Remedial Action Plan

For

NICHOLAS AVENUE ESTATES

RICHMOND TERRACE AND NICHOLAS AVENUE

BLOCK 1116, LOTS 60 TO 89, 91 TO 100,

102 TO 104, 106 TO 108, AND 113 TO 155

(FORMER BLOCK 1116, LOTS 40, 75, AND

105 & BLOCK 1121, LOT 101)

STATEN ISLAND, RICHMOND COUNTY, NEW YORK

OER PROJECT NO.: 13RHAZ041R

E-Designation E-230

CEQR NO.: 99 DCP812R

NICHOLAS AVENUE REZONING

Prepared for:

Nicholas Avenue Estates HOA

48 Liberty Avenue

New Rochelle, New York 10801

Prepared by:

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35 Technology Drive

Warren, New Jersey 07059

APRIL 2013

REMEDIAL ACTION PLAN

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FIGURES

APPENDICES

LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
DSNY	Department of Sanitation
"E"	E-Designation
EAS	Environmental Assessment Statement
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
Notice - NNO	Notice of No Objection
Notice - NTP	Notice To Proceed
Notice - NOS	Notice Of Satisfaction
Notice - FNOS	Final Notice of Satisfaction
NYC BSA	New York City Board of Standards and Appeals
NYC DCP	New York City Department of City Planning
NYC DEP	New York City Department of Environmental Protection
NYC DOB	New York City Department of Buildings
NYC DOF	New York City Department of Finance
NYC HPD	New York City Housing Preservation and Development
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation

NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DEC PBS	New York State Department of Environmental Conservation Petroleum Bulk Storage
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RA	Register Architect
RAP	Remedial Action Plan
RCA	Recycled Concrete Aggregate
RCR	Remedial Closure Report
RD	Restrictive Declaration
RI	Remedial Investigation
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UST	Underground Storage Tank
TAL	Target Analyte List
TCL	Target Compound List
TCO	Temporary Certificate of Occupancy
VB	Vapor Barrier
VOCs	Volatile Organic Compounds

CERTIFICATION

I, Keith T. D'Ambrosio, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the Nicholas Avenue Estates Site known as OER Project No. 13RHAZ041R.

I, Christopher Seib am a Qualified Environmental Professional as defined in §43-140. I have primary direct responsibility for implementation of the remedial action for the Nicholas Avenue Estates Site known as OER Project No. 13RHAZ041R.

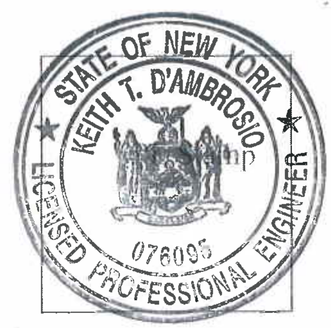
I certify that this Remedial Action Plan (RAP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

Keith D'Ambrosio
Name

076095
NYS PE License Number

Signature

4/15/13
Date



Christopher Seib
QEP Name

QEP Signature

4/15/13
Date

EXECUTIVE SUMMARY

Nicholas Avenue Estates HOA has established this plan to remediate an approximately 422,500 -square feet site located to the west of the intersection of Richmond Terrace and Nicholas Avenue in the Port Richmond section of Staten Island, New York. A Phase II Subsurface Investigation (Phase II) and Remedial Investigation (RI) were performed to compile and evaluate data and information necessary to develop this Remedial Action Plan (RAP). The remedial action described in this document achieves the remedial objectives, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

Site Location and Current Usage

The Site is located to the west of the intersection of Richmond Terrace and Nicholas Avenue in the Port Richmond section of Staten Island, New York and is identified as Block 1116, Lots 60 to 89, 91 to 100, 102 to 104, 106 to 108, and 113 to 155 (formerly Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101) on the New York City Tax Map. Figure 1 is a Site Location Map. The Site is 422,300 square feet and is bounded by light industrial properties and the Kill Van Kull beyond Richmond Terrace to the north; residential properties beyond Nicholas Avenue to the east; residential properties and John Street to the west; and Staten Island Rapid Transit lines, residential properties, and a school with athletic facilities to the south. A map of the site boundary is shown in Figures 2 and 3. Currently, the Site is vacant and vegetated with no on-site structures or operations.

There are no partial tax lots associated with the project. The merging and subdivision of lots as noted above has already occurred in association with this project. The OER Project Number is 13HAZ041R. There are no NYSDEC Spill Numbers or other case numbers associated with this property.

Summary of Proposed Redevelopment Plan

The proposed future use of the Site will consist of the construction of 86 detached two-family homes along with associated landscaping, roadways, and utilities. Layout of the proposed site development is presented in Figure 2. The current zoning designation is R3A Residential

District. R3A districts feature modest single- and two-family detached residences on zoning lots as narrow as 25 feet in width, according to the New York City Department of Planning. The proposed use is consistent with the existing zoning for the property.

The proposed development of the currently vacant, vegetated site will consist of the construction of 86 detached, two-story, two-family residential structures with partially below grade basements and associated roadways, driveways, landscaped areas, and utilities. The residences are approximately 30 feet high. The basement levels will consist of a garage and a one-bedroom rental apartment and the first and second floors will be three-bedroom residences for the home owners. The development will be managed by a home-owners association. Lawn areas are primarily located in the rear of each structure and will be accessible by the owners/tenants. The utilities will include public water, natural gas, and sanitary sewer. Drywell systems will be installed in association with each of the units to manage stormwater (one to four drywells per location). Two main drywell areas also are located in the eastern portion of the site to primarily manage stormwater from the roadways of the development.

Construction of the residential structures will include excavating basements and foundations to depths of approximately four feet below ground surface (fbgs). The two main drywell areas will require excavation to depths of approximately 10 fbgs. One system will include 21 drywells and the other will include 19 drywells. The property will require limited regrading to achieve final grades. These activities will include minor filling of portions of the site with clean cut/excavation material from the site. The project is an overall cut requiring the removal of clean soil from the site. Retaining walls will be constructed in select areas to accommodate the proposed grades. Grading and excavation activities at the site are not anticipated to extend to or below groundwater which is located at an average of 10.15 fbgs. Excavation activities will only be conducted to accommodate site grades, utilities installation, and roadway and basement/footing installation. It is estimated that approximately 21,400 tons of soil will be excavated and regraded on site (1,000 tons) or disposed off site (20,400 tons). Approximately 55 tons of contaminated soil will require excavation and off-site disposal. Approximately 1,550 tons of backfill will be imported to the site for utility trenches and below floor slabs. Demolition is not required at the site.

The overall development will encompass the entire subject property. The residential units are approximately 800 to 900 square feet (footprint). The project does not have common areas or recreational facilities. A total of approximately 73,000 square feet (footprint) of residential structures will be constructed.

Summary of the Remedy

The proposed remedial action achieves all of the remedial action goals established for the project. The proposed remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants and uses standard methods that are well established in the industry. The proposed remedial action will consist of:

1. Establish NYSDEC Part 375-6.8 Residential Soil Cleanup Objectives (SCOs) for contaminants of concern. Excavation and removal action for soil/fill exceeding SCOs. These activities will be performed in the vicinities of soil samples B-2A, B-3A, and B-4A.

2. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs.

3. Installation of a vapor barrier system beneath the building slabs and applying vapor-waterproofing to foundation sidewalls.

4. Installation of a soil vapor passive venting system beneath the building slabs.

5. Screening of the soil during excavation and performance of community air monitoring for particulate and VOCs during removal action.

