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February 2, 2001

Mr. Thomas Gibbons
NYSDEC
Division of Environmental Remediation
50 Wolf Road, Room 242
Albany, New York 12233-7010

Re: Site Investigation Final Report
Yonkers Downtown Waterfront Development
Parcel A
Yonkers, New York

Dear Mr. Gibbons:

On behalf of the City of Yonkers, AKRF, Inc. is submitting this final report of the Investigation of Parcel A, in accordance with the approved Work Plan for the Yonkers Downtown Waterfront Development. The Data Usability Summary Report (DUSR) referred to in the enclosed report was forwarded to your office under separate cover on November 15, 2000.

As noted in the report, spill number 98-05596 was assigned to the site as a result of contaminated soil encountered during removal of a 3,000-gallon underground storage tank containing No. 6 fuel oil. It is our opinion that contaminated soil associated with the spill has been remediated in accordance with NYSDEC regulations, and we request that a letter of no further action be issued to the City of Yonkers.

If you have any questions, or if we can be of any further assistance to you, please do not hesitate to contact me at our New York City office, (914) 340-9830.

Sincerely,
AKRF, Inc.

Michelle Lapin, P.E.
President

cc: Jim Pinto, City of Yonkers
Steve Force, Yonkers Public Library
Steve Bates, NYSDOH
Mike Knipfing, NYSDEC Region 3
Carlos Torres, WCDOH
Suzanne Nolan, Westchester Co. Dept. Of Planning

FINAL REPORT
SUBSURFACE INVESTIGATION OF "PARCEL A"
YONKERS DOWNTOWN WATERFRONT REDEVELOPMENT
YONKERS, NEW YORK

Prepared for:

City of Yonkers
40 Broadway
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and

Westchester County Department of Planning
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and

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FEBRUARY 2001

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1.0 INTRODUCTION

This investigation of the Yonkers Downtown Waterfront project site in Yonkers, New York encompassed "Parcel A" of the proposed "Phase II" redevelopment and the adjacent portions of Parcel J, as shown on Figure 2, Site Plan. The work was intended to comply with the requirements of New York State Department of Environmental Conservation's *Technical and Administrative Guidance Memorandum: Environmental Restoration Projects (Brownfields) Guidance Documents* and the *Municipal Assistance Brownfield Program Procedures Handbook.* The work conducted was based on AKRF's previous assessment of the parcels, in accordance with AKRF's approved Work Plan.

This 1.121-acre parcel is occupied by the Beczak Environmental Education Center, the Police Athletic League (PAL), and the City of Yonkers Parks Department, and is situated between the Habirshaw Athletic Club and the North Yonkers Pump Station. The property includes one single-story building with an attic and no basement, separated via walkways into three distinct portions occupied by the three tenants. The Beczak Environmental Education Center, consisting of office space, occupies the northern third of the building. The Police Athletic League (PAL) facility occupies the central portion of the building and includes athletic facilities (weights, a boxing ring, gymnastic equipment), locker rooms, and offices. The southern third of the building is used by the City of Yonkers Parks Department for parking vehicles, storing lime for lining athletic fields, and grass seed for City parks.

The objectives of this study were to provide sufficient information to determine if the properties contain contaminated materials and allow for a conceptual remediation, if contaminated materials are found within any of the parcels. This portion of the study focused on "Phase II" Parcel A and portions of Parcel J adjacent to Parcel A (Parcel J encompasses the proposed promenade, that will abut the western side of the parcels along the Hudson River).

1.1 Background

The study site has a history of industrial use going back more than 100 years. This industrial history indicated the potential for soil and groundwater contamination, as discussed in AKRF's Phase I Environmental Site Assessment Report, dated April 1997.

Parcel A is abutted by: the Habirshaw Athletic Club to the north; New York Central Railroad (NYCRR or Conrail) train tracks to the east; the North Yonkers Pump Station and the Yonkers Canoe Club to the south; and the Hudson River to the west, as shown on Figure 2. The entire study site (Phase I and Phase II parcels) boundaries are defined by: the Jack Frost Sugar facility to the south; the Hudson River to the west; the Habirshaw Athletic Club to the north; and the New York Central Railroad (NYCRR or Conrail) train tracks and Alexander Street to the east.

Parcel A did not exist until some time after 1917. A single-story building consisting of three separate connected wings and no basement was constructed on the site between 1917 and 1951. The

building was occupied by the U.S. Naval Reserve Training Center. By 1991, the building was occupied by the Hudson River Youth Center. The Beczak Environmental Center (offices), the Police Athletic League and City of Yonkers Parks Department currently occupy the building. A paved parking lot, a small grassed area and a small length of sandy beach are located west of the building. Parcel A comprises approximately 58,575 square feet.

Parcel J is the proposed promenade of the redevelopment plan, and will be located west-adjacent to all the waterfront parcels (Parcels A through I) along the Hudson River. In AKRF's studies, Parcel J was not reported as a separate parcel, but was included with the adjacent Parcel A. Parcel J is proposed to comprise approximately 9,760 square feet of the western portion of Parcel A.

2.0 FIELD ACTIVITIES

2.1 Grid Survey

A testing grid was surveyed on Parcel A by Munoz Engineering of New York, New York on March 15, 1999. The testing grid is shown on Figure 5. The grid was used for subsequent field testing including: electromagnetic survey, soil gas testing, and the advancement of soil borings and monitor wells.

2.2 Electromagnetic Survey

An electromagnetic (EM) survey of the parcel was conducted to determine the existence of underground storage tanks and other potential subsurface features which, if existing, may be a source of contamination. The EM survey is a non-invasive remote sensing technique which measures subsurface conductivity through the use of low frequency electromagnetic induction. EM is able to identify anomalies in subsurface conductivity caused by the presence of buried metal objects, changes in soil characteristics, and under some conditions, the presence of pollutant plumes. The EM does not produce reliable results in the presence of buried construction and demolition debris (i.e., reinforced concrete), chain link fences and parked cars. EM survey results were used to locate subsequent soil borings and monitor wells.

A GEONICS EM 31 Conductivity Meter was used for this survey. This instrument measures conductivities from the ground surface to approximately 20 feet below land surface in the vertical dipole mode. The in-phase component measures relative conductance. This component is significantly altered by highly conductive objects and is, therefore, typically more sensitive to buried metals, such as underground storage tanks and drums.

Conductivity readings were recorded continuously at 1 second intervals using an Omnidata Digital Polycorder. The data collected was processed using the Geonics EM 31 software. The plots of each transect show the anomalies in subsurface conductance detected by the instrument. The possible causes of the anomalies inferred based on knowledge of previous usage and observed site conditions.

Parcel A is currently occupied by a one-story building with an asphalt paved parking lot located on the western side of the building. AKRF personnel performed an EM survey on Parcel A on July 17, 1998. The weather during the survey was sunny and approximately 75 °F. The EM survey was performed in the asphalt paved parking lot located on the western side of the building. Abandoned trucks and metallic objects were located along the southern boundary of the parking lot. The survey area was divided into 26 lines with lengths of 100, 115 and 145 feet, oriented in a north-south direction. Results of the EM survey are depicted on three maps included in Appendix B. The maps show the quadrature phase, the in-phase, and anomalies, which were generated from data collected from this survey. The detected anomalies are also shown on Figure 5.

In the map of detected anomalies, the linear anomalies (shown in green, blue and red) correspond to the locations of metallic objects that could not be removed prior to the survey and the chain link fence located along the southern border of the property. The one oval (shown in red) corresponds to the location of a basketball hoop mounted on a steel pole located in the middle of the parking lot. None of the anomalies had a finger print of a possible buried tank. These anomalies can also be seen in the in-phase response component map.

2.3 Soil Gas Survey

The soil gas sampling program was used as a screening procedure to better delineate the areas where soil borings and monitor wells should be located. Sampling points were chosen to obtain adequate coverage of the parcels, and were also based on information obtained from the EM survey. The grid established during the EM survey was utilized in plotting the chosen soil gas sampling points. Access to the subsurface soil was gained by drilling through the top one foot of surface materials using a Geoprobe unit. Upon completion of the boring through the surface material, the sampling probe, a 2.5-foot long, 5/8-inch diameter stainless steel shaft with a hardened point and slotted intakes, was driven into an additional two to three feet of soil to obtain the soil gas sample. The collected soil gas samples were immediately analyzed for benzene, ethylbenzene, xylene, toluene, trichloroethylene (TCE), methyl ethyl ketone (MEK), tetrachloroethylene (PCE), and trans, 1,2-dichloroethylene (DCE) with a portable gas chromatograph.

On September 23, 1998, Zebra Environmental of Inwood, New York provided Geoprobe services for the installation of sampling points on Parcel A. The weather was clear and approximately 70 °F. The Geoprobe van-mounted drill rig used hollow steel connecting rods driven into the subsurface. Once the sampling probe was driven to the desired depth, a van-mounted vacuum system was attached to the sampling probe head, and the system purged to allow the collection and subsequent analysis of a representative sample of soil gas. Samples were retrieved in Tedlar bags and were analyzed by Environmental Resource Management (ERM) of Exton, Pennsylvania using a Photovac 10S Plus GC/PID. All ERM reported soil gas results are in parts per million (ppm) and are included in Appendix C. Sampling points were installed in areas where anomalies were detected by the EM survey. Additional points were installed and sampled to provide full coverage of the parcel so that soil gas plumes, if present, could be delineated. A total of 16 soil gas samples were obtained and analyzed from Parcel A. Two samples were retrieved adjacent to the northern and southern corners

of the building. One sample was retrieved from the grassed area located on the western side of the asphalt paved parking lot.

Concentrations of total volatile organic compounds detected at Parcel A ranged from 0.23 parts per million (ppm) in the central portion of the parking lot to 12.57 ppm on the area located west of the survey grid. Methyl ethyl ketone (MEK) was detected in 14 of the 16 samples analyzed with concentrations ranging from 0.05 ppm to 12.37 ppm. Methyl ethyl ketone is a solvent typically used in the surface coating industry. Acetone was detected in four of the soil gas samples analyzed to a maximum concentration of 2.13 ppm located in the southwestern corner of the parking lot. Acetone is also a solvent more commonly used in resins, lacquers and varnishes. Based on these results, soil borings/monitor wells were installed in these areas. There were no apparent trends on the parcel. Sampling points, total volatile organic compound results, and contours of possible soil gas plumes are plotted on Figure 4, reported in parts per million (ppm).

2.4 Underground Storage Tank Removal

On August 5 and 6, 1998, excavation activities were performed by Brookside Environmental of Baldwin, New York, under the direction of AKRF, Inc. The excavation area was located in the driveway on the northwestern side of building. A former fill port located in the driveway indicated the location of the former underground storage tank. A 3,000-gallon underground storage tank containing No. 6 fuel oil was uncovered and removed off-site in accordance with applicable regulations.

Prior to the excavation, approximately two inches of product was measured in the tank. A vacuum truck (provided by AB Oil) was utilized to remove 400 gallons of the petroleum/water mixture from within the tank through the former fill port. The product was transported and disposed off-site at a licensed petroleum recycling facility. The manifest for this material is included in Appendix F.

Upon removal the of asphalt driveway and fill material covering the tank, metal straps were observed around the top of the tank, lashing the tank to a concrete cradle and slab. The tank was located in an area where groundwater is affected by the tidal influence of the Hudson River. This influence creates fluctuations in groundwater depth, necessitating the tank to be anchored in place to resist possible buoyancy. The slab acted not only as an anchor but an impermeable barrier to the underlying soil. To remove the tank from the excavation, a chain was connected to the tank and a backhoe slid the tank out of the excavation to the west, onto the asphalt pavement. As the tank was being removed from the excavation, small perforations were observed in the bottom of the tank and approximately 20 gallons of product leaked from the tank onto the concrete slab within the excavation. It appeared that no product had been leaking from the tank prior to its removal; the concrete slab had sealed the bottom of the tank. Groundwater seeped into the excavation at approximately seven feet below grade and mixed with the spilled petroleum product. A vacuum truck was utilized to remove the majority of the additional petroleum/water mixture located in the excavation. Absorbent pads were used to remove any oil that was not removed by the vac truck. The backhoe excavating the affected soil was situated on the western side of the excavation.

Petroleum impacted soil was removed from the tank grave to the west, thereby impacting the western wall of the excavation. Soil along the northern, western and southern walls of the excavation, below the water table were impacted by the spill. As the soil removal operation was conducted from the west, soil along the eastern wall of the excavation above the water table was not affected by the removal and subsequent leaking of the tank.

On the asphalt paved parking lot, a sawsall electric saw was utilized to cut a large opening in the tank. The tank was vented and rendered free of petroleum vapors. The cleaned tank was removed and disposed off-site at a recycling facility. All personnel cleaning the tank were equipped with protective tyvek suits. Sludge removed from the tank bottom was deposited into one DOT-approved 55-gallon drum. The drum was removed and disposed off-site at a licensed petroleum recycling facility. Removal documentation for liquid petroleum product and sludge is provided in Appendix F. Tank Removal documentation is provided in Appendix F.

The Westchester County Health Department was notified prior to the removal date. Mr. Carlos Torres, a representative from the Health Department, was present on-site during the tank removal. Upon removal of the tank and the observed spilled petroleum, AKRF called the New York State Department of Environmental Protection (NYSDEC). Spill number 98-05596 was assigned to the site by the NYSDEC. Approximately six cubic yards of soil were excavated by Brookside Environmental and stockpiled on polyethylene sheeting in accordance with the Westchester County Health Department and NYSDEC regulations. No staining or odors were noted on the remaining soil located on the side walls of the excavation. Removal of additional soil below the tank was not possible due to the concrete slab. Mr. Torres inspected the excavation and allowed it to be backfilled, as no more soil could be excavated below the tank. The bottom of the excavation was at approximately 7.5 feet below grade and below the water table.

In accordance with New York State Department of Environmental Conservation (NYSDEC) STARS memo, four composite soil samples were collected from the walls of the excavation (no sample was collected of the bottom of the excavation due to groundwater infiltration and the presence of the concrete slab). The results of the laboratory analysis are discussed in Section 3.2.1 and are summarized in Tables A-7 and A-8.

In response to the spill, the Westchester County Department of Health ordered a subsurface investigation to delineate the lateral extent of the contamination and to quantify the concentration of petroleum based contaminants in the groundwater and to determine whether the spill could be closed, or whether additional studies would be necessary. A discussion of the subsurface investigation is included in the following sections.

2.5 Soil Borings and Monitor Wells

Proposed soil boring and monitor well locations were based on the results from the initial EM and soil gas surveys, the location of the former underground storage tank and known history of the parcel.

On October 29, 1998, five soil borings were advanced on Parcel A. Two of the borings were retrofitted with monitor wells. The weather during the installation was sunny and approximately 60°F. The borings and monitor wells on Parcel A were installed by Enviro-Tech Drilling of West Bridgewater, Massachusetts using a hollow stem auger rig and the split spoon sampling method. Soil samples were collected from the ground surface and continuously to a maximum depth of approximately 14 feet below grade. Monitor wells were designated with the prefix "MW"on the boring logs, included in Appendix D.

Two soil borings from Parcel A were retrofitted with monitor wells using two-inch, Schedule 40, threaded, flush-joint PVC well materials, according to standard RCRA monitor well installation procedures. Locations of borings and monitor wells are depicted on Figure 3. Monitor well screen sections were located across the saturated/unsaturated interface and were backfilled with clean silica sand. A bentonite seal was then placed above the sand. Monitor wells were completed using locking, gate boxes, flush-with-grade. Following the installation of the monitor wells, a submersible pump was utilized to develop the wells. Each well was pumped for approximately 20 minutes at a rate of two gallons per minute.

Soil samples from each boring were classified using the modified Burmister Classification System and field-screened with an Organic Vapor Meter (OVM) Model 580B photoionization detector (PID). The PID readings for the parcels are included on the boring logs in Appendix D. Soil generally consisted of brown sand with some gravel and silt.

In addition to the laboratory analysis of the samples collected in the field, additional analysis were included as a quality control measure, as required under New York State protocol. For the soil sampling task, additional samples analyzed included: one aqueous equipment blank (field blank) per drilling day of all stated analyses and one aqueous trip blank per cooler for volatile organic compounds. Additional water analysis collected during the groundwater sampling activities included one equipment blank per sampling day of all stated analyses and one trip blank per cooler for volatile organic compounds. One set of soil field duplicates was collected and included all stated analysis. The field duplicates were labeled "blind" to the laboratory.

Boring B-1A was installed in the northwestern portion of Parcel A based on elevated levels of volatile organic compounds detected in the soil gas. No sample was obtained during the advancement of this boring due to lack of recovery from the spilt spoon sampler. The boring was extended to six feet below grade. PID readings from the drill cuttings and the limited recovery were detected no volatile organic compounds. Boring B-2A was advanced in the southwestern corner of the parcel. Refusal was encountered at approximately three feet below grade and no sample was collected. Monitor well MW-3A was installed in the southwestern portion of the parcel, approximately 40 feet west of boring B-2A. The 10-foot section of well screen was installed from 3 feet to 13 feet below grade. The monitor well was installed at this location based on the presence of volatile organic vapors detected in the soil gas at this location and for the purpose of delineating downgradient groundwater quality for Parcel A. A soil sample was collected from two to four feet below grade.

Monitor well MW-4A was installed in the northeastern corner of the parcel. The 10-foot section of well screen was set from approximately 4 to 14 feet below grade. This monitor well was installed for the purpose of delineating upgradient groundwater quality for Parcel A. The well was also installed at this location to determine if the former 3,000 gallon fuel oil underground storage tank (UST) had adversely effected the parcel. The monitor well casing was cemented within a locking steel cap, flush with grade.

Refusal was met at approximately two feet below grade during the first attempt. The monitor well was off-set approximately five feet southeast and advance to five feet below grade. A soil sample was collected at this depth and submitted for analysis.

Boring B-5A was installed on the north central portion of the parcel to six feet below grade. A soil sample was collected between 0 and 2 feet below grade and submitted for laboratory analysis. No volatile organic compounds were detected in the field with the PID from this sample. Monitor well and boring locations are shown on Figure 3. Soil boring logs are included as Appendix D.

2.6 Monitor Well Sampling

On November 9, 1998, groundwater samples were collected from the two newly installed monitor wells on Parcel A. Prior to sampling, depth to water measurements were taken. These measurements were used to calculate the volume of water in each well. At least three times the well volume was purged from each well prior to sampling. A new disposable bailer was used to purge each well. Groundwater purged from each well was noted to be light brown, with no odors or sheens. Samples were transferred directly from the bailer into the sampling containers.

Specific conductance and pH were measured in the field following well purging. An Oakton TDS Testr and waterproof pH Testr were used for the field measurements. Prior to field testing, both instruments were field calibrated. Following each measurement, the instruments were decontaminated using a distilled water rinse. Results from the field measurements are included in Table 2.1.

Groundwater samples collected from each of the monitor wells were placed in a chilled cooler and transported to Envirotech Research Inc., New Jersey, a New York State certified CLP laboratory. Laboratory analysis included volatile organic compounds, semivolatile organic compounds, Target Analyte List (TAL) metals and polychlorinated biphenyls (PCBs). In addition, turbidity was also quantified by the laboratory and are included in the field results summarized in Table 2.1.

2.6.1 Groundwater Field Results

Specific conductance values measured in the field ranged from 800 micromhos per centimeter (μmhos/cm) in monitor well MW-3A to 1,630 μmhos/cm in monitor well MW-4A. Measured pH values ranged from 7.1 standard units (s.u.) in monitor well MW-4A to 7.4 in monitor well MW-3A. There is no New York State drinking water standard for pH in groundwater, however,

Federal secondary drinking water regulations stipulate pH values between 6.5 and 8.5. Specific conductance represents a measure of the relative amounts of dissolved solids in the water, which usually includes metals and/or salts. Groundwater in this area is affected by the tidal influences of the Hudson River, which is saline and not potable. There is no drinking water standard for specific conductance, however, these values are typical for the Hudson River and are comparable to values measured in monitor wells installed on other parcels of the Yonkers Downtown Waterfront Development. Turbidity values ranged from 460 Nephelometric Turbidity Units (NTU) in monitor well MW-4A to 1,050 NTU in monitor well MW-3A. Groundwater field results are summarized in Table 2.1.

Table 2.1
Groundwater Field Measurements Summary
Parcel A
Yonkers, New York
Measurements taken on November 9, 1998

Monitor Well	*Specific Conductance (μmhos/cm)*	*pH (standard units)*	*Turbidity (NTU)*
MW-3A	800	7.4	1,050
MW-4A	1,630	7.1	460

Note: μmhos/cm = micromhos per centimeter
NTU = Nephelometric Turbidity Units

2.7 Background Soil Sampling

Background surface soil samples were collected from adjacent areas outside of the study site parcels. Three surface soil samples were collected and analyzed for TAL metals and polyaromatic hydrocarbons (PAHs). The samples were collected on June 18, 1998 from the following locations: sample BG-1 from the Prospect Street grassed median, just north of Buena Vista Avenue; sample BG-2 from the Main Street grassed median, between parcel E and parcel F; and BG-3 from the grassed median located adjacent to Dock Street. Results from the background sample analysis is included in the soil analytical results in tables A-2, A-4 and A-7. Background sample locations are shown on Figure 2.

2.8 Monitor Well Elevation Survey

On November 14, 1998, the monitor well locations and elevations were surveyed by Munoz Engineering. The locations of the monitor wells are shown on Figure 3. Three elevation measurements were taken at each monitor well location: the ground beside the well; the rim of the monitor well (when closed); and the top of PVC. When measuring the depth to the water table in the monitor wells, the measurements were made to the top of PVC, at a location marked on the PVC by AKRF. These field measurements and elevation measurements were used to establish the groundwater table elevation and inferred flow direction, as shown in Table 2.2. Although groundwater is influenced by the tidal fluctuations of the adjacent Hudson River, the general trend of the inferred groundwater flow direction was calculated to be west-southwest toward the Hudson River, abutting the site to the west.

Table 2.2
Groundwater Table Elevations[1]
Parcels A
Yonkers, New York

Well I.D.	*PVC Elevation*	*Depth to Water*[2]	*Water Table Elevation*
MW-3A	15.70	14.53	1.17
MW-4A	13.30	12.9	0.4

[1] Elevations surveyed by Munoz Engineering P.C. on November 14, 1998.
[2] Depth to water measurements taken by AKRF, Inc. on November 9, 1998.

2.9 QA/QC for Groundwater and Soil Sampling

To assure the integrity of samples obtained at the site, measures were taken to prevent cross contamination of soil or groundwater samples. During all drilling activities, augers and split spoon samplers were hot water pressure (steam cleaned) between each location. Split spoon samplers and sampling equipment were decontaminated between each sample using an alconox wash, distilled water rinse, acid rinse, followed by a final distilled water rinse and, weather permitting, allowed to air dry. Groundwater sampling of the monitor wells was performed using dedicated disposable bailers.

Under New York State protocol, additional laboratory sampling of actual samples is required as a quality control measure. In accordance with New York State protocol for soil sampling (soil borings and test pits), one aqueous equipment blank per day was analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals and

polychlorinated biphenyls (PCBs) and one aqueous trip blank per cooler was analyzed for volatile organic compounds. One set of soil duplicates were analyzed for VOCs, SVOCs, TAL metals and PCBs.

For groundwater sampling, one aqueous equipment blank per day was analyzed for VOCs, SVOCs, TAL metals and PCBs. In addition, one aqueous trip blank per cooler was analyzed for VOCs.

3.0 SOIL AND GROUNDWATER ANALYTICAL RESULTS

3.1 Soil Field Screening Results

Soil samples were field-screened for volatile organic compounds using a Thermo Environmental Instruments, Inc. Model 580B Organic Vapor Meter (OVM) photoionization detector (PID) and the headspace field-screening method. Additionally, the OVM was used to monitor ambient air during field work.

