davids Island, Phase I Environmental Site Assessment*; January 1996.
3. U.S. Army Corps of Engineers; *Defense Environmental Restoration Program for Formerly-Used Sites – Fort Slocum;* 1988.
4. US Coast Guard; *Final Environmental Impact 4(f) Statement, Davids Island Project, New Rochelle, New York*; December 1989.
5. AKRF Inc., *Davids Island, New Rochelle, New York, Phase I Environmental Site Assessment*, August 2002.

TABLE 1
SOIL SAMPLE LOCATIONS AND RATIONALE
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK

Building Number	Sample/Boring Number	Analyses	Sampling Rationale
32	DI-32D-B-1 DI-32D-B2 DI-32D-B3	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To investigate contamination from abandoned drums in western portion of Building 32 noted in 1996 and 2002 Phase I ESAs.
16	DI-16D-B1 DI-16D-B2 DI-16D-B3	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To invesigate contamination from drums in Building 16 noted in 1996 Phase II ESAs.
56	DI-56D-B1 DI-56D-B2	VOCs 8260, A/B/N SVOCs 8270, PCBs 8082, TAL metals	To investigate contamination from drums drums and chemical containers in building 56 basement noted in 1996 and 2002 Phase I ESAs.
T-11	DI-T11-B1 DI-T11-B2 DI-T11-B3	VOCs 8260, A/B/N SVOCs 8270, PCBs 8082, TAL metals	To invesigate contamination from drums outside of Building T-11 noted in 1996 and 2002 Phase I ESAs.
22	DI-22T-B1 DI-22T-B2	PCBs 8082	To investigate potential PCBs from empty transformer casings noted between buildings 22 and 20 in 1996 and 2002 Phase I ESAs.
121	DI-121-B1 DI-121-B2	PCBs 8082	To investigate potential PCBs from empty transformer casings noted west of building 121 in 1996 and 2002 Phase I ESAs.
Northeast of Building 32	DI-32-B1 DI-32-B2	PCBs 8082	To investigate potential PCBs from transformers noted between buildings 32 and 34 in 1996 and 2002 Phase I ESAs.
40	DI-40A-B1 DI-40A-B2	VOCs STARS 8021B, PAHs STARS 8270B	To investigate potential petroleum contamination from aboveground storage tank west of building 40 noted in 1996 and 2002 Phase I
	DI-40U1-B1 DI-40U1-B2 DI-40U1-B3 DI-40U1-B4 DI-40U1-B5 DI-40U1-B6 DI-40U1-B7 DI-40U1-B8	VOCs STARS 8021B, PAHs STARS 8270B	To investigate potential petroleum contamination from underground storage tanks near building 40. Suspected tanks in this area were noted during the 1996 and 2002 Phase I ESAs. The tanks were located during the EM survey conducted as a part of the current investigation.
78	DI-78U-B1 DI-78U-B2	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To investigate potential contamamination from a ceiling-mounted storage tank noted in the 2002 Phase I ESA and former building use as an armory. A suspect UST was noted at this building in the 1996 Phase I ESA; however, no evidence of such a tank was observed during the current investigation.
124	DI-124E-B1 DI-124E-B2 DI-124E-B3	VOCs 8260, TAL metals	To investigate potential contamination from suspected use of chemical associated with fume ventilation hoods observed during the 1996 and 2002 Phase I investigations.
37	DI-37D-B1 DI-37D-B2 DI-37D-B3 DI-37D-B4	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To investigate potential contamination from abandoned drums noted north of building 37 during the 2002 Phase I ESA.
113	DI-113-B1 DI-113-B2 DI-113-B4	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To investigate potantial contamination from abandoned drums and spilled yellow substance observed in Building 113 during the 2002 Phase I ESA.
119	DI-119-B1 DI-119-B2	VOCs 8260, A/B/N SVOCs 8270,PCBs 8082, TAL metals	To investibate pontential contamination from abandoned drums observed in Building 119 during the 2002 Phase I ESA.
6	DI-6T-B1	PCBs 8082	To investigate potential PCBs from empty transformer casing observed north of Building 6 during the 2002 Phase I ESA.
9	DI-9T-B1	PCBs 8082	To investigate potential PCBs from empty transformer casing observed in stairwell outside of Building 9 during 2002 Phase I ESA.
11	DI-11T-B1 DI-11T-B2	PCBs 8082	To investigate potential PCBs from empty transformer casings observed on south side of Building 11 during 2002 Phase I ESA.
17	DI-17T-1 DI17T-2	PCBs 8082	To investigate potential PCBs from "transformer room" in basement of Building 17 during the 2002 Phase I ESA.
Near Hospitals @ northern end of island and on former Parade Grounds	DI-HOSP-B-1 through DI-HOSP-B-30	Pesticides 8081	To investigate potential pesticide contamination in the vicinity of the former hospitals (buildings 46 and 50) and the former Parade Grounds.

TABLE 1
SOIL SAMPLE LOCATIONS AND RATIONALE
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK

Building Number	Sample/Boring Number	Analyses	Sampling Rationale
Near former incinerator (building 115)	DI-INC-B-1 through DI-INC-B-20	A/B/N SVOCs 8270, TAL metals	To investigate potential contamination in the vicinity of the former incinerator from disposal of incinerator ash.
32	DI-32D-4 DI-32D-5 DI-32D-8 DI-32D-8 DI-32D-8 DI-32D-9 DI-32D-B10 DI-32D-11	PCBs 8082	To better characterize PCB contamination discovered on western side of Building 32.
Northeast of Building 32	DI-32T-5 DI-32T-7 DI-32T-8 DI-32T-9 DI-32T-9 DI-32T-10 DI-32T-11	PCBs 8082	To better characterize PCB contamination discovered near the tranformer pad northeast of Building 32.
20	DI-20T-3 DI-20T-4 DI-20T-5 DI-20T-B6 DI-20T-B7 DI-20T-B8 DI-20T-B9 DI-20T-10 DI-20T-11 DI-20T-13 DI-20T-14 DI-20T-B15 DI-20T-B16 DI-20T-B17	PCBs 8082	To better characterize PCB contamination discovered near discarded transformer casings on western side of Building 20. The March 29, 2002 scope proposed collecting samples to investigate abandoned drums at this location, however, no drums were noted during the current investigation.
Near former incinerator (building 115)	DI-INC-B14 DI-INC-B14-1 DI-INC-B14-2 DI-INC-B14-3 DI-INC-B14-4 DI-INC-B13-4 DI-INC-B13 DI-INC-B13-1 DI-INC-B13-2 DI-INC-B13-3 DI-INC-B2-1 DI-INC-B2-2 DI-INC-B2-3 DI-INC-B2-3 DI-INC-B2-4 DI-INC-B2-4 DI-INC-B6-1 DI-INC-B6-2 DI-INC-B6-3 DI-INC-B6-4 DI-INC-B6-5 DI-INC-B6-6	Total Lead	To better characterize lead contamination discovered in vicinity of the former incinerator.
Various locations throughout island	DI-BGD-B1 through DI-BGD-B6	PAHs 8270, RCRA metals	To determine background concentrations of metals and polycyclic aromatic hydrocabons at locations not associated with chemical/waste storage.

TABLE 1
SOIL SAMPLE LOCATIONS AND RATIONALE
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK

Building Number	Sample/Boring Number	Analyses	Sampling Rationale
110	No Samples Collected	No Analyses	The March 29, 2002 scope proposed collecting samples at Building 110 to investigate potential contamination from an AST and the suspected use of chemicals associated with fume ventilation hoods in this building. Samples could not be collected due to the presence of a concrete slab near grade adjacent to the building.
135	No Samples Collected	No Analyses	The June 24, 2002 scope proposed collecting samples at Building 135 to investigate potential contamination from a suspected underground storage tank at this building. Samples could not be collected due to the presence of a concrete slab near grade adjacent to the building.

Notes:
VOC - volatile organic compounds
SVOCs - semivolatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
TAL metals - target analyte list metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Hi, K Se, Ag, Na, Tl, V, Zn)
RCRA metals - metals regulated under resource conservation and recovery act (As, Ba, Cd, Cr, Pb, Hg, Se, Ag)
PCBs - polychlorinated biphenyls

TABLE 2
SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS[1]
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK
(µg/kg)

Sample Location	Sample Depth	Date Sampled	Tetrachloroethene	Ethylbenzene	Naphthalene	Toluene	p/m-Xylene	o-Xylene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	n-Butylbenzene
DI-37D-B-1	0'-2'	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-37D-B-2	0'-2'	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-37D-B-4[3]	0'-2'	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-37D-B-3	0'-2'	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-T11-B-1	0'-2'	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-T11-B-2	0'-16"	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-T11-B-3	0'-15"	05/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-16D-B-1	0'-1'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-16D-B-2	0'-1'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-16D-B-3	3'-4'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-78U-B-1	3'-4'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-78U-B-2	2'-3'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-56D-B-1	4'-5'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-56D-B-2	4'-5'	05/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-32D-B1	0.5'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-32D-B2	1.5'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-32D-B3	1.0'	05/28/02	9.2	ND	ND	ND	35	11	ND	ND	ND
DI-124E-B1	1.5'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-124E-B4[4]	1.5'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-124E-B2	1-1.5'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-124E-B3	1.0'	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-40A-B1	1.5-2.0'	05/28/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI-40A-B2	1.5-2.0'	05/28/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI40U1/B-1	3'-5'	06/06/02	NA	ND	150	57	ND	97	ND	ND	ND
DI40U1/B-2	3'-5'	06/06/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI40U1/B-3	4'-6'	06/06/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI40U1/B-5[5]	3'-5'	06/06/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI40U1/B-4	4'-6'	06/06/02	NA	150	200	290	170	460	71	200	120
DI40U1/B-6	5'-7'	06/06/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
DI40U1/B-7	5'-7'	06/06/02	NA	ND	360	ND	ND	11	ND	8.9	ND
DI40U1/B-8	5'-7'	06/06/02	NA	ND	ND	6.1	ND	6.6	ND	ND	ND
DI-113-B4	0"-4"	07/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-113-B2	0'-2'	07/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-113-B1	0"-6"	07/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-119-B2	0'-0.5'	07/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-119D-B1	0'-1'	07/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRIP BLANK		05/09/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRIP BLANK		05/21/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRIP BLANK		06/06/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRIP BLANK		07/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		06/06/02	NA	ND	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		07/25/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAGM RSCO[2]			1,400	5,500	NS	1,500	1,200*		NS	NS	NS

Notes:

[1] - Samples collected by AKRF personnel and analyzed for VOCs at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).

[3] - DI-37D-B4 is a duplicate sample of DI-37D-B2

[4] - DI-124E-B4 is a duplicate sample of DI-124E-B1

[5] - DI-40U1-B5 is a duplicate sample of DI-40U1-B3

* - Cleanup level is for total xylenes.

µg/kg - microgram per kilogram

ND - not detected

NA - not analyzed

NS - no standard

SOIL ANALYTICAL RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) AND SEMI-VOLATILE ORGANIC COMPOUND (SVOCs)[1]
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK
µg/kg