6. Import of materials to be used for backfill in compliance with this plan and in accordance with applicable laws and regulations.

7. Transportation and off-Site disposal of all soil/fill material in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on site.

8. Site mobilization involving Site security setup, equipment mobilization, utility mark outs, and marking & staking excavation areas.

9. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.

10. Performance of all activities required for the remedial action, including permitting requirements in compliance with applicable laws and regulations.

11. Submission of a Remedial Closure Report (RCR) that describes the remedial activities and certifies that the remedial requirements have been achieved, and lists any changes from this RAP.

REMEDIAL ACTION PLAN

1.0 SITE BACKGROUND

This Remedial Action Plan (RAP) and site-specific Construction Health and Safety Plan (CHASP) have been developed for Nicholas Avenue Estates located to the west of the intersection of Richmond Terrace and Nicholas Avenue in the Port Richmond section of Staten Island, New York (the Site). This project has been assigned project number 13RHAZ041R by OER. This RAP describes the remediation and/or mitigation activities to be implemented at the Site in coordination with the New York City Office of Environmental Remediation (OER) for the purposes of satisfying the requirements of the Hazardous Materials E-Designation Program and obtaining a Notice To Proceed. A Hazardous Materials (E-230) requirement was placed on the Site during the New York City Department of City Planning (DCP) CEQR review as part of the Nicholas Avenue Rezoning action (CEQR No. 99 DCP812R). The site-specific CHASP (Appendix 2) addresses site-specific hazards, identified contaminants of concern and safety requirements associated with remediation and mitigation activities in accordance with ASTM and OSHA guidelines.

1.1 Site Location and Current Usage

The Site is located to the west of the intersection of Richmond Terrace and Nicholas Avenue in the Port Richmond section of Staten Island, New York and is identified as Block 1116, Lots 60 to 89, 91 to 100, 102 to 104, 106 to 108, and 113 to 155 (formerly Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101) on the New York City Tax Map. Figure 1 is a Site Location Map. The Site is 422,300 square feet and is bounded by light industrial properties and the Kill Van Kull beyond Richmond Terrace to the north; residential properties beyond Nicholas Avenue to the east; residential properties and John Street to the west; and Staten Island Rapid Transit lines, residential properties, and a school with athletic facilities to the south. A map of the site boundary is shown in Figures 2 and 3. Currently, the Site is vacant and vegetated with no on-site structures or operations.

The site reportedly housed a former linseed oil bulk storage and distribution facility at the northern portion of the site and a bulk sand and gravel storage and distribution facility at the southern portion of the site until the mid-twentieth century. These former site operations reportedly date back to at least the 1930's. The property is located across Richmond Terrace from a property that was associated with shipment of uranium ore to former Manhattan Engineer District sites. That property and the site were under common ownership at the time (1939-1942) and site studies have been performed to assess potential on-site contamination from those activities.

There are no partial tax associated with the project. The merging and subdivision of lots as noted above has already occurred in association with this project. The OER Project Number is 13RHAZ041R. There are no NYSDEC Spill Numbers or other case numbers associated with this property.

1.2 Proposed Redevelopment Plan

The proposed future use of the Site will consist of the construction of 86 detached two-family homes along with associated landscaping, roadways, and utilities. Layout of the proposed site development is presented in Figure 2. The current zoning designation is R3A Residential District. R3A districts feature modest single- and two-family detached residences on zoning lots as narrow as 25 feet in width, according to the New York City Department of Planning. The proposed use is consistent with the existing zoning for the property.

The proposed development of the currently vacant, vegetated site will consist of the construction of 86 detached, two-story, two-family residential structures with partially below grade basements and associated roadways, driveways, landscaped areas, and utilities. The residences are approximately 30 feet high. The basement levels will consist of a garage and a one-bedroom rental apartment and the first and second floors will be three-bedroom residences for the home owners. The development will be managed by a home-owners association. Lawn areas are primarily located in the rear of each structure and will be accessible by the owners/tenants. The utilities will include public water, natural gas, and sanitary sewer. Drywell systems will be installed in association with each of the units to manage stormwater (one to four drywells per location). Two main drywell areas also are located in the eastern portion of the site to primarily manage stormwater from the roadways of the development.

Construction of the residential structures will include excavating basements and foundations to depths of approximately four feet below ground surface (fbgs). The two main drywell areas will require excavation to depths of approximately 10 fbgs. One system will include 21 drywells and the other will include 19 drywells. The property will require limited regrading to achieve final grades. These activities will include minor filling of portions of the site with clean cut/excavation material from the site. The project is an overall cut requiring the removal of clean soil from the site. Retaining walls will be constructed in select areas to accommodate the proposed grades. Grading and excavation activities at the site are not anticipated to extend to or below groundwater which is located at an average of 10.15 fbgs. Excavation activities will only be conducted to accommodate site grades, utilities installation, and roadway and basement/footing installation. It is estimated that approximately 21,400 tons of soil will be excavated and regraded on site (1,000 tons) or disposed off site (20,400 tons). Approximately 55 tons of contaminated soil will require excavation and off-site disposal. Approximately 1,550 tons of backfill will be imported to the site for utility trenches and below floor slabs. Demolition is not required at the site.

The overall development will encompass the entire subject property. The residential units are approximately 800 to 900 square feet (footprint). The project does not have common areas or recreational facilities. A total of approximately 73,000 square feet (footprint) of residential structures will be constructed.

1.3 Description of Surrounding Property

The subject property is bordered by light industrial properties located within the M1-1 Manufacturing District and the Kill Van Kull beyond Richmond Terrace to the north; residential properties located within the R3A Residential District beyond Nicholas Avenue the east; residential properties located within the R3A Residential District and John Street to the west; and Staten Island Rapid Transit lines, residential properties, and school with athletic facilities located within both the M1-1 and R3A Districts to the south. Overall, the subject area, with the exception of properties along major roads and the Kill Van Kull, is primarily utilized for residential purposes along with supporting commercial/retail and institutional facilities. No other sensitive receptors are located within 500 feet of the site.

Figure 3 shows the surrounding land usage.

1.4 Environmental Investigation Reports

The following environmental work plans and reports were developed for the Site:

Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond, New York, October 1980, prepared by the Health and Safety Research Division of Oak Ridge National Laboratory.

Phase I Environmental Site Assessment (ESA), August 1998, prepared by T&M Associates, Inc. (T&M). The *Phase I ESA* included the results of a Limited Phase II Environmental Site Assessment.

Site-Specific Health and Safety Plan for Site Investigation, April 2003, prepared by Whitestone.

Site Investigation Workplan, April 2003, prepared by Whitestone.

Nicholas Avenue Rezoning, March 2003, prepared by Whitestone.

Supplement to the Site Investigation Workplan, May 2003, prepared by Whitestone.

Site Investigation Report & Supplemental Site Investigation/Corrective Action Workplan, December 2003, prepared by Whitestone.

Survey/Sampling Plan for the Nicholas Avenue Rezoning, December 2003, prepared by Integrated Environmental Management, Inc. (IEM).

Radiological Status of the Nicholas Avenue Rezoning Site, January 2004, prepared by IEM.

Radiological Status of the Nicholas Avenue Rezoning Site, April 2004, prepared by IEM.

Supplement to the Site Investigation/Corrective Action Workplan, March 2004, prepared by Whitestone.

MARSSIM Radiological Survey, Nicholas Avenue Rezoning, April 2004, prepared by Whitestone.

Supplemental Radiological Survey, Nicholas Avenue Rezoning, April 2004, prepared by Whitestone.

Response to July 28, 2004 Letter, MARSSIM Radiological Survey, September 2004, prepared by Whitestone.