On October 29 and 30, 1998, five soil borings were advanced on Parcel A, with two of the borings retrofitted with monitor wells. No volatile organic compounds were detected by the PID on any of the soil samples collected from Parcel A, as shown on boring logs in Appendix D. Monitor well and boring locations are presented in Figure 3.

3.2 Laboratory Results

This section presents the results and interpretation of laboratory chemical analyses performed on soil samples collected during the underground storage tank removal and subsequent subsurface investigation of Parcel A of the Yonkers Downtown Waterfront Development. The chemical analytical data received from the laboratory are provided in Appendix E of this report and includes analytical results and chain-of-custody documentation. Summary tables appended to this report include corrections from the Data Usability Summary Report (DUSR), which was sent under separate cover.

Soil results from the underground storage tank removal are compared to the New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) Memo No. 1, Petroleum-Contaminated Soil Guidance Policy.

The soil data results of the subsurface investigation are compared to the New York State Department of Environmental Conservation Soil Cleanup Objective from the Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046). The bases for these guidance values include direct human ingestion of soil and the impact to groundwater used as a drinking water source. Similarly, groundwater data are compared to Ambient Water Quality Standards and Guidance Values from the New York State Department of Environmental Conservation Division of Water Technical and Operational Guidance Series (1.1.1),

developed for drinking water, even though groundwater is brackish from the tidal action of the Hudson River and is not used as a drinking water source.

Background soil samples were collected from off-site areas and analyzed to characterize the area soils. As such, it is expected that some of the on-site samples would be above the average off-site values. These background samples were also used in the Site Investigation Reports of Parcels E, F H, I and C (Phase I portion) of the Downtown Waterfront Development. The summary tables in this report include the results of all three background samples.

3.2.1 Soil - Underground Storage Tank Removal

No volatile organic compounds (VOCs) were detected above NYSDEC Spill Technology and Remediation Series (STARS) Memo No. 1, Petroleum-Contaminated Soil Guidance Policy. Semivolatile organic compounds (SVOCs) were detected above guidance values in three of the four samples analyzed, as shown in Table A-7. The highest concentrations of SVOCs were detected in the sample collected from the eastern excavation wall (sample 3A-E). This wall was not affected by the spill (the tank was pulled out of the excavation to the west, affecting the northern, western, and southern walls at and just below the water table). The eastern wall above the water table was never in contact with the spilled material and no staining or odors were noted on the eastern wall. The presence of SVOCs may be attributable to fill materials and not the fuel oil spill, as miscellaneous debris and ash were noted in the excavation. These values are also comparable to or slightly above the background subsurface soil samples and soil collected from other parcels included in the Yonkers Downtown Waterfront Development. In addition, downgradient groundwater samples (see Section 3.2.3) did not detect any SVOCs.

Waste classification analysis indicated that the stockpiled soil was non-hazardous. On August 25, 1998, 8.08 tons of petroleum-containing stockpiled soil were removed and disposed off-site at ESMI of Fort Edward, New York, a licensed soil treatment facility. Soil removal documentation is provided in Appendix F.

3.2.2 Soil - Subsurface Investigation

Subsurface soil samples were collected from Parcel A at the locations shown on Figure 3. Analytical results are presented in Tables A-1 through A-4, and are discussed in the following sections. A total of four subsurface soil samples were collected from Parcel A and analyzed for volatile organic compounds, semivolatile organic compounds, polychlorinated biphenyls (PCBs) and Target Analyte List (TAL) metals.

Volatile Organic Compounds

Methylene chloride, acetone, carbon disulfide, benzene and toluene were detected in the subsurface soils. No other volatile organic compounds were detected. None of these compounds were detected at concentrations that exceeded the NYSDEC Soil Cleanup

Objectives. Detected volatile organic compounds are summarized in Table A-1. Complete laboratory reports are included in Appendix E.

Semivolatile Organic Compounds

Table A-2 includes a summary of detected semivolatile organic compounds. Benzo (a) anthracene, benzo (a) pyrene and dibenz (a,h) anthracene were detected above the NYSDEC Soil Cleanup Objectives in each of the four samples analyzed. All the levels detected were comparable to concentrations detected in background samples. Chrysene was detected at three locations (B-5A, the duplicate sample B-5A1 and MW-4A) at concentrations exceeding the Soil Cleanup Objective, but not greater than the highest background level. Benzo(b)fluoranthene was detected above the Soil Cleanup Objective of 1,100 micrograms per kilogram (μg/kg) in two of the four samples analyzed (1,900 μg/kg in B-5A and 2,000 μg/kg in B-5A1). Benzo (b) fluoranthene was also detected at a concentration of 2,000 μg/kg in background sample BG-4. No other semivolatile organic compounds were detected above their respective NYSDEC Soil Cleanup Objectives.

PCBs

The four subsurface soil samples from Parcel A were analyzed for PCBs. Araclor 1254 was detected in sample B-5A and its duplicate B-5A1 at a concentration of 130 μg/kg, below the NYSDEC Soil Cleanup Objective of 1,000 μg/kg, as summarized in Table A-3. No other PCBs were detected in the analyzed samples.

Metals

TAL Metals

Aluminum was detected in each of the samples analyzed at concentrations comparable to background concentrations. Barium was detected in each of the four locations (up to a maximum of 120 mg/kg), below the Soil Cleanup Objective of 300 mg/kg. Elevated levels of iron and copper were detected in each of the four samples analyzed. Lead was detected above the average site specific background concentration of 142 mg/kg in boring B-5A and the duplicate sample B-5A1 at concentrations of 251 mg/kg and 210 mg/kg, respectively. These levels were comparable to the highest background concentration of 243 mg/kg. Mercury was detected above the average site background of 0.62 mg/kg in soil sample B-5A at a concentration of 0.69 mg/kg. Nickel and zinc were detected in excess of their average site background in three of the four soil samples analyzed. Table A-4 summarizes the detected TAL metals in the four analyzed soil samples.

Soil Results Summary

No volatile organic compounds or PCBs were detected at concentrations that would necessitate remediation. Elevated levels of semivolatile organic compounds, including benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (a) pyrene and dibenz (a,h) anthracene were detected at levels comparable to background concentrations. Metals detected at elevated concentrations included iron, copper and zinc, also at concentrations comparable to background levels and levels of these metals detected in other parcels included in the Waterfront Development study.

Based on the confirmation sampling from the tank excavation, the subsurface investigation and results from other Downtown Waterfront parcels, it is AKRF's opinion that the soil affected by the spill caused by the removal of the underground storage tank was excavated and removed off-site in accordance with applicable county and state regulations. Elevated levels of semivolatile organic compounds (SVOCs) detected in the east wall confirmation soil sample appear to be from fill materials and not from the former underground storage tank. Results from this sample, collected from above the water table from the wall that was observed not to be affected by the spill, were comparable to background levels of SVOCs, levels detected in samples collected from Parcel A, and other parcels where the subsurface investigations have been completed. In addition, downgradient groundwater samples did not contain any SVOCs, which further demonstrates that the tank had not historically leaked and that the source had been successfully removed.

3.2.3 Groundwater

Two groundwater samples were collected from the two monitor wells located on Parcel A. Samples were analyzed for volatile organic compounds, semivolatile organic compounds, PCBs, and dissolved (filtered) TAL metals.

Volatile Organic Compounds

Methylene chloride and styrene were the only two volatile organic compounds detected in the groundwater samples analyzed. Concentrations of styrene were below the NYSDEC Water Quality Standard of 5 μg/l. Methylene chloride was present above the water quality standard of 5 μg/l, however, the sample was qualified by the laboratory and is likely present at a lesser concentration. Methylene chloride is a common laboratory contaminant is not likely present at the site. No other volatile organic compounds were detected in the groundwater samples taken from Parcel A. These results are summarized in Table A-5.

Semivolatile Organic Compounds

Two groundwater samples were analyzed for semivolatile organic compounds. No semivolatile organic compounds were detected in the two samples analyzed. The complete laboratory results for Parcel A groundwater samples are included in Appendix E.

PCBs

PCBs were analyzed in the two groundwater samples from Parcel A. No PCBs were detected in the two groundwater samples analyzed from Parcel A. The complete laboratory results for Parcel A groundwater samples are included in Appendix E.

Metals

Two samples were analyzed for dissolved TAL metals. Magnesium was detected above the Water Quality Standard of 35,000 μg/l in both of the samples analyzed, with a maximum concentration of 201,000 μg/l. Manganese was detected above the Water Quality Standard of 300 μg/l in both samples with a maximum concentration of 3,690 μg/l. The presence of magnesium and manganese is likely naturally occurring from the tidal influence of the Hudson River, which is saline in this area. Elevated concentrations of sodium were detected in each sample, and are also likely to be naturally occurring from the Hudson River. Iron was detected in both samples analyzed above the Water Quality Standard of 300 μg/l at a maximum concentration of 1,870 and may be from iron observed in the fill materials. No other metals were detected above the Water Quality Standards in the dissolved metals analysis. These elevated metals are likely due to the influx of saline water from the Hudson River and are not indicative of environmental impairments due to past or present on-site practices.

Groundwater Results Summary

Methylene Chloride and styrene were the only two volatile organic compound detected in the groundwater samples analyzed. Concentrations of styrene were below the NYSDEC Water Quality Standard of 5 μg/l. The values for methylene chloride were qualified by the DUSR and are likely laboratory contaminants. The reported value is approximate, and the concentration and may not actually be present above the Water Quality Standard. No semivolatile organic compounds or PCBs were detected in the two groundwater samples analyzed. Metals concentrations of iron, magnesium, manganese and sodium were detected at elevated levels. These constituents may be naturally occurring from the Hudson River, which is saline and tidal in this area.

The Water Quality Standards used as a comparison for the groundwater results are based on potable sources of drinking water. Due to the tidal nature of the Hudson River and its salinity, the groundwater in this area is not potable. The Hudson River is also classified as "SB" in this area.

4.0 SUMMARY AND CONCLUSIONS

Field screening activities included electromagnetic (EM) and soil gas surveys. The results of the field screening activities are discussed in detail in Chapter 2 and along with the presence of the former underground storage tank, were utilized in choosing subsequent soil boring and monitor well locations. Figures 4 and 5 illustrate the results of the preliminary surveys and Figure 3 depicts the soil and groundwater sampling locations.

4.1 Field Surveys and Analytical Results

The electromagnetic (EM) survey of Parcel A indicated a possible buried metallic object and subsurface piping. These locations were investigated further through other field screening tests including a soil gas survey and soil borings. The locations of the soil borings are presented in Figure 3. The results of the soil gas survey indicated possible sources of contamination in the northwestern and southwestern portion of the parcel.

Based on the results of the field screening activities, five soil borings were advanced, two being retrofitted with monitor wells. The monitor wells were located on the eastern and western periphery of Parcel A, as upgradient and downgradient sampling locations. The monitor well installed on the southwestern corner of the parcel (MW-3A) was located in an area where volatile organic compounds were observed in the soil gas survey. Groundwater samples were collected from the two monitor wells for laboratory analysis. Monitor well MW-4A was installed on the northeastern corner of the parcel to act as an upgradient well and to determine if the former underground storage tank located in this area had adversely affected the groundwater beneath the parcel.

Four subsurface soil samples and two groundwater samples were collected from Parcel A and analyzed for TCL volatile organic compounds. No detected soil concentrations exceeded NYSDEC Soil Cleanup Objectives. Methylene Chloride was detected above the NYSDEC Water Quality Standard in two groundwater samples analyzed from Parcel A, however, the reported value is approximate, based on the DUSR, and the concentration may not actually be present above the Water Quality Standard. The presence of methylene chloride may be the result of laboratory error.

Four subsurface soil samples and two groundwater samples collected from Parcel A were analyzed for TCL semivolatile organic compounds. Semivolatile organic compounds were detected above NYSDEC Soil Cleanup Objectives in soil samples analyzed throughout the parcel. All concentrations detected were consistent with concentrations detected in background samples. No groundwater samples contained any detected concentrations of semivolatile organic compounds.

Four subsurface soil samples and two groundwater samples were analyzed for PCBs. No detected soil concentrations exceeded NYSDEC Soil Cleanup Objectives. No concentrations of PCBs were detected in the groundwater samples analyzed.

Four subsurface soil samples collected from Parcel A were analyzed for TAL metals. Metals detected at elevated concentrations included iron, copper and zinc. Two groundwater samples were analyzed for dissolved (filtered) TAL metals. Magnesium, sodium, potassium, iron and manganese were detected above the NYSDEC Water Quality Standards. Magnesium, sodium and manganese are naturally occurring elements of saline water and are likely present due to the tidal action of the Hudson River. Iron was detected at concentrations up to 1,870 μg/l and is likely present from the high concentration of iron debris in the on-site soil.

4.2 Discussion

In summary of the analytical results, concentrations of semivolatile organic compounds and metals were detected in subsurface soils. One volatile organic compound was detected above the groundwater quality standard, but was qualified by the Data Usability Summary Report (DUSR) and may not actually be present above the standard. Based on the known history of the area parcels, the source of the elevated compounds and metals may be contaminated fill used to construct the parcel, as was noted on other parcels of the Yonkers Downtown Waterfront Development.

Parcel A did not exist until after 1917, after which the land was constructed from fill materials. The origin of the fill materials is not known and may account for the existing soil conditions which are consistent with soil located in and around area parcels.

5.0 RECOMMENDATIONS

Based on the analytical results, a soil cover, possibly in concert with limited soil removal in some areas, is a viable means of remediation. Limited soil removal may be necessary in areas where excavations would be taking place as part of the planned development, i.e., building foundations and utilities. Soils exhibiting petroleum odors, staining, or PID readings above background should be stockpiled separately for possible off-site removal.

Plans for Parcels A, according to the Draft Generic Environmental Impact Statement prepared by Allee King Rosen & Fleming, Inc. in May 1998, include a recreational facility, park and walkways. The portion of Parcel J abutting Parcel A will also include a park along the Hudson River, bordering the western side of the parcel. The parcel is currently below the 100 year flood elevation, and must be raised by adding clean fill to an elevation of at least 10 feet NGVD. An average of approximately four feet of fill would be needed to bring the parcel to this elevation. With this soil cover in place, there is virtually no risk of direct human contact to the existing soils. The esplanade, Parcel J, would be set at approximately 7.5 feet to align with the existing Yonkers Pier. A soil cover of at least two feet would be needed in this area, and any area that is planned to be green space. These remedial actions recommended for Parcel A are based on remedial actions selected at other waterfront parcels within the Yonkers Downtown Waterfront Development Site, where similar levels and types of contaminants were detected.

AKRF recommends implementing a Health and Safety Plan during any future construction at the site, including dust monitoring during excavation and disturbance of surface soils. Gloves should be used by all workers who come in contact with the soils.

Soil Table A-1
Soil Analytical Summary - Volatile Organic Compounds
Yonkers Downtown Waterfront
Parcel A
(μg/kg)

Soil Sample[1]	Methylene Chloride	Acetone	Carbon Disulfide	Benzene	Toluene
B-5A (S-1)	3.3U	54J	1.1J	ND	ND
B-5A1 (S-1)[2]	3.4U	70J	1.0J	0.7J	ND
MW-3A (S-2)	5.5U	86J	2.1J	ND	2.0J
MW-4A (S-1)	3.2J	20J	ND	2.9J	ND
Soil Cleanup Objective[3]	100	200	2,700	60	1,500

Notes: [1]Samples collected by AKRF, Inc. personnel on October 29, 1998 and analyzed for TCL VOCs, SVOCs, PCBs, and TAL metals by Envirotech Research, Inc., a New York State certified CLP laboratory.
[2]Sample B-5A1 is a duplicate sample to Sample B-5A.
[3]New York State Department of Environmental Conservation Division of Technical and Administrative Guidance Memorandum(TAGM): Determination of Soil Cleanup objectives and Cleanup Levels (HWR-92-4046).
ND = None detected above the minimum detection level (MDL)
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.
U = This compound was analyzed for, but not detected at or above the Contract Required Quantitation Limit (CRQL), or the compound is not detected due to qualification through the method or field blank.
μg/kg = micrograms per kilogram (parts per billion)

Soil Table A-2
Soil Analytical Summary - Semivolatile Organic Compounds
Yonkers Downtown Waterfront - Parcel A[1]
(μg/kg)

Compound	B-5A (S-1)	B-5A1 (S-1)[2]	MW-3A (S-2)	MW-4A (S-2)	Soil Cleanup Objective[3]	BG-1[4]	BG-2[4]	BG-4[4]
Phenol	26J	35J	ND	ND	30 or MDL	NA	NA	NA
1,4-Dichlorobenzene	13J	ND	ND	ND	200 or MDL	NA	NA	NA
1,2-Dichlorobenzene	12J	ND	ND	ND	N/A	NA	NA	NA
4-Methylphenol	ND	ND	78J	ND	900	NA	NA	NA
Napthalene	120J	160J	210J	15J	13,000	18J	9.7J	20J
2-Methylnapththalene	84J	99J	190J	18J	100	NA	NA	NA
Acenaphthene	92J	130J	110J	31J	50,000	29J	ND	75J
Acenapththylene	170J	180J	150J	34J	41,000	27J	36J	78J
Dibenzofuran	130J	140J	94J	16J	6,200	NA	NA	NA
Flourene	140J	140J	140J	32J	50,000	28J	13J	75J
Phenanthrene	1,400	1,500	1,200	390	50,000	310J	95J	1,200
Anthracene	420	440	330J	90J	50,000	72J	35J	200J
Carbozole	95J	2,800	93J	37J	NS	NA	NA	NA
Fluoranthene	2,800	2,800	1,200	410	50,000	600J	240J	2,600
Pyrene	2,900	2,800	1,100	420	50,000	520J	220J	2,200
Benzo(a)anthracene	1,600	1,500	720	270	224 or MDL	290	140	1,200
Chrysene	1,500	1,500	910	320J	400	370J	180J	1,600
bis(2-ethylhexyl)phthalate	3,400	3,700	690	170J	50,000	NA	NA	NA
Benzo(b)fluoranthene	1,900	2,000	800	310	1,100	450	240	2,000
Benzo(k)fluoranthene	680	770	320	100	1,100	170	83	860
Benzo(a)pyrene	1,400	1,300	640	240	61 or MDL	300	160	1,300
Indeno(1,2,3-cd)pyrene	410	390	370	160	3,200	180	87	580
Dibenz(a,h)anthracene	120	130	120	46	14 or MDL	40J	21J	140
Benzo(g,h,i)perylene	380	320J	350J	140J	50,000	200J	89J	510J

Notes: [1]Samples collected by AKRF, Inc. personnel on October 29 and 30, 1998 and analyzed for TCL VOCs, SVOCs, PCBs and TAL metals by Envirotech Research, Inc., a New York State Department of Health certified CLP laboratory.
[2]Sample B-5A1 is a duplicate sample of sample B-5A.
[3]New York State Department of Environmental Conservation Division of Technical and Administrative Guidance Memorandum (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046).
[4]BG = Background Sample
MDL = Minimum detection level
NA = Not Analyzed
ND = Not Detected
NS = No Standard
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.
μg/kg = micrograms per kilogram (parts per billion)

Soil Table A-3
Soil Analytical Summary - PCBs
Yonkers Downtown Waterfront - Parcel A[1]
(μg/kg)

Parameter	B-5A (S-1)	B-5A1 (S-1)[2]	MW-3A (S-2)	MW-4A (S-2)	Soil Clean Up Objective[3] (subsurface)
Aroclor 1254	130	130	ND	ND	1,000

Notes: [1]Samples collected by AKRF, Inc. personnel on October 29, 1998 and analyzed for TCL VOCs and SVOCs and PCBs and TAL metals by Envirotech Research, Inc. a New York State Department of Health certified CLP laboratory.
[2]Sample B-5A1 is a duplicate sample of sample B-5A.
[3]New York State Department of Environmental Conservation Division of Technical and Administrative Guidance Memorandum (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046).
ND = Not Detected
μg/kg = micrograms per kilogram (parts per billion)

Soil Table A-4
Soil Analytical Summary -TAL Metals
Yonkers Downtown Waterfront - Parcel A[1]
(mg/kg)

Metal	B-5A (S-1)	B-5A1 (S-1)[2]	MW-3A (S-2)	MW-4A (S-2)	Soil Cleanup Objective[3]	BG-1[4]	BG-2[4]	BG-3[4]
Aluminum	8,130	8,730	3,470	10,600	BG	8,450	8,970	6,020
Antimony	ND	ND	ND	ND	30 or BG	ND	ND	ND
Arsenic	5.3	6.1	5.6	1.4	7.5	3.3	6.2	3.1
Barium	120	123	60.5	113	300 or BG	85.4	74.0	62.3
Beryllium	0.30B	0.32B	0.22B	0.52J	0.14	0.49	0.45B	0.35B
Cadmium	0.70B	0.62B	ND	ND	10 or BG	0.28B	0.13B	0.20B
Calcium	9,320J	9,670J	5,160J	8,080J	BG	2,430	3,540	3,310
Chromium	23.8	23.3	9.1	25.5	50 or BG	16.7	20.9	14.3
Cobalt	6.9B	7.2B	5.4B	10.1B	30 or BG	ND	ND	ND
Copper	109	94.3	53.6	48.5	25 or BG	25.6	20.2	22.6
Iron	20,700	20,200	18,000	26,200	2,000 or BG	14,300	13,700	12,300
Lead	251	210	97.4	100	BG	243	87.2	95.8
Magnesium	5,310J	5,960J	2,260J	8,740J	BG	2,800	3,440	2,630
Manganese	323	222	156	542	BG	494	292	338
Mercury	0.69	0.51	0.24	0.23	0.1 or BG	0.31	1.4	0.14
Nickel	21.1	19.9	13.0	18.0	13 or BG	13.7	15.4	11.5
Potassium	1,830J	1,880J	595J	2,450J	4,000 or BG	573B	1,550	795B
Selenium	ND	ND	1.2	ND	2 or BG	ND	ND	ND
Silver	ND	ND	ND	ND	200	ND	ND	ND
Sodium	776J	852J	839J	572J	3,000 or BG	ND	ND	ND
Vanadium	36.9	35.4	18.9	38.1	150 or BG	20.8	24.3	17.0
Zinc	416	321	105	121	20 or BG	165	68.8	107

Notes:
[1]Samples collected by AKRF, Inc. personnel on October 29, 1998 and analyzed for TCL VOCs and SVOCs and TAL metals by Envirotech Research, Inc. a New York State Department of Health certified CLP laboratory.
[2]Sample B-5A1 is a duplicate sample to sample B-5A.
[3]New York State Department of Environmental Conservation Division of Technical and Administrative Guidance Memorandum (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046).
[4]BG = Background Sample
B = Reported value is less than the Method Detection Limit but greater or equal to the Instrument Detection Limit.
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.
ND = Not Detected
mg/kg = milligrams per kilogram (parts per million)

Groundwater Table A-5
Groundwater Analytical Summary - Volatile Organic Compounds
Yonkers Downtown Waterfront
Parcel A[1]
(μg/l)

Groundwater Sample	Methylene Chloride	Styrene
MW-3A	200J	ND
MW-4A	120J	2.2J
Water Quality Standard[2]	5	5[3]

Notes: [1]Samples collected by AKRF, Inc. personnel on November 9, 1998 and analyzed for TCL VOCs and SVOCs, and TAL metals by Envirotech Research, Inc., a New York State certified CLP laboratory.
[2]NYSDEC division of Technical and Operational Guidance Series (TOGS) 1.1.1. - Ambient Water Quality Standards and Guidance Values.
[3]Guidance Value
ND = None detected above the minimum detection level (MDL)
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value. μg/l = micrograms per liter (parts per billion)