Sample Number	Sample Depth	Date Sampled	Acenaphthene	Fluoranthene	Naphthalene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Acenaphthylene	Anthracene	Benzo(ghi)perylene	Fluorene	Phenanthrene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(e)pyrene	Perylene	Dibenzofuran
DI-37D-B-1	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-37D-B-2	0'-2'	5/23/02	ND	1,600	ND	760	630	ND	ND	780	ND	ND	ND	ND	1,800	ND	ND	1,500	ND	ND	ND	ND	ND
DI-37D-B-4[3]	0'-2'	5/23/02	ND	2,700	ND	1,200	1,000	800	930	1,300	ND	920	ND	ND	3,700	ND	ND	2,600	ND	ND	760	ND	ND
DI-37D-B-3	0'-2'	5/23/02	ND	1,300	ND	ND	ND	ND	ND	730	ND	ND	ND	ND	620	ND	ND	1,100	ND	ND	ND	ND	ND
DI-T11-B-1	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-T11-B-2	0-16"	5/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-T11-B-3	0-15"	5/23/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-16D-B-1	0'-1'	5/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-16D-B-2	0'-1'	5/22/02	ND	3,100	ND	1,800	1,600	1,500	1,700	2,000	ND	ND	1,300	ND	1,900	900	1,300	3,100	ND	ND	1,700	890	750
DI-16D-B-3	3'-4'	5/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-78U-B-1	3'-4'	5/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-78U-B-2	2'-3'	5/22/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-56D-B-1	4'-5'	5/22/02	ND	820	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-56D-B-2	4'-5'	5/22/02	ND	3,000	ND	1,500	1,300	1,100	1,100	1,600	ND	ND	ND	ND	2,800	ND	ND	2,700	ND	ND	ND	ND	ND
DI-INC-B1	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	610	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B1	1.5-2.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B2	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B3	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200	ND	ND	ND	ND	ND
DI-INC-B4	1-1.5	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B5	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B5	2.5-3.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B6	1-1.5'	05/28/02	ND	900	ND	550	ND	550	ND	680	ND	ND	ND	ND	ND	ND	ND	900	ND	ND	ND	ND	ND
DI-INC-B7	0.5-1.0	05/28/02	ND	710	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	660	ND	ND	ND	ND	ND
DI-INC-B8	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B9	1.5-2.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B9	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B10	1-1.5	05/28/02	ND	3,400	ND	1,900	1,800	1,600	1,600	2,000	ND	ND	1,100	ND	1,800	ND	1,000	3,200	ND	ND	1,200	ND	ND
DI-INC-B11	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B11	1.5-2.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B12	2.0'	05/28/02	ND	780	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	730	ND	ND	ND	ND	ND
DI-INC-B12	1.0'	05/28/02	ND	880	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	860	ND	ND	ND	ND	ND
DI-INC-B13	1.5-2.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B13	0.5-1.0	05/28/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-INC-B14	2.5'	05/28/02	ND	21,000	ND	ND	7,200	6,700	6,300	9,800	ND	4,400	4,000	ND	19,000	ND	5,000	16,000	ND	ND	4,700	ND	ND
DI-32D-B1	0.5'	05/28/02	ND	150	320	ND	ND	ND	ND	140	ND	ND	ND	ND	210	ND	ND	130	290	530	ND	ND	ND
DI-32D-B2	1.5'	05/28/02	ND	140	ND	88	29	56	85	100	ND	ND	94	ND	54	ND	74	140	ND	ND	69	ND	ND
DI-32D-B3	1.0'	05/28/02	190	7,100	330	4,200	3,200	3,000	3,000	4,000	170	920	2400	210	3,000	790	2,100	7,100	240	380	2,600	870	ND
DI-124E-B1	1.5'	05/28/02	ND	61	29	ND	ND	ND	ND	34	ND	29	ND	ND	78	ND	ND	52	29	68	27	ND	ND
DI-124E-B2	1-1.5'	05/28/02	ND	110	ND	47	ND	ND	ND	66	ND	ND	ND	ND	45	ND	ND	99	ND	ND	51	49	ND
DI-124E-B3	1.0'	05/28/02	ND	120	ND	59	59	87	74	82	ND	22	54	ND	62	ND	57	110	ND	ND	59	23	ND
DI-40A-B1	1.5-2.0'	05/28/02	ND	190	ND	66	61	89	73	94	NA	ND	47	ND	65	ND	52	150	NA	NA	NA	NA	NA
DI-40A-B2	1.5-2.0'	05/28/02	ND	92	ND	47	51	73	62	64	NA	ND	49	ND	23	ND	54	82	NA	NA	NA	NA	NA
DI40U1/B-1	3'-5'	6/6/2002	ND	180	ND	84	ND	30	54	75	NA	50	76	ND	140	ND	60	150	NA	NA	NA	NA	NA
DI40U1/B-2	3'-5'	6/6/2002	ND	360	ND	150	33	64	110	160	NA	56	130	ND	300	ND	100	310	NA	NA	NA	NA	NA
DI40U1/B-3	4'-6'	6/6/2002	ND	280	26	120	41	66	92	130	NA	43	110	ND	180	ND	84	260	NA	NA	NA	NA	NA

SOIL ANALYTICAL RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) AND SEMI-VOLATILE ORGANIC COMPOUND (SVOCs)[1]
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK
µg/kg

Sample Number	Sample Depth	Date Sampled	Acenaphthene	Fluoranthene	Naphthalene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Acenaphthylene	Anthracene	Benzo(ghi)perylene	Fluorene	Phenanthrene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(e)pyrene	Perylene	Dibenzofuran
DI40U1/B-5[4]	3'-5'	6/6/2002	340	3,800	220	1,600	1,100	990	920	1400	NA	1,200	710	350	3,400	240	680	3.200	NA	NA	NA	NA	NA
DI40U1/B-4	3'-5'	6/6/2002	ND	420	ND	200	82	79	120	180	NA	88	110	28	300	ND	88	390	NA	NA	NA	NA	NA
DI40U1/B-6	5'-7'	6/6/2002	ND	330	ND	170	97	98	130	150	NA	36	120	ND	97	ND	100	350	NA	NA	NA	NA	NA
DI40U1/B-7	5'-7'	6/6/2002	840	5,400	400	2,200	1,500	1,400	1,300	2,100	NA	1,700	910	820	6,100	300	910	4,600	NA	NA	NA	NA	NA
DI40U1/B-8	5'-7'	6/6/2002	25	1,900	340	1,600	1,300	1,500	1,300	1,800	NA	370	1,000	50	800	400	1,000	1,700	NA	NA	NA	NA	NA
DI-113-B4	0"-4"	7/24/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-113-B2	0'-2'	7/24/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-113-BI	0"-6"	7/24/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-119-B2	0'-0.5'	7/24/2002	ND	2,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,100	ND	ND	ND	ND	ND
DI-119D-B1	0'-1'	7/24/2002	ND	1,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,500	ND	ND	ND	ND	ND
DI-BGD-B1	0-0.5'	7/24/2002	100	1,900	55	1,000	870	860	680	1,100	200	360	580	120	1,500	220	620	750	NA	NA	NA	NA	NA
DI-BGD-B2	0-1'	7/25/2002	44	1,900	nd	1,000	860	890	780	1,000	88	230	570	41	850	200	680	1.700	NA	NA	NA	NA	NA
DI-BGD-B3	0-8"	7/25/2002	130	1,900	72	960	760	710	710	960	61	390	440	120	1,600	180	530	1.700	NA	NA	NA	NA	NA
DI-BGD-B4	0-8"	7/25/2002	100	4,200	81	2,500	2.300	2,500	2,200	2,600	420	480	1,600	85	1,800	620	2,000	3,800	NA	NA	NA	NA	NA
DI-BGD-B5	0-1'	7/25/2002	42	1,600	64	980	840	740	710	1.100	320	280	650	62	1.100	210	640	1.800	NA	NA	NA	NA	NA
DI-BGD-B6	0-1'	7/25/2002	200	4,900	130	2,600	2,400	2,700	2,100	2,900	430	680	1,700	200	2,700	510	2,000	4,500	NA	NA	NA	NA	NA
FIELD BLANK		5/30/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		6/6/2002	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
FIELD BLANK		7/25/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAGM RSCO			50,000	50000	13,000	224	61	1,100	1,100	400	41,000	50000	50,000	50,000	50.000	14	3,200	50.000	NS	NS	NS	NS	6,200

Notes:

[1] - Samples collected by AKRF personnel and analyzed for SVOCs at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).

[3] - DI-37D-B4 is a duplicate sample of DI-37D-B2

[4] - DI-40UI-B5 is a duplicate sample of DI-40UI-B3

µg/kg - microgram per kilogram

ND - not detected

NS - no standard

TABLE 4
SOIL ANALYTICAL RESULTS - POLYCHLORINATE BIPHENYLS (PCBs)[1]
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK
(mg/kg)

Sample Number	Sample Depth	Date Sampled	Aroclor 1221	Aroclor 1232	Aroclor 1242/1016	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
DI-32-B-1	0'-13"	5/23/02	ND	ND	ND	ND	ND	1,240	1,240
DI-32-B-2	0'-2'	5/23/02	ND	ND	ND	ND	ND	604	604
DI-121-B-1	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-121-B-2	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-22T-B-1	0-6"	5/22/02	ND	ND	ND	ND	ND	1,650	1,650
DI-22T-B-2	0-6"	5/22/02	ND	ND	ND	ND	ND	36,800,000	36,800,000
DI-37D-B-1	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-37D-B-2	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-37D-B-4[3]	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-37D-B-3	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-T11-B-1	0'-2'	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-T11-B-2	0-16"	5/23/02	ND	ND	ND	ND	ND	595	595
DI-T11-B-3	0-15"	5/23/02	ND	ND	ND	ND	ND	ND	0
DI-16D-B-1	0'-1'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-16D-B-2	0'-1'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-16D-B-3	3'-4'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-78U-B-1	3'-4'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-78U-B-2	2'-3'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-56D-B-1	4'-5'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-56D-B-2	4'-5'	5/22/02	ND	ND	ND	ND	ND	ND	0
DI-9T-B1	1.5'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-6T-B1	1.5'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-32D-B1	0.5'	5/28/02	ND	ND	ND	ND	1,010	427	1,437
DI-32D-B2	1.5'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-32D-B3	1.0'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-124E-B1	1.5'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-124E-B2	1-1.5'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-124E-B3	1.0'	5/28/02	ND	ND	ND	ND	ND	ND	0
DI-11T-B1	0"-6"	7/24/02	ND	ND	ND	ND	ND	ND	0
DI-11T-B2	0"-6"	7/24/02	ND	ND	ND	ND	1,210	ND	1,210
DI-17T-1	0'-1'	7/25/02	ND	ND	ND	ND	ND	ND	0
DI-17T-2	0"-6"	7/25/02	ND	ND	ND	ND	ND	ND	0
DI-113-B4	0"-4"	7/24/02	ND	ND	ND	ND	ND	ND	0
DI-113-B2	0'-2'	7/24/02	ND	ND	ND	ND	ND	ND	0
DI-113-B1	0"-6"	7/24/02	ND	ND	ND	ND	ND	478	478
DI-119-B2	0'-0.5'	7/24/02	ND	ND	ND	ND	ND	ND	0
DI-119D-B1	0'-1'	7/24/02	ND	ND	ND	ND	ND	ND	0
FIELD BLANK		5/30/02	ND	ND	ND	ND	ND	ND	0
FIELD BLANK		7/25/02	ND	ND	ND	ND	ND	ND	0
RSCO[2]	surface soil		NS	NS	NS	NS	NS	NS	1,000
	subsurface soil		NS	NS	NS	NS	NS	NS	10,000

Notes:

[1] - Samples collected by AKRF personnel and analyzed for PCBs at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).

[3] - DI-37D-B4 is a duplicate sample of DI-37D-B2

µg/kg - microgram per kilogram

ND - not detected

NS - no standard

Table 5
Soil Analytical Results - Polychlorinated Biphenyl (PCB) Delineation Samples[1]
Davids Island, New Rochelle, New York
(mg/kg)

Sample Location	Sample Depth	Date Sampled	Aroclor 1221	Aroclor 1232	Aroclor 1242/1016	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Western Side of Building 20									
DI-20T-3	(0-1')	07/24/02	ND	ND	ND	ND	ND	608	608
DI-20T-4	(0-1')	07/24/02	ND	ND	ND	ND	ND	169,000	169,000
DI-20T-5	(1'-2')	07/24/02	ND	ND	ND	ND	ND	97,400	97,400
DI-20T-B6	1-1.5'	07/24/02	ND	ND	ND	ND	ND	104,000	104,000
DI-20T-B7	2-2.5'	07/24/02	ND	ND	ND	ND	ND	336,000	336,000
DI-20T-B8	0-6"	07/24/02	ND	ND	ND	ND	ND	1,580	1,580
DI-20T-B9	0.5-1.0'	07/24/02	ND	ND	ND	ND	ND	ND	0
DI-20T-11	1-2'	07/24/02	ND	ND	ND	ND	ND	1,230	1,230
DI-20T-13	0-1'	07/24/02	ND	ND	ND	ND	ND	4,080	4,080
DI-20T-14	1-2'	07/24/02	ND	ND	ND	ND	ND	1,190	1,190
DI-20T-B15	0-0.5'	07/24/02	ND	ND	ND	ND	ND	1,330	1,330
DI-20T-B16	0-1'	07/24/02	ND	ND	ND	ND	ND	ND	0
DI-20T-B17	0-1'	07/24/02	ND	ND	ND	ND	ND	14,900	14,900
DI-20T-10	0-1'	07/24/02	ND	ND	ND	ND	ND	1,160	1,160
Western Side of Transformer Pad, Northeast of Building 32									
DI-32T-5	0-6"	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-7	0-5"	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-8	0-6"	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-9	1-1.5"	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-9	0-1'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-10	0-1'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32T-11	1-1.5'	07/25/02	ND	ND	ND	ND	ND	ND	0
Western Side of Building 32									
DI-32D-4	0-6"	07/25/02	ND	ND	ND	ND	1,960	ND	1,960
DI-32D-5	1.5-2'	07/25/02	ND	ND	ND	ND	764	ND	764
DI-32D-8	0-1'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32D-8	1-2'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32D-8	2-2.5'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32D-9	0-1'	07/25/02	ND	ND	ND	ND	ND	689	689
DI-32D-B10	0-1'	07/25/02	ND	ND	ND	ND	ND	921	921
DI-32D-11	0-6'	07/25/02	ND	ND	ND	ND	ND	ND	0
DI-32D-15[3]	1-2'	07/25/02	ND	ND	ND	ND	ND	ND	0
RSCO[2]	surface soil		NS	NS	NS	NS	NS	NS	1,000
	subsurface soil		NS	NS	NS	NS	NS	NS	10,000

Notes:

[1] - Samples collected by AKRF personnel and analyzed for PCBs at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).

[3] - DI-32D-15 is a duplicate of DI-32D-8 (1'-2').