Supplement to the MARSSIM Radiological Survey and Radon Investigation Results, November 2004, prepared by Whitestone.

Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site, January 2005, prepared by IEM.

Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site, March 2005, prepared by IEM.

Supplemental Site Investigation/Corrective Action Report and Supplemental Corrective Action Workplan, August 2005, prepared by Whitestone.

Remedial Investigation Report, April 2013, prepared by Whitestone.

The following work has been performed at the site:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed 20 soil borings across the entire project Site, and collected 41 soil samples for chemical analysis from the soil borings to evaluate soil quality. Two [2] shallow soil samples were collected following Super Storm Sandy in boring locations B-1 and B-3 to evaluate changes in soil chemistry and potential impacts from flooding. Overall, 30 borings and 51 soil samples have been collected. Eight test pits were excavated across the entire project site, and soil samples were collected for chemical analyses from the test pits to evaluate soil quality;
3. Collected five post-excavation soil samples for chemical analyses from the base and sidewalls of the excavation as part of a removal action;
4. Installed six pre-packed temporary groundwater wells throughout the Site and collected seven groundwater samples for chemical analysis to evaluate groundwater quality; and
5. Installed 16 soil vapor probes throughout the Site and collected 16 soil gas samples and one ambient air sample for chemical analysis.
6. Performed a MARSSIM radiological survey.

Digital (PDF) copies of the above referenced environmental work plans and reports are included as Appendix 6.

Due to the historic presence of above ground storage tanks on the northern portion of the site and evidence of past site disturbance, T&M conducted soil borings throughout the subject site. Ten soil borings were advanced to depths of 10 fbgs using a stainless-steel hand auger. T&M's subsurface investigation identified low levels of nickel and zinc in select soil samples that were reported to be representative of naturally-occurring site background levels. No evidence of contamination was reported by T&M.

When compared to current NYSDEC Part 375 Residential SCOs applicable to the site, none of the tested constituents exceed the Residential SCOs.

VOCs, SVOCs, PCBs, pesticides, cyanide, or phenols were not detected at concentrations exceeding NYSDEC Unrestricted Use SCOs. Historic soil sample locations and contaminant concentrations exceeding current NYSDEC Unrestricted Use SCOs are presented on Figure 3. Groundwater or soil vapor sampling were not conducted by T&M.

Whitestone's initial SI was conducted at the proposed residential development site as a follow-up to initial subsurface investigations conducted by T&M in 1998 and subsequent discussions with NYCDEP. The activities included ground penetrating radar (GPR) and electromagnetic (EM) induction surveys and excavation of eight test pits (TP-1 through TP-8) to facilitate the collection of soil samples. Based on the investigations, the key conclusions pertaining to the subject property were as follows:

- The GPR and EM surveys did not document the presence of underground storage tanks (USTs) at the site. The GPR and EM surveys detected three approximately 36 square feet magnetic anomalies in the northern portion of the site. Test pit investigations of the magnetic anomalies identified scrap metal debris suspected to have been buried during previous site grading activities. Results of the EM Survey are presented in Figure 4.

- Sampling for priority pollutant (PP) metals showed none of the tested constituents exceed NYSDEC Residential SCOs.

- PCBs, VOCs, or pesticides were not detected at concentrations exceeding NYSDEC Unrestricted Use SCOs.

- Groundwater or soil vapor sampling were not conducted during the initial SI.

See Figure 3 for historic soil sample locations and contaminants exceeding current NYSDEC Unrestricted Use SCOs.

To address the environmental conditions and regulatory concerns at the site, Whitestone conducted the following supplemental SI and corrective actions:

A localized removal action to remove 2,6-dinitrotoluene marginally exceeding the NYSDEC Recommended Soil Cleanup Objective in test pit TP-3 was performed and soil disposed off site as a regulated, nonhazardous waste at a fully permitted facility. Post-excavation soil sampling and analyses for SVOs did not document contaminant concentrations exceeding Unrestricted Use SCOs.

In addition to the work summarized above, radiological surveys were conducted at the site by Whitestone and IEM as requested by NYCDEP and DOHMH. As outlined in the May 31, 2005 DOHMH correspondence, the surveys conducted in December 2003 and February 2005 did not document radiological contamination in excess of unrestricted use screening values established in 64 Federal Register No. 68395. Accordingly, no further radiological investigation or remediation is required at the subject property.

1.5 Summary of Regulatory Correspondence

The following is a summary of pertinent regulatory correspondence related to the Site:

Nicholas Avenue Rezoning - CEQR #99 DCP 012R, January 2003, prepared by the New York City Department of Environmental Protection (NYCDEP), sent to Whitestone.

Site Visit Report, July 2003, prepared by the New York State Department of Environmental Conservation (NYSDEC).

Site Investigation Workplan for Nicholas Avenue Rezoning, October 2003, prepared by the New York City Department of Health and Mental Hygiene (DOHMH), sent to Whitestone.

Nicholas Avenue Rezoning, January 2004, prepared by NYCDEP, sent to Whitestone.

Nicholas Avenue Rezoning - CEQR #99 DCP 012R/04 DEP 118R, March 2004, prepared by NYCDEP, sent to Whitestone.

Radiological Status of the Nicholas Avenue Rezoning Site April 2004 Report, July 2004, prepared by DOHMH, sent to Whitestone.

Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site, January 2005, prepared by DOHMH, sent to Whitestone.

Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site, Response Letter dated January 2005 from IEM, and Response letter dated January 25, 2005 from Whitestone, January 2005, prepared by DOHMH, sent to Whitestone.

Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site, April 2005, prepared by DOHMH, sent to Whitestone.

Nicholas Avenue Rezoning letter, May 31, 2005, prepared by DOHMH, sent to NYCDEP.

Nicholas Avenue Rezoning, Notice to Proceed, January 9, 2006, prepared by NYCDEP, sent to NYC Department of Buildings.

Digital (PDF) copies of the above referenced environmental work plans and reports are included as Appendix 6.

1.6 Findings of Environmental Investigation

1. Elevation of the property ranges from four to 28 feet above sea level.

2. Depth to groundwater ranges from 7.55 to 17.55 feet at the Site.

3. Groundwater flow is generally from south to north beneath the Site.

4. Depth to bedrock is approximately 50 feet at the Site based on reference materials.

5. The stratigraphy of the site, from the surface down, consists of 0.5 feet of organic surficial material in select locations (topsoil) underlain by up to 3.0 feet of reddish-brown sand in select locations underlain by reddish-brown silts and clays.

6. Soil/fill samples collected during the RI showed PAHs (2 locations) and barium (one location) were detected at concentrations exceeding their NYSDEC Residential SCOs in shallow (0.0-2.0 foot depth) samples. Overall the site exhibits extremely high quality soil and does not show evidence of contamination source areas. No change in soil quality was observed in two soil samples collected from an inundated area of the property before and after Hurricane Sandy.

7. Groundwater samples collected during the RI showed dissolved manganese and sodium were detected at concentrations exceeding their Water Quality Standards (WQS). These

metal detections are attributed to regional groundwater quality. Methylene chloride, a common lab reagent, was detected in one groundwater sample. Overall, the site exhibits high groundwater quality and does not show evidence of a groundwater contaminant source area.

8. Soil vapor samples exhibited low levels of a variety of petroleum-related compounds. Chlorinated hydrocarbons, such as PCE, TCE, 1,1,1-TCA, and carbon tetrachloride, were either not detected or were well below applicable NYSDOH guidance values.