Groundwater Table A-6
Groundwater Analytical Summary -TAL Metals
Yonkers Downtown Waterfront - Parcel A[1]
(μg/l)

Metal	MW-3A (dissolved)	MW-4A (dissolved)	Water Quality Standard[2]
Aluminum	ND	ND	100
Arsenic	ND	ND	25
Barium	343B	382B	1,000
Beryllium	ND	ND	3
Cadmium	ND	ND	10
Calcium	172,000	131,000	NS
Chromium	ND	ND	50
Cobalt	ND	ND	5
Copper	ND	ND	200
Iron	450	1,870	300
Lead	ND	ND	25
Magnesium	201,000	29,500	35,000
Manganese	1,460	3,690	300
Mercury	ND	ND	2
Nickel	ND	ND	NS
Potassium	70,500	18,100	NS
Silver	ND	ND	50
Sodium	1,600,000	522,000	20,000
Vanadium	ND	ND	14
Zinc	14.4B	32.3B	300

Notes: [1]Samples collected by AKRF, Inc. personnel on November 9, 1998 and analyzed for TCL VOCs and SVOCs and TAL metals by Envirotech Research, Inc. a New York State Department of Health certified CLP laboratory.
[2]NYSDEC division of Technical and Operational Guidance Series (TOGS) 1.1.1. - Ambient Water Quality Standards and Guidance Values.
B = The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
ND = Not Detected
NS = No Standard
μg/l = micrograms per liter (parts per billion)

Soil Table A-7
Parcel A Tank Removal
Soil Analytical Summary -PAH
Yonkers Downtown Waterfront - Parcel A[1]
(μg/kg)

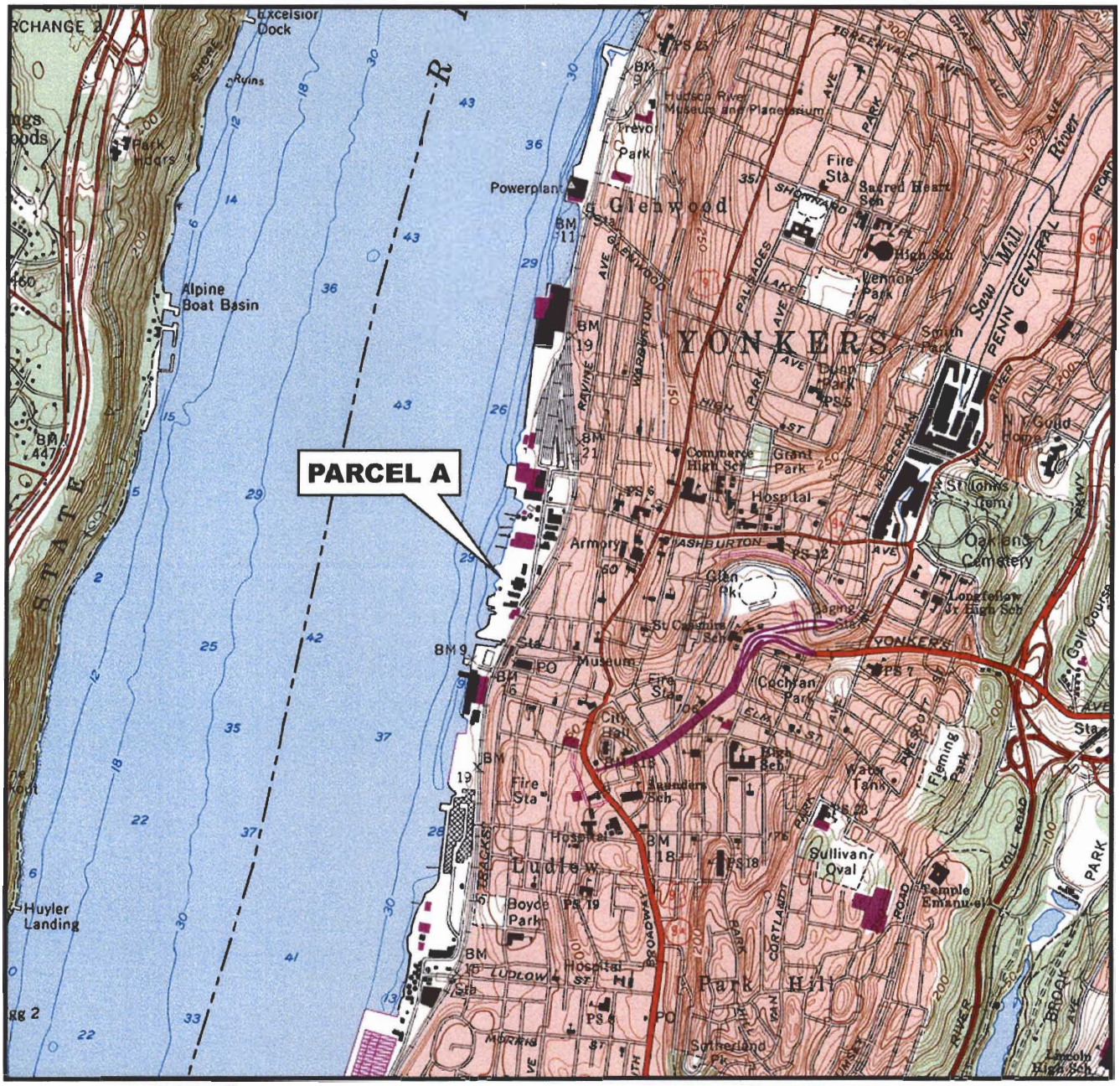
Compound	1A-N	2A-S	3A-E	4A-W	5A-D[2]	Guidance Value[3]	BG-1[4]	BG-2[4]	BG-3[4]
Naphthalene	45J	ND	210J	850	37J	200	18J	9.7J	20J
Acenaphthene	40J	ND	760	420J	140J	400	29J	ND	75J
Fluorene	44J	ND	760	520J	130J	1,000	28J	13J	75J
Phenanthrene	520	ND	7,100	2,300	1,700	1,000	310J	95J	1,200
Anthracene	120J	ND	1,800	410J	380	1,000	72J	35J	200J
Fluoranthene	1,000	ND	8,500	2,000	3,100	1,000	600J	240J	2,600
Pyrene	960	ND	7,400	1,800	3,000	1,000	520J	220J	2,200
Benzo(a)anthracene	560	ND	4,000	910	1,700	0.04	290	140	1,200
Chrysene	610	ND	3,900	960	1,900	0.04	370J	180J	1,600
Benzo(b)fluoranthene	770	ND	4,900	1,100	2,100	0.04	450	240	2,000
Benzo(k)fluoranthene	260	ND	2,000	420	860	0.04	170	83	860
Benzo(a)pyrene	550	ND	3,600	780	1800	0.04	300	160	1,300
Indeno(2,3,4-cd)pyrene	230	ND	870	380	960	0.04	180	87	580
Dibenz(a,h)anthracene	78	ND	240	110	230	1,000	40J	21J	140
Benzo(g,h,i)perylene	200J	ND	570	290J	790	0.04	200J	89J	510J

Notes: [1]Samples collected by AKRF, Inc. personnel on August, 5 1998 and analyzed for PAHs and VOCs by Envirotech Research, Inc. a New York State Department of Health certified CLP laboratory.
[2]Sample 5A-D is a duplicate sample of 3A-E(???)
[3] NYSDEC Spill Technology and Remediation Series (STARS) Memo No. 1, Petroleum-Contaminated Soil Guidance Policy.
[4]BG = Background sample
ND = Not Detected
MDL = Minimum Detection Level
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.
μg/kg = micrograms per kilogram (ppb)

Soil Table A-8
Parcel A Tank Removal
Soil Analytical Summary -Volatile Organic Compounds
Yonkers Downtown Waterfront - Parcel A[1]
(μg/kg)

Compound	1A-N	2A-S	3A-E	4A-W	5A-D[2]	Guidance Value[3]
1,2,4-Trimethylbenzene	ND	ND	7.6J	ND	ND	100

Notes: [1]Samples collected by AKRF, Inc. personnel on August, 5 1998 and analyzed for PAHs and VOCs by Envirotech Research, Inc. a New York State Department of Health certified CLP laboratory.
[2]Sample 5A-D is a duplicate of sample 3A-E(??)
[3]NYSDEC Spill Technology and Remediation Series (STARS) Memo No. 1, Petroleum-Contaminated Soil Guidance Policy.
J = Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.
ND = Not Detected
μg/kg = micrograms per kilogram (ppb)



QUADRANGLE LOCATION

SCALE IN FEET

0' 1000' 2000' 4000'

SCALE: 1"=2000'

N

SOURCE:

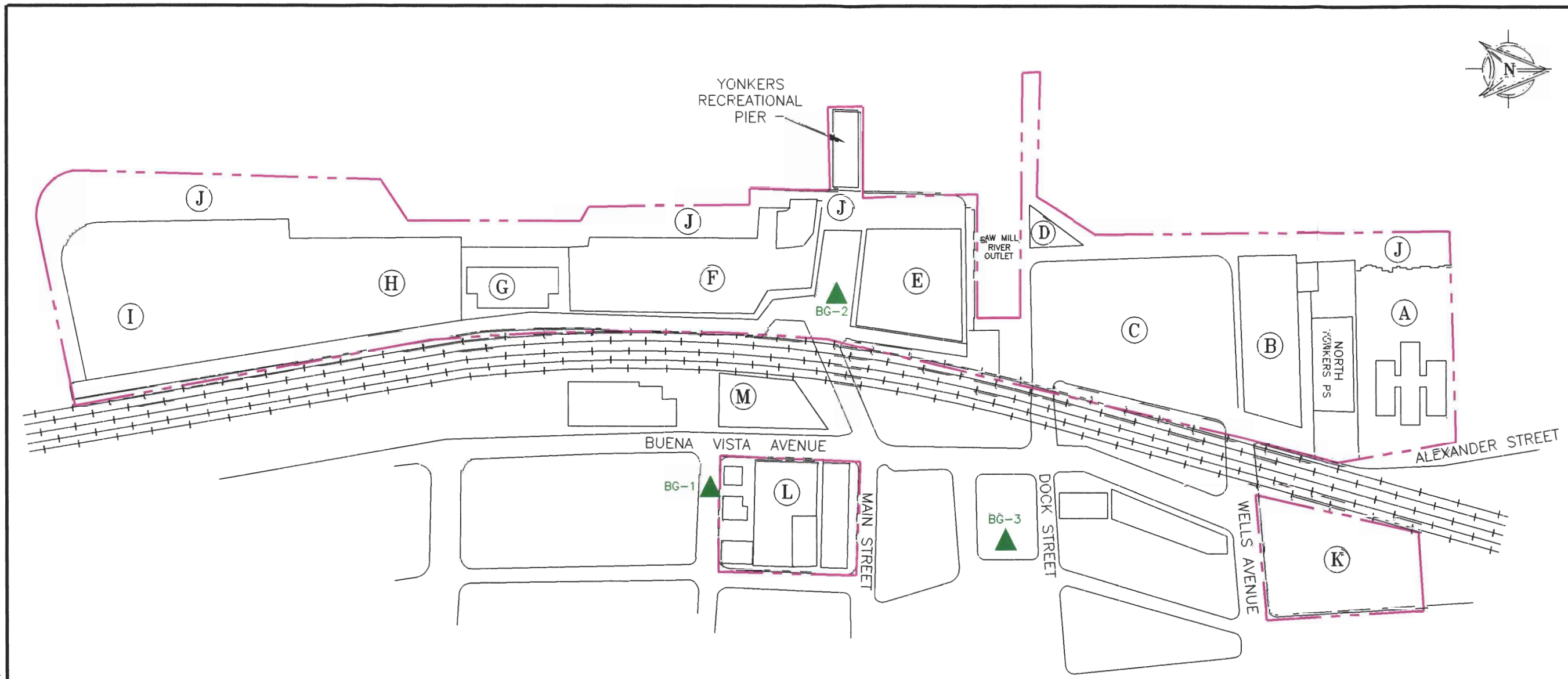
USGS TOPOGRAPHIC MAP - YONKERS, N.Y.-N.J.
QUADRANGLE - DATED 1966, PHOTOREVISED 1979

YONKERS WATERFRONT DEVELOPMENT
YONKERS, NEW YORK

SITE LOCATION MAP

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

DATE 4/12/99
PROJECT No. 70004
FIGURE No. 1



Legend:

- STUDY SITE BOUNDARY
- RAILROAD STATION
- BG-1 BACKGROUND SOIL SAMPLE COLLECTED ON JUNE 18, 1998.
- (A) BECZAK ENVIRONMENTAL CENTER
  POLICE ATHLETIC LEAGUE
  CITY OF YONKERS PARKS DEPT.
- (B) YONKERS CONTRACTING CO.
  STORAGE LOT
- (C)(D) YONKERS PARKING AUTHORITY LOT
- (E) UNDEVELOPED LAND
- (F) SCRIMSHAW PARKING LOT
- (G) SCRIMSHAW HOUSE CONDOMINIUM
- (H)(I) SOUTHERNMOST VACANT LOT
- (K) 2-2010 PROPOSED PARKING LOT
- (L) 1-513 PROPOSED PARKING LOT

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

YONKERS WATERFRONT DEVELOPMENT
YONKERS, NEW YORK

PARCEL A SITE PLAN

DATE 6/08/99

SCALE N.T.S.

PROJECT No. 70004

FIGURE No. 2

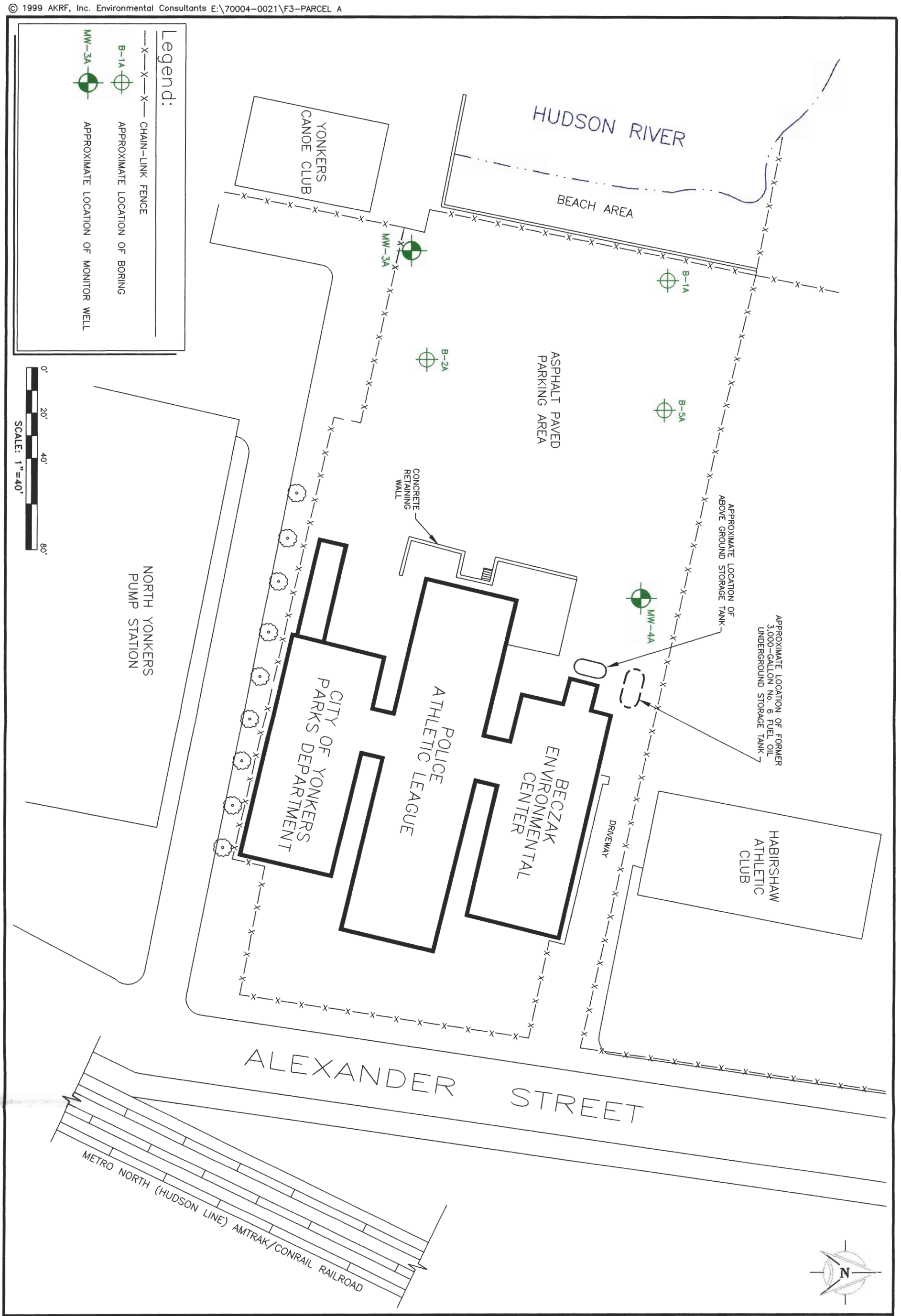


FIGURE No.	PROJECT No.	SCALE	DATE
3	70004	1"=40'	6/08/99

YONKERS WATERFRONT DEVELOPMENT
YONKERS, NEW YORK

PARCEL A SITE PLAN

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

HUDSON RIVER

BEACH AREA

APPROXIMATE LOCATION OF FORMER 3,000-GALLON No. 6 FUEL OIL UNDERGROUND STORAGE TANK

APPROXIMATE LOCATION OF ABOVE GROUND STORAGE TANK

HABIRSHAW ATHLETIC CLUB

DRIVEWAY

BECZAK ENVIRONMENTAL CENTER

POLICE ATHLETIC LEAGUE

CITY OF YONKERS PARKS DEPARTMENT

CONCRETE RETAINING WALL

YONKERS CANOE CLUB

NORTH YONKERS PUMP STATION

ALEXANDER STREET

METRO NORTH (HUDSON LINE) AMTRAK/CONRAIL RAILROAD

12.57 .27 1.28 .26 .76 1.01 .23 1.56 2.08 .36 .98 2.95 3.4 .6 .59 1.43

Legend:

—X—X—X— CHAIN-LINK FENCE

12.57 X APPROXIMATE LOCATION OF SOIL GAS SAMPLING POINT (ppm)

INFERRED TOTAL VOC CONCENTRATION CONTOUR IN PPB

0' 20' 40' 80'

SCALE: 1"=40'

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

YONKERS WATERFRONT DEVELOPMENT
YONKERS, NEW YORK

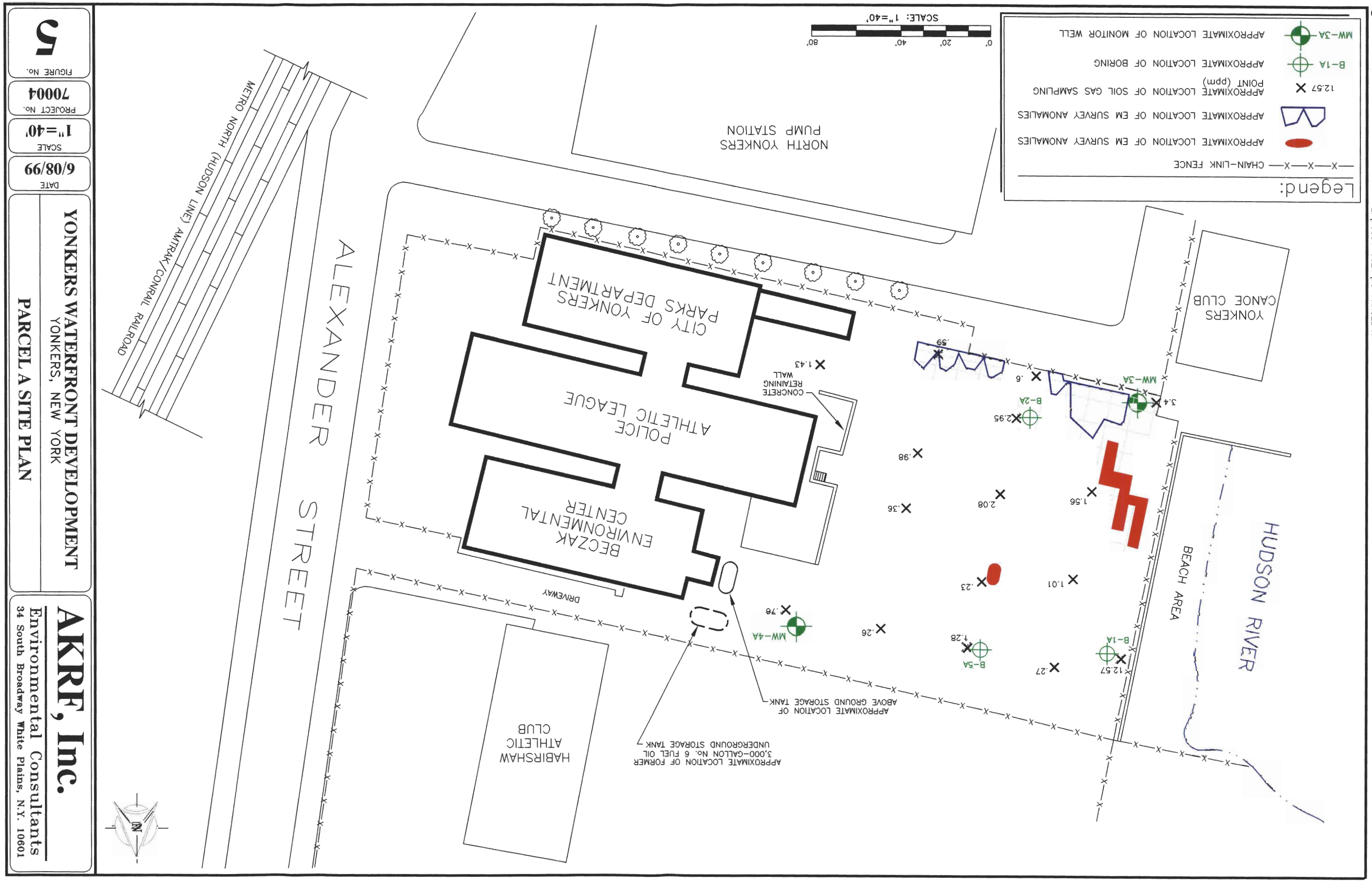
PARCEL A SITE PLAN

DATE 6/08/99

SCALE 1"=40'

PROJECT No. 70004

FIGURE No. 4



YONKERS WATERFRONT DEVELOPMENT
YONKERS, NEW YORK

PARCEL A SITE PLAN

DATE	SCALE	PROJECT No.	FIGURE No.
6/30/99	1"=40'	70004	5

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

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

Excavating for the underground storage tank.

Excavating the top of the underground storage tank.

Removal of the tank towards the west of the excavation.

On-site cleaning of the tank prior to off-site removal.

One-story building with three separate wings located on Parcel A.

Driveway located on the northern side of the building on Parcel A, former location of underground storage tank.

2,000-gallon fuel oil aboveground storage tank located on the western side of the building.

Drilling monitor well MW-4A on the northeastern corner of the parking lot.