µg/kg - microgram per kilogram

ND - not detected

NS - no standard

Soil Analytical Results - Metals[1]
Davids Island, New Rochelle, New York
(mg/kg)

Sample Location	Sample Depth	Date Sampled	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Sliver	Sodium	Vanadium	Zinc
DI-37D-B-1	0'-2'	5/23/02	8,800	ND	6.3	69	ND	ND	1,100	45	7.4	40	14,000	210	2,200	260	0.49	32	770	ND	ND	27	77
DI-37D-B-2	0'-2'	5/23/02	8,900	ND	6.1	40	ND	ND	660	30	6.4	19	13,000	74	2,200	200	0.56	24	730	ND	ND	27	60
DI-37D-B-4[3]	0'-2'	5/23/02	7,600	ND	6.3	41	ND	ND	640	20	6.1	20	11,000	80	2,000	190	0.54	18	660	ND	ND	24	58
DI-37D-B-3	0'-2'	5/23/02	11,000	ND	8.7	54	ND	ND	550	32	8.0	26	15,000	110	2,600	280	0.22	26	1,000	ND	ND	32	58
DI-T11-B-1	0'-2'	5/23/02	6,100	ND	2.1	130	ND	ND	910	19	8.2	32	12,000	50	2,400	250	0.20	20	1,500	ND	ND	20	78
DI-T11-B-2	0'-16"	5/23/02	4,700	ND	36	180	ND	ND	1,300	23	4.9	24	9,200	92	1,800	170	ND	18	950	ND	ND	17	77
DI-T11-B-3	0'-15"	5/23/02	6,700	ND	3.7	88	ND	0.49	1,100	20	7.4	34	14,000	130	2,400	300	0.13	22	1,200	ND	ND	25	160
DI-16DB-1	0'-1'	5/22/02	12,000	ND	6.0	53	0.25	ND	870	20	8.3	27	17,000	59	2,200	260	0.10	17	500	ND	ND	29	62
DI-16D-B-2	0'-1'	5/22/02	10,000	ND	7.4	83	ND	0.74	1,400	26	8.6	96	15,000	460	3,000	390	0.27	26	860	ND	ND	31	160
DI-16D-B-3	3'-4'	5/22/02	13,000	ND	4.4	62	ND	ND	900	25	10.0	14	18,000	14	3,300	300	ND	31	750	ND	ND	30	30
DI-78U-B-1	3'-4'	5/22/02	5,200	ND	2.0	36	ND	ND	590	14	5.9	16	10,000	13	1,800	220	ND	16	1,000	ND	ND	15	29
DI-78U-B-2	2'-3'	5/22/02	4600	ND	2.0	42	ND	ND	840	16	5.6	81	10,000	23	1,600	220	0.08	18	1,000	ND	ND	14	49
DI-56D-B-1	4'-5'	5/2 2/02	9500	ND	3.7	73	ND	ND	5,800	27	8.5	28	15,000	130	2,900	420	0.56	26	1,200	ND	ND	24	64
DI-56D-B-2	4'-5'	5/22/02	4,300	ND	11	51	0.47	ND	2,300	33	8.6	46	19,000	320	1,700	210	0.44	29	920	ND	ND	20	120
DI-INC-B1	0.5-1.0	05/28/02	3,700	ND	12	140	0.30	0.62	3,500	10	4.4	46	14,000	570	820	89	0.69	14	570	ND	110	16	250
DI-INC-B1	1.5-2.0	05/28/02	7,700	ND	6.2	83	0.28	ND	2,700	17	6.0	35	15,000	150	1,800	160	0.30	18	830	ND	99	23	170
DI-INC-B2	0.5-1.0	05/28/02	4,800	4.3	72	170	0.73	0.55	3,500	18	5.1	50	18,000	1,400	720	94	0.35	18	680	ND	120	22	210
DI-INC-B3	0.5-1.0	05/28/02	4,100	14	44	120	0.25	0.74	5,700	16	4.3	420	12,000	260	1,500	98	0.66	15	600	ND	170	21	200
DI-INC-B4	1-1.5	05/28/02	3,900	ND	19	150	0.32	0.77	9,400	18	5.3	63	11,000	360	820	94	1.10	17	520	ND	180	20	180
DI-INC-B5	0.5-1.0	05/28/02	5,300	ND	11	240	0.68	1.7	2,500	18	5.1	38	26,000	660	1,100	140	0.85	20	880	ND	170	20	510
DI-INC-B5	2.5-3.0	05/28/02	4,100	ND	11	720	0.50	1.5	3,000	12	4.8	28	15,000	170	690	120	1.30	16	650	ND	150	18	1,000
DI-INC-B6	1-1.5'	05/28/02	4,100	4.5	13	200	0.25	1.00	4,200	28	6.1	160	31,000	1,300	890	160	2.10	31	530	ND	180	17	630
DI-INC-B7	0.5-1.0	05/28/02	12,000	ND	3.2	100	ND	ND	2,000	57	11.0	21	20,000	290	3,000	360	0.18	75	1,400	ND	78	32	82
DI-INC-B8	0.5-1.0	05/28/02	9,800	ND	2.5	63	ND	ND	730	79	12.0	18	18,000	66	3,100	350	0.35	110	1,300	ND	64	28	72
DI-INC-B9	1.5-2.0	05/28/02	6,400	ND	8.3	130	0.46	ND	3,500	18	7.1	34	12,000	760	1,700	190	0.82	24	670	ND	170	21	170
DI-INC-B9	0.5-1.0	05/28/02	5,100	ND	18	130	0.72	ND	3,600	10	12.0	47	21,000	220	530	110	0.34	17	500	ND	180	17	81
DI-INC-B10	1-1.5	05/28/02	3,500	ND	7.7	160	0.32	0.61	1,200	14	3.7	47	9,200	400	660	86	0.11	12	440	ND	71	17	140
DI-INC-B11	0.5-1.0	05/28/02	2,200	ND	12	64	ND	ND	980	5	3.6	37	5,900	67	180	31	0.18	11	240	ND	ND	15	130
DI-INC-B11	1.5-2.0	05/28/02	6,100	ND	7.6	68	ND	ND	730	19	6.5	24	13,000	140	2,100	250	0.32	25	1,000	ND	ND	20	89
DI-INC-B12	2.0'	05/28/02	8,200	ND	2.8	61	ND	ND	580	50	13.0	20	18,000	33	2,800	380	ND	130	1,900	ND	ND	28	52
DI-INC-B12	1.0'	05/28/02	10000	ND	5.6	58	ND	ND	470	25	7.4	30	16,000	84	2,700	250	0.13	28	1,300	ND	ND	30	62
DI-INC-B13	1.5-2.0	05/28/02	4,200	6.7	14	310	ND	0.86	9,500	12	4.1	91	11,000	1,600	750	110	0.27	17	1,000	ND	760	13	790
DI-INC-B13	0.5-1.0	05/28/02	3,400	ND	11.0	200	ND	0.90	2,500	12	3.5	120	14,000	610	1,200	140	0.33	16	830	ND	140	13	350
DI-INC-B14	2.5'	05/28/02	6,300	8.4	24	270	0.41	0.72	72,000	26	6.6	3,900	22,000	1,100	1,600	170	0.32	40	1,700	2	2,300	14	1,100
DI-32D-B1	0.5'	05/28/02	3,100	ND	8.1	210	0.24	1.80	2,000	13	4.0	140	5,800	280	600	87	0.31	10	360	ND	77	18	200
DI-32D-B2	1.5'	05/28/02	7,700	ND	2.6	41	ND	ND	580	20	6.6	16	13,000	48	2,600	240	ND	26	1,000	ND	46	20	41
DI-32D-B3	1.0'	05/28/02	3,800	ND	45	120	ND	0.96	1,300	27	5.4	35	12,000	340	1,500	130	0.29	19	980	ND	92	17	270

Soil Analytical Results - Metals[1]
Davids Island, New Rochelle, New York
(mg/kg)

Sample Location	Sample Depth	Date Sampled	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Silver	Sodium	Vanadium	Zinc
DI-124E-B1	1.5'	05/28/02	5,800	ND	2.2	50	ND	ND	1,200	21	5.5	20	14,000	42	2,300	280	0.13	21	1,400	ND	66	21	73
DI-124E-B4[4]	1.5'	05/28/02	7,400	ND	2.4	79	ND	ND	7,200	22	5.3	21	16,000	55	4,000	530	0.11	20	1,600	ND	120	23	100
DI-124E-B2	1-1.5'	05/28/02	4,600	ND	2.2	27	ND	0.48	1,000	20	5.1	14	14,000	43	1,600	260	0.11	35	940	ND	ND	18	420
DI-124E-B3	1.0'	05/28/02	4,600	ND	2.4	40	ND	0.47	1,600	18	4.1	15	13,000	52	1,600	220	0.16	13	980	ND	49	18	250
DI-113-B4	0"-4"	07/24/02	NA	NA	11	230	NA	33	NA	5,200	NA	NA	NA	980	NA	NA	ND	NA	NA	ND	NA	NA	NA
DI-113-B2	0'-2'	07/24/02	NA	NA	3.4	42	NA	ND	NA	20	NA	NA	NA	31	NA	NA	0.09	NA	NA	ND	NA	NA	NA
DI-113-B1	0"-6"	07/24/02	NA	NA	9.8	130	NA	1.3	NA	30	NA	NA	NA	620	NA	NA	0.23	NA	NA	0.59	NA	NA	NA
DI-119-B2	0'-0.5'	07/24/02	NA	NA	220	150	NA	1.3	NA	35	NA	NA	NA	560	NA	NA	1.0	NA	NA	ND	NA	NA	NA
DI-119D-B1	0'-1'	07/24/02	NA	NA	310	170	NA	1.0	NA	59	NA	NA	NA	1,100	NA	NA	1.2	NA	NA	ND	NA	NA	NA
DI-BGD-B1	(0-0.5')	07/24/03	NA	NA	6.4	70	NA	ND	NA	24	NA	NA	NA	140	NA	NA	0.38	NA	NA	ND	NA	NA	NA
DI-BGD-B2	(0-1')	07/25/02	NA	NA	11	45	NA	ND	NA	21	NA	NA	NA	100	NA	NA	0.88	NA	NA	ND	NA	NA	NA
DI-BGD-B3	(0-8")	07/25/02	NA	NA	12	56	NA	ND	NA	32	NA	NA	NA	89	NA	NA	0.34	NA	NA	ND	NA	NA	NA
DI-BGD-B4	(0-8")	07/25/02	NA	NA	6.9	44	NA	ND	NA	25	NA	NA	NA	98	NA	NA	0.20	NA	NA	ND	NA	NA	NA
DI-BGD-B5	(0-1')	07/25/02	NA	NA	5	78	NA	0.77	NA	22	NA	NA	NA	340	NA	NA	0.24	NA	NA	ND	NA	NA	NA
DI-BGD-B6	(0-1')	07/25/02	NA	NA	10	50	NA	ND	NA	16	NA	NA	NA	84	NA	NA	0.25	NA	NA	ND	NA	NA	NA
FIELD BLANK		05/30/02	3.7	ND	ND	0.02	ND	ND	0.36	ND	ND	0.13	3.2	0.052	0.51	0.14	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		07/25/02	NA	NA	ND	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	ND	NA	NA	NA
TAGM RSCO[2]			SB	SB	7.5	300	0.16	1	SB	10	30	25	2000	SB	SB	SB	0.1	13	SB	SB	SB	150	20
Eastern US Background			33,000	N/A	3 - 12	15 - 600	0 - 1.75	0.1 - 1	130 - 35,000	1.5 - 40	2.5 - 60	1 - 50	2,000 - 550,000	***	100 - 5,000	50 - 5,000	0.001 - 0.2	0.5 - 25	8,500 - 43,000	N/A	6,000 - 8,000	1 - 300	9 - 50

Notes:

[1] - Samples collected by AKRF personnel and analyzed for TAL metals or RCRA metals at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).

[3] - DI-37D-B4 is a duplicate sample of DI-37D-B1

[4] - DI-124E-B4 is a duplicate sample of DI-124E-B1

*** Background levels vary widely. Average levels in undeveloped, rural areas may range from 4-61 mg/kg. Average background levels in metropolitan or suburban areas are much higher and typically range from 200-500 mg/kg.

mg/kg - milligrams per kilogram

ND - not detected

NS - no standard

NA - not analyzed

N/A - not available

Table 7
Soil Sample Analytical Results - Lead Delineation Samples
Davids Island, New Rochelle, New York
(mg/kg)