9. Radiological surveys were conducted earlier at the site by Whitestone and IEM as requested by NYCDEP and DOHMH. As outlined in the May 31, 2005 DOHMH correspondence, the surveys conducted in December 2003 and February 2005 did not document radiological contamination in excess of unrestricted use screening values established in 64 Federal Register No. 68395. Accordingly, no further radiological investigation or remediation is required at the subject property.

For environmental investigation data, consult reports listed in Section 1.4. Overall, the site exhibits extremely high environmental quality and, based on an evaluation of the environmental data and information, disposal of hazardous waste is not suspected at this site.

2.0 DESCRIPTION OF REMEDIATION

2.1 Objectives

The Site remediation and mitigation objectives are:

Soil

- Achieve NYSDEC Residential Soil Cleanup Objectives

Soil Vapor

- Prevent migration of potential future off-site soil vapor into dwelling and other occupied structures.

Remedial and mitigation measures described herein will be performed in accordance with applicable laws and regulations, and the site-specific CHASP. This remedy is protective of public health and/or the environment for the intended use.

2.2 Summary of Remedial Action

The proposed plan achieves all of the remedial action goals established for the project. The proposed remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants and uses standard methods that are well established in the industry.

The proposed remedial action will consist of:

1. Establish NYSDEC Part 375-6.8 Track 2 Residential Soil Cleanup Objectives (SCOs) for contaminants of concern. Excavation and removal action for soil/fill exceeding SCOs. These activities will be performed in the vicinities of soil samples B-2A, B-3A, and B-4A.
2. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs.
3. Installation of a vapor barrier system beneath the building slabs and applying vapor-waterproofing to foundation sidewalls.

4. Installation of a soil vapor passive venting system beneath the building slabs.
5. Screening of the soil during excavation and performance of community air monitoring for particulate and VOCs during removal action.
6. Import of materials to be used for backfill in compliance with this plan and in accordance with applicable laws and regulations.
7. Transportation and off-Site disposal of all soil/fill material in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on site.
8. Site mobilization involving Site security setup, equipment mobilization, utility mark outs, and marking & staking excavation areas.
9. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
10. Performance of all activities required for the remedial action, including permitting requirements in compliance with applicable laws and regulations.
11. Submission of a Remedial Closure Report (RCR) that describes the remedial activities and certifies that the remedial requirements have been achieved, and lists any changes from this RAP.

2.3 Soil Cleanup Objectives and Soil/Fill Management

Soil Cleanup Objectives (SCOs) proposed for this project are listed in Table 1. Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Appendix 1. The location of planned excavations is shown in Figure 4.

Discrete contaminant sources identified during the remedial action will be horizontally and vertically identified by GPS or surveyed. This information will be provided in the RCR.

Estimated Soil/Fill Removal Quantities

The total quantity of soil/fill expected to be excavated and disposed off-Site is 21,400 tons of which 55 tons is considered to be contaminated and will be removed under a removal action. The proposed disposal locations for Site-derived impacted materials are listed below. Additional disposal locations established at a later date will be reported promptly to the OER Project Manager. Possible clean soil disposal facilities are outlined in Table 5.

Disposal Facility	Waste Type	Estimated Quantities
Clean Earth of Carteret NJ, Inc. (Carteret, NJ)	Soil from B-2A, B-3A, and B-4A locations	55 tons

End-Point Sampling

Removal actions under this plan will be performed in conjunction with post-remediation sampling. Post-remediation sampling frequency will consist of the following:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.

2. For excavations 20 to 300 feet in perimeter:

- For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
- For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.

3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.

4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

Post-remediation sampling will be conducted following soil excavation in the areas of soil samples B-2A, B-3A, and B-4A.

New York State Department of Health ELAP certified labs will be used for all post-remediation sample analyses. Labs for end-point sample analyses will be reported in the RCR. The RCR will provide a tabular and map summary of all end-point sample results. End-point samples will be analyzed for trigger analytes (those for which SCO exceedence is identified) utilizing the following methodology:

Soil analytical methods will include:

- Semi-volatile organic compounds by EPA Method 8270; and
- Select Target Analyte List metals

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and "finger print analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

Quality Assurance/Quality Control

Quality Assurance/Quality Control for chemical analytical program and assessment of the usability of the data will be provided by the contracted laboratory and consultant. Chemical analyses will be performed by a NYSDOH ELAP certified laboratory. Analyses will be sufficient to allow comparison of soil data to applicable Standards, Criteria, and Guidance including 6NYCRR Part 375 Quality Control samples for soil will include one duplicate sample for each day of sampling.

Import and Reuse of Soils

Import of soils onto the property and reuse of soils already onsite will be performed in conformance with the Soil/Materials Management Plan in Appendix 1. The estimated quantity of soil to be imported into the Site for backfill soil is 1,550 tons. The estimated quantity of onsite soil/fill expected to be reused/relocated on Site is 1,000 tons.

2.4 Construction Elements

As part of construction, several design elements will include to address potential future sources of off-site soil vapor. These design elements include:

Vapor Barrier

Exposure to potential future off-site soil vapor will be prevented by an engineered vapor barrier beneath the proposed residential building's floor slabs. The exteriors of the footings and below grade exterior concrete walls will be coated with two layers of waterproofing. The proposed vapor barriers consists of a 20 mil high density polyethylene (HDPE) sheet membrane barrier with taped or asphalt membrane sprayed seams. Specifications are included as Figure 5 and Appendix 7.

Passive Sub-Slab Venting

Exposure to potential future off-site soil vapor will be prevented by an engineered passive sub-slab depressurization system (SSDS) within the proposed residential buildings. The proposed SSDS consist of two-inch diameter PVC piping that extends from an eight-feet length of perforated two-inch PVC pipe beneath the floor slab to the roof of each building. Each PVC stack will include an accessible sampling port and an exhaust. Specifications are included as Figure 5 and Appendix 7.

3.0 REMEDIAL ACTION MANAGEMENT

3.1 Project Organization and Oversight

Principal personnel who will participate in the remedial action include Patrick E. Beesley (Environmental Scientist) and Jonathan Boos (Environmental Specialist). Patrick and Jonathan will be responsible for field oversight. The Professional Engineer (PE) and Qualified Environmental Professionals (QEP) for this project are Keith T. D'Ambrosio, P.E., LSRP and Christopher Seib, LSRP, respectively.

3.2 Site Security

Site access will be controlled by gated entrances to the fenced property.

3.3 Work Hours

The hours for operation of remedial construction will be from 7 a.m. to 4 p.m. These hours conform to the New York City Department of Buildings construction code requirements.

3.4 Construction Health and Safety Plan

The site-specific Construction Health and Safety Plan (CHASP) is included in Appendix 2. The Site Safety Coordinator will be Patrick Beesley. Remedial work performed under this RAP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the CHASP and applicable laws and regulations. The CHASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Satisfaction.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the CHASP and be required to sign a CHASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

An emergency contact sheet with names and phone numbers is included in the CHASP. That document will define the specific project contacts for use in case of emergency.

3.5 Community Air Monitoring Plan

During the removal action, real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Screening will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for OER personnel to review.

3.6 Agency Approvals

All permits or government approvals required for remediation and construction have been or will be obtained prior to the start of remediation and construction. Acceptance of this RAP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

3.7 Site Preparation

Pre-Construction Meeting

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

Utility Marker Layouts, Easement Layouts

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed incompliance with applicable laws and regulations to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Markout Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RAP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAP.

Dewatering

Dewatering is not anticipated during construction. If necessary, dewatering will be conducted in accordance with construction standards and permit requirements. Impacted groundwater has not been identified on site.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations.