APPENDIX B

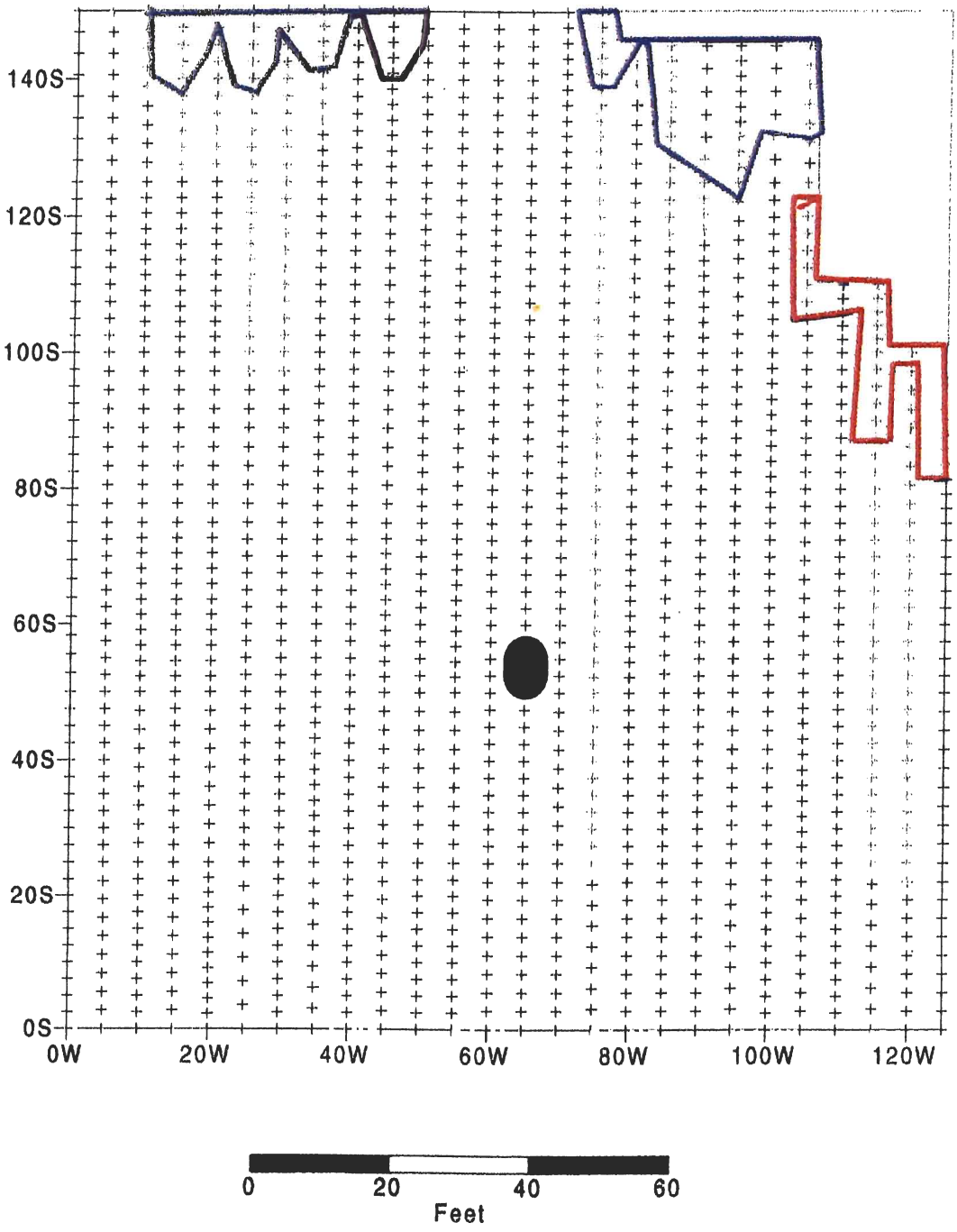
ELECTROMAGNETIC SURVEY RESULTS

YONKERS WATER FRONT

ELECTROMAGNETIC SURVEY

Parcel A

Map of Detected Anomalies

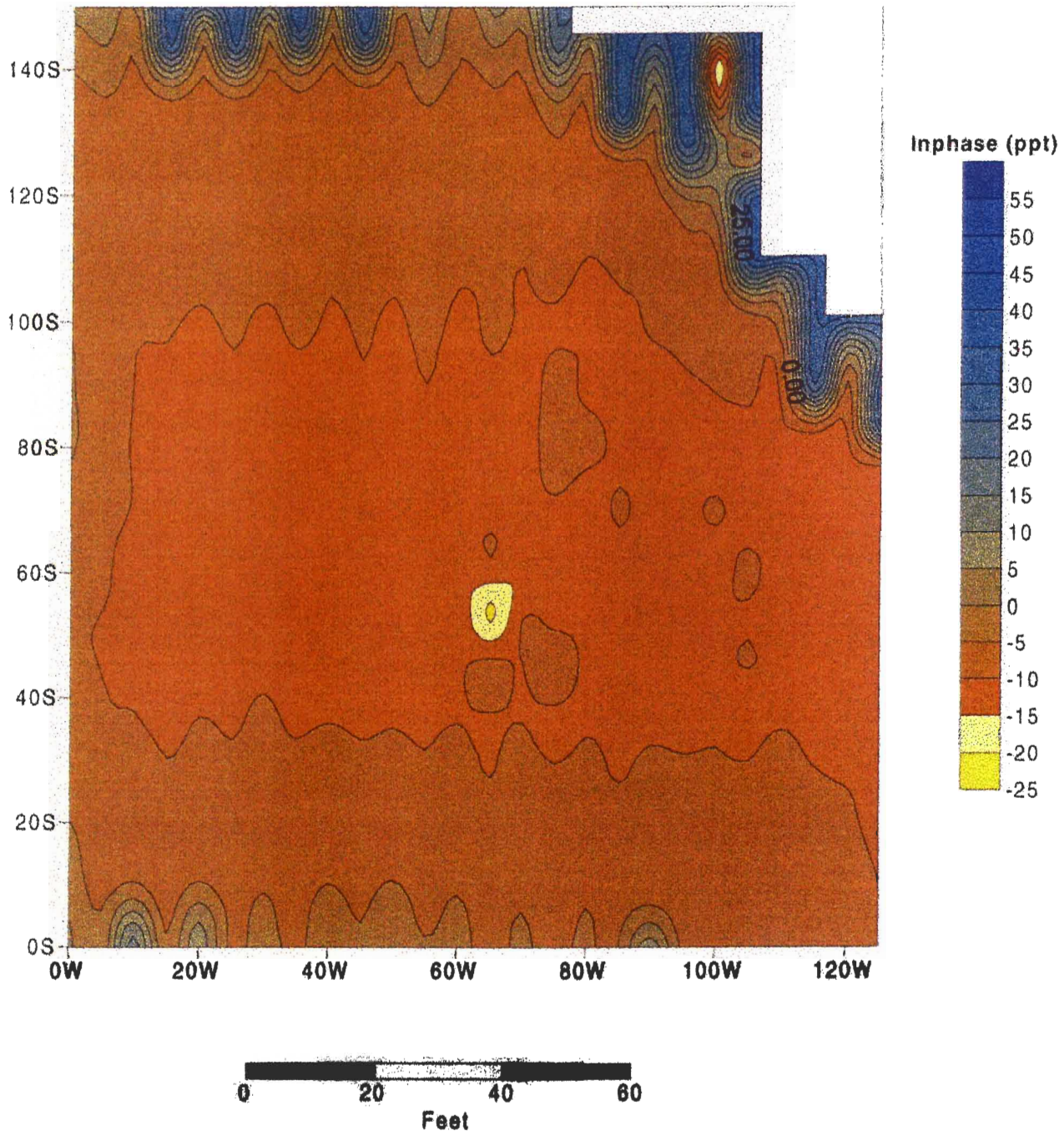


YONKERS WATER FRONT

ELECTROMAGNETIC SURVEY

Parcel A

Inphase Response

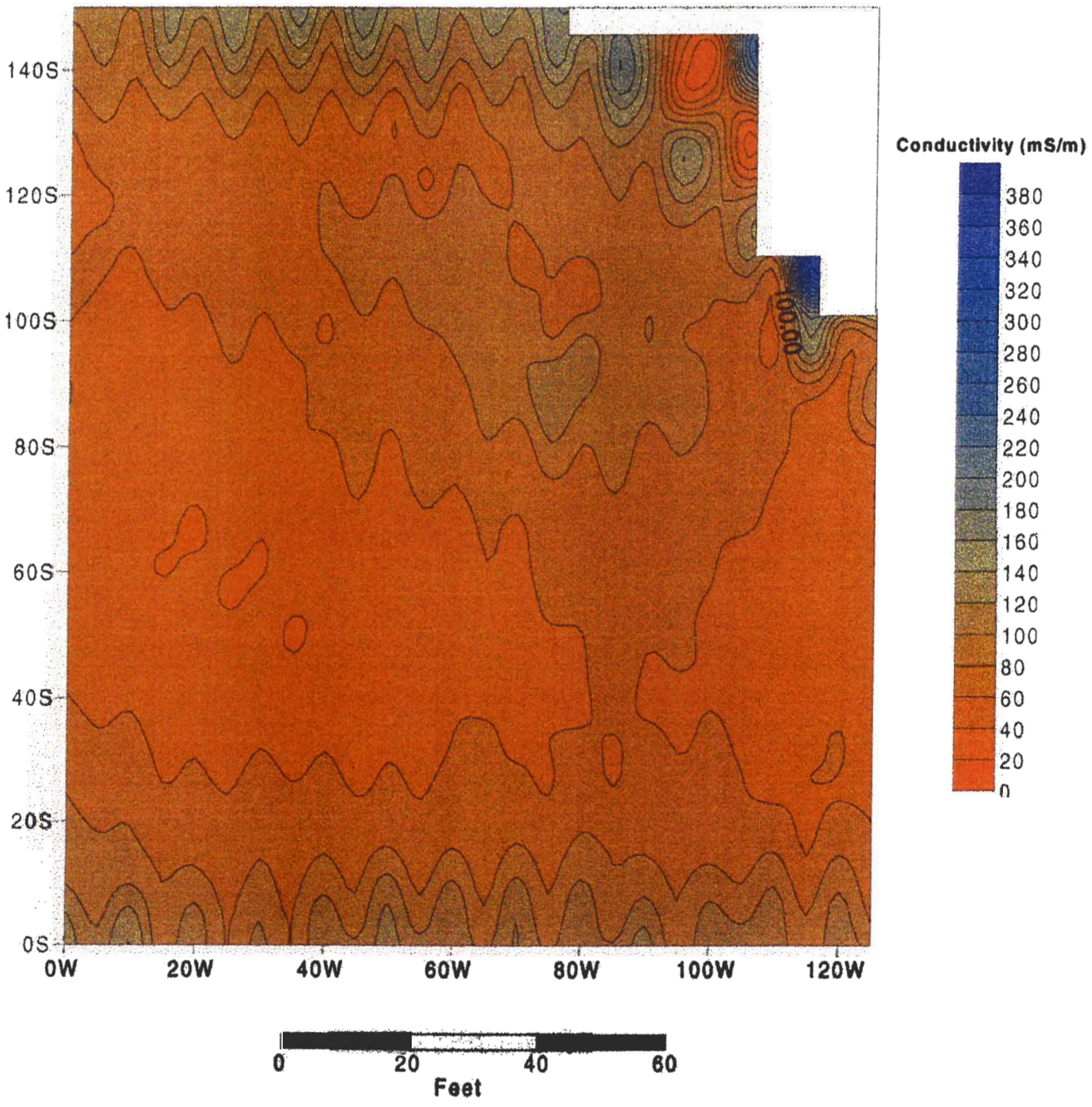


YONKERS WATER FRONT

ELECTROMAGNETIC SURVEY

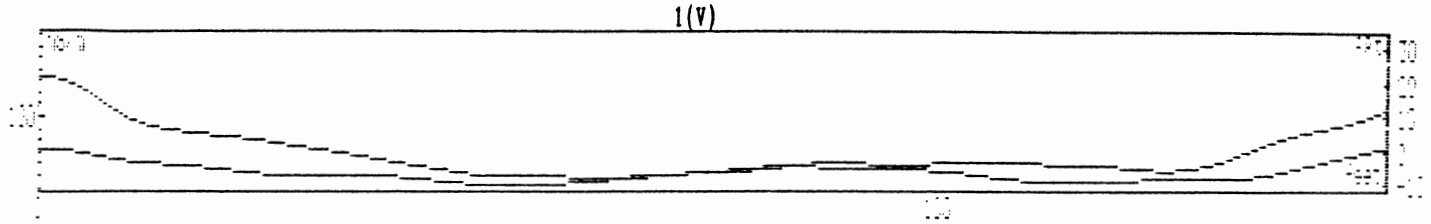
Parcel A

Quad-Phase Component



. YONKERS WATERFRONT ELECTROMAGNETIC SURVEY "PARCEL A"

1(V)



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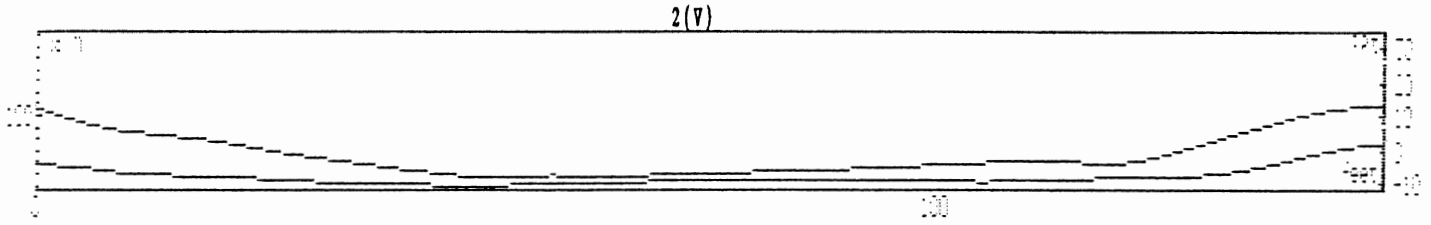

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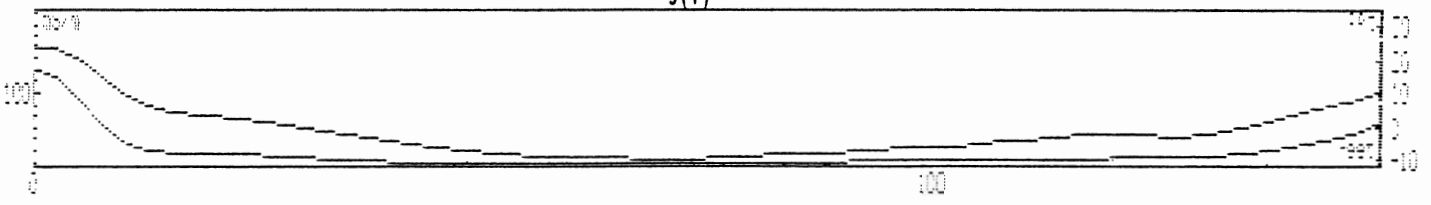

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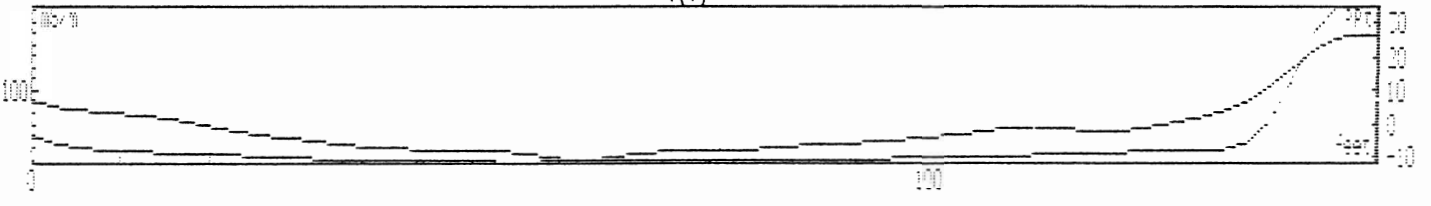

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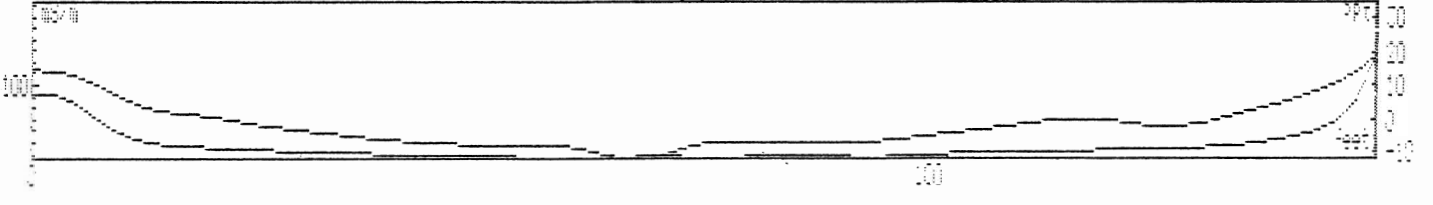

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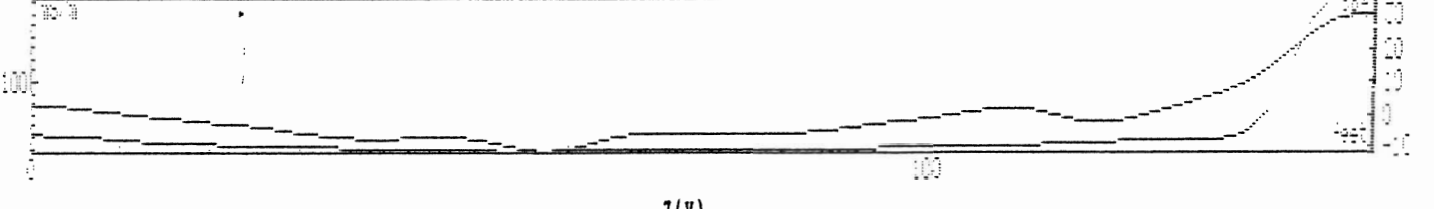

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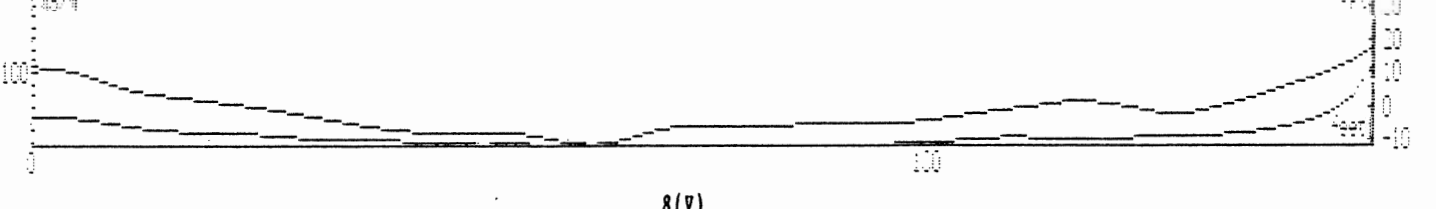

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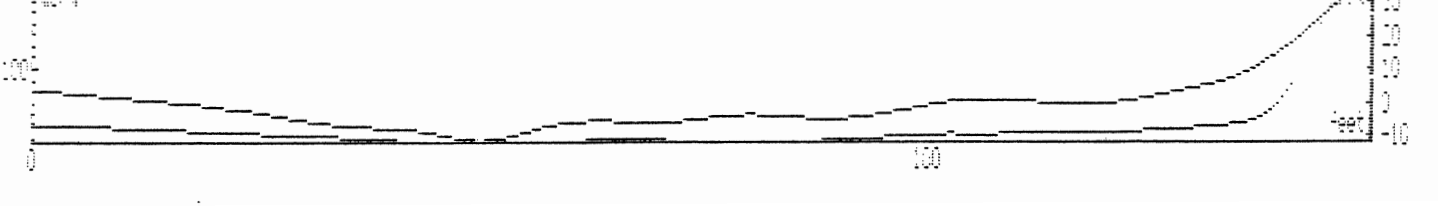

YONKERS WATERFRONT ELECTROMAGNETIC SURVEY "PARCEL A"

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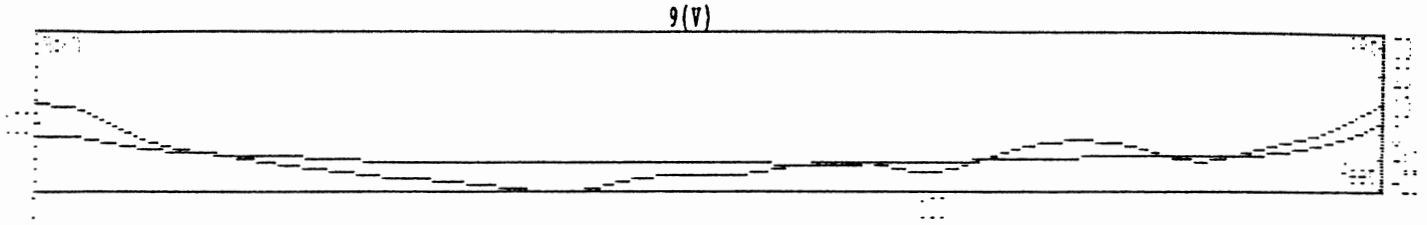

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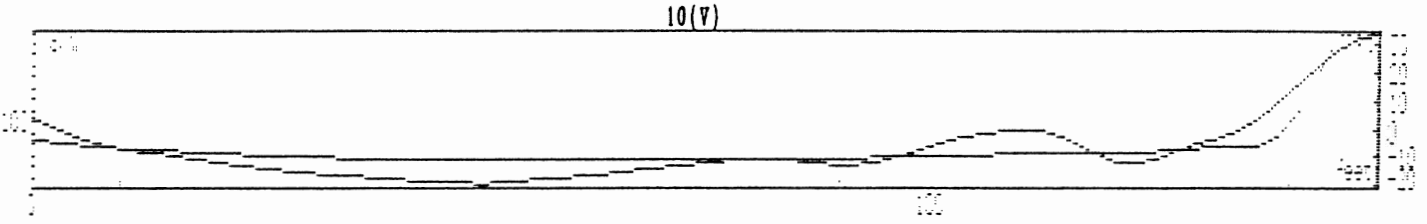

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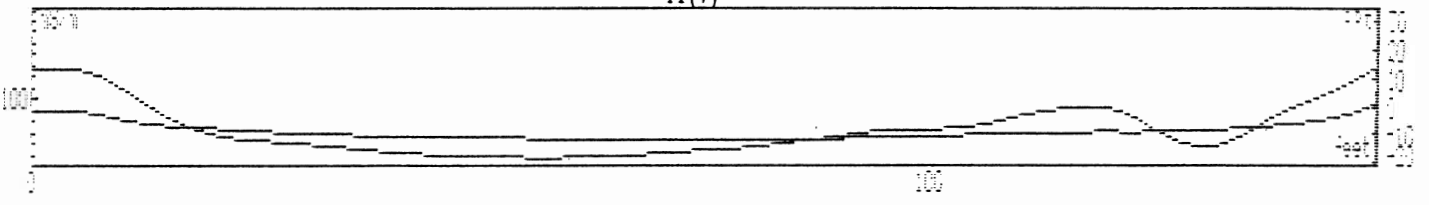

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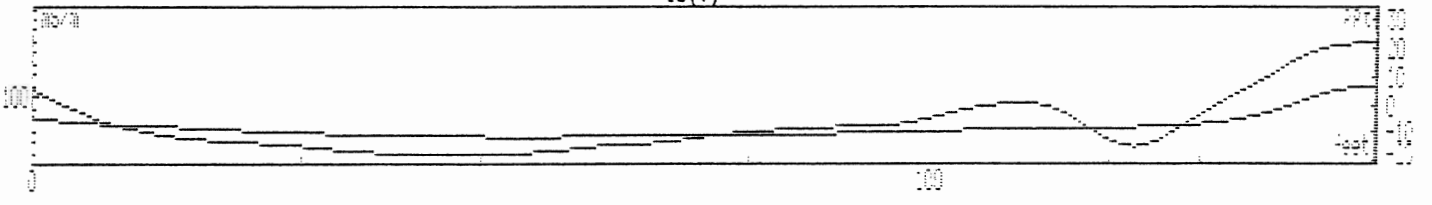