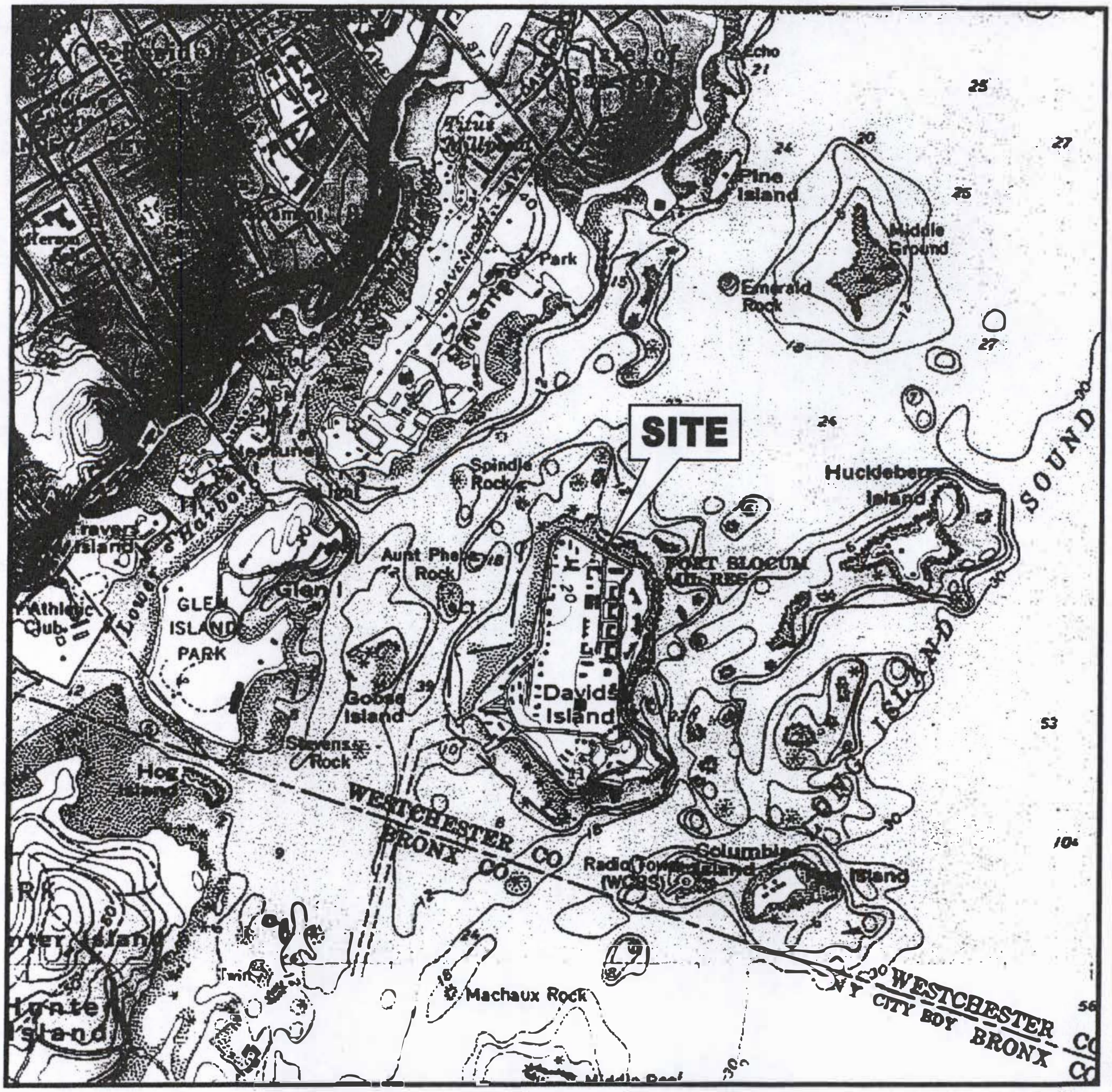
Sample Location	Sample Depth	Date Sampled	Total Lead
DI-INC-B14	2.5-3'	07/24/02	1,300
DI-INC-B14-1	0-1'	07/24/02	400
DI-INC-B14-2	0.5-1'	07/24/02	4,100
DI-INC-B14-3	0.5-1'	07/24/02	510
DI-INC-B14-4	0.5-1'	07/24/02	1,100
DI-INC-B13-4	0-6"	07/24/02	460
DI-INC-B13	2-2.5'	07/24/02	1,200
DI-INC-B13-1	1-1.5'	07/24/02	470
DI-INC-B13-2	0-6"	07/24/02	210
DI-INC-B13-3	0.5-1'	07/24/02	780
DI-INC-B2-1	0-3"	07/24/02	520
DI-INC-B2-2	0-3"	07/24/02	460
DI-INC-B2-3	0-8"	07/24/02	340
DI-INC-B2-3	1-1.5'	07/24/02	250
DI-INC-B2-4	0-6"	07/24/02	490
DI-INC-B2-4	0-1'	07/24/02	790
DI-INC-B6-1	0-1'	07/24/02	330
DI-INC-B6-2	0-6"	07/24/02	1,200
DI-INC-B6-3	0-6"	07/24/02	320
DI-INC-B6-4	0-6"	07/24/02	290
DI-INC-B6-5	0-6"	07/24/02	2,300
DI-INC-B6-6	0-1'	07/24/02	380
TAGM RSCO[2]			SB
Eastern US Background			***

Notes:

[1] - Samples collected by AKRF personnel and analyzed total lead at Alpha Analytical, a New York State certified laboratory.

[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).
mg/kg - milligram per kilogram
SB - site background

*** Background levels vary widely. Average levels in undeveloped, rural areas may range from 4-61 mg/kg. Average background levels in metropolitan or suburban areas are much higher and typically range from 200-500 mg/kg.



SCALE IN FEET

0' 1000' 2000' 4000'

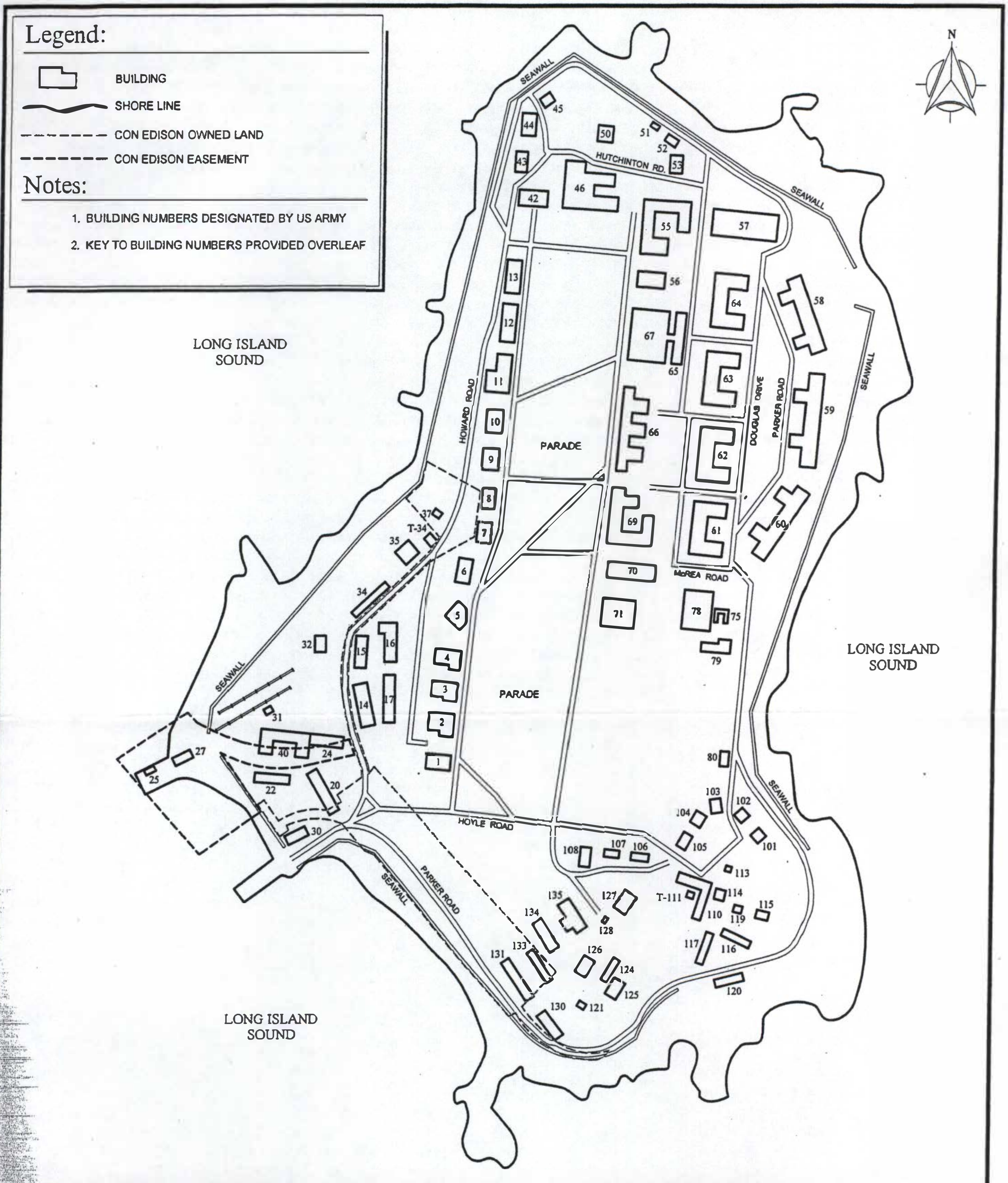
SCALE: 1"=2000'

QUADRANGLE

SOURCE:
USGS TOPOGRAPHIC MAP - MOUNT VERNON, N.Y.
QUADRANGLE - DATED 1995.

N

DAVID'S ISLAND New Rochelle, New York	**AKRF, Inc.**	DATE **06.05.02**
		PROJECT No. **70103**
PROJECT SITE LOCATION	**Environmental Consultants** 116 East 27th Street, New York, N.Y. 10016	FIGURE No. **1**



DAVIDS ISLAND
New Rochelle, New York

CONFIGURATION OF FORT SLOCUM, DAVIDS ISLAND

AKRF, Inc.

Environmental Consultants
34 South Broadway, White Plain, N.Y. 10601

DATE **06.05.02**
PROJECT No. **70103**
FIGURE No. **2**

2002 AKRF, Inc. Environmental Consultants C:\AKRF-DWG\70103-0001\F2 SITE PLAN

© 2002 AKRF, Inc. ...mental Consultants Q:\AKRF-Data\70103 divids island\8.15.02_F2_borings

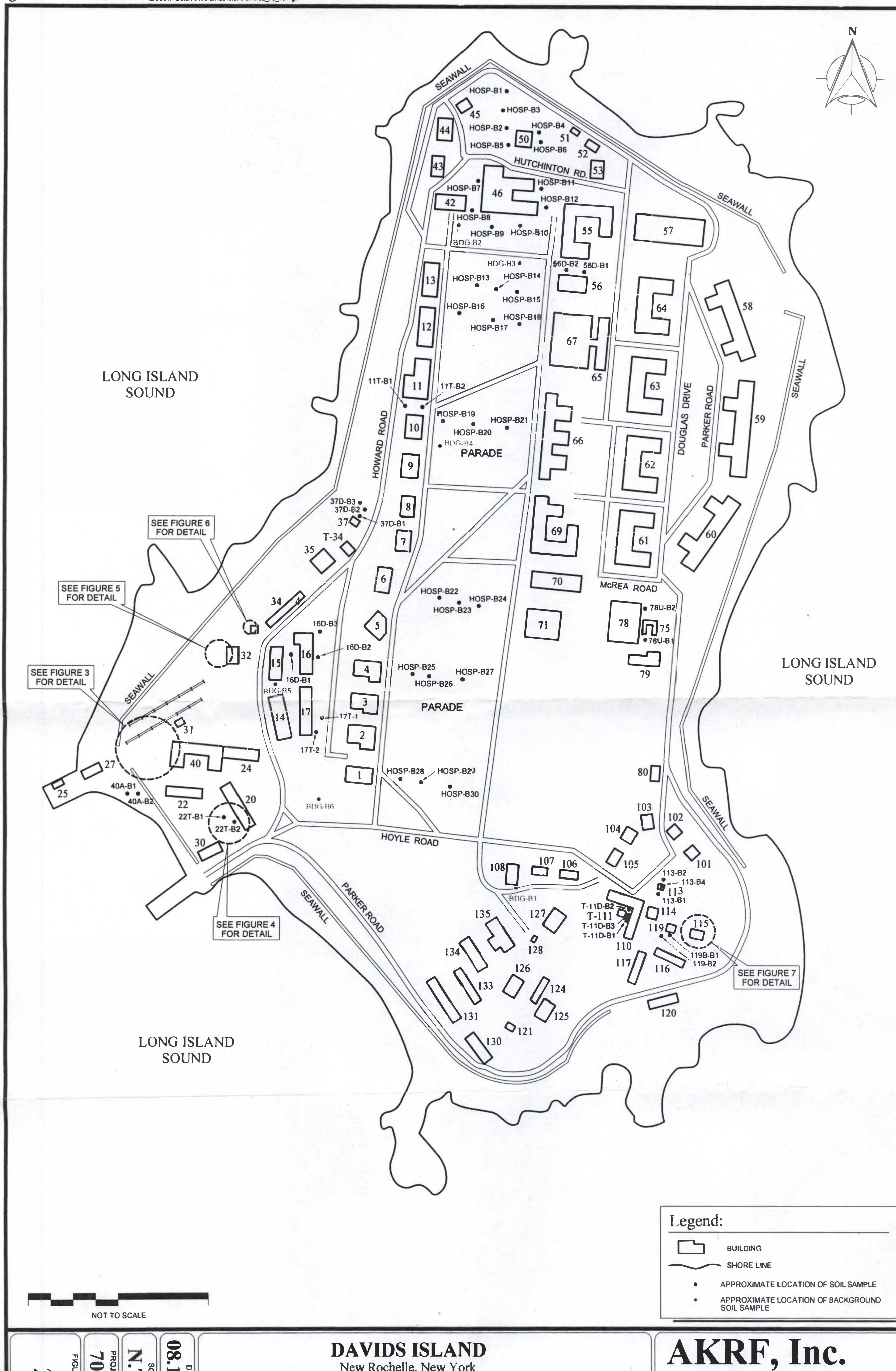
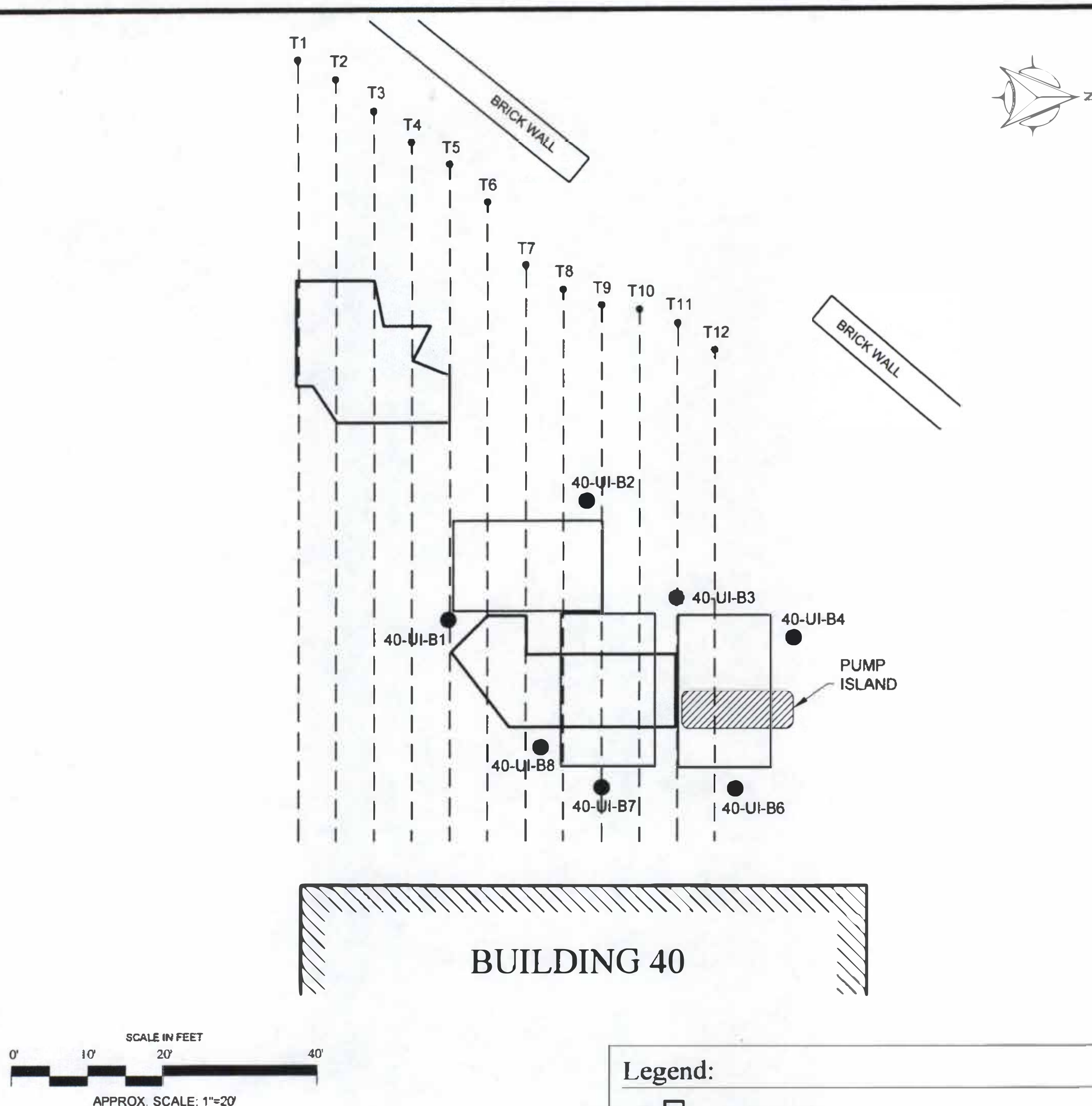