Stabilized Construction Entrance

Steps will be taken to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

Truck Inspection Station

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures, and cause downed power lines creating dangerous site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, the enrollee will undertake the following steps for site preparedness prior to the event and response after the event.

Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property; lose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from holes, trenches, and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights, such as sandbags, for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property; stormwater management systems will be inspected and fortified, including, as necessary, clean and reposition silt fences, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A site inspection report will be submitted to OER at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment, will be reported to public safety authorities via appropriate means, such as calling 911. Petroleum spills will be reported to NYSDEC within 2 hours of identification and consistent with State regulations. Emergency and spill conditions will also be reported to OER. Public safety structures, such as construction security fences, will be repaired promptly to eliminate public safety threats. Debris will be collected and removed. Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil including unsafe slopes will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Storm-water control systems and structures will be inspected and maintained as necessary. If soil or fill materials are discharged off site to adjacent properties, property owners and OER will be notified and a corrective measure plan designed to remove and clean dislocated material will be submitted to OER and implemented following approval by OER and granting of site access by the property owner. Impacted off-site areas may require characterization based on site conditions, at the discretion of OER. If on-site petroleum spills are identified, a Qualified Environmental Professional will determine the nature and extent of the spill and report to NYSDEC's spill hotline at 800-457-7362. If the source of the spill is on-going and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

Storm Response Reporting

A site inspection report will be submitted to OER at the completion of site inspection. An inspection report established by OER is available on OER's website (www.nyc.gov/oer) and will be used for this purpose. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. The site inspection report will be sent to the OER project manager and will include the site name, address, tax block and lot, and site primary and alternate contact name and phone number. Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the site was dislocated and whether any of the soil left the site; estimates of the volume of soil that left the site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of on-site or off-site exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; and schedule for corrective actions. This report should be completed and submitted to the OER project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

3.8 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site will be determined based on the destination/disposal facility at the time of implementation, and details will be provided to OER.

3.9 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);

- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (*e.g.*, soil excavators) will be washed at the truck inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

3.10 Reporting and Record Keeping

Daily Reports

Daily reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the RCR.

An alpha-numeric site map will be used to identify locations described in reports submitted to OER.

Record Keeping and Photo-Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RCR in digital format (i.e. jpeg files).

3.11 Complaint Management

All complaints from citizens will be promptly reported to OER. Complaints will be addressed and outcomes will also be reported to OER in daily reports. Notices to OER will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

3.12 Deviations from the Remedial Action Plan

All changes to the RAP will be reported to the OER Project Manager and will be documented in daily reports and reported in the RCR. The process to be followed if there are any deviations from the RAP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAP;
- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

4.0 REMEDIAL CLOSURE REPORT

A Remedial Closure Report (RCR) will be submitted to OER following implementation of the remedial action defined in this RAP. The RCR will document that the remedial work required under this RAP has been completed and has been performed in compliance with this plan. The RCR will include:

- Information required by this RAP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Description of any changes in the remedial action from the elements provided in this RAP and associated design documents;
- Tabular summary of all end point sampling results and all material characterization results, QA/QC results for end-point sampling, and other sampling and chemical analysis performed as part of the remedial action;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material.
- Account of the origin and required chemical quality testing for material imported onto the Site.
- Reports and supporting material will be submitted in digital form.

Remedial Closure Report Certification

The following certification will appear in front of the Executive Summary of the Remedial Closure Report. The certification will include the following statements:

I, Keith T. D'Ambrosio, am currently a professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the Nicholas Avenue Estates Site ,OER Project No. 13RHAZ041R.

I, Christopher Seib, am a qualified Environmental Professional. I had primary direct responsibility for implementation remedial program for the Nicholas Avenue Estates Site, OER Project No. 13RHAZ041R.

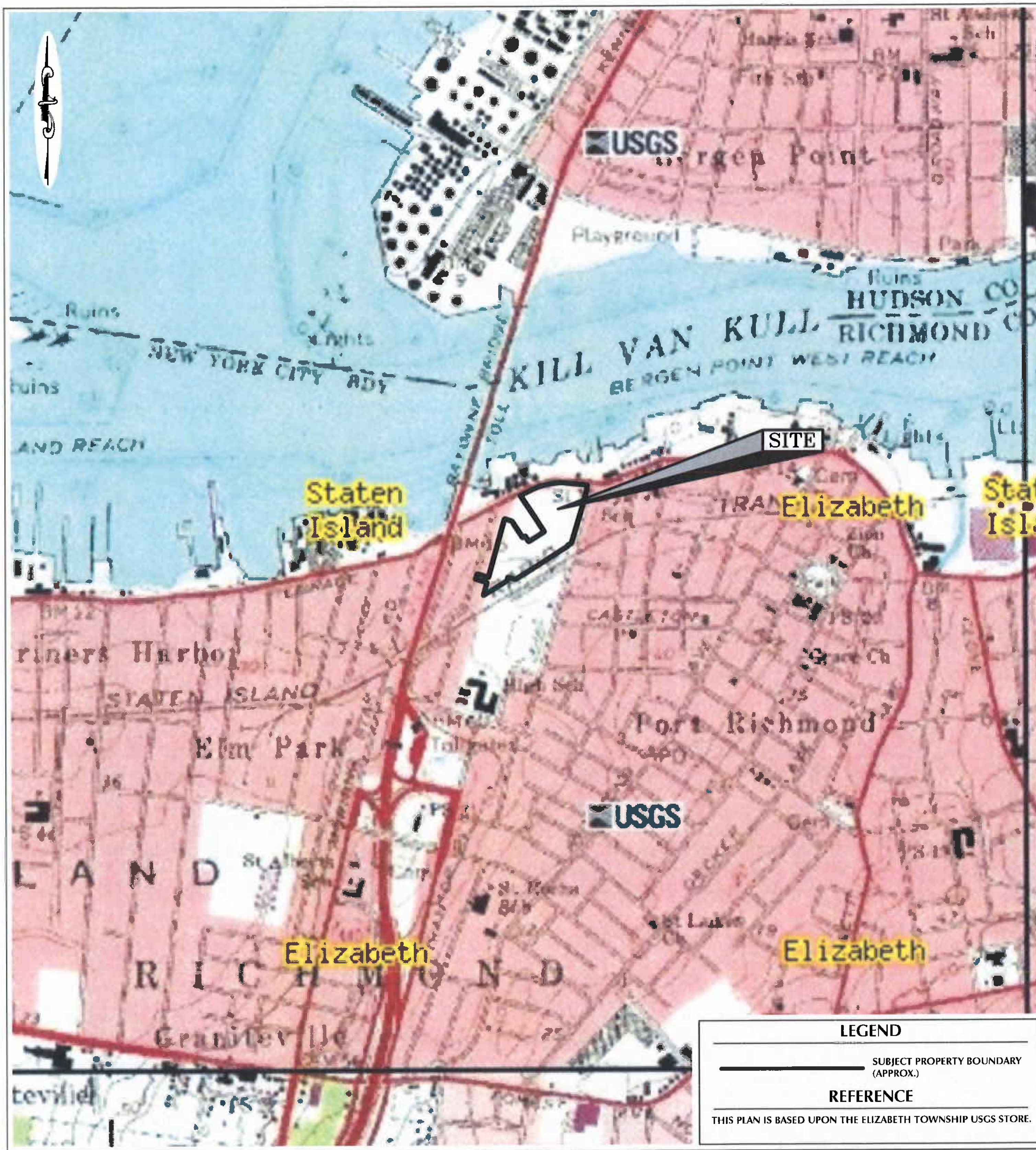
I certify that the OER-approved Remedial Action Plan dated April 2013 and Stipulations in a letter dated month day, year; if any were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

5.0 SCHEDULE

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, a six month remediation period is anticipated.