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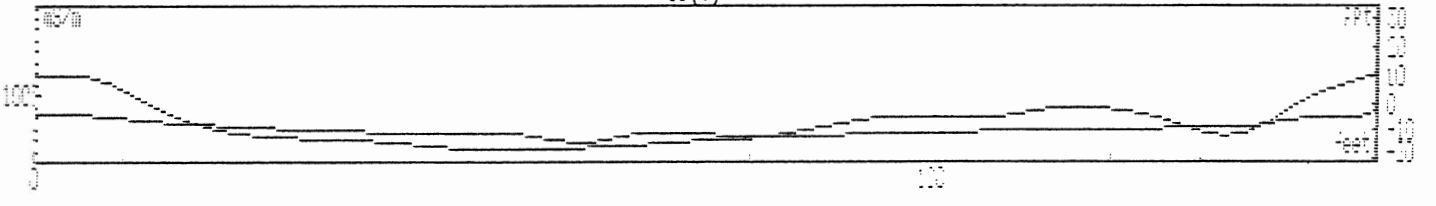

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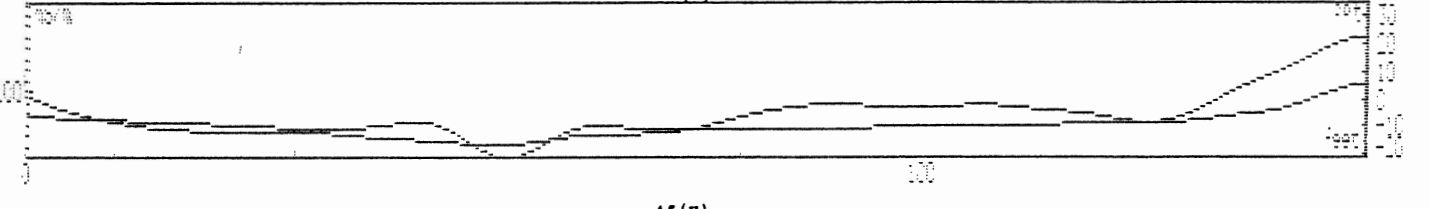

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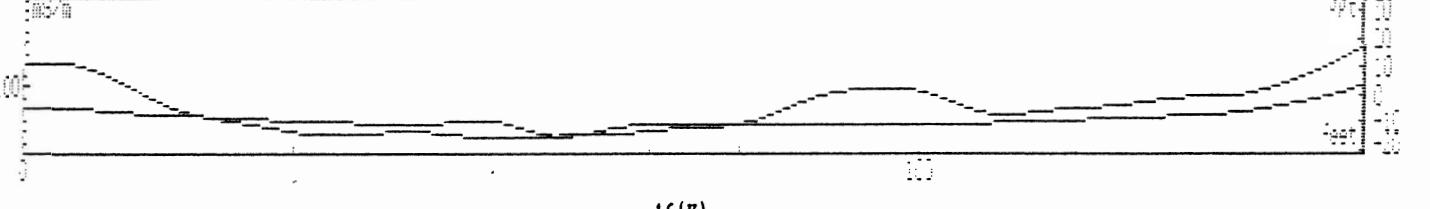

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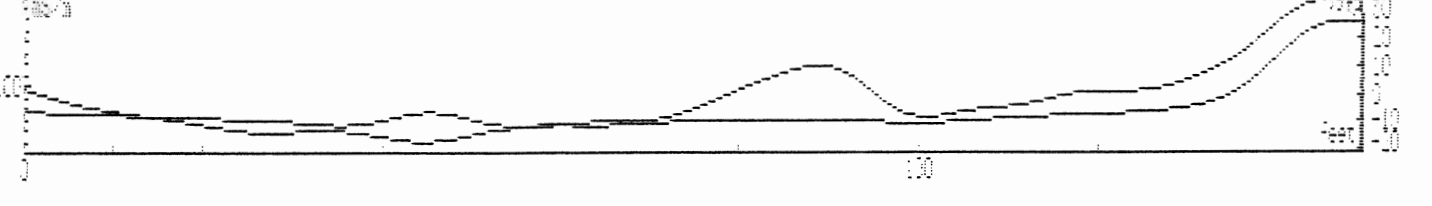
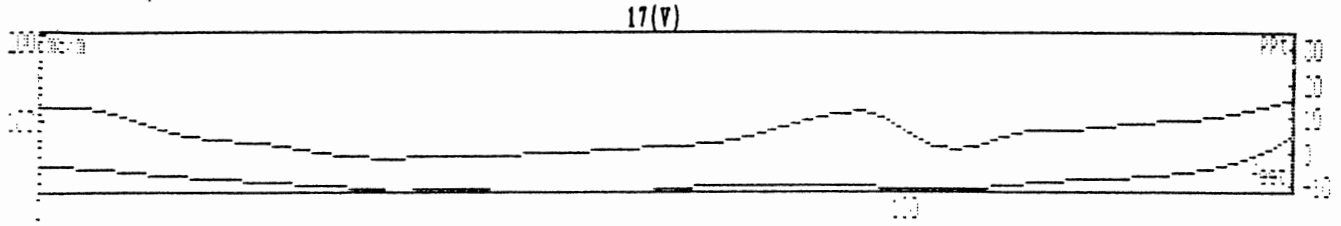


YONKERS WATERFRONT ELECTROMAGNETIC SURVEY "PARCEL A"

17(V)



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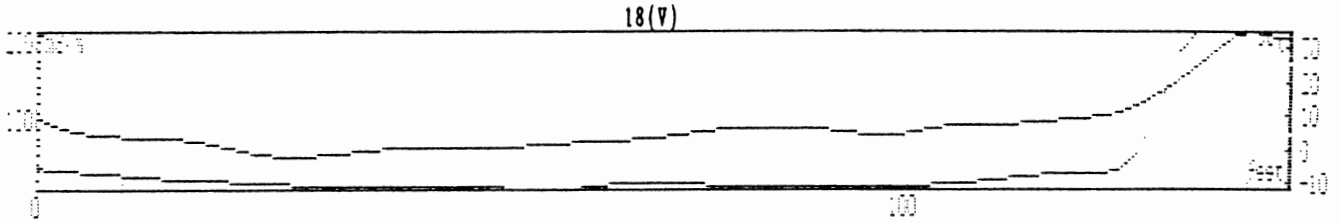

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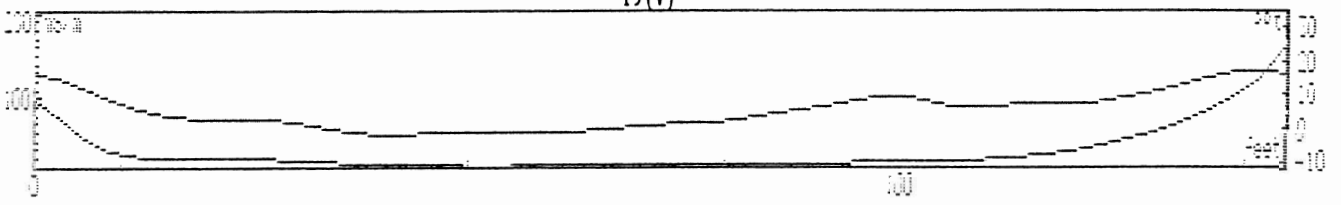

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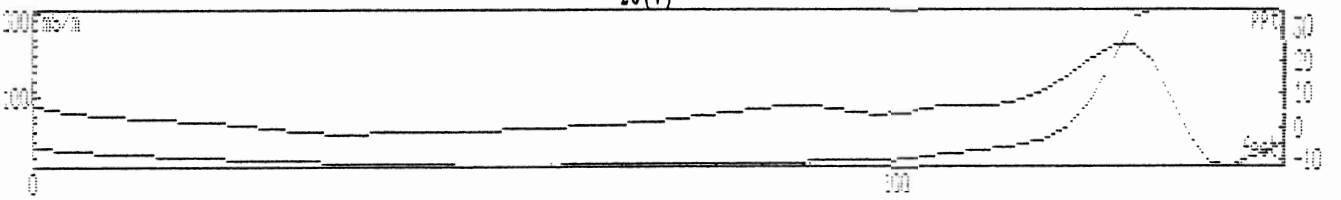

YONKERS WATERFRONT ELECTROMAGNETIC SURVEY "PARCEL A"

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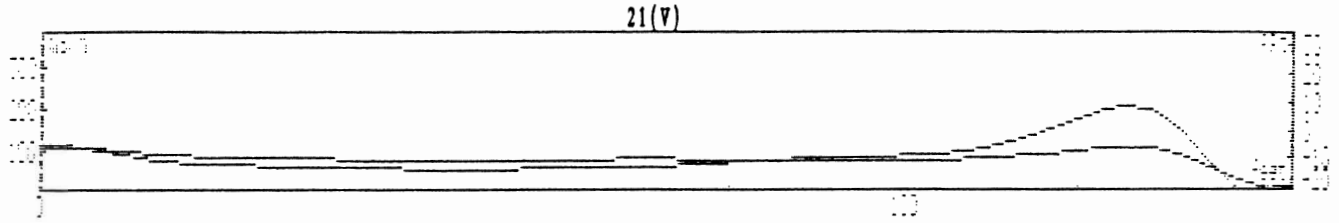

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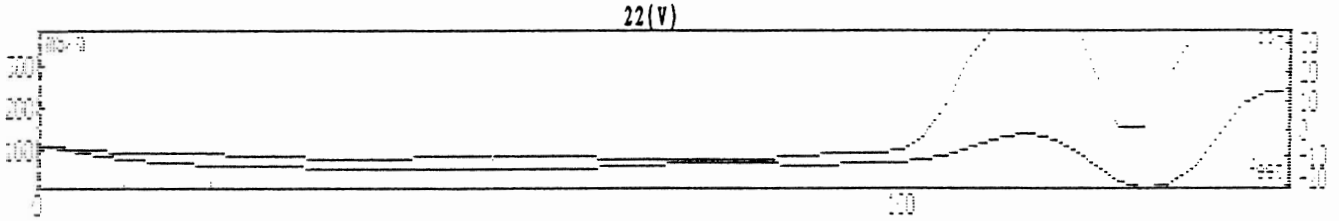

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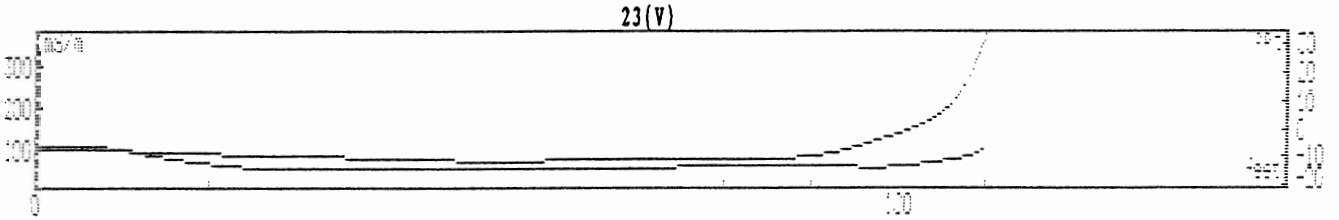

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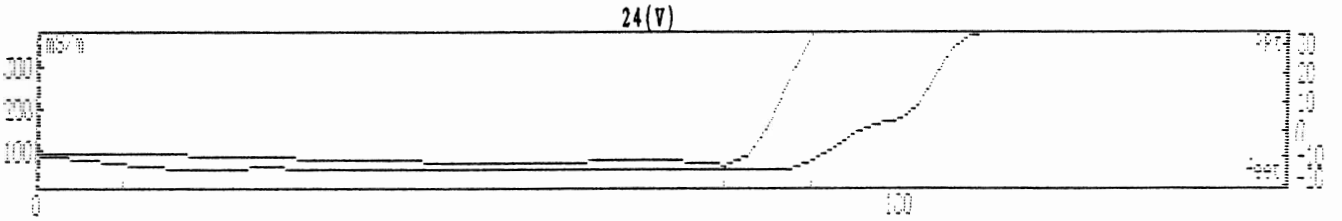

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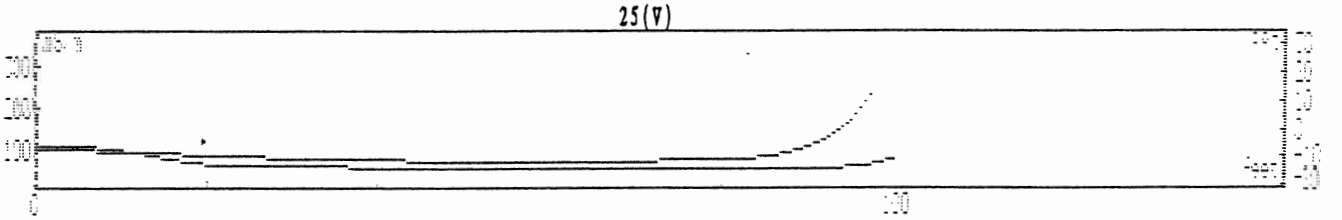

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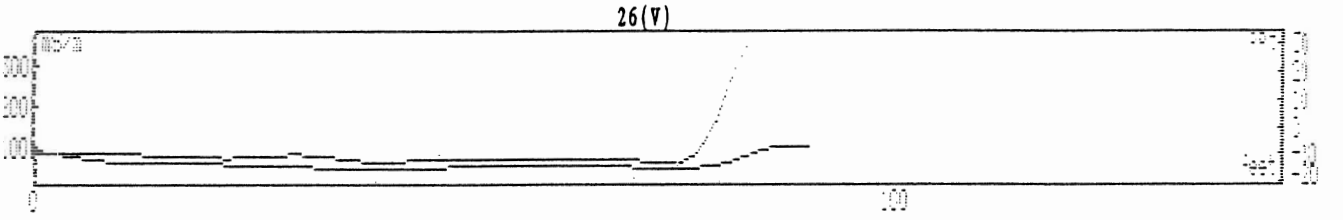


APPENDIX C

SOIL GAS ANALYTICAL RESULTS

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 20S 20W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	7		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.03
TCE	0.03
toluene	0.05
PCE	0.05
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.10

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 100S 20W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	8		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.03
TCE	0.23
toluene	0.16
PCE	0.08
ethylbenzene	0.17
xylene(m,p)	0.00
xylene (o)	0.07
MEK	0.24

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 145S 20W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	9		

Target Compounds	Concentration (ppm w/v)
acetone	0.48
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.00
TCE	0.02
toluene	0.00
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.09

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 125S 60W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	10		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.09
benzene	0.07
TCE	0.73
toluene	0.46
PCE	0.16
ethylbenzene	0.27
xylene(m,p)	0.00
xylene (o)	0.33
MEK	0.84

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 145S 75W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	11		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.00
TCE	0.00
toluene	0.04
PCE	0.33
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.18
MEK	0.05

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 145S 120W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	12		

Target Compounds	Concentration (ppm w/v)
acetone	2.13
1,1-DCE	0.00
t-1,2-DCE	0.02
c-1,2-DCE	0.00
benzene	0.06
TCE	0.11
toluene	0.09
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.99

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 100S 100W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	13		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.03
benzene	0.06
TCE	0.31
toluene	0.38
PCE	0.02
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.10
MEK	0.66

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 90S 60W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	14		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.05
TCE	0.41
toluene	0.67
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.07
MEK	0.88

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 50S 60W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	15		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.00
TCE	0.04
toluene	0.09
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.10

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 60S 100W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	17		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.06
benzene	0.02
TCE	0.00
toluene	0.08
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.85

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 20S 100W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	18		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.07
benzene	0.01
TCE	0.03
toluene	0.09
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.07

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 20S 60W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	19		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.08
TCE	0.14
toluene	0.17
PCE	0.00
ethylbenzene	0.21
xylene(m,p)	0.00
xylene (o)	0.59
MEK	0.09

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 75S 20W	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	20		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.04
TCE	0.10
toluene	0.13
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.09
MEK	0.00

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 01	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	21		

Target Compounds	Concentration (ppm w/v)
acetone	0.75
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.01
TCE	0.03
toluene	0.12
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.52

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 02	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	22		

Target Compounds	Concentration (ppm w/v)
acetone	0.65
1,1-DCE	0.00
t-1,2-DCE	0.04
c-1,2-DCE	0.00
benzene	0.00
TCE	0.03
toluene	0.04
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	0.00

YONKERS WATERFRONT
ERM-FAST ANALYTICAL RESULTS

Parcel A

Volatile Organics Results
by Photovac GC/PID

Sample Identification Code:	A 03	**Date Collected:**	9/23/98
Sample Injection Volume (μL):	250	**Date Analyzed:**	9/23/98
Dilution Factor:	1		
Sample Volume (L):	1	**GC Operator:**	WKW
Analysis #:	23		

Target Compounds	Concentration (ppm w/v)
acetone	0.00
1,1-DCE	0.00
t-1,2-DCE	0.00
c-1,2-DCE	0.00
benzene	0.04
TCE	0.04
toluene	0.12
PCE	0.00
ethylbenzene	0.00
xylene(m,p)	0.00
xylene (o)	0.00
MEK	12.37

APPENDIX D

SOIL BORING LOGS

AKRF, Inc.

Environmental Consultants

34 South Broadway
White Plains, New York 10601
Fax: (914) 949-7559
Phone: (914) 949-7336

Log of Boring: B-1A

Project No: 70004-0001

Project: Yonkers Downtown Waterfront
Location: Yonkers, New York
Client: City of Yonkers

Logged By: KR
Checked By: ML

Depth	Symbol	Description	Depth Below Grade	Number	Type	Blows/ft	Recovery	PID	Moisture
0		Ground Surface	0						
		3" BITUMINOUS CONCRETE (ASPHALT).	-0.4						
1		Loose, dark brown, SAND and GRAVEL.		S1	SS	6 4 3 2	1"	ND	Dry
2			-2.4						
3		No Recovery.		S2	SS	2 1 3 1	0"		
4			-4.4						
5		Medium dense, red/brown, SAND and SILT, little Gravel.		S3	SS	20 20 6 4	4"	ND	Wet
6			-6.4						
7		*End of boring at approximately 6.4 feet below grade.*							
8		*Groundwater encountered at approximately 4.5 feet below grade.*							
9									
10									
11									
12									

Driller: Enviro-Tech
Drill Method: 4-1/4" Hollow Stem Auger
Sample Method: 2" Split Spoon
Borehole Diameter: 8"
Water Level: Approximately 4.5 Feet Below Grade

GS Elevation:
Start Date: 10/29/98
Start Time: 0700
Finish Date: 10/29/98
Finish Time: 0830

AKRF, Inc.

Environmental Consultants

34 South Broadway
White Plains, New York 10601
Fax: (914) 949-7559
Phone: (914) 949-7336

Log of Boring: B-2A

Project No: 70004-0001

Project: Yonkers Downtown Waterfront
Location: Yonkers, New York
Client: City of Yonkers

Logged By: KR
Checked By: ML

Depth	Symbol	Description	Depth Below Grade	Number	Type	Blows/ft	Recovery	PID	Moisture
0		Ground Surface	0						
		3" BITUMINOUS CONCRETE (ASPHALT).	-0.4						
1		Medium dense, brown to black, SAND and SILT, little Gravel.		S1	SS	15 11 4 7	11"	ND	Dry
2			-2.4						
3		End of boring at approximately 2.4 feet below grade due to auger refusal.							
4		Groundwater not encountered.							
5									
6									
7									
8									
9									
10									
11									
12									

Driller: Enviro-Tech
Drill Method: 4-1/4" Hollow Stem Auger
Sample Method: 2" Split Spoon
Borehole Diameter: 8"
Water Level: Not Encountered

GS Elevation:
Start Date: 10/29/98
Start Time: 0830
Finish Date: 10/29/98
Finish Time: 0930

AKRF, Inc.

Environmental Consultants

34 South Broadway
White Plains, New York 10601
Fax: (914) 949-7559
Phone: (914) 949-7336

Log of Well: MW-3A

Project No: 70004-0001

Project: Yonkers Downtown Waterfront
Location: Yonkers, New York
Client: City of Yonkers

Logged By: KR
Checked By: ML

SUBSURFACE PROFILE				SAMPLE						
Depth	Symbol	Description	Depth Below Grade	Number	Type	Blows/ft	Recovery	PID	Well Data	Remarks
0		Ground Surface	0							
		3" BITUMINOUS CONCRETE (ASPHALT).	-0.4							LOCKING PROTECTIVE CASING
1		Very dense, dark brown, SAND and GRAVEL, little Silt.		S1	SS	10 25 30 18	2"	ND		TOP CAP
2			-2.4							BENTONITE SEAL
3		Very dense, brown to black, SAND, some Gravel, little Silt.		*S2	SS	16 40 23 22	18"	ND		2" DIA. SCH. 40 BLANK PVC RISER
4			-4.4							H2O
5		Medium dense, GRAVEL, some Sand.		S3	SS	55 10 6 6	11"	ND		
6			-6.4							2" DIA. SCH. 40 SLOTTED PVC (0.0100")
7										
8										
9										
10										SAND FILTER PACK
11										
12			-12							BOTTOM CAP
13		*End of boring at approximately 12 feet below grade.* *Groundwater encoutered at approximately 4.2 feet below grade.*								
14		**Sample sent to laboratory.*								
15										

Driller: Enviro-Tech
Drill Method: 4-1/4" Hollow Stem Auger
Sample Method: 2" Split Spoon
Borehole Diameter: 8"
Water Level: 4.2 Feet Below PVC

GS Elevation:
Start Date: 10/29/98
Start Time: 0930
Finish Date: 10/29/98
Finish Time: 1030

AKRF, Inc.

Environmental Consultants

34 South Broadway
White Plains, New York 10601
Fax: (914) 949-7559
Phone: (914) 949-7336

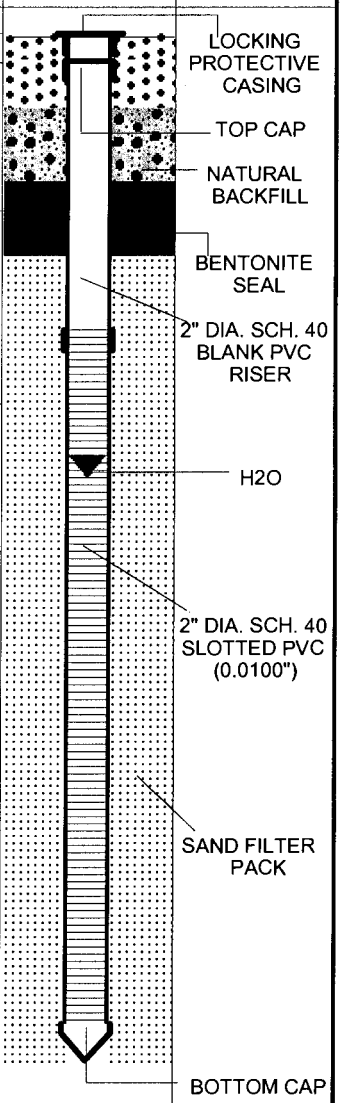
Log of Well: MW-4A

Project No: 70004-0001

Project: Yonkers Downtown Waterfront
Location: Yonkers, New York
Client: City of Yonkers

Logged By: KR
Checked By: ML

SUBSURFACE PROFILE				SAMPLE						
Depth	Symbol	Description	Depth Below Grade	Number	Type	Blows/ft	Recovery	PID	Well Data	Remarks
0		Ground Surface	0							
		3" BITUMINOUS CONCRETE (ASPHALT).	-0.4							
1		Dense, red/brown, SAND and GRAVEL.		S1	SS	18 24 50 70	10"	ND		
2			-2.4							
3		Refusal at approximately 2' below grade. Well off-set approximately 5' southeast; augered to 5' below grade.								
4										
5			-5							
6		Medium dense, brown, SAND and GRAVEL, little Silt.		*S2	SS	11 15 22 9	11"	ND		
7			-7							
8		Medium dense, brown, SAND and SILT.		S3	SS	8 7 5 2	9"	ND		
9			-9							
10										
11										
12		*End of boring at approximately 14 feet below grade.*								
13		*Groundwater encoutered at approximately 5.6 feet below grade.*								
		**Sample sent to laboratory.*	-14							
14										
15										



Driller: Enviro-Tech
Drill Method: 4-1/4" Hollow Stem Auger
Sample Method: 2" Split Spoon
Borehole Diameter: 8"
Water Level: 5.6 Feet Below PVC

GS Elevation:
Start Date: 10/29/98
Start Time: 1100
Finish Date: 10/29/98
Finish Time: 1200

AKRF, Inc.