FIGURE No	PROJECT No	SCALE	DATE
2	70103	N.T.S.	08.15.02

DAVIDS ISLAND
New Rochelle, New York

LOCATIONS OF SOIL BORINGS FOR SOIL SAMPLING ACTIVITIES

AKRF, Inc.
Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601



Legend:

- BUILDING LINE
- EM SURVEY TRANSECT
- SUSPECTED UNDERGROUND STORAGE TANK (MAGNETIC ANOMALY TANK DETECTED DURING EM SURVEY)
- SUSPECTED UNDERGROUND STORAGE TANK (BURIED METAL DETECTED BY MAGNETOMETER)
- APPROXIMATE LOCATION OF SOIL SAMPLE

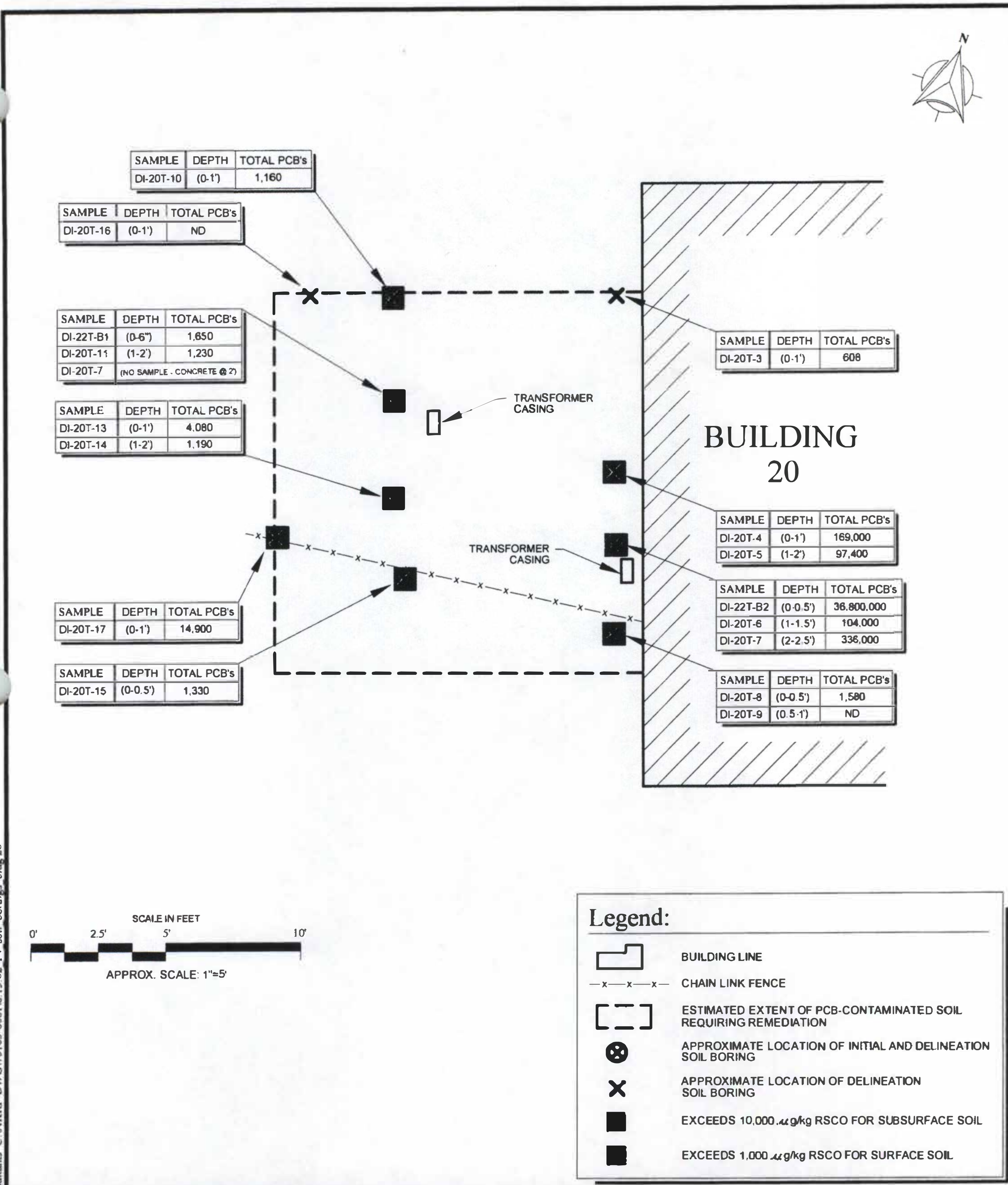
DAVIDS ISLAND
New Rochelle, New York

SUSPECTED UNDERGROUND STORAGE TANK AND SOIL SAMPLING LOCATIONS AT BUILDING 32

AKRF, Inc.

Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601

DATE **08.15.02**
PROJECT No **70103**
FIGURE No. **3**



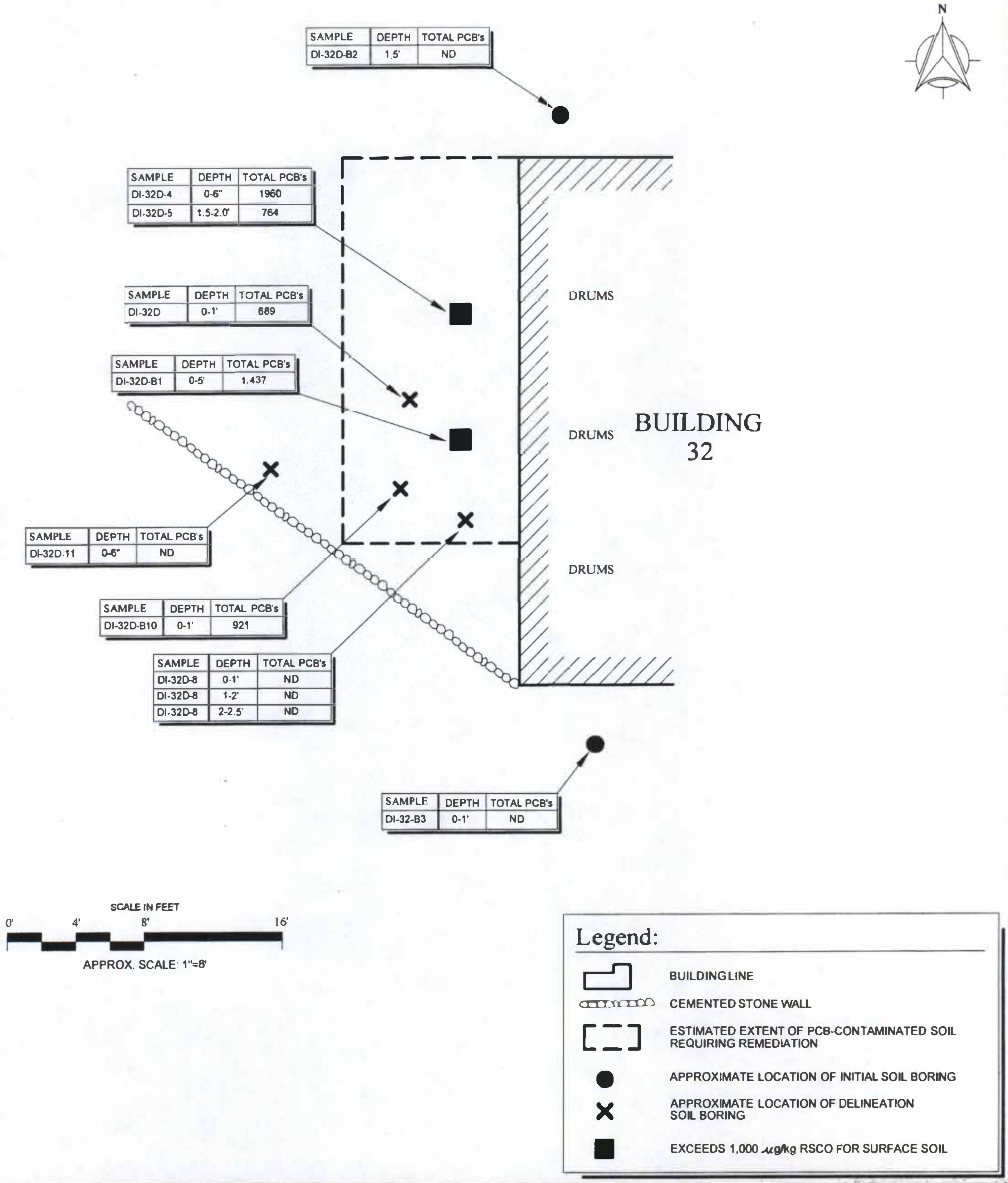
DAVIDS ISLAND
New Rochelle, New York

SOIL SAMPLING LOCATIONS AND PCB CONCENTRATIONS AT BUILDING 20

AKRF, Inc.
Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601

DATE **08.15.02**
PROJECT No. **70103**
FIGURE No. **4**

2002 AKRF, Inc ...ntal Consultants C:\AKRF-DWG\70103-00018.15.02 F4 soil borings bldg 20



DAVIDS ISLAND
New Rochelle, New York

SOIL SAMPLING LOCATIONS AND PCB CONCENTRATIONS AT BUILDING 32

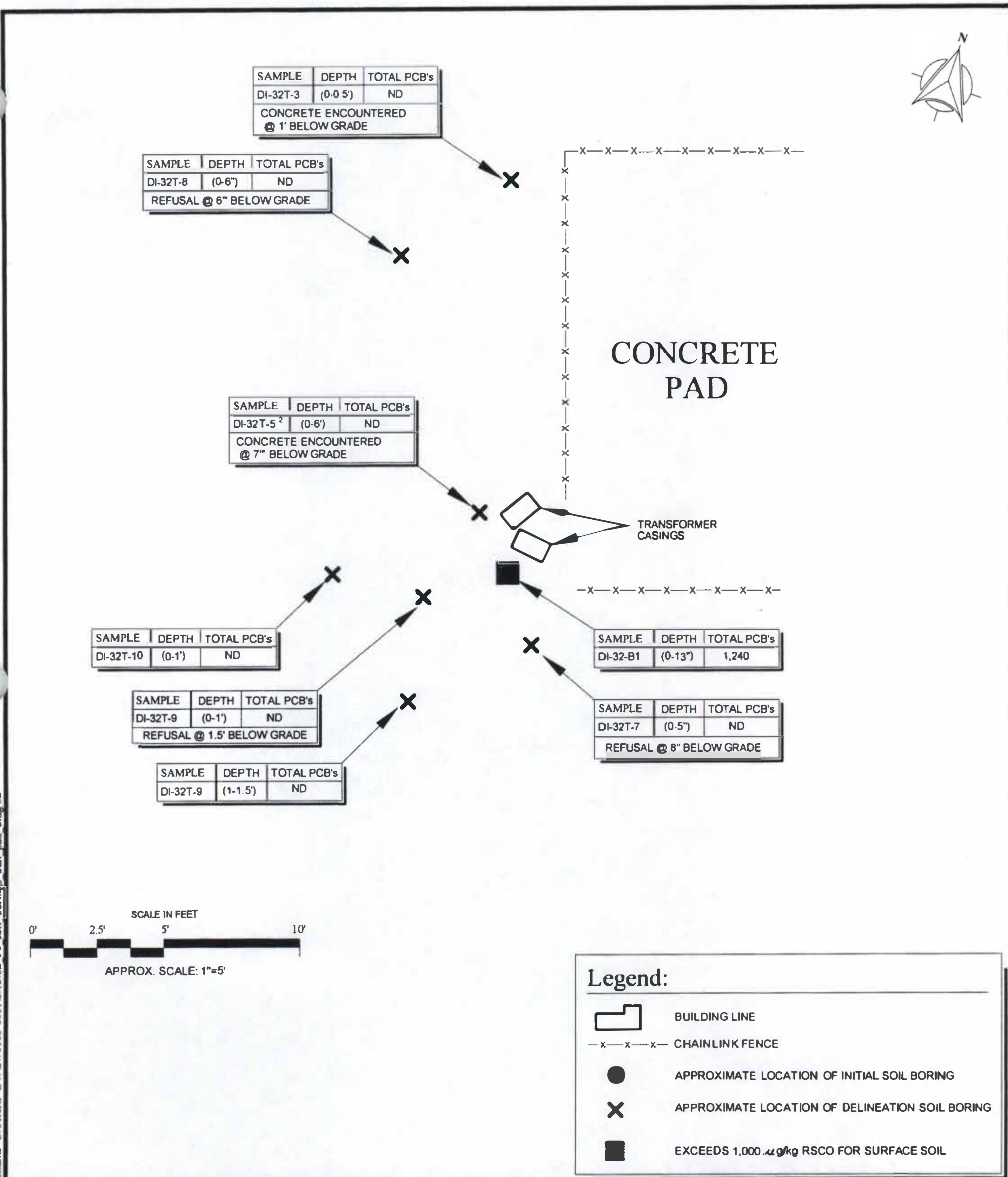
AKRF, Inc.

Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601

DATE **08.15.02**

PROJECT No. **70103**

FIGURE No. **5**



DAVIDS ISLAND
New Rochelle, New York

SOIL SAMPLING LOCATIONS AND PCB CONCENTRATIONS AROUND TRANSFORMER PAD NEAR BUILDING 32

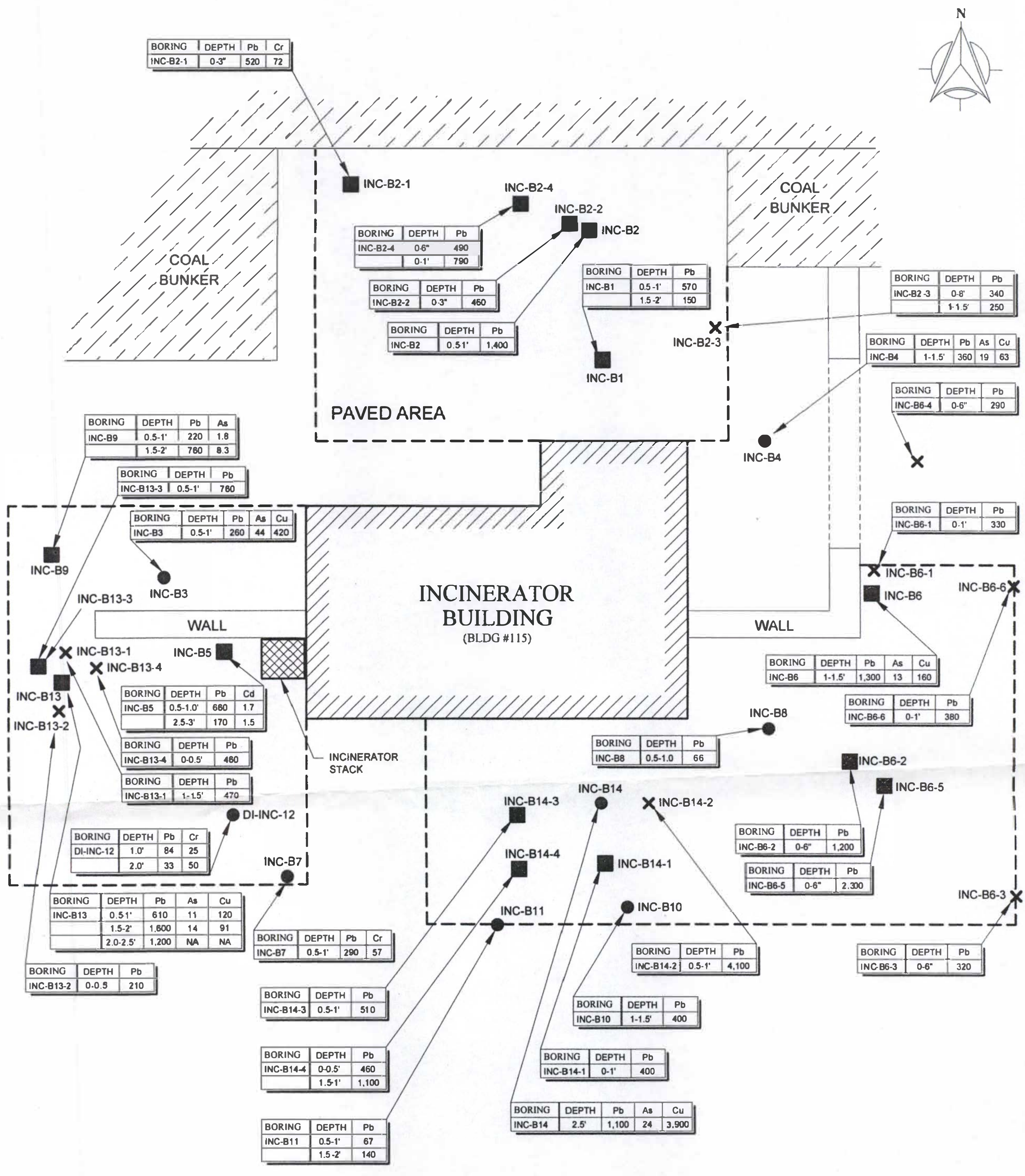
AKRF, Inc.

Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601

DATE **08.15.02**

PROJECT No. **70103**

FIGURE No. **6**



Notes:

1. CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM
2. ONLY As,Cr,Cu, & Cd CONCENTRATIONS EXCEEDING EASTERN US BACKGROUND ARE SHOWN.
   - Pb - LEAD
   - As - ARSENIC
   - Cr - CHROMIUM
   - Cu - COPPER
   - Cd - CADMIUM

Legend:

- BUILDING LINE
- ESTIMATED EXTENT OF LEAD-CONTAMINATED SOIL REQUIRING REMEDIATION
- ● APPROXIMATE LOCATION OF INITIAL SOIL BORING
- ✕ APPROXIMATE LOCATION OF DELINEATION SOIL BORING
- ■ EXCEEDS USEPA 1,200 mg/kg STANDARD FOR BARE SOIL
- ■ EXCEEDS USEPA 400 mg/kg STANDARD FOR BARE SOIL IN PLAY AREAS

FIGURE No. 7

PROJECT No. 70103

SCALE 1"=10'

DATE 08.15.02

DAVIDS ISLAND
New Rochelle, New York

LOCATIONS OF SOIL BORINGS AND METAL CONCENTRATIONS AROUND INCINERATOR (Building 115)

AKRF, Inc.
Environmental Consultants
34 South Broadway, White Plains, N.Y. 10601

Soil Boring Data: Building 6

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-6T-B1	1.5	Brown fine SAND, little Clay, trace med Gravel. Few roots and plant fragments. Moist.	SC	

Soil Boring Data: Building 9

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
9T-B1	1.5	Brown - orange brown fine SAND, little Clay, trace Gravel. Trace roots. Moist.	SC	

Soil Boring Data: Building 16

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-16D-B1	0-1	Red-brown clayey SILT, some dark gray med-coarse Sand. Root and plant fragments throughout.	OL	[redacted]	0.5
DI-16D-B2	0-1	Dark brown SILT, with wood fragments and roots.	OL	[redacted]	2.7
DI-16D-B3	0-4	Red-brown clayey SILT, some med-coarse Gravel. Roots and plant fragments throughout.	OL	[redacted]	1.8

Soil Boring Data: Building 20

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-22T-B1	0-0.5	Black SILT and orange-tan med SAND. Roots and plant fragments throughout.	SM	
DI-22T-B2	0-0.5	Black SILT with white med Cobbles up to ?1inch diameter. Roots and plant fragments throughout.	GM	
DI-20T-B3	0-1	Light brown med-fine SAND, trace Gravel, trace roots.	SW	
DI-20T-B4	0-1	Gray brown SAND and GRAVEL, little Silt, trace roots. Feels like cinders.	SW	
DI-20T-B5	1-2	Gray-brown fine SAND, little Gravel (rock clasts), trace Silt, trace roots. Feels like cinders.	SW	
DI-20T-B6	1-1.5	Brown very fine SAND, little Gravel, trace Clay.	SP	
DI-20T-B7	2-2.5	Brown fine-very fine SAND, little Clay, trace roots, low plasticity.	SP	
DI-20T-B8	0-0.5	Brown very fine SAND, trace Silt, trace Clay, trace roots.	SP	
DI-20T-B9	0.5-1	Orange-brown fine SAND, little clay, little silt, trace roots.	SM	
DI-20T-B10	0-1	Gray brown coarse-very fine SAND, trace Gravel (appears coal-like), trace Silt.	SW	
DI-20T-B11	1-2	Gray brown-fine SAND, some Gravel, trace roots.	SP	
DI-20T-B13	0-1	Brown SILT and SAND, little Clay, trace roots, trace Gravel, low plasticity.	SM	
DI-20T-B14	1-2	Brown fine SAND , little Silt, little Clay, trace roots.	SM	
DI-20T-B15	0-0.5	Brown fine-very fine SAND, trace Gravel, trace Clay, trace roots.	SP	
DI-20T-B16	0-1	Gray-brown med-fine SAND and GRAVEL, trace Silt. Feels like cinders.	SW	
DI-20T-B17	0-1	Brown fine SAND and SILT, some fine Gravel, trace roots and twigs.	SM	

Soil Boring Data: Building 32

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-32D-B1	0.5	Brown-dark brown gravelly med SAND, little Silt. Some roots and plant fragments. Moist.	GM		0.2
DI-32D-B2	1.5	Orange-brown fine SAND, little Gravel to 1cm diameter, little Silt, little Clay. Few roots. Moist.	SW		1.2
DI-32D-B3	1	Dark brown fine SAND, some silt, little Gravel (appears coal-like). Some roots. Dry.	SM		3.3
DI-32D-B4	0-0.5	Brown coarse-fine SAND, trace Silt, trace Gravel, trace roots.	SW		NA
DI-32D-B4	0.5-1	Gray-brown GRAVEL, some coarse-fine SAND, trace Silt, trace roots.	GW		NA
DI-32D-B5	1.5-2	Brown med-very fine SAND, little Gravel, trace Silt, trace roots.	SW		NA
DI-32D-B8	0-1	Gray brown coarse-very fine SAND, little Gravel, trace roots. Appears ash-like with much of gravel appearing coal-like.	SW		NA
DI-32D-B8	1-2	Gray-brown coarse-very fine SAND, some Gravel, trace Silt, trace roots. Appears ash-like.	SW		NA
DI-32D-B8	2-2.5	Gray, black and brown GRAVEL (appears burnt), little coarse-very fine Sand, trace roots. Appears ash-like. Refusal at 2.5' due to gravel.	GW		NA
DI-32D-B9	0-1	Brown coarse-very fine SAND, trace Gravel, trace Silt, trace roots.	SW		NA
DI-32D-B10	0-1	Gray brown coarse-very fine SAND, little Gravel, trace Silt, trace roots.	SW		NA
DI-32D-B11	0-0.5	Brown fine-very fine SAND, little Gravel (brick pieces), trace Silt, trace roots and wood. Refusal at 0.5'.	SW		NA

NA - Not Analyzed

Soil Boring Data: Building 32 Transformers

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-32T-B3	0-1	Brown fine-very fine SAND, little Silt, trace roots. Concrete at 1'.	SM	
DI-32T-B5	0-0.5	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-32T-B7	0-0.5	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-32T-B8	0-0.5	Brown fine-very fine SAND, little Silt, trace wood and roots. Refusal ta 0.5' due to tree roots.	SM	
DI-32T-B9	0-1	Brown med-very fine SAND, little Silt, trace Gravel, trace roots.	SM	
DI-32T-B9	1-1.5	Brown fine-very fine SAND, little Silt, trace roots and wood.	SM	
DI-32T-B10	0-1	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-32T-B11	0-1	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-32T-B11	1-1.5	Brown med-very fine SAND, little Silt, trace Gravel, trace roots. Refusal at 1.5' due to gravel.	SM	