Schedule Milestone	**Weeks from Remedial Action Start**	**Duration (weeks)**
OER Approval of RAP	0	-
Mobilization	2	1
Hot-Spot Excavation and Disposal	3	1
Site Construction	4	30
Demobilization	34	1
Submit Remedial Closure Report	40	-

FIGURE 1
Site Location Map



LEGEND

SUBJECT PROPERTY BOUNDARY (APPROX.)

REFERENCE

THIS PLAN IS BASED UPON THE ELIZABETH TOWNSHIP USGS STORE.

TITLE:

SITE LOCATION MAP (USGS)

CLIENT: NICHOLAS AVENUE ESTATES HOA

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
EJ1212234.000	KR	CS	03/15/13	1"=1,200'	1

FIGURE 2
Proposed Site Redevelopment/ Sample Location Plan

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SAMPLING SUMMARY

SOIL (12)
0' – 2' fbgs
5' – 7' fbgs – Foundations
10' – 12' fbgs – B-4 (Drywell)

COMBINED SOIL & GROUNDWATER (6)
0' – 2' fbgs
5' – 7' fbgs – Foundations
10' – 12' fbgs – B-18 (Drywell)

SOIL VAPOR (11)
Probe set at 5' – 7' fbgs

0 100
1 inch = 100 ft.

LEGEND/NOTES

B-1/WP-1	SOIL AND GROUNDWATER SAMPLING LOCATION (APPROX.)
B-2	SOIL SAMPLING LOCATION (APPROX.)
SV-1	SOIL VAPOR SAMPLING LOCATION (APPROX.)
A-1	AMBIENT AIR SAMPLING LOCATION (APPROX.)
	SUBJECT PROPERTY BOUNDARY

REFERENCE

THIS PLAN IS BASED UPON A SEPTEMBER 17, 2010 OVERALL SITE PLAN PREPARED BY LAND PLANNING & ENGINEERING CONSULTANTS, P.C.

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

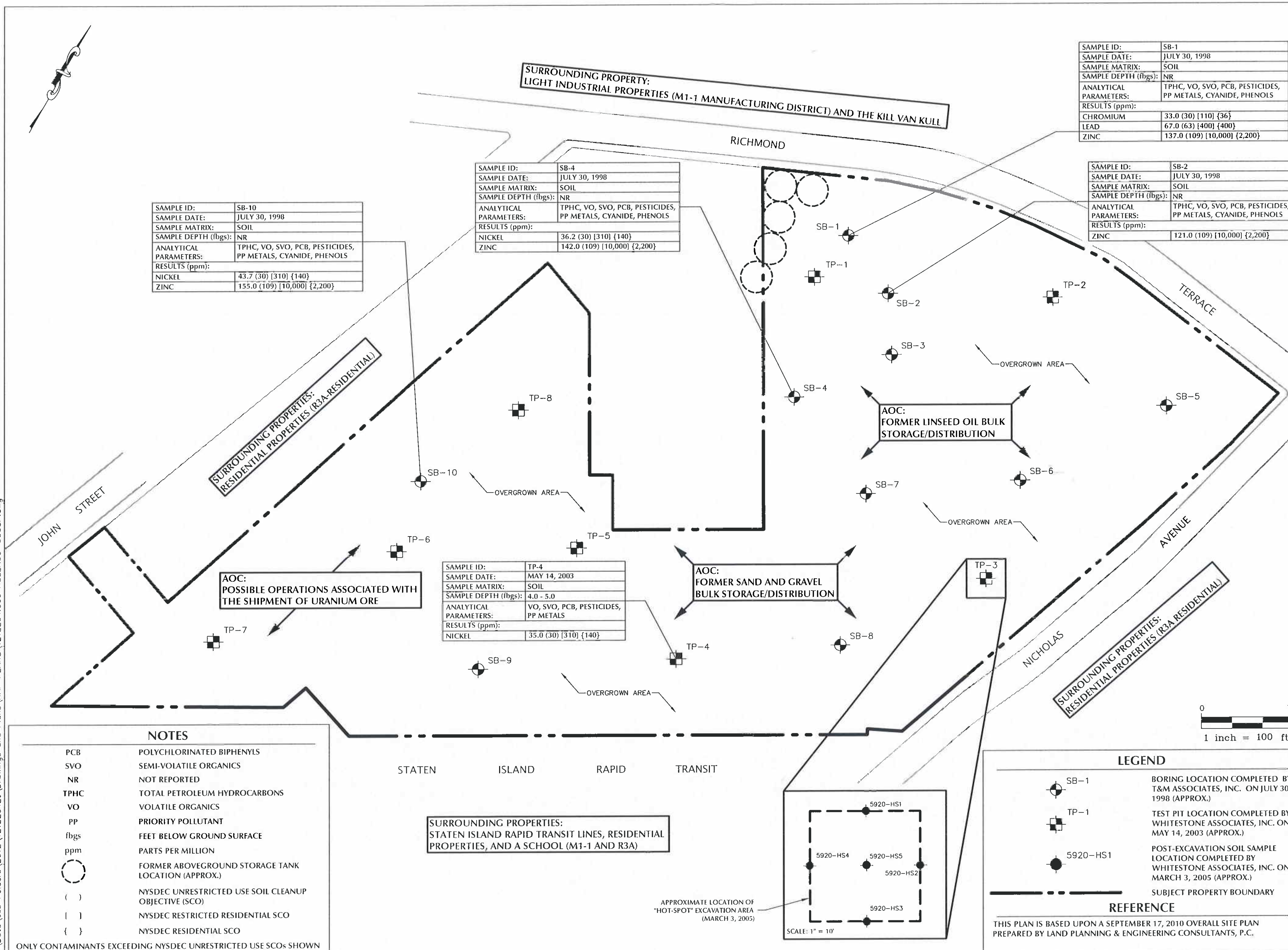
TITLE: PROPOSED SITE DEVELOPMENT/ SAMPLE LOCATION PLAN

CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
EJ1212234.000	KR	CS	03/15/13	1" = 100'	2

FIGURE 3
Historic Soil Sample Location, Contaminant Concentration, AOC, Surrounding Properties, and Overall Site Plan



SAMPLE ID:	SB-1
SAMPLE DATE:	JULY 30, 1998
SAMPLE MATRIX:	SOIL
SAMPLE DEPTH (fbgs):	NR
ANALYTICAL PARAMETERS:	TPHC, VO, SVO, PCB, PESTICIDES, PP METALS, CYANIDE, PHENOLS
RESULTS (ppm):	
CHROMIUM	33.0 (30) [110] {36}
LEAD	67.0 (63) [400] {400}
ZINC	137.0 (109) [10,000] {2,200}

SAMPLE ID:	SB-2
SAMPLE DATE:	JULY 30, 1998
SAMPLE MATRIX:	SOIL
SAMPLE DEPTH (fbgs):	NR
ANALYTICAL PARAMETERS:	TPHC, VO, SVO, PCB, PESTICIDES, PP METALS, CYANIDE, PHENOLS
RESULTS (ppm):	
ZINC	121.0 (109) [10,000] {2,200}