Environmental Consultants

34 South Broadway
White Plains, New York 10601
Fax: (914) 949-7559
Phone: (914) 949-7336

Log of Boring: B-5A

Project No: 70004-0001

Project: Yonkers Downtown Waterfront
Location: Yonkers, New York
Client: City of Yonkers

Logged By: KR
Checked By: ML

Depth	Symbol	Description	Depth Below Grade	Number	Type	Blows/ft	Recovery	PID	Moisture
0		Ground Surface	0						
		3" BITUMINOUS CONCRETE (ASPHALT).	-0.4						
1		Very dense, brown to black, SAND, some Gravel, little Silt.		*S1	SS	15 25 45 25	17"	ND	Dry
2			-2.4						
3		Medium dense, brown, SAND, some Silt, some gravel.		S2	SS	15 9 11 18	1.5"	ND	Dry
4			-4.4						
5		Top 12":Brown, SAND and SILT. Bottom 2":Brown, SAND and SILT.		S3	SS	12 9 6 6	14"	ND	Wet
6			-6.4						
7		*End of boring at approximately 6.4 feet below grade.* *Groundwater encountered at approximately 5.5 feet below grade.* **Sample sent to laboratory.*							
8									
9									
10									
11									
12									

Driller: Enviro-Tech
Drill Method: 4-1/4" Hollow Stem Auger
Sample Method: 2" Split Spoon
Borehole Diameter: 8"
Water Level: Approximately 5.5 Feet Below Grade.

GS Elevation:
Start Date: 10/29/98
Start Time: 1300
Finish Date: 10/29/98
Finish Time: 1400

APPENDIX E

SOIL AND GROUNDWATER ANALYTICAL RESULTS

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/02/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2532.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/02/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2532.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Unknown Siloxane	16.87	5.1	
2.	Unknown Siloxane	18.81	8.1	B
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION 5.1

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/03/98
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m3123.d

Matrix: WATER
Level: LOW
Sample Volume: 880 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Phenol	ND	11
2-Chlorophenol	ND	11
2-Methylphenol	ND	11
4-Methylphenol	ND	11
2-Nitrophenol	ND	11
2,4-Dimethylphenol	ND	11
2,4-Dichlorophenol	ND	11
4-Chloro-3-methylphenol	ND	11
2,4,6-Trichlorophenol	ND	11
2,4,5-Trichlorophenol	ND	11
2,4-Dinitrophenol	ND	45
4-Nitrophenol	ND	45
4,6-Dinitro-2-methylphenol	ND	45
Pentachlorophenol	ND	45

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/03/98
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m3123.d

Matrix: WATER
Level: LOW
Sample Volume: 880 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
bis(2-Chloroethyl)ether	ND	1.1
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
1,2-Dichlorobenzene	ND	11
bis(2-chloroisopropyl)ether	ND	11
N-Nitroso-di-n-propylamine	ND	1.1
Hexachloroethane	ND	1.1
Nitrobenzene	ND	1.1
Isophorone	ND	11
bis(2-Chloroethoxy)methane	ND	11
1,2,4-Trichlorobenzene	ND	1.1
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	2.3
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	11
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	23
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	2.3
3-Nitroaniline	ND	23
Acenaphthene	ND	11
Dibenzofuran	ND	11
2,4-Dinitrotoluene	ND	2.3
Diethylphthalate	ND	11
4-Chlorophenyl-phenylether	ND	11
Fluorene	ND	11
4-Nitroaniline	ND	23
N-Nitrosodiphenylamine	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	1.1
Phenanthrene	ND	11
Anthracene	ND	11

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/03/98
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m3123.d

Matrix: WATER
Level: LOW
Sample Volume: 880 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Carbazole	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	23
Benzo(a)anthracene	ND	1.1
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b)fluoranthene	ND	1.1
Benzo(k)fluoranthene	ND	1.1
Benzo(a)pyrene	ND	1.1
Indeno(1,2,3-cd)pyrene	ND	1.1
Dibenz(a,h)anthracene	ND	1.1
Benzo(g,h,i)perylene	ND	11

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/03/98
GC Column: DB-5
Instrument ID: BNAMS6.i
Lab File ID: m3123.d

Matrix: WATER
Level: LOW
Sample Volume: 880 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample ID: **93192**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/04/98
Date Analyzed: 11/06/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 850 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Front File ID: zf035130.d
Rear File ID: zr035130.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l	Quant. Column
Aroclor-1016	ND	0.59	R
Aroclor-1221	ND	0.59	R
Aroclor-1232	ND	0.59	R
Aroclor-1242	ND	0.59	R
Aroclor-1248	ND	0.59	R
Aroclor-1254	ND	0.59	R
Aroclor-1260	ND	0.59	R
Aroclor-1262	ND	0.59	R
Aroclor-1268	ND	0.59	R

Client ID: **Field Blank**
Site: **Yonkers Waterfront**

Lab Sample No: 93192
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Aluminum	ND	84.1		P
Antimony	ND	4.4	N	P
Arsenic	ND	2.8		P
Barium	ND	1.4		P
Beryllium	ND	0.20		P
Cadmium	ND	0.40		P
Calcium	ND	82.0	*	P
Chromium	ND	1.1		P
Cobalt	ND	1.3		P
Copper	ND	2.9	*	P
Iron	96.8	47.5	B	P
Lead	ND	2.0	*	P
Magnesium	ND	69.7	N*	P
Manganese	2.3	0.90	B	P
Mercury	ND	0.10		CV
Nickel	ND	2.1		P
Potassium	ND	245		P
Selenium	ND	4.2		P
Silver	ND	1.4		P
Sodium	ND	483		P
Thallium	ND	4.5		P
Vanadium	ND	2.6		P
Zinc	ND	3.9	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6971.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.2 g
Purge Volume: 5.0 ml
% Moisture: 16

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	5.7
Bromomethane	ND	5.7
Vinyl Chloride	ND	5.7
Chloroethane	ND	5.7
Methylene Chloride	5.5B	3.4
Acetone	86	5.7
Carbon Disulfide	2.1J	5.7
1,1-Dichloroethene	ND	2.3
1,1-Dichloroethane	ND	5.7
trans-1,2-Dichloroethene	ND	5.7
cis-1,2-Dichloroethene	ND	5.7
Chloroform	ND	5.7
1,2-Dichloroethane	ND	2.3
2-Butanone	ND	5.7
1,1,1-Trichloroethane	ND	5.7
Carbon Tetrachloride	ND	2.3
Bromodichloromethane	ND	1.1
1,2-Dichloropropane	ND	1.1
cis-1,3-Dichloropropene	ND	5.7
Trichloroethene	ND	1.1
Dibromochloromethane	ND	5.7
1,1,2-Trichloroethane	ND	3.4
Benzene	ND	1.1
trans-1,3-Dichloropropene	ND	5.7
Bromoform	ND	4.6
4-Methyl-2-Pentanone	ND	5.7
2-Hexanone	ND	5.7
Tetrachloroethene	ND	1.1
1,1,2,2-Tetrachloroethane	ND	1.1
Toluene	2.0J	5.7
Chlorobenzene	ND	5.7
Ethylbenzene	ND	4.6
Styrene	ND	5.7
Xylene (Total)	ND	5.7

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6971.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.2 g
Purge Volume: 5.0 ml
% Moisture: 15.5

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	Unknown	6.04	6.9	
2.	Unknown Siloxane	12.80	27	
3.	Unknown	15.33	20	
4.	Unknown Siloxane	17.27	45	
5.				
6.				
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TOTAL ESTIMATED CONCENTRATION: 99

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1249.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 16

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	ND	390
2-Chlorophenol	ND	390
2-Methylphenol	ND	390
4-Methylphenol	78 J	390
2-Nitrophenol	ND	390
2,4-Dimethylphenol	ND	390
2,4-Dichlorophenol	ND	390
4-Chloro-3-methylphenol	ND	390
2,4,6-Trichlorophenol	ND	390
2,4,5-Trichlorophenol	ND	390
2,4-Dinitrophenol	ND	1600
4-Nitrophenol	ND	1600
4,6-Dinitro-2-methylphenol	ND	1600
Pentachlorophenol	ND	1600

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1249.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 16

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	39
1,3-Dichlorobenzene	ND	390
1,4-Dichlorobenzene	ND	390
1,2-Dichlorobenzene	ND	390
bis(2-chloroisopropyl)ether	ND	390
N-Nitroso-di-n-propylamine	ND	39
Hexachloroethane	ND	39
Nitrobenzene	ND	39
Isophorone	ND	390
bis(2-Chloroethoxy)methane	ND	390
1,2,4-Trichlorobenzene	ND	39
Naphthalene	210 J	390
4-Chloroaniline	ND	390
Hexachlorobutadiene	ND	79
2-Methylnaphthalene	190 J	390
Hexachlorocyclopentadiene	ND	390
2-Chloronaphthalene	ND	390
2-Nitroaniline	ND	790
Dimethylphthalate	ND	390
Acenaphthylene	150 J	390
2,6-Dinitrotoluene	ND	79
3-Nitroaniline	ND	790
Acenaphthene	110 J	390
Dibenzofuran	94 J	390
2,4-Dinitrotoluene	ND	79
Diethylphthalate	ND	390
4-Chlorophenyl-phenylether	ND	390
Fluorene	140 J	390
4-Nitroaniline	ND	790
N-Nitrosodiphenylamine	ND	390
4-Bromophenyl-phenylether	ND	390
Hexachlorobenzene	ND	39
Phenanthrene	1200	390
Anthracene	330 J	390

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1249.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 16

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	93 J	390
Di-n-butylphthalate	ND	390
Fluoranthene	1200	390
Pyrene	1100	390
Butylbenzylphthalate	ND	390
3,3'-Dichlorobenzidine	ND	790
Benzo(a)anthracene	720	39
Chrysene	910	390
bis(2-Ethylhexyl)phthalate	690	390
Di-n-octylphthalate	ND	390
Benzo(b)fluoranthene	800	39
Benzo(k)fluoranthene	320	39
Benzo(a)pyrene	640	39
Indeno(1,2,3-cd)pyrene	370	39
Dibenz(a,h)anthracene	120	39
Benzo(g,h,i)perylene	350 J	390

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1249.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 15.5

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown Alcohol	14.89	340	
2. Unknown Alkane	20.13	330	
3. C15H12 PAH	21.19	450	
4. C15H12 PAH	21.23	630	
5. C15H12 PAH	21.31	330	
6. C15H10/C15H12 PAHs	21.37	710	
7. C15H12 PAH	21.41	430	
8. Unknown Alkane	21.51	480	
9. C16H12 PAH	21.68	560	
10. Unknown	21.72	410	
11. C16H14 PAH	22.11	400	
12. C20H12 PAH	27.74	640	
13.			
14.			
15.			
16.			
17.			
18.			
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27.			
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29.			
30.			

TOTAL ESTIMATED CONCENTRATION	5710

Client ID: **MW-3A_S-2**
Site: Yonkers Waterfront

Lab Sample ID: **93193**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/07/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf011699.d
Rear File ID: pr011699.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 16

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	79	R
Aroclor-1221	ND	79	R
Aroclor-1232	ND	79	R
Aroclor-1242	ND	79	R
Aroclor-1248	ND	79	R
Aroclor-1254	ND	79	R
Aroclor-1260	ND	79	R
Aroclor-1262	ND	79	R
Aroclor-1268	ND	79	R

Client ID: **MW-3A S-2**
Site: **Yonkers Waterfront**

Lab Sample No: 93193
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98

Matrix: SOLID
Level: LOW
% Moisture: 15.5

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	3470	19.9		P
Antimony	ND	1.0	N	P
Arsenic	5.6	0.66		P
Barium	60.5	0.33		P
Beryllium	0.22	0.047	B	P
Cadmium	ND	0.095		P
Calcium	5160	19.4	*	P
Chromium	9.1	0.26		P
Cobalt	5.4	0.31	B	P
Copper	53.6	0.69	*	P
Iron	18000	11.2		P
Lead	97.4	0.47	*	P
Magnesium	2260	16.5	N*	P
Manganese	156	0.21		P
Mercury	0.24	0.020		CV
Nickel	13.0	0.50		P
Potassium	595	87.1	B	P
Selenium	1.2	0.99		P
Silver	ND	0.33		P
Sodium	839	171	B	P
Thallium	ND	1.1		P
Vanadium	18.9	0.62		P
Zinc	105	0.92	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6972.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.3 g
Purge Volume: 5.0 ml
% Moisture: 11

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	5.3
Bromomethane	ND	5.3
Vinyl Chloride	ND	5.3
Chloroethane	ND	5.3
Methylene Chloride	2.0JB	3.2
Acetone	20	5.3
Carbon Disulfide	ND	5.3
1,1-Dichloroethene	ND	2.1
1,1-Dichloroethane	ND	5.3
trans-1,2-Dichloroethene	ND	5.3
cis-1,2-Dichloroethene	ND	5.3
Chloroform	ND	5.3
1,2-Dichloroethane	ND	2.1
2-Butanone	ND	5.3
1,1,1-Trichloroethane	ND	5.3
Carbon Tetrachloride	ND	2.1
Bromodichloromethane	ND	1.1
1,2-Dichloropropane	ND	1.1
cis-1,3-Dichloropropene	ND	5.3
Trichloroethene	ND	1.1
Dibromochloromethane	ND	5.3
1,1,2-Trichloroethane	ND	3.2
Benzene	2.9	1.1
trans-1,3-Dichloropropene	ND	5.3
Bromoform	ND	4.2
4-Methyl-2-Pentanone	ND	5.3
2-Hexanone	ND	5.3
Tetrachloroethene	ND	1.1
1,1,2,2-Tetrachloroethane	ND	1.1
Toluene	ND	5.3
Chlorobenzene	ND	5.3
Ethylbenzene	ND	4.2
Styrene	ND	5.3
Xylene (Total)	ND	5.3

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6972.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.3 g
Purge Volume: 5.0 ml
% Moisture: 11.3

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1250.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	ND	380
2-Chlorophenol	ND	380
2-Methylphenol	ND	380
4-Methylphenol	ND	380
2-Nitrophenol	ND	380
2,4-Dimethylphenol	ND	380
2,4-Dichlorophenol	ND	380
4-Chloro-3-methylphenol	ND	380
2,4,6-Trichlorophenol	ND	380
2,4,5-Trichlorophenol	ND	380
2,4-Dinitrophenol	ND	1500
4-Nitrophenol	ND	1500
4,6-Dinitro-2-methylphenol	ND	1500
Pentachlorophenol	ND	1500

ENVIROTECH RESEARCH, INC.

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1250.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	38
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
1,2-Dichlorobenzene	ND	380
bis(2-chloroisopropyl)ether	ND	380
N-Nitroso-di-n-propylamine	ND	38
Hexachloroethane	ND	38
Nitrobenzene	ND	38
Isophorone	ND	380
bis(2-Chloroethoxy)methane	ND	380
1,2,4-Trichlorobenzene	ND	38
Naphthalene	15 J	380
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	75
2-Methylnaphthalene	18 J	380
Hexachlorocyclopentadiene	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	750
Dimethylphthalate	ND	380
Acenaphthylene	31 J	380
2,6-Dinitrotoluene	ND	75
3-Nitroaniline	ND	750
Acenaphthene	34 J	380
Dibenzofuran	16 J	380
2,4-Dinitrotoluene	ND	75
Diethylphthalate	ND	380
4-Chlorophenyl-phenylether	ND	380
Fluorene	32 J	380
4-Nitroaniline	ND	750
N-Nitrosodiphenylamine	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	38
Phenanthrene	390	380
Anthracene	90 J	380

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1250.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	37 J	380
Di-n-butylphthalate	ND	380
Fluoranthene	410	380
Pyrene	420	380
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	750
Benzo(a)anthracene	270	38
Chrysene	320 J	380
bis(2-Ethylhexyl)phthalate	170 J	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	310	38
Benzo(k)fluoranthene	100	38
Benzo(a)pyrene	240	38
Indeno(1,2,3-cd)pyrene	160	38
Dibenz(a,h)anthracene	46	38
Benzo(g,h,i)perylene	140 J	380

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample No: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/11/98
GC Column: DB-5
Instrument ID: BNAMS3.i
Lab File ID: t1250.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11.3

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	C20H12 PAH	27.73	340	
2.	Unknown	29.92	330	
3.	Unknown	31.10	590	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
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22.				
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26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	1260

Client ID: **MW-4A_S-2**
Site: Yonkers Waterfront

Lab Sample ID: **93194**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/07/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf011700.d
Rear File ID: pr011700.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 11

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	76	R
Aroclor-1221	ND	76	R
Aroclor-1232	ND	76	R
Aroclor-1242	ND	76	R
Aroclor-1248	ND	76	R
Aroclor-1254	ND	76	R
Aroclor-1260	ND	76	R
Aroclor-1262	ND	76	R
Aroclor-1268	ND	76	R

Client ID: **MW-4A S-2**
Site: **Yonkers Waterfront**

Lab Sample No: 93194
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98

Matrix: SOLID
Level: LOW
% Moisture: 11.3

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	10600	19.0		P
Antimony	ND	0.99	N	P
Arsenic	1.4	0.63		P
Barium	113	0.32		P
Beryllium	0.52	0.045		P
Cadmium	ND	0.090		P
Calcium	8080	18.5	*	P
Chromium	25.5	0.25		P
Cobalt	10.1	0.29	B	P
Copper	48.5	0.65	*	P
Iron	26200	10.7		P
Lead	100	0.45	*	P
Magnesium	8740	15.7	N*	P
Manganese	542	0.20		P
Mercury	0.23	0.019		CV
Nickel	18.0	0.47		P
Potassium	2450	55.3		P
Selenium	ND	0.95		P
Silver	ND	0.32		P
Sodium	572	109	B	P
Thallium	ND	1.0		P
Vanadium	38.1	0.59		P
Zinc	121	0.88	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **B-5A_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6973.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.0 g
Purge Volume: 5.0 ml
% Moisture: 10

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	5.6
Bromomethane	ND	5.6
Vinyl Chloride	ND	5.6
Chloroethane	ND	5.6
Methylene Chloride	1.2JB	3.3
Acetone	54	5.6
Carbon Disulfide	1.1J	5.6
1,1-Dichloroethene	ND	2.2
1,1-Dichloroethane	ND	5.6
trans-1,2-Dichloroethene	ND	5.6
cis-1,2-Dichloroethene	ND	5.6
Chloroform	ND	5.6
1,2-Dichloroethane	ND	2.2
2-Butanone	ND	5.6
1,1,1-Trichloroethane	ND	5.6
Carbon Tetrachloride	ND	2.2
Bromodichloromethane	ND	1.1
1,2-Dichloropropane	ND	1.1
cis-1,3-Dichloropropene	ND	5.6
Trichloroethene	ND	1.1
Dibromochloromethane	ND	5.6
1,1,2-Trichloroethane	ND	3.3
Benzene	ND	1.1
trans-1,3-Dichloropropene	ND	5.6
Bromoform	ND	4.4
4-Methyl-2-Pentanone	ND	5.6
2-Hexanone	ND	5.6
Tetrachloroethene	ND	1.1
1,1,2,2-Tetrachloroethane	ND	1.1
Toluene	ND	5.6
Chlorobenzene	ND	5.6
Ethylbenzene	ND	4.4
Styrene	ND	5.6
Xylene (Total)	ND	5.6

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6973.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.0 g
Purge Volume: 5.0 ml
% Moisture: 10.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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16.				
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27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **B-5A S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6382.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	26 J	370
2-Chlorophenol	ND	370
2-Methylphenol	ND	370
4-Methylphenol	ND	370
2-Nitrophenol	ND	370
2,4-Dimethylphenol	ND	370
2,4-Dichlorophenol	ND	370
4-Chloro-3-methylphenol	ND	370
2,4,6-Trichlorophenol	ND	370
2,4,5-Trichlorophenol	ND	370
2,4-Dinitrophenol	ND	1500
4-Nitrophenol	ND	1500
4,6-Dinitro-2-methylphenol	ND	1500
Pentachlorophenol	ND	1500

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6382.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	37
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	13 J	370
1,2-Dichlorobenzene	12 J	370
bis(2-chloroisopropyl)ether	ND	370
N-Nitroso-di-n-propylamine	ND	37
Hexachloroethane	ND	37
Nitrobenzene	ND	37
Isophorone	ND	370
bis(2-Chloroethoxy)methane	ND	370
1,2,4-Trichlorobenzene	ND	37
Naphthalene	120 J	370
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	74
2-Methylnaphthalene	84 J	370
Hexachlorocyclopentadiene	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	740
Dimethylphthalate	ND	370
Acenaphthylene	92 J	370
2,6-Dinitrotoluene	ND	74
3-Nitroaniline	ND	740
Acenaphthene	170 J	370
Dibenzofuran	130 J	370
2,4-Dinitrotoluene	ND	74
Diethylphthalate	ND	370
4-Chlorophenyl-phenylether	ND	370
Fluorene	140 J	370
4-Nitroaniline	ND	740
N-Nitrosodiphenylamine	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	37
Phenanthrene	1400	370
Anthracene	420	370

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6382.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	95 J	370
Di-n-butylphthalate	ND	370
Fluoranthene	2800	370
Pyrene	2900	370
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	740
Benzo(a)anthracene	1600	37
Chrysene	1500	370
bis(2-Ethylhexyl)phthalate	3400	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	1900	37
Benzo(k)fluoranthene	680	37
Benzo(a)pyrene	1400	37
Indeno(1,2,3-cd)pyrene	410	37
Dibenz(a,h)anthracene	120	37
Benzo(g,h,i)perylene	380	370

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A S-1**
Site: Yonkers Waterfront

Lab Sample No: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6382.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. C15H12 PAH	21.32	420	
2. C15H10/C15H12 PAHs	21.46	740	
3. C16H14 PAH	22.19	320	
4. Unknown Alkane	22.24	300	
5. C17H12 PAH	23.39	370	
6. C17H10O Ketone/Unknown alkane	24.57	310	
7. C20H12 PAH	27.97	1400	
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			
TOTAL ESTIMATED CONCENTRATION		3860	

Client ID: **B-5A_S-1**
Site: Yonkers Waterfront

Lab Sample ID: **93195**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/07/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf011701.d
Rear File ID: pr011701.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 10

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	74	R
Aroclor-1221	ND	74	R
Aroclor-1232	ND	74	R
Aroclor-1242	ND	74	R
Aroclor-1248	ND	74	R
Aroclor-1254	130	74	F
Aroclor-1260	ND	74	R
Aroclor-1262	ND	74	R
Aroclor-1268	ND	74	R

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A S-1**
Site: **Yonkers Waterfront**