Soil Boring Data: Building 40 UST

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-40U-B1	3-4	Scratched soil sampling tubes prevented soil classifications. Soils generally consisted of coarse sand and coal.			0.6
DI-40U-B1	4-5				1.2
DI-40U-B2	3-4				0.3
DI-40U-B2	4-5				0
DI-40U-B3	4-5				0
DI-40U-B3	5-6	Brown coarse SAND and COAL, wet at 6'	SP	[redacted]	0
DI-40U-B4	5-6	Scratched soil sampling tubes prevented soil classifications. Soils generally consisted of coarse sand and coal.			0
DI-40U-B4	5-6				0
DI-40U-B5	5-6	Light Brown coarse SAND (duplicate of B-2)	SP	[redacted]	0
DI-40U-B5	6-7	Light Brown coarse SAND, trace Coal, wet at 7' (duplicate of B-2)	SP	[redacted]	0
DI-40U-B6	5-6	Light Brown coarse SAND, trace Coal	SP	[redacted]	0
DI-40U-B6	6-7	Light Brown coarse SAND, trace Coal	SP	[redacted]	0
DI-40U-B7	5-6	Light Brown coarse SAND, trace Coal	SP	[redacted]	0.1
DI-40U-B7	6-7	Light Brown coarse SAND, trace Coal	SP	[redacted]	0
DI-40U-B8	5-6	Scratched soil sampling tubes prevented soil classifications. Soils generally consisted of coarse sand and coal.			0
DI-40U-B8	6-7				0

Soil Boring Data: Building 40 AST

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-40A-B1	1.5-2.0	Brown fine SAND, rounded, poorly graded, some Gravel, trace Silt. Some ?mica flakes. Few roots. Moist.	SP	[redacted]	ND
DI-40A-B2	1.5-2.0	Brown fine SAND, rounded, poorly graded, trace Gravel, trace Silt. Some ?mica flakes. Trace roots and wood fragments. Moist.	SP	[redacted]	0.3

Soil Boring Data: Building 78

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-78U-B1	3-4	Dark brown silty med-fine SAND, trace Gravel. Roots and plant fragemnts.	SM		11.8
DI-78U-B2	2-3	Brown silty med-fine SAND, trace Gravel. Roots and plant fragments throughout.	SM		7.9

Soil Boring Data: Building 113

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-113-B2	0-2	Orange brown very fine SAND, some Silt, trace Clay.	SM	
DI-113-B3	0-1	Brown very fine SAND, little Silt, trace Clay, trace Gravel, trace roots.	SM	
DI-113-B4	0-0.3	Black GRAVEL and med-fine SAND, trace roots and wood, trace yellow granules. Feels like cinders.	GW	

Soil Boring Data: Building 119

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-119D-B1	0-1	Brown med-fine SAND, little Gravel, trace Silt, trace roots.	SW	[redacted]
DI-119D-B2	0-0.5	Brown med-very fine SAND, little Gravel, trace Silt, trace roots.	SW	[redacted]

Soil Boring Data: Building 124

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type	PID Headspace (ppm)
DI-124E-B1	1.5	Dark brown - orange brown fine SAND, some Silt, trace coarse Gravel. Few roots. Dry.	SM		2.2
DI-124E-B2	1-1.5	Brown fine SAND, little Silt, trace med Gravel. Some roots and plant fragments. Moist.	SM		2.1
DI-124E-B3	1	Brown fine SAND, little Silt, trace med Gravel. Moist.	SM		0.8
DI-124E-B4		Duplicate of B1			-

Soil Boring Data: Hospital Area

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-HOSP-B1	0-2	Brown very fine SAND, little Silt, little Clay. Few roots and wood fragments. Moist.	SM	
DI-HOSP-B2	1-1.5	Dark brown-black c-f SAND, some coal fragments. Few roots. Dry.	SP	
DI-HOSP-B3	0.5-1	Brown med-fine SAND, little Silt, little Clay, trace med Gravel. Few roots. Moist.	SM	
DI-HOSP-B4	0-2	Dark brown-black fine-very fine SAND, some Silt, trace Clay, trace c Gravel. Few roots and plant fragments. Moist.	SM	
DI-HOSP-B5	1-1.5	Dark brown very fine SAND, some Clay, little Silt. Few roots. Moist.	SC	
DI-HOSP-B6	0-2	Dark brown-black SAND, little Silt. Some coal fragments. Few roots. Dry.	SM	
DI-HOSP-B7	0.5-1	Brown med-fine SAND, some Silt, some Clay, trace med Gravel. Moist.	SC	
DI-HOSP-B8	0.5-1	Dark brown very fine SAND, some Silt, little Clay, trace med Gravel. Dry.	SM	
DI-HOSP-B9	0.5-1.5	Brown very fine SAND, little Silt, little Clay, trace med Gravel. Few roots. Moist.	SM	
DI-HOSP-B10	0.5-1	Brown - orange brown med-very fine SAND, some Clay, little Silt, trace med Gravel. Moist.	SC	
DI-HOSP-B11	0-2	Dark brown med-fine SAND, little Silt, little Clay, trace med Gravel. Few roots and plant fragments. Moist.	SM	
DI-HOSP-B12	0-0.7	Brown - dark brown med-fine SAND, little Silt, little Clay, trace med Gravel. Few roots and wood fragments. Moist.	SM	
DI-HOSP-B13	0.5-1.5	Brown fine-very fine SAND, little Silt, little Clay, little med Gravel. Moist.	SM	
DI-HOSP-B14	0-2	Brown med-fine SAND, little Silt, little Clay. Few roots. Moist.	SM	
DI-HOSP-B15	1.0-1.5	Brown - orange brown fine-very fine SAND, some Clay, trace coarse Gravel. Few roots. Moist.	SC	
DI-HOSP-B16	0.5-1	Brown med-fine SAND, little Silt, trace Clay, trace med Gravel. Few roots. Moist.	SM	
DI-HOSP-B17	0-2	Brown very fine SAND, some Clay, little Silt. Few roots. Moist.	SC	
DI-HOSP-B18	0.5-1	Brown - orange brown very fine SAND, little Silt, little Clay. Few roots. Moist.	SM	

Soil Boring Data: Hospital Area (continued)

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-HOSP-B19	1.0-1.5	Brown - orange brown med-fine SAND, little Silt, little Clay. Trace roots. Moist.	SM	
DI-HOSP-B20	1-1.5	Brown med-fine SAND, some Silt, little Clay. Trace roots. Moist.	SM	
DI-HOSP-B21	0.5-1	Brown fine SAND, little Silt, trace Clay. Few roots. Moist.	SM	
DI-HOSP-B22	1-2	Brown very fine SAND, some Silt, some Clay. Trace roots. Moist.	SC	
DI-HOSP-B23	0-2	Brown very fine SAND, some Silt, little Clay. Few roots and plant fragments. Moist.	SM	
DI-HOSP-B24	1-1.5	Brown clayey SILT, little vf Sand. Trace roots. Moist.	ML	
DI-HOSP-B25	1.5-2	Orange brown clayey SILT, litle very fine Sand. Low plasticity, med stiffness. Trace roots. Moist.	OL	
DI-HOSP-B26	1-1.5	Brown - orange brown fine-very fine SAND, some Silt, some Clay, little med Gravel. Trace roots. Moist.	SC	
DI-HOSP-B27	0-2	Brown fine-very fine SAND, little Silt, little Clay. Moist.	SM	
DI-HOSP-B28	0-2	Orange brown clayey SILT, little very fine Sand. Low plasticity, soft. Trace roots. Moist.	OL	
DI-HOSP-B29	1-1.5	Brown clayey SILT, little very fine-med Sand poorly graded, little med Gravel. Trace roots.Moist.	ML	
DI-HOSP-B30	0.5-1	Brown clayey SILT, some very fine Sand. Few roots and plant fragments. Moist.	ML	

Soil Boring Data: Incinerator Area

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-INC-B1	0.5-1	Black med-fine SAND and SILT, trace Gravel, trace Roots.	SM	
DI-INC-B1	1.5-2	Dark brown and black SILT and med-fine SAND, some Gravel (appeared coal-like). Roots and plant fragments throughout.	SM	
DI-INC-B2	0.5-1	Black med-fine SAND and SILT, some Gravel. Roots and plant fragments throughout.	SM	
DI-INC-B3	0.5-1	Black SILT and fine SAND, some Gravel (rock fragments). Roots and plant fragments throughout.	SM	
DI-INC-B4	1	Black SILT and fine SAND, some Gravel. Roots throughout.	SM	
DI-INC-B5	0.5-1	Black SILT and brown med-fine SAND, some Gravel, some coal pieces. Roots and plant fragments throughout.	SM	
DI-INC-B5	1.5-2	Black SILT and SAND, some Gravel (rock fragements, maybe slag). Roots and plant fragments throughout.	SM	
DI-INC-B6	1-1.5	Dark brown SILT, SAND and GRAVEL. Roots and plant fragments throughout.	GM	
DI-INC-B7	0.5-1	Dark brown SILT and light brown med-fine SAND, trace Gravel. Roots and wood fragments throughout.	SM	
DI-INC-B8	0.5-1.0	Dark brown SILT and light brown SAND. Roots and plant fragments throughout. Concrete at 1 ft.	SM	
DI-INC-B10	1-1.5	Dark brown SILT and SAND, some Gravel. Roots and wood fragments throughout.	SM	
DI-INC-B11	1.5-2	Dark brown med-fine SAND, some Gravel.	SM	
DI-INC-B12	1	Brown fine SAND and SILT, some Gravel.	SM	
DI-INC-B12	2	Brown med-fine SAND and SILT, some Gravel.	SM	
DI-INC-B2-1	0-0.25	Black fine-very fine SAND, trace roots. Concrete at 0.25'.	SP	
DI-INC-B2-2	0-0.25	Brown fine-very fine SAND, trace Gravel, trace Silt, trace roots. Concrete at 0.25'.	SP	

Soil Boring Data: Incinerator Area (continued)

DI-INC-B2-3	0-0.6	Gray brown coarse-med SAND, trace Gravel, trace Silt, trace roots.	SW	
DI-INC-B2-3	1-1.5	Gray brown med-fine SAND, trace roots. Feels like cinders.	SW	
DI-INC-B2-4	0-1	Dark brown med-very fine SAND, little Gravel, trace Silt, trace roots. Concrete at 1'.	SW	
DI-INC-B6-1	0-1	Black med-very fine SAND, trace Gravel, trace Silt, trace roots. Feels like cinders.	SW	
DI-INC-B6-2	0-0.5	Brown fine SAND, little Silt, trace roots. Concrete at 0.5'.	SM	
DI-INC-B6-3	0-0.5	Dark brown-gray coarse-fine SAND and GRAVEL, trace Silt, trace roots. Feels like cinders	GW	
DI-INC-B6-4	0-0.5	Black med-fine SAND, little Gravel, trace roots. Feels like cinders.	SW	
DI-INC-B6-5	0-0.5	Dark brown coarse-med SAND, little Gravel, trace Silt, trace roots. Refusal at 0.5'.	SW	
DI-INC-B6-6	0-1	Black coarse-fine SAND, trace Gravel (black, coal-like), trace roots. Feels like cinders.	SW	
DI-INC-B13	2-2.5	Gray brown coarse-fine SAND, trace Gravel (black, coal-like), trace roots.	SW	
DI-INC-B13-1	0-0.5	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-INC-B13-2	0-0.5	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-INC-B13-3	0-0.5	Brown fine-very fine SAND, little Silt, trace roots.	SM	
DI-INC-B13-4	0.5-1	Gray black GRAVEL (black, coal-like) and SAND.	GW	
DI-INC-B13-4	0-0.5	Dark brown med-very fine SAND, trace Silt, trace roots.	SW	
DI-INC-B14	2.5-3	Black and gray coarse-fine SAND, trace roots. Feels like cinders.	SW	
DI-INC-B14-1	0-1	Gray brown med-very fine SAND, trace roots.	SW	
DI-INC-B14-2	0.5-1	Black coarse-fine SAND, little Gravel (black, coal-like), trace roots.	SW	
DI-INC-B14-3	0.5-1	Gray brown coarse-fine SAND, trace Gravel (black, coal-like), trace roots.	SW	
DI-INC-B14-4	0.5-1	Gray brown med-very fine SAND, little Gravel, trace roots. Feels like cinders.	SW	

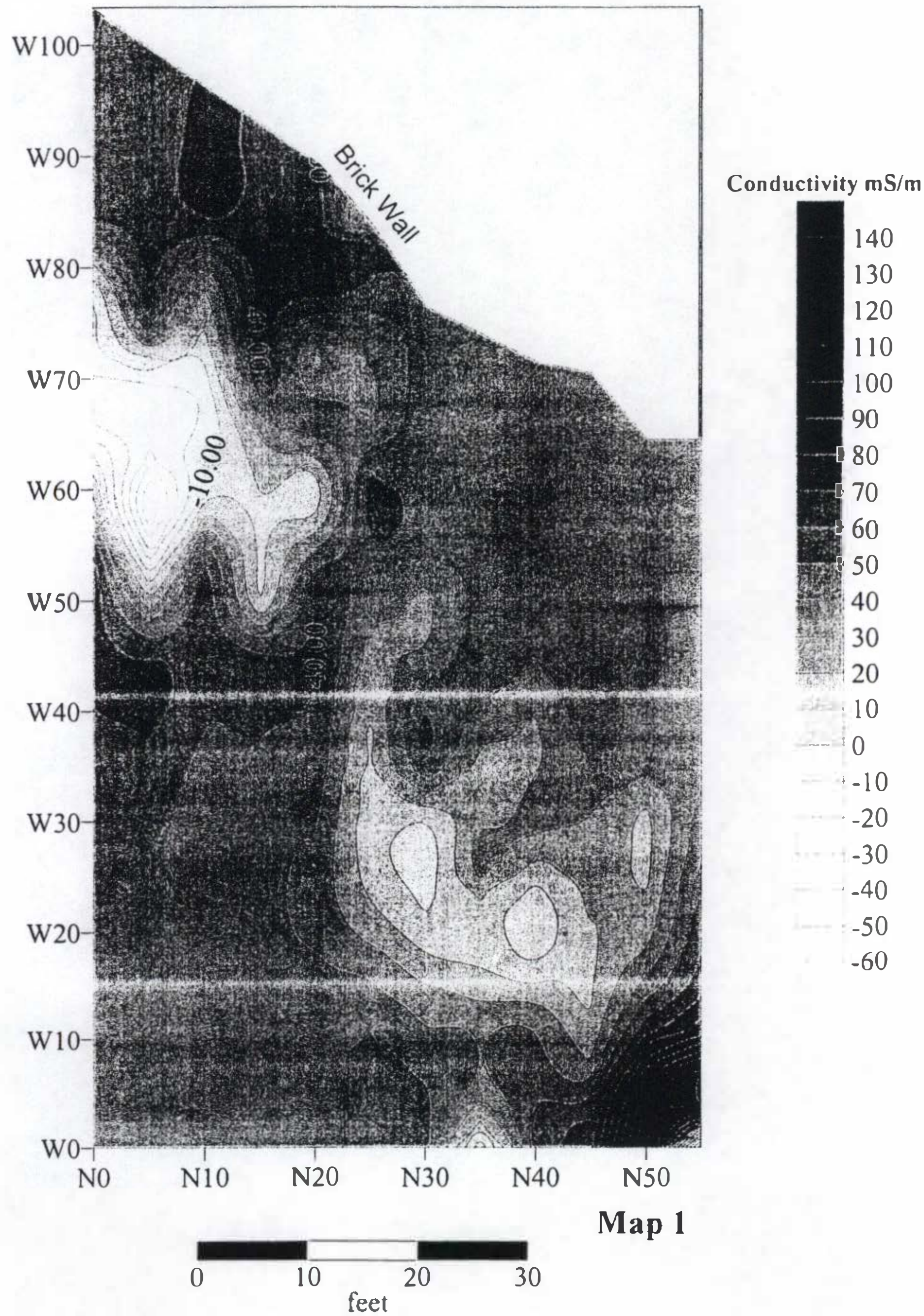
Soil Boring Data: Background Samples

Boring ID	Depth of sample (ft)	Soil description	USCS classification	Soil type
DI-BGD-B1	0-0.5	Brown very fine SAND, little Silt, trace roots.	SM	
DI-BGD-B2	0-1	Light brown med-very fine SAND, trace Silt, trace Gravel. Refusal at 1' due to concrete.	SW	
DI-BGD-B3	0-0.6	Light brown fine-very fine SAND, little Silt, trace roots. (Refusal at 0.6')	SM	
DI-BGD-B4	0-1	Brown med-very fine SAND, little Silt, trace roots.	SM	
DI-BGD-B5	0-1	Brown med-very fine SAND, trace Gravel, trace Silt, trace roots.	SW	
DI-BGD-B6	0-1	Brown fine-very fine SAND, little Silt, trace roots.	SM	

DAVID'S ISLAND SITE

ELECTROMAGNETIC SURVEY

Quadrature Phase Component

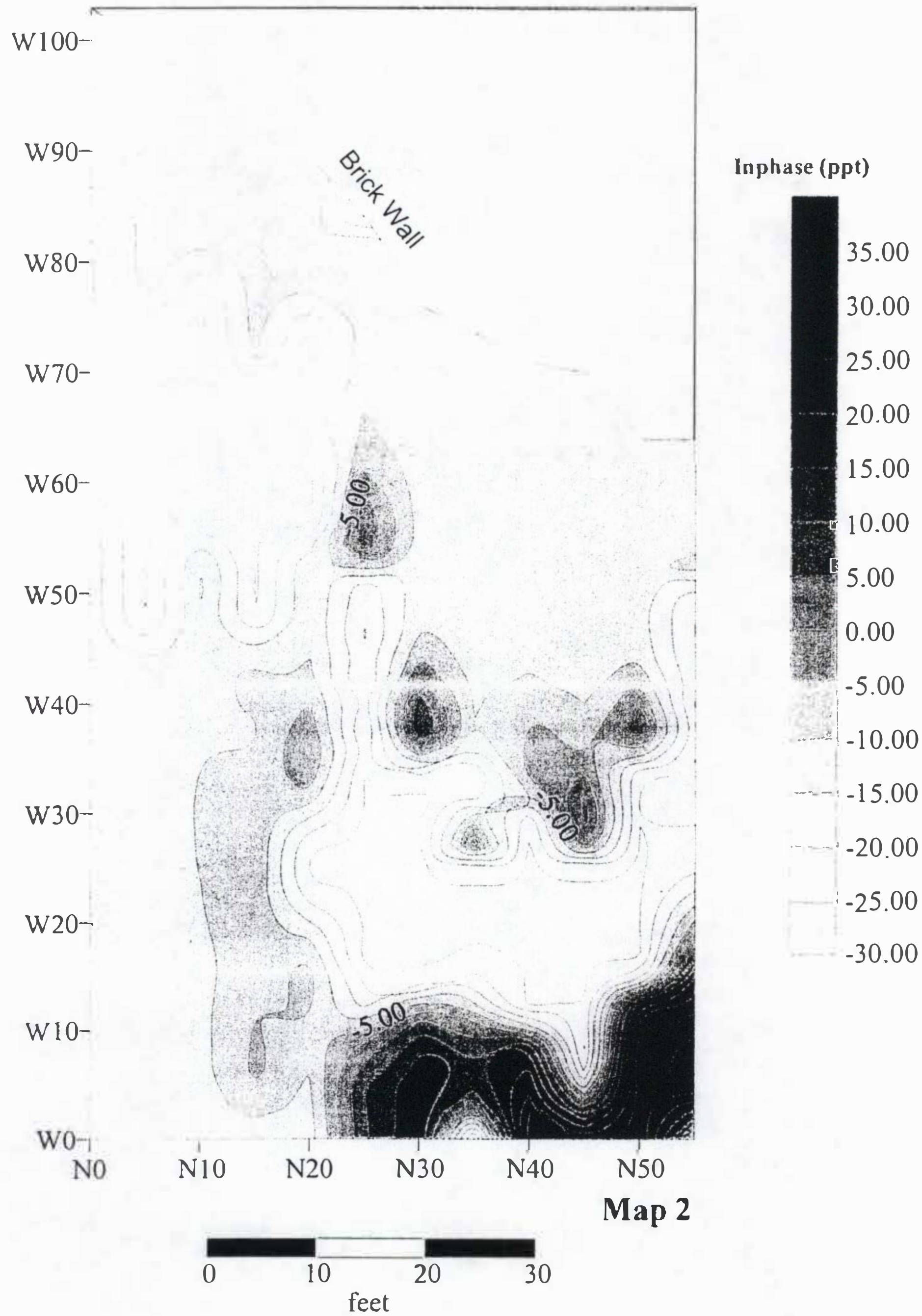


Map 1

DAVID'S ISLAND SITE

ELECTROMAGNETIC SURVEY

Inphase Component

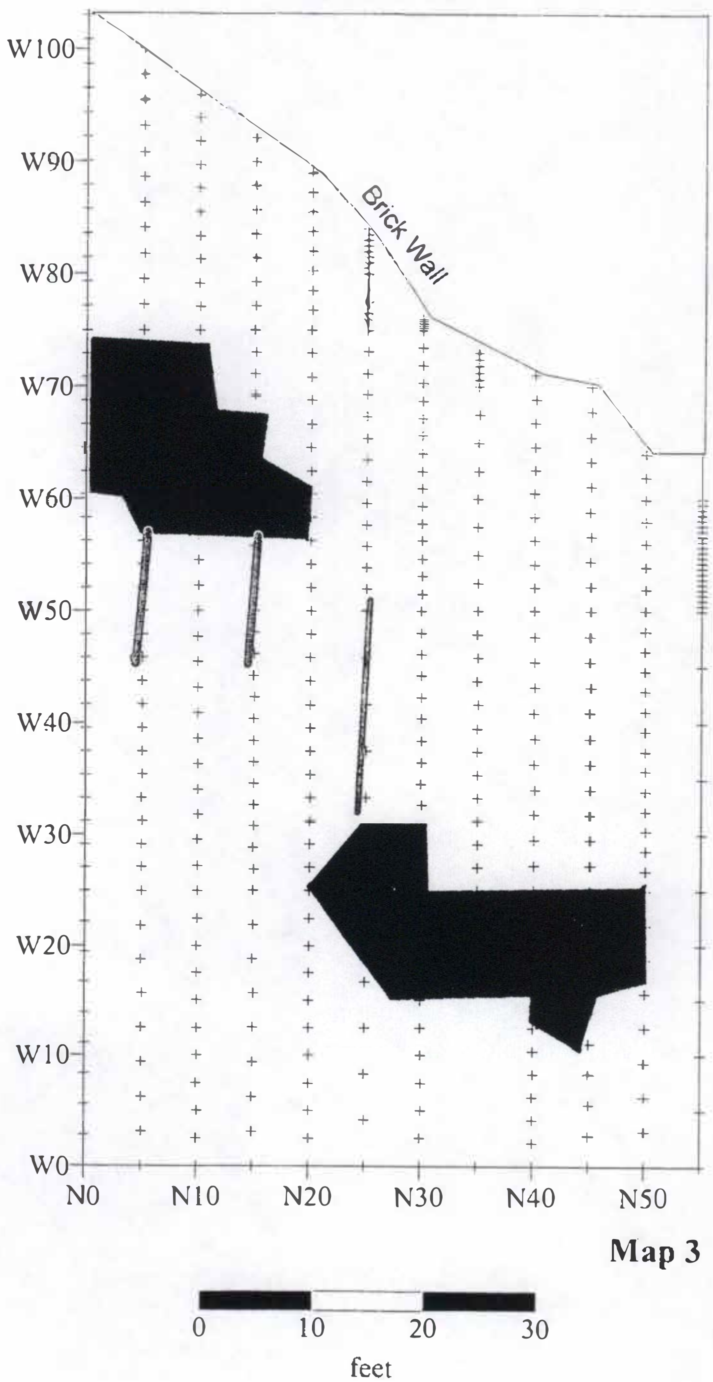


Map 2

DAVID'S ISLAND SITE

ELECTROMAGNETIC SURVEY

Detected Anomalies



Map 3

TABLE 8
SOIL ANALYTICAL RESULTS - PESTICIDES[1]
DAVIDS ISLAND, NEW ROCHELLE, NEW YORK
(µg/kg)

Sample Location	Sample Depth	Date Sampled	Delta-BHC	Lindane	Alpha-BHC	Beta-BHC	Heptachlor	Aldrin	Heptachlor epoxide	Endrin	Endrin aldehyde	Endrin ketone	Dieldrin	4,4'-DDE	4,4'-DDD	4,4'-DDT	Endosulfan I	Endosulfan II	Endosulfan sulfate	Methoxychlor	Toxaphene	Chlordane	cis-Chlordane	trans-Chlordane
DI-HOSP-B1	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B2	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B3	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	177	ND	590	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B4	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	577	ND	1,010	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B5	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.6	ND	95.4	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B6	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	816	ND	1,220	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B7	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B8	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	123	ND	147	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B9	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	494	ND	261	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B10	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	113	ND	45.6	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B11	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	568	ND	258	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B12	0-8"	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,090	ND	718	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B13	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	33.4	ND	ND	ND	ND	151	ND	152	ND	ND	ND	ND	ND	ND	25.3	ND
DI-HOSP-B14	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	125	ND	112	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B15	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.2	ND	43.1	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B16	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	251	ND	480	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B17	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	506	ND	586	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B18	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	442	ND	295	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B19	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	52.2	ND	34.4	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B20	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B21	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B22	1'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B23	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B24	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B25	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B26	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B27	0'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B28	1.5'-2'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DI-HOSP-B29	1'-1.5'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38.4	ND
DI-HOSP-B30	0.5'-1'	05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FIELD BLANK		05/30/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TAGM RSCO[2]			300	60	110	200	100	41	20	100	NS	NS	44	2,100	2,900	2,100	900	900	NS	NS	NS	540	NS	NS

Notes:
[1] - Samples collected by AKRF personnel and analyzed for pesticides at Alpha Analytical, a New York State certified laboratory
[2] - NYSDEC Recommended Soil Cleanup Objectives (RSCO), Technical and Administrative Guidance Memorandum (TAGM HWR-94-4046).
µg/kg - microgram per kilogram
ND - not detected
NS - no standard