Lab Sample No: 93195
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98

Matrix: SOLID
Level: LOW
% Moisture: 10.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	8130	18.7		P
Antimony	ND	0.98	N	P
Arsenic	5.3	0.62		P
Barium	120	0.31		P
Beryllium	0.30	0.044	B	P
Cadmium	0.70	0.089	B	P
Calcium	9320	18.2	*	P
Chromium	23.8	0.24		P
Cobalt	6.9	0.29	B	P
Copper	109	0.64	*	P
Iron	20700	10.6		P
Lead	251	0.44	*	P
Magnesium	5310	15.5	N*	P
Manganese	323	0.20		P
Mercury	0.69	0.019		CV
Nickel	21.1	0.47		P
Potassium	1830	54.5		P
Selenium	ND	0.93		P
Silver	ND	0.31		P
Sodium	776	107	B	P
Thallium	ND	1.0		P
Vanadium	36.9	0.58		P
Zinc	416	0.87	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6974.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.3 g
Purge Volume: 5.0 ml
% Moisture: 10

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	5.2
Bromomethane	ND	5.2
Vinyl Chloride	ND	5.2
Chloroethane	ND	5.2
Methylene Chloride	3.4B	3.1
Acetone	70	5.2
Carbon Disulfide	1.0J	5.2
1,1-Dichloroethene	ND	2.1
1,1-Dichloroethane	ND	5.2
trans-1,2-Dichloroethene	ND	5.2
cis-1,2-Dichloroethene	ND	5.2
Chloroform	ND	5.2
1,2-Dichloroethane	ND	2.1
2-Butanone	ND	5.2
1,1,1-Trichloroethane	ND	5.2
Carbon Tetrachloride	ND	2.1
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.2
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.2
1,1,2-Trichloroethane	ND	3.1
Benzene	0.7J	1.0
trans-1,3-Dichloropropene	ND	5.2
Bromoform	ND	4.2
4-Methyl-2-Pentanone	ND	5.2
2-Hexanone	ND	5.2
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.2
Chlorobenzene	ND	5.2
Ethylbenzene	ND	4.2
Styrene	ND	5.2
Xylene (Total)	ND	5.2

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/09/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6974.d

Matrix: SOIL
Level: LOW
Sample Weight: 5.3 g
Purge Volume: 5.0 ml
% Moisture: 10.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	1-Fluoro-1,1-dichloro-ethane	6.04	10	
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION 10.0

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6383.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	35 J	370
2-Chlorophenol	ND	370
2-Methylphenol	ND	370
4-Methylphenol	ND	370
2-Nitrophenol	ND	370
2,4-Dimethylphenol	ND	370
2,4-Dichlorophenol	ND	370
4-Chloro-3-methylphenol	ND	370
2,4,6-Trichlorophenol	ND	370
2,4,5-Trichlorophenol	ND	370
2,4-Dinitrophenol	ND	1500
4-Nitrophenol	ND	1500
4,6-Dinitro-2-methylphenol	ND	1500
Pentachlorophenol	ND	1500

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6383.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	37
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
1,2-Dichlorobenzene	ND	370
bis(2-chloroisopropyl)ether	ND	370
N-Nitroso-di-n-propylamine	ND	37
Hexachloroethane	ND	37
Nitrobenzene	ND	37
Isophorone	ND	370
bis(2-Chloroethoxy)methane	ND	370
1,2,4-Trichlorobenzene	ND	37
Naphthalene	160 J	370
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	74
2-Methylnaphthalene	99 J	370
Hexachlorocyclopentadiene	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	740
Dimethylphthalate	ND	370
Acenaphthylene	130 J	370
2,6-Dinitrotoluene	ND	74
3-Nitroaniline	ND	740
Acenaphthene	180 J	370
Dibenzofuran	140 J	370
2,4-Dinitrotoluene	ND	74
Diethylphthalate	ND	370
4-Chlorophenyl-phenylether	ND	370
Fluorene	140 J	370
4-Nitroaniline	ND	740
N-Nitrosodiphenylamine	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	37
Phenanthrene	1500	370
Anthracene	440	370

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6383.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	110 J	370
Di-n-butylphthalate	ND	370
Fluoranthene	2800	370
Pyrene	2800	370
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	740
Benzo(a)anthracene	1500	37
Chrysene	1500	370
bis(2-Ethylhexyl)phthalate	3700	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	2000	37
Benzo(k)fluoranthene	770	37
Benzo(a)pyrene	1300	37
Indeno(1,2,3-cd)pyrene	390	37
Dibenz(a,h)anthracene	130	37
Benzo(g,h,i)perylene	320 J	370

ENVIROTECH RESEARCH, INC.

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample No: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/12/98
GC Column: DB-5
Instrument ID: BNAMS1.i
Lab File ID: r6383.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1.	C15H12 PAH	21.32	440	
2.	C15H10/C15H12 PAHs	21.46	650	
3.	C16H12 PAH	21.76	320	
4.	C16H14 PAH	22.20	400	
5.	C17H12 PAH	23.20	300	
6.	C17H12 PAH	23.39	340	
7.	C17H12 PAH	23.56	310	
8.	C17H10O Ketone/Unknown alkane	24.57	360	
9.	Unknown	26.55	640	
10.	C20H12 PAH	27.97	1100	
11.	Unknown	31.51	570	
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	5430

Client ID: **B-5A1_S-1**
Site: Yonkers Waterfront

Lab Sample ID: **93196**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Extracted: 11/02/98
Date Analyzed: 11/07/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC5.i
Front File ID: pf011702.d
Rear File ID: pr011702.d

Matrix: SOIL
Level: LOW
Sample Weight: 15 g
Extract Final Volume: 10.0 ml
Dilution Factor: 1.0
% Moisture: 10

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg	Column
Aroclor-1016	ND	74	R
Aroclor-1221	ND	74	R
Aroclor-1232	ND	74	R
Aroclor-1242	ND	74	R
Aroclor-1248	ND	74	R
Aroclor-1254	130	74	F
Aroclor-1260	ND	74	R
Aroclor-1262	ND	74	R
Aroclor-1268	ND	74	R

Client ID: **B-5A1 S-1**
Site: **Yonkers Waterfront**

Lab Sample No: 93196
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98

Matrix: SOLID
Level: LOW
% Moisture: 10.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	8730	18.7		P
Antimony	ND	0.98	N	P
Arsenic	5.1	0.62		P
Barium	123	0.31		P
Beryllium	0.32	0.044	B	P
Cadmium	0.62	0.089	B	P
Calcium	9670	18.2	*	P
Chromium	23.3	0.24		P
Cobalt	7.2	0.29	B	P
Copper	94.3	0.64	*	P
Iron	20200	10.6		P
Lead	210	0.44	*	P
Magnesium	5960	15.5	N*	P
Manganese	222	0.20		P
Mercury	0.51	0.019		CV
Nickel	19.9	0.47		P
Potassium	1880	54.5		P
Selenium	ND	0.93		P
Silver	ND	0.31		P
Sodium	852	107	B	P
Thallium	ND	1.0		P
Vanadium	35.4	0.58		P
Zinc	321	0.87	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **Trip_Blank**
Site: Yonkers Waterfront

Lab Sample No: **93197**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/02/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2533.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

ENVIROTECH RESEARCH, INC.

Client ID: **Trip Blank**
Site: Yonkers Waterfront

Lab Sample No: **93197**
Lab Job No: I638

Date Sampled: 10/29/98
Date Received: 10/29/98
Date Analyzed: 11/02/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2533.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
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28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice): MICHELLE LAPIN	Samplers Name (Printed): KEVIN REILLY	Site/Project Identification: YONKERS WATERFRONT
Company: AKRF, INC.	P.O. #: 70004	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 34 S. BROADWAY	Analysis Turnaround Time: Standard ☐	Regulatory Program:
City: WHITE PLAINS State: NY Zip: 10601	Rush Charges Authorized For: 2 Week ☒ 1 Week ☐ Other ☐	
Phone: 914-949-7336 Fax: 914-949-7559		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQ)

LAB USE ONLY
Project No: 804-134
Job No: G140

Sample Identification	Date	Time	Matrix	No. of Cont.	8021 (VOCs)	8270 (BNAs)										Sample Numbers
1A-N	8-5-98		SOIL	2	X	X										75808
2A-S	8-5-98		SOIL	2	X	X										75809
3A-E	8-5-98		SOIL	2	X	X										75810
4A-W	8-5-98		SOIL	2	X	X										75811
5A-D	8-5-98		SOIL	2	X	X										75812
TRIP BLANK	8-5-98		WATER	2	X											75813
FIELD BLANK	8-5-98		WATER	3	X	X										75814

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Kevin O. Reilly	AKRF, INC.	8-6-98 1:30P	1)	Envirotech
2)	Envirotech	8-6-98 3:31P	2)	Envirotech
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

ENVIROTECH RESEARCH, INC.

Client ID: **1A-N**
Site: Yonkers Waterfront

Lab Sample No: **75808**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/11/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6619.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 12

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)		Quantitation Limit Units: ug/kg
Naphthalene	45	J	380
Acenaphthene	40	J	380
Fluorene	44	J	380
Phenanthrene	520		380
Anthracene	120	J	380
Fluoranthene	1000		380
Pyrene	960		380
Benzo(a)anthracene	560		38
Chrysene	610		380
Benzo(b)fluoranthene	770		38
Benzo(k)fluoranthene	260		38
Benzo(a)pyrene	550		38
Indeno(1,2,3-cd)pyrene	230		38
Dibenz(a,h)anthracene	78		38
Benzo(g,h,i)perylene	200	J	380

Client ID: **1A-N**
Site: Yonkers Waterfront

Lab Sample No: **75808**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/11/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid1475.d

Matrix: SOIL
Level: LOW
Sample Weight: 1 g
Purge Volume: 5.0 ml
% Moisture: 11.6

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	5.6
Toluene	ND	5.6
Ethylbenzene	ND	5.6
Isopropylbenzene	ND	5.6
n-Propylbenzene	ND	5.6
1,3,5-Trimethylbenzene	ND	5.6
tert-Butylbenzene	ND	5.6
1,2,4-Trimethylbenzene	ND	5.6
sec-Butylbenzene	ND	5.6
p-Isopropyltoluene	ND	5.6
n-Butylbenzene	ND	5.6
Naphthalene	ND	5.6
MTBE	ND	5.6
Total Xylenes	ND	5.6

Client ID: **2A-S**
Site: Yonkers Waterfront

Lab Sample No: **75809**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/11/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6618.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 13

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Naphthalene	ND	380
Acenaphthene	ND	380
Fluorene	ND	380
Phenanthrene	ND	380
Anthracene	ND	380
Fluoranthene	ND	380
Pyrene	ND	380
Benzo(a)anthracene	ND	38
Chrysene	ND	380
Benzo(b)fluoranthene	ND	38
Benzo(k)fluoranthene	ND	38
Benzo(a)pyrene	ND	38
Indeno(1,2,3-cd)pyrene	ND	38
Dibenz(a,h)anthracene	ND	38
Benzo(g,h,i)perylene	ND	380

Client ID: **2A-S**
Site: Yonkers Waterfront

Lab Sample No: **75809**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/10/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid1465.d

Matrix: SOIL
Level: LOW
Sample Weight: 1 g
Purge Volume: 5.0 ml
% Moisture: 12.9

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	5.7
Toluene	ND	5.7
Ethylbenzene	ND	5.7
Isopropylbenzene	ND	5.7
n-Propylbenzene	ND	5.7
1,3,5-Trimethylbenzene	ND	5.7
tert-Butylbenzene	ND	5.7
1,2,4-Trimethylbenzene	ND	5.7
sec-Butylbenzene	ND	5.7
p-Isopropyltoluene	ND	5.7
n-Butylbenzene	ND	5.7
Naphthalene	ND	5.7
MTBE	ND	5.7
Total Xylenes	ND	5.7

Client ID: **3A-E**
Site: Yonkers Waterfront

Lab Sample No: **75810**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/11/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6620.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 9

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)		Quantitation Limit Units: ug/kg
Naphthalene	210	J	370
Acenaphthene	760		370
Fluorene	760		370
Phenanthrene	7100		370
Anthracene	1800		370
Fluoranthene	8500		370
Pyrene	7400		370
Benzo(a)anthracene	4000		37
Chrysene	3900		370
Benzo(b)fluoranthene	4900		37
Benzo(k)fluoranthene	2000		37
Benzo(a)pyrene	3600		37
Indeno(1,2,3-cd)pyrene	870		37
Dibenz(a,h)anthracene	240		37
Benzo(g,h,i)perylene	570		370

Client ID: **3A-E**
Site: Yonkers Waterfront

Lab Sample No: **75810**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/10/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid1466.d

Matrix: SOIL
Level: LOW
Sample Weight: 1 g
Purge Volume: 5.0 ml
% Moisture: 9.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	5.5
Toluene	ND	5.5
Ethylbenzene	ND	5.5
Isopropylbenzene	ND	5.5
n-Propylbenzene	ND	5.5
1,3,5-Trimethylbenzene	ND	5.5
tert-Butylbenzene	ND	5.5
1,2,4-Trimethylbenzene	7.6	5.5
sec-Butylbenzene	ND	5.5
p-Isopropyltoluene	ND	5.5
n-Butylbenzene	ND	5.5
Naphthalene	ND	5.5
MTBE	ND	5.5
Total Xylenes	ND	5.5

Client ID: **4A-W**
Site: Yonkers Waterfront

Lab Sample No: **75811**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/11/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6621.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 2.0
% Moisture: 12

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)		Quantitation Limit Units: ug/kg
Naphthalene	850		750
Acenaphthene	420	J	750
Fluorene	520	J	750
Phenanthrene	2300		750
Anthracene	410	J	750
Fluoranthene	2000		750
Pyrene	1800		750
Benzo(a)anthracene	910		75
Chrysene	960		750
Benzo(b)fluoranthene	1100		75
Benzo(k)fluoranthene	420		75
Benzo(a)pyrene	780		75
Indeno(1,2,3-cd)pyrene	380		75
Dibenz(a,h)anthracene	110		75
Benzo(g,h,i)perylene	290	J	750

ENVIROTECH RESEARCH, INC.

Client ID: **4A-W**
Site: Yonkers Waterfront

Lab Sample No: **75811**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/11/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid1477.d

Matrix: SOIL
Level: LOW
Sample Weight: 1 g
Purge Volume: 5.0 ml
% Moisture: 11.6

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	5.6
Toluene	ND	5.6
Ethylbenzene	ND	5.6
Isopropylbenzene	ND	5.6
n-Propylbenzene	ND	5.6
1,3,5-Trimethylbenzene	ND	5.6
tert-Butylbenzene	ND	5.6
1,2,4-Trimethylbenzene	ND	5.6
sec-Butylbenzene	ND	5.6
p-Isopropyltoluene	ND	5.6
n-Butylbenzene	ND	5.6
Naphthalene	ND	5.6
MTBE	ND	5.6
Total Xylenes	ND	5.6

Client ID: **5A-D**
Site: Yonkers Waterfront

Lab Sample No: **75812**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/18/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6785.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 8

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)		Quantitation Limit Units: ug/kg
Naphthalene	37	J	360
Acenaphthene	140	J	360
Fluorene	130	J	360
Phenanthrene	1700		360
Anthracene	380		360
Fluoranthene	3100		360
Pyrene	3000		360
Benzo(a)anthracene	1700		36
Chrysene	1900		360
Benzo(b)fluoranthene	2100		36
Benzo(k)fluoranthene	860		36
Benzo(a)pyrene	1800		36
Indeno(1,2,3-cd)pyrene	960		36
Dibenz(a,h)anthracene	230		36
Benzo(g,h,i)perylene	790		360

ENVIROTECH RESEARCH, INC.

Client ID: **5A-D**
Site: Yonkers Waterfront

Lab Sample No: **75812**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/11/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: gpid1478.d

Matrix: SOIL
Level: LOW
Sample Weight: 1 g
Purge Volume: 5.0 ml
% Moisture: 8.3

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Benzene	ND	5.4
Toluene	ND	5.4
Ethylbenzene	ND	5.4
Isopropylbenzene	ND	5.4
n-Propylbenzene	ND	5.4
1,3,5-Trimethylbenzene	ND	5.4
tert-Butylbenzene	ND	5.4
1,2,4-Trimethylbenzene	ND	5.4
sec-Butylbenzene	ND	5.4
p-Isopropyltoluene	ND	5.4
n-Butylbenzene	ND	5.4
Naphthalene	ND	5.4
MTBE	ND	5.4
Total Xylenes	ND	5.4

Client ID: **Trip Blank**
Site: Yonkers Waterfront

Lab Sample No: **75813**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/07/98
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2086.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **75814**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Extracted: 08/07/98
Date Analyzed: 08/11/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s6611.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

PAH - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Naphthalene	ND	10
Acenaphthene	ND	10
Fluorene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	1.0
Chrysene	ND	10
Benzo(b)fluoranthene	ND	1.0
Benzo(k)fluoranthene	ND	1.0
Benzo(a)pyrene	ND	1.0
Indeno(1,2,3-cd)pyrene	ND	1.0
Dibenz(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	10

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **75814**
Lab Job No: G140

Date Sampled: 08/05/98
Date Received: 08/06/98
Date Analyzed: 08/07/98
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2087.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Isopropylbenzene	ND	1.0
n-Propylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
p-Isopropyltoluene	ND	1.0
n-Butylbenzene	ND	1.0
Naphthalene	ND	1.0
MTBE	ND	1.0
Total Xylenes	ND	1.0

Enviroteck
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): YONKERS WATERFRONT	Samplers Name (Printed): KEVIN REILLY	Site/Project Identification: YONKERS WATERFRONT
Company: AKRF, INC	P.O. #: 72004	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 34 S. BROADWAY	Analysis Turnaround Time: Standard ☐	Regulatory Program:
City: WHITE PLAINS State: NY	Rush Charges Authorized For: 2 Week ☒ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone: 914 949 7336 Fax: 914 949 7557		Job No: I963

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	S-VOCS	VOCS	PCBs	DISS. TAL METALS	TOTAL TAL METALS	Sample Numbers	DIS
MW-2C	11-9-98		AQ	6	X	X	X	X	X	95705	957
MW-4C	11-9-98		AQ	6	X	X	X	X	X	95706	957
MW-3A	11-9-98		AQ	6	X	X	X	X	X	95707	957
MW-4A	11-9-98		AQ	6	X	X	X	X	X	95708	957
FIELD BLANK	11-9-98		AQ	6	X	X	X	X	X	95709	957
TRIP BLANK	11-9-98		AQ	2		X				95710	
MW-4AC	11/9/98	1020		6	X	X	X	X		95711	957

11/10/98 per Kevin Reilly cancel all TAL Metals (Total analysis). Run Dissolved TAL Metals only. MB

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other _____, 7 = Other _____ Soil: Water:

Special Instructions SAMPLES WERE FIELD FILTERED Water Metals Filtered (Yes/No)? Y

Relinquished by	Company	Date / Time	Received by	Company
1) Kevin Reilly	AKRF INC	11-9-98 1330	1)	ENVIROTECH
2)	ENVIROTECH	11-9-98 1640	2)	ENVIROTECH
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A**
Site: Yonkers Waterfront

Lab Sample No: **95707**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/22/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9166.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	25
Bromomethane	ND	25
Vinyl Chloride	ND	25
Chloroethane	ND	25
Methylene Chloride	200	15
Acetone	ND	25
Carbon Disulfide	ND	25
1,1-Dichloroethene	ND	10
1,1-Dichloroethane	ND	25
trans-1,2-Dichloroethene	ND	25
cis-1,2-Dichloroethene	ND	25
Chloroform	ND	25
1,2-Dichloroethane	ND	10
2-Butanone	ND	25
1,1,1-Trichloroethane	ND	25
Carbon Tetrachloride	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	25
Trichloroethene	ND	5.0
Dibromochloromethane	ND	25
1,1,2-Trichloroethane	ND	15
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	25
Bromoform	ND	20
4-Methyl-2-Pentanone	ND	25
2-Hexanone	ND	25
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	20
Styrene	ND	25
Xylene (Total)	ND	25

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A**
Site: Yonkers Waterfront

Lab Sample No: **95707**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/22/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9166.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	Unknown	18.49	27	
2.	Unknown Aldehyde	21.96	36	
3.				
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30.				

TOTAL ESTIMATED CONCENTRATION	63

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A**
Site: Yonkers Waterfront

Lab Sample No: **95707**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8246.d

Matrix: WATER
Level: LOW
Sample Volume: 750 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Phenol	ND	13
2-Chlorophenol	ND	13
2-Methylphenol	ND	13
4-Methylphenol	ND	13
2-Nitrophenol	ND	13
2,4-Dimethylphenol	ND	13
2,4-Dichlorophenol	ND	13
4-Chloro-3-methylphenol	ND	13
2,4,6-Trichlorophenol	ND	13
2,4,5-Trichlorophenol	ND	13
2,4-Dinitrophenol	ND	53
4-Nitrophenol	ND	53
4,6-Dinitro-2-methylphenol	ND	53
Pentachlorophenol	ND	53

ENVIROTECH RESEARCH, INC.

Client ID: ~~MW-3A~~ ~~Lab Sample No: 95707~~
Site: Yonkers Waterfront
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8246.d

Matrix: WATER
Level: LOW
Sample Volume: 750 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
bis(2-Chloroethyl)ether	ND	1.3
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
1,2-Dichlorobenzene	ND	13
bis(2-chloroisopropyl)ether	ND	13
N-Nitroso-di-n-propylamine	ND	1.3
Hexachloroethane	ND	1.3
Nitrobenzene	ND	1.3
Isophorone	ND	13
bis(2-Chloroethoxy)methane	ND	13
1,2,4-Trichlorobenzene	ND	1.3
Naphthalene	ND	13
4-Chloroaniline	ND	13
Hexachlorobutadiene	ND	2.7
2-Methylnaphthalene	ND	13
Hexachlorocyclopentadiene	ND	13
2-Chloronaphthalene	ND	13
2-Nitroaniline	ND	27
Dimethylphthalate	ND	13
Acenaphthylene	ND	13
2,6-Dinitrotoluene	ND	2.7
3-Nitroaniline	ND	27
Acenaphthene	ND	13
Dibenzofuran	ND	13
2,4-Dinitrotoluene	ND	2.7
Diethylphthalate	ND	13
4-Chlorophenyl-phenylether	ND	13
Fluorene	ND	13
4-Nitroaniline	ND	27
N-Nitrosodiphenylamine	ND	13
4-Bromophenyl-phenylether	ND	13
Hexachlorobenzene	ND	1.3
Phenanthrene	ND	13
Anthracene	ND	13

ENVIROTECH RESEARCH, INC.

Client ID: MW-3A — Lab Sample No: 95707
Site: Yonkers Waterfront — Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8246.d

Matrix: WATER
Level: LOW
Sample Volume: 750 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Carbazole	ND	13
Di-n-butylphthalate	ND	13
Fluoranthene	ND	13
Pyrene	ND	13
Butylbenzylphthalate	ND	13
3,3'-Dichlorobenzidine	ND	27
Benzo(a)anthracene	ND	1.3
Chrysene	ND	13
bis(2-Ethylhexyl)phthalate	ND	13
Di-n-octylphthalate	ND	13
Benzo(b)fluoranthene	ND	1.3
Benzo(k)fluoranthene	ND	1.3
Benzo(a)pyrene	ND	1.3
Indeno(1,2,3-cd)pyrene	ND	1.3
Dibenz(a,h)anthracene	ND	1.3
Benzo(g,h,i)perylene	ND	13

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A**
Site: Yonkers Waterfront

Lab Sample No: **95707**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8246.d

Matrix: WATER
Level: LOW
Sample Volume: 750 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

ENVIROTECH RESEARCH, INC.

Client ID: **MW-3A**
Site: Yonkers Waterfront

Lab Sample ID: **95707**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/13/98
Date Analyzed: 11/13/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 820 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Front File ID: zf035271.d
Rear File ID: zr035271.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l	Quant. Column
Aroclor-1016	ND	0.61	R
Aroclor-1221	ND	0.61	R
Aroclor-1232	ND	0.61	R
Aroclor-1242	ND	0.61	R
Aroclor-1248	ND	0.61	R
Aroclor-1254	ND	0.61	R
Aroclor-1260	ND	0.61	R
Aroclor-1262	ND	0.61	R
Aroclor-1268	ND	0.61	R

ENVIROTECH RESEARCH, INC.

Client ID: **MW-4A**
Site: Yonkers Waterfront

Lab Sample No: **95708**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/23/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2979.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	120	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	2.2J	5.0
Xylene (Total)	ND	5.0

ENVIROTECH RESEARCH, INC.

Client ID: **MW-4A**
Site: Yonkers Waterfront

Lab Sample No: **95708**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/23/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2979.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **MW-4A**
Site: Yonkers Waterfront

Lab Sample No: **95708**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8247.d

Matrix: WATER
Level: LOW
Sample Volume: 680 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Phenol	ND	15
2-Chlorophenol	ND	15
2-Methylphenol	ND	15
4-Methylphenol	ND	15
2-Nitrophenol	ND	15
2,4-Dimethylphenol	ND	15
2,4-Dichlorophenol	ND	15
4-Chloro-3-methylphenol	ND	15
2,4,6-Trichlorophenol	ND	15
2,4,5-Trichlorophenol	ND	15
2,4-Dinitrophenol	ND	59
4-Nitrophenol	ND	59
4,6-Dinitro-2-methylphenol	ND	59
Pentachlorophenol	ND	59

ENVIROTECH RESEARCH, INC.

Client ID: ~~MW-4A~~ ~~Lab Sample No: 95708~~
Site: Yonkers Waterfront Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8247.d

Matrix: WATER
Level: LOW
Sample Volume: 680 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
bis(2-Chloroethyl)ether	ND	1.5
1,3-Dichlorobenzene	ND	15
1,4-Dichlorobenzene	ND	15
1,2-Dichlorobenzene	ND	15
bis(2-chloroisopropyl)ether	ND	15
N-Nitroso-di-n-propylamine	ND	1.5
Hexachloroethane	ND	1.5
Nitrobenzene	ND	1.5
Isophorone	ND	15
bis(2-Chloroethoxy)methane	ND	15
1,2,4-Trichlorobenzene	ND	1.5
Naphthalene	ND	15
4-Chloroaniline	ND	15
Hexachlorobutadiene	ND	2.9
2-Methylnaphthalene	ND	15
Hexachlorocyclopentadiene	ND	15
2-Chloronaphthalene	ND	15
2-Nitroaniline	ND	29
Dimethylphthalate	ND	15
Acenaphthylene	ND	15
2,6-Dinitrotoluene	ND	2.9
3-Nitroaniline	ND	29
Acenaphthene	ND	15
Dibenzofuran	ND	15
2,4-Dinitrotoluene	ND	2.9
Diethylphthalate	ND	15
4-Chlorophenyl-phenylether	ND	15
Fluorene	ND	15
4-Nitroaniline	ND	29
N-Nitrosodiphenylamine	ND	15
4-Bromophenyl-phenylether	ND	15
Hexachlorobenzene	ND	1.5
Phenanthrene	ND	15
Anthracene	ND	15

ENVIROTECH RESEARCH, INC.

Client ID: MW-4A — Lab Sample No: 95708
Site: Yonkers Waterfront — Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8247.d

Matrix: WATER
Level: LOW
Sample Volume: 680 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Carbazole	ND	15
Di-n-butylphthalate	ND	15
Fluoranthene	ND	15
Pyrene	ND	15
Butylbenzylphthalate	ND	15
3,3'-Dichlorobenzidine	ND	29
Benzo(a)anthracene	ND	1.5
Chrysene	ND	15
bis(2-Ethylhexyl)phthalate	ND	15
Di-n-octylphthalate	ND	15
Benzo(b)fluoranthene	ND	1.5
Benzo(k)fluoranthene	ND	1.5
Benzo(a)pyrene	ND	1.5
Indeno(1,2,3-cd)pyrene	ND	1.5
Dibenz(a,h)anthracene	ND	1.5
Benzo(g,h,i)perylene	ND	15

ENVIROTECH RESEARCH, INC.

Client ID: **MW-4A**
Site: Yonkers Waterfront

Lab Sample No: **95708**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8247.d

Matrix: WATER
Level: LOW
Sample Volume: 680 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **MW-4A**
Site: Yonkers Waterfront

Lab Sample ID: **95708**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/13/98
Date Analyzed: 11/13/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 700 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Front File ID: zf035272.d
Rear File ID: zr035272.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l	Quant. Column
Aroclor-1016	ND	0.71	R
Aroclor-1221	ND	0.71	R
Aroclor-1232	ND	0.71	R
Aroclor-1242	ND	0.71	R
Aroclor-1248	ND	0.71	R
Aroclor-1254	ND	0.71	R
Aroclor-1260	ND	0.71	R
Aroclor-1262	ND	0.71	R
Aroclor-1268	ND	0.71	R

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95709**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/19/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9125.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95709**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/19/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9125.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95709**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8248.d

Matrix: WATER
Level: LOW
Sample Volume: 730 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Phenol	ND	14
2-Chlorophenol	ND	14
2-Methylphenol	ND	14
4-Methylphenol	ND	14
2-Nitrophenol	ND	14
2,4-Dimethylphenol	ND	14
2,4-Dichlorophenol	ND	14
4-Chloro-3-methylphenol	ND	14
2,4,6-Trichlorophenol	ND	14
2,4,5-Trichlorophenol	ND	14
2,4-Dinitrophenol	ND	55
4-Nitrophenol	ND	55
4,6-Dinitro-2-methylphenol	ND	55
Pentachlorophenol	ND	55

ENVIROTECH RESEARCH, INC.

Client ID: ~~Field Blank~~ ~~Lab Sample No: 95709~~
Site: Yonkers Waterfront Lab Job No: I963

Date Sampled: 11/09/98 Matrix: WATER
Date Received: 11/09/98 Level: LOW
Date Extracted: 11/16/98 Sample Volume: 730 ml
Date Analyzed: 11/18/98 Extract Final Volume: 2.0 ml
GC Column: DB-5 Dilution Factor: 1.0
Instrument ID: BNAMS5.i
Lab File ID: q8248.d

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
bis(2-Chloroethyl)ether	ND	1.4
1,3-Dichlorobenzene	ND	14
1,4-Dichlorobenzene	ND	14
1,2-Dichlorobenzene	ND	14
bis(2-chloroisopropyl)ether	ND	14
N-Nitroso-di-n-propylamine	ND	1.4
Hexachloroethane	ND	1.4
Nitrobenzene	ND	1.4
Isophorone	ND	14
bis(2-Chloroethoxy)methane	ND	14
1,2,4-Trichlorobenzene	ND	1.4
Naphthalene	ND	14
4-Chloroaniline	ND	14
Hexachlorobutadiene	ND	2.7
2-Methylnaphthalene	ND	14
Hexachlorocyclopentadiene	ND	14
2-Chloronaphthalene	ND	14
2-Nitroaniline	ND	27
Dimethylphthalate	ND	14
Acenaphthylene	ND	14
2,6-Dinitrotoluene	ND	2.7
3-Nitroaniline	ND	27
Acenaphthene	ND	14
Dibenzofuran	ND	14
2,4-Dinitrotoluene	ND	2.7
Diethylphthalate	ND	14
4-Chlorophenyl-phenylether	ND	14
Fluorene	ND	14
4-Nitroaniline	ND	27
N-Nitrosodiphenylamine	ND	14
4-Bromophenyl-phenylether	ND	14
Hexachlorobenzene	ND	1.4
Phenanthrene	ND	14
Anthracene	ND	14

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank** Lab Sample No: **95709**
Site: Yonkers Waterfront Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8248.d

Matrix: WATER
Level: LOW
Sample Volume: 730 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Carbazole	ND	14
Di-n-butylphthalate	ND	14
Fluoranthene	ND	14
Pyrene	ND	14
Butylbenzylphthalate	ND	14
3,3'-Dichlorobenzidine	ND	27
Benzo(a)anthracene	ND	1.4
Chrysene	ND	14
bis(2-Ethylhexyl)phthalate	ND	14
Di-n-octylphthalate	ND	14
Benzo(b)fluoranthene	ND	1.4
Benzo(k)fluoranthene	ND	1.4
Benzo(a)pyrene	ND	1.4
Indeno(1,2,3-cd)pyrene	ND	1.4
Dibenz(a,h)anthracene	ND	1.4
Benzo(g,h,i)perylene	ND	14

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95709**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/16/98
Date Analyzed: 11/18/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q8248.d

Matrix: WATER
Level: LOW
Sample Volume: 730 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
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29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

ENVIROTECH RESEARCH, INC.

Client ID: **Field_Blank**
Site: Yonkers Waterfront

Lab Sample ID: **95709**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Extracted: 11/13/98
Date Analyzed: 11/13/98
GC Front Column: DB-5
GC Rear Column: DB-608
Instrument ID: PESTGC3.i

Matrix: WATER
Sample Volume: 670 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Front File ID: zf035273.d
Rear File ID: zr035273.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 8082

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l	Quant. Column
Aroclor-1016	ND	0.75	R
Aroclor-1221	ND	0.75	R
Aroclor-1232	ND	0.75	R
Aroclor-1242	ND	0.75	R
Aroclor-1248	ND	0.75	R
Aroclor-1254	ND	0.75	R
Aroclor-1260	ND	0.75	R
Aroclor-1262	ND	0.75	R
Aroclor-1268	ND	0.75	R

Client ID: **Trip_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95710**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/19/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9126.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

ENVIROTECH RESEARCH, INC.

Client ID: **Trip_Blank**
Site: Yonkers Waterfront

Lab Sample No: **95710**
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98
Date Analyzed: 11/19/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b9126.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

	COMPOUND NAME	RT	EST. CONC. ug/l	Q
1.	NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
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29.				
30.				

TOTAL ESTIMATED CONCENTRATION	0.0

Client ID: **MW-3A-Dis**
Site: **Yonkers Waterfront**

Lab Sample No: 95714
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Aluminum	ND	58.2		P
Antimony	ND	4.6		P
Arsenic	ND	3.8		P
Barium	343	1.4	B	P
Beryllium	ND	0.20		P
Cadmium	ND	0.40		P
Calcium	172000	42.2		P
Chromium	ND	1.0		P
Cobalt	ND	1.2		P
Copper	ND	3.5		P
Iron	450	41.5		P
Lead	ND	2.5		P
Magnesium	201000	40.3		P
Manganese	1460	1.1		P
Mercury	ND	0.10		CV
Nickel	ND	2.1		P
Potassium	70500	300		P
Selenium	ND	4.8		P
Silver	ND	1.4		P
Sodium	1600000	426		P
Thallium	ND	4.8		P
Vanadium	ND	1.9		P
Zinc	14.4	4.5	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **MW-4A-Dis**
Site: **Yonkers Waterfront**

Lab Sample No: 95715
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Aluminum	ND	58.2		P
Antimony	ND	4.6		P
Arsenic	ND	3.8		P
Barium	382	1.4	B	P
Beryllium	ND	0.20		P
Cadmium	ND	0.40		P
Calcium	131000	42.2		P
Chromium	ND	1.0		P
Cobalt	ND	1.2		P
Copper	ND	3.5		P
Iron	1870	41.5		P
Lead	ND	2.5		P
Magnesium	29500	40.3		P
Manganese	3690	1.1		P
Mercury	ND	0.10		CV
Nickel	ND	2.1		P
Potassium	18100	300		P
Selenium	ND	4.8		P
Silver	ND	1.4		P
Sodium	522000	426		P
Thallium	ND	4.8		P
Vanadium	ND	1.9		P
Zinc	32.3	4.5	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **Field Blank-Dis**
Site: **Yonkers Waterfront**

Lab Sample No: 95716
Lab Job No: I963

Date Sampled: 11/09/98
Date Received: 11/09/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Aluminum	ND	58.2		P
Antimony	ND	4.6		P
Arsenic	ND	3.8		P
Barium	ND	1.4		P
Beryllium	ND	0.20		P
Cadmium	ND	0.40		P
Calcium	ND	42.2		P
Chromium	ND	1.0		P
Cobalt	ND	1.2		P
Copper	ND	3.5		P
Iron	ND	41.5		P
Lead	ND	2.5		P
Magnesium	ND	40.3		P
Manganese	ND	1.1		P
Mercury	ND	0.10		CV
Nickel	ND	2.1		P
Potassium	ND	300		P
Selenium	ND	4.8		P
Silver	ND	1.4		P
Sodium	ND	426		P
Thallium	ND	4.8		P
Vanadium	ND	1.9		P
Zinc	8.0	4.5	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

APPENDIX F

UNDERGROUND STORAGE TANK REMOVAL DOCUMENTATION

ESMI OF NEW YORK
304 Towpath Rd.
Fort Edward NY 12828
(518) 747 - 5500

Transaction No. 007242 Time In 14:55 Time Out 15:19 Date 08-25-98

Customer Name: BROOKSIDE ENVIRONMTL
436 WILLIS AVE.
WILLISTON, N.Y.

Gross: 32920 lb INB KEY
Tare : 16760 lb KEY
Net : 16160 lb

Truck No. : b-100
Hauler : Butterfield

Net Tons : 8.08

Product No. : 10
Description : VIRGIN FUEL OIL
Metals/NonMetals: NON-METALS

Job No. : 1177
Job Site : CITY OF YONKERS PARK
Job Address: 21 ALEXANDER STREET
Job City : YONKERS NY
Job State : NY

Notes:

Weigh Master [signature] Driver : [signature]

Weigh Master #: 530013

Weight This Ticket: 8.08

Cum Job Weight 8.08

TPH 0.000

Est. Total Job 150.00

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. Exempt	Manifest Document No. 0 1 4 5 5 4	2. Page 1	1

3. Generator's Name and Mailing Address
SITE
21 ALEXANDER STREET C/S: WELLS AVE.
YONKERS, NY

4. Generator's Phone ( )

5. Transporter 1 Company Name: A B OIL SERVICE LTD.	6. US EPA ID Number: N Y D 9 8 7 0 2 3 3 7 1	A. Transporter's Phone: 1A-002 516 567-6545
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address: A B OIL SERVICE LTD. 1599 Ocean Avenue Bohemia, NY 11716	10. US EPA ID Number: N Y D 9 8 7 0 2 3 3 7 1	C. Facility's Phone: 516 567-6545

11. Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. CONTAMINATED FUEL OIL, 9, 1993, PG3 N002	001	TT	00600	G
b. water Contaminated w/oil N018 waste Combustible Liquid, NOS, 9, NA1993, PG III	001	TT	00100	G
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes Listed Above
514

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY # (516) 567-6545
a) ERG#128

VZ PB2886

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature] as agent for County of Yonkers	08	05	98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
James Vanderweyde	[signature]	08	05	98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
	[signature]	8	5	98

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No.: Exempt
Manifest Document No.: 0 1 5 2 2 2
2. Page 1 of 1

3. Generator's Name and Mailing Address
CITY OF YONKERS
21 ALEXANDER STREET
YONKERS, NY

4. Generator's Phone: 516 377-6300

5. Transporter 1 Company Name: ABLE ENVIRONMENTAL SERVICE
6. US EPA ID Number: NYR000003502
A. Transporter's Phone: 1A-392 / 516 567-65

7. Transporter 2 Company Name:
8. US EPA ID Number:
B. Transporter's Phone:

9. Designated Facility Name and Site Address
A.D OIL SERVICE LTD.
1599 Ocean Avenue
Bohemia, NY 11716
10. US EPA ID Number: NYD987023371
C. Facility's Phone: 516 567-6545

11. Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. OIL SOAKED DEBRIS (N011)	1	DM	150	P
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Oily Plastics + Pads

E. Handling Codes Listed Above: 501

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY # (516) 567-6545

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Robert Szuzagh
Signature: [signature] (for City)
Month Day Year: 08 25 98

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Arthur W. Hite
Signature: [signature]
Month Day Year: 08 25 98

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature: [signature]
Month Day Year: 8 25 98

TRANSPORTER #2

JOB REPORT (REG) REPORT OF

Job No. : : 1177

Reporting FROM : 08-01-98 00:00 TO : 08-25-98 23:59

DATE : 08-25-98
TIME : 15:24:36

Date	Transaction #	Truck No.	Site	Site Address	Description	Net Tons
08-25-98	007242	b-100	CITY OF YONKERS PARK	YONKERS NY	VIRGIN FUEL OIL	8.08
TOTALS :						8.08

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 1 OF 1

Name (for report and invoice): MICHELLE LAPIN	Samplers Name (Printed): KEVIN REILLY	Site/Project Identification: YONKERS WATERFRONT
Company: AKRF, INC.	P.O. #: 70004	State (Location of site): NJ: ☐ NY: ☒ Other:
Address: 34 S. BROADWAY	Analysis Turnaround Time: Standard ☐	Regulatory Program:
City: WHITE PLAINS State: NY Zip: 10601	Rush Charges Authorized For: 2 Week ☒	
Phone: 914-949-7336 Fax: 914-949-7559	1 Week ☐ Other ☐	

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQ

LAB USE ONLY
Project No: 804-134
Job No: G140

Sample Identification	Date	Time	Matrix	No. of Cont.	8021 (VOCs)	8270 (BNAs)										Sample Numbers
1A-N	8-5-98		SOIL	2	X	X										75608
2A-S	8-5-98		SOIL	2	X	X										75609
3A-E	8-5-98		SOIL	2	X	X										75810
4A-W	8-5-98		SOIL	2	X	X										75811
5A-D	8-5-98		SOIL	2	X	X										75812
TRIP BLANK	8-5-98		WATER	2	X											75813
FIELD BLANK	8-5-98		WATER	3	X	X										75814

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH 6 = Other _____, 7 = Other _____ Soil: Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Kevin R. Reilly	AKRF, INC.	8-6-98 11:30P	1)	Envirotech
2)	Envirotech	8-6-98 3:31P	2)	Envirotech
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

SUMMARY OF ANALYTICAL RESULTS

The New Jersey DEP Standards listed reflect current Envirotech Research Inc. knowledge of the standards and are intended as general guidance for the user. Please consult appropriate NJDEP regulations and cleanup standards for your specific application.

Sample ID	1A-N	2A-S	3A-E	4A-W	5A-D
Lab Sample Number	75808	75809	75810	75811	75812
Sampling Date	08/05/98	08/05/98	08/05/98	08/05/98	08/05/98
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
VOLATILE COMPOUNDS (GC)					
Benzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
Toluene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
Ethylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
Isopropylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
n-Propylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
1,3,5-Trimethylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
tert-Butylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
1,2,4-Trimethylbenzene	5.6 U	5.7 U	7.6	5.6 U	5.4 U
sec-Butylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
p-Isopropyltoluene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
n-Butylbenzene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
Naphthalene	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
MTBE	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U
TotalXylenes	5.6 U	5.7 U	5.5 U	5.6 U	5.4 U

^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1998 Safe Drinking Water Act maximum contaminant level changes and the Februa

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

NR - Not analyzed.

Checked By: _____

___ OK

___ Make Corrections

Sample ID	1A-N	2A-S	3A-E	4A-W	5A-D
Lab Sample Number	75808	75809	75810	75811	75812
Sampling Date	08/05/98	08/05/98	08/05/98	08/05/98	08/05/98
Matrix	SOLID	SOLID	SOLID	SOLID	SOLID
Dilution Factor	1.0	1.0	1.0	2.0	1.0
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SEMIVOLATILE COMPOUNDS (GC/MS)					
Naphthalene	45 J	380 U	210 J	850	37 J
Acenaphthene	40 J	380 U	760	420 J	140 J
Fluorene	44 J	380 U	760	520 J	130 J
Phenanthrene	520	380 U	7100	2300	1700
Anthracene	120 J	380 U	1800	410 J	380
Fluoranthene	1000	380 U	8500	2000	3100
Pyrene	980	380 U	7400	1800	3000
Benzo(a)anthracene	560	38 U	4000	910	1700
Chrysene	610	380 U	3900	980	1900
Benzo(b)fluoranthene	770	38 U	4900	1100	2100
Benzo(k)fluoranthene	280	38 U	2000	420	860
Benzo(a)pyrene	550	38 U	3600	780	1800
Indeno(1,2,3-cd)pyrene	230	38 U	870	380	960
Dibenz(a,h)anthracene	78	38 U	240	110	230
Benzo(g,h,i)perylene	200 J	380 U	570	290 J	780
Total Confident Conc. BNAs (s)	5538	0	46400	11610	18520
Total Estimated Conc. BNA TICs (s)	0	0	0	0	0

(1) Values listed reflect the combined standards for the 2,4/2,6-Dinitrotoluene mixture.

^ Value is a revision to the Class IIA ground water quality standard based upon the November 18, 1996 Safe Drinking Water Act maximum contaminant level changes and the Februa

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concetration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

NR - Not analyzed.

Checked By: _____

___ OK

___ Make Corrections

The New Jersey DEP Standards liste
guidance for the user. Please consul

Sample ID	Trip_Blank	Field_Blank
Lab Sample Number	75813	75814
Sampling Date	08/05/98	08/05/98
Matrix	WATER	WATER
Dilution Factor	1.0	1.0
Units	ug/L	ug/L
VOLATILE COMPOUNDS (GC)		
Benzene	1 U	1 U
Toluene	1 U	1 U
Ethylbenzene	1 U	1 U
Isopropylbenzene	1 U	1 U
n-Propylbenzene	1 U	1 U
1,3,5-Trimethylbenzene	1 U	1 U
tert-Butylbenzene	1 U	1 U
1,2,4-Trimethylbenzene	1 U	1 U
sec-Butylbenzene	1 U	1 U
p-Isopropyltoluene	1 U	1 U
n-Butylbenzene	1 U	1 U
Naphthalene	1 U	1 U
MTBE	1 U	1 U
TotalXylenes	1 U	1 U

^ Value is a revision to the Class IIA y 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

Qualifiers

U - The compound was not detected at the indicate
J - Data indicates the presence of a compound tha
The concentration given is an approximate value
B - The analyte was found in the laboratory blank a
NR - Not analyzed.

Checked By: _____
___ OK
___ Make Corrections

Sample ID	Trip_Blank	Field_Blank
Lab Sample Number	75813	75814
Sampling Date	08/05/98	08/05/98
Matrix	WATER	WATER
Dilution Factor		1.0
Units		ug/L
SEMIVOLATILE COMPOUNDS (GC/MS)		
Naphthalene	NR	10 U
Acenaphthene	NR	10 U
Fluorene	NR	10 U
Phenanthrene	NR	10 U
Anthracene	NR	10 U
Fluoranthene	NR	10 U
Pyrene	NR	10 U
Benzo(a)anthracene	NR	1.0 U
Chrysene	NR	10 U
Benzo(b)fluoranthene	NR	1.0 U
Benzo(k)fluoranthene	NR	1.0 U
Benzo(a)pyrene	NR	1.0 U
Indeno(1,2,3-cd)pyrene	NR	1.0 U
Dibenz(a,h)anthracene	NR	1.0 U
Benzo(g,h,i)perylene	NR	10 U
Total Confident Conc. BNAs (s)		0
Total Estimated Conc. BNA TICs (s)		0

(1) Values listed reflect the combined
^ Value is a revision to the Class IIA y 5, 1997 policy memo issued by Assistant Commissioner R. Gimello.

Qualifiers

U - The compound was not detected at the indicate
J - Data indicates the presence of a compound the
The concentration given is an approximate value
B - The analyte was found in the laboratory blank a
NR - Not analyzed.

Checked By: _____
___ OK
___ Make Corrections