SAMPLE ID:	SB-4
SAMPLE DATE:	JULY 30, 1998
SAMPLE MATRIX:	SOIL
SAMPLE DEPTH (fbgs):	NR
ANALYTICAL PARAMETERS:	TPHC, VO, SVO, PCB, PESTICIDES, PP METALS, CYANIDE, PHENOLS
RESULTS (ppm):	
NICKEL	36.2 (30) [310] {140}
ZINC	142.0 (109) [10,000] {2,200}

SAMPLE ID:	SB-10
SAMPLE DATE:	JULY 30, 1998
SAMPLE MATRIX:	SOIL
SAMPLE DEPTH (fbgs):	NR
ANALYTICAL PARAMETERS:	TPHC, VO, SVO, PCB, PESTICIDES, PP METALS, CYANIDE, PHENOLS
RESULTS (ppm):	
NICKEL	43.7 (30) [310] {140}
ZINC	155.0 (109) [10,000] {2,200}

SAMPLE ID:	TP-4
SAMPLE DATE:	MAY 14, 2003
SAMPLE MATRIX:	SOIL
SAMPLE DEPTH (fbgs):	4.0 - 5.0
ANALYTICAL PARAMETERS:	VO, SVO, PCB, PESTICIDES, PP METALS
RESULTS (ppm):	
NICKEL	35.0 (30) [310] {140}

NOTES

PCB	POLYCHLORINATED BIPHENYLS
SVO	SEMI-VOLATILE ORGANICS
NR	NOT REPORTED
TPHC	TOTAL PETROLEUM HYDROCARBONS
VO	VOLATILE ORGANICS
PP	PRIORITY POLLUTANT
fbgs	FEET BELOW GROUND SURFACE
ppm	PARTS PER MILLION
	FORMER ABOVEGROUND STORAGE TANK LOCATION (APPROX.)
( )	NYSDEC UNRESTRICTED USE SOIL CLEANUP OBJECTIVE (SCO)
[ ]	NYSDEC RESTRICTED RESIDENTIAL SCO
{ }	NYSDEC RESIDENTIAL SCO

ONLY CONTAMINANTS EXCEEDING NYSDEC UNRESTRICTED USE SCOs SHOWN

LEGEND

SB-1	BORING LOCATION COMPLETED BY T&M ASSOCIATES, INC. ON JULY 30, 1998 (APPROX.)
TP-1	TEST PIT LOCATION COMPLETED BY WHITESTONE ASSOCIATES, INC. ON MAY 14, 2003 (APPROX.)
5920-HS1	POST-EXCAVATION SOIL SAMPLE LOCATION COMPLETED BY WHITESTONE ASSOCIATES, INC. ON MARCH 3, 2005 (APPROX.)
	SUBJECT PROPERTY BOUNDARY

REFERENCE

THIS PLAN IS BASED UPON A SEPTEMBER 17, 2010 OVERALL SITE PLAN PREPARED BY LAND PLANNING & ENGINEERING CONSULTANTS, P.C.

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

FIGURE:	3
SCALE:	AS SHOWN
DATE:	03/15/13
PROJ. MGR.:	CS
BY:	KR
PROJECT #:	EJ1212234.000

TITLE: HISTORIC SOIL SAMPLE LOCATION, CONTAMINANT CONCENTRATION, AOC, SURROUNDING PROPERTIES, AND OVERALL SITE PLAN

CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

FIGURE 4
Proposed Excavation & Grading Plan

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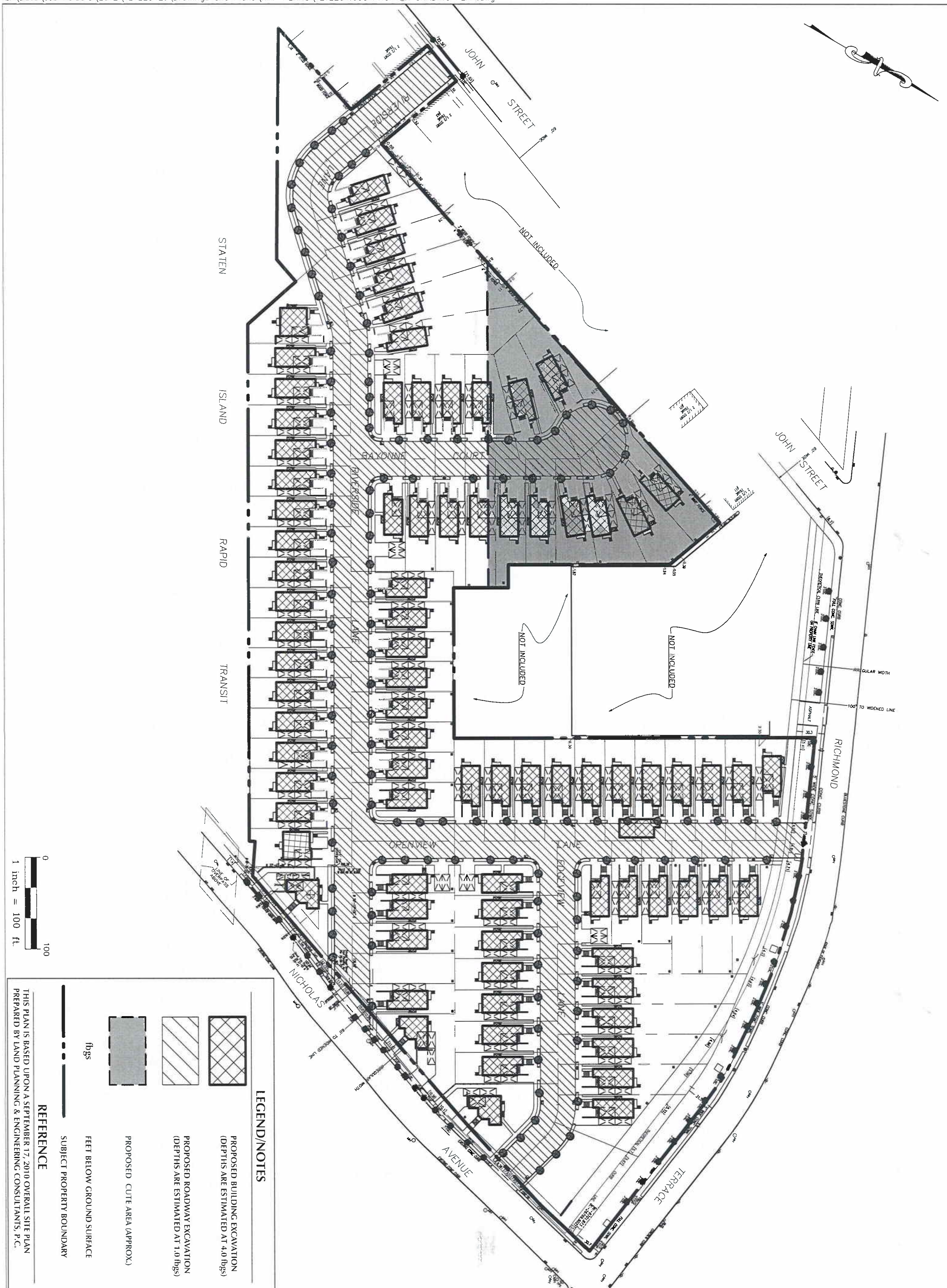


TITLE:

PROPOSED EXCAVATION AND GRADING PLAN

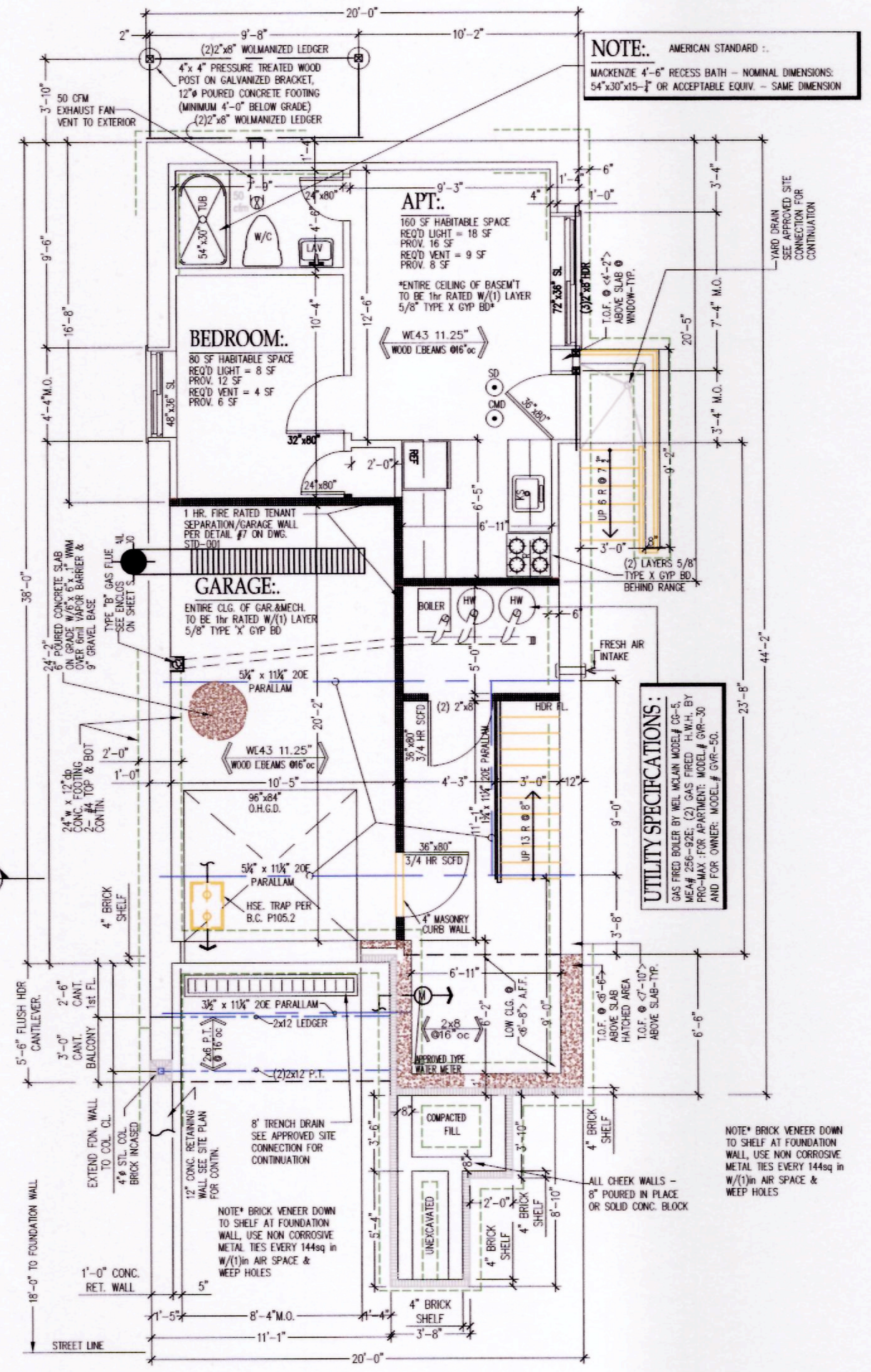
WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

CLIENT: NICHOLAS AVENUE ESTATES HOA

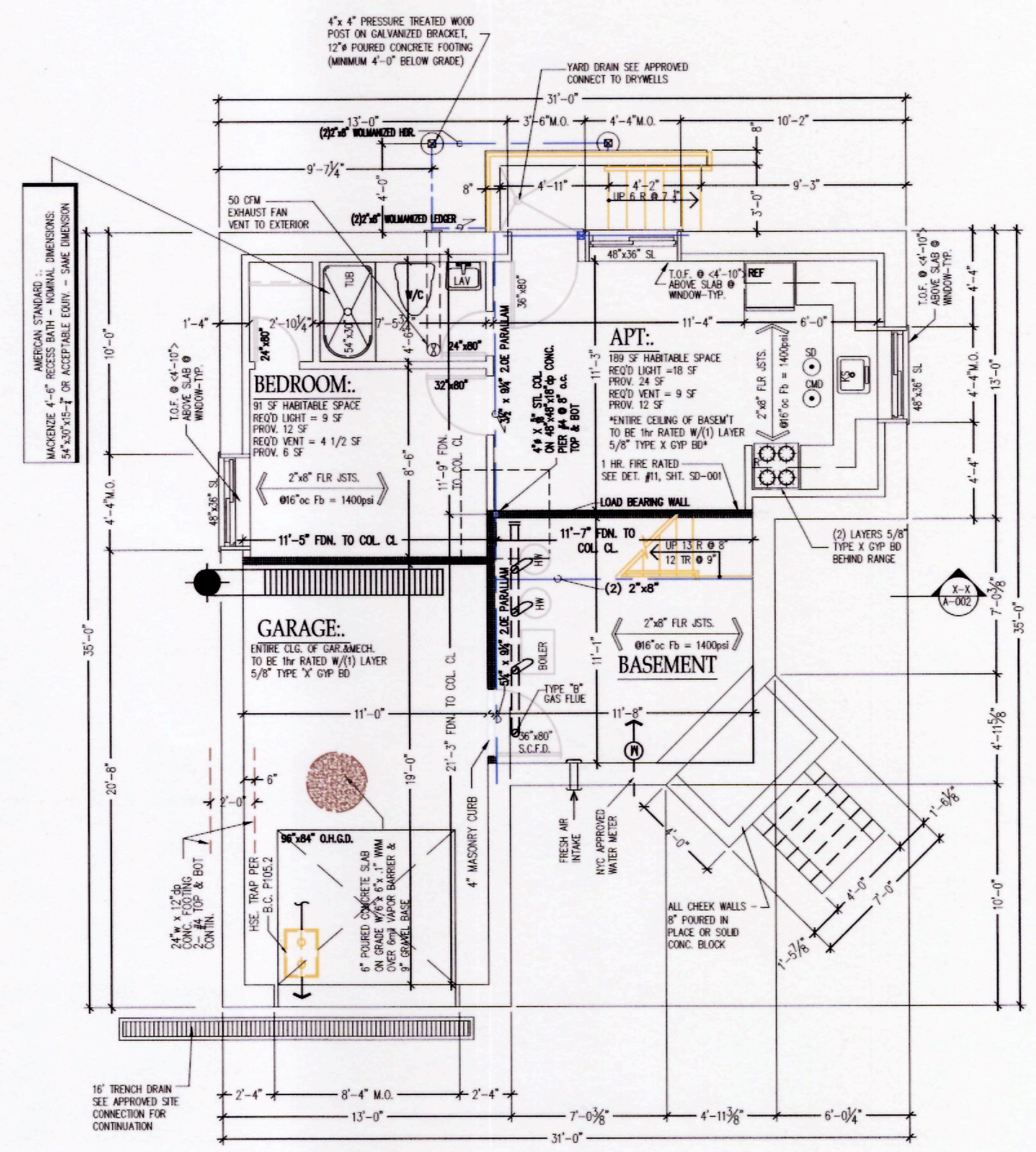
PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
EJ1212234.000	KR	CS	03/15/13	1" = 100'	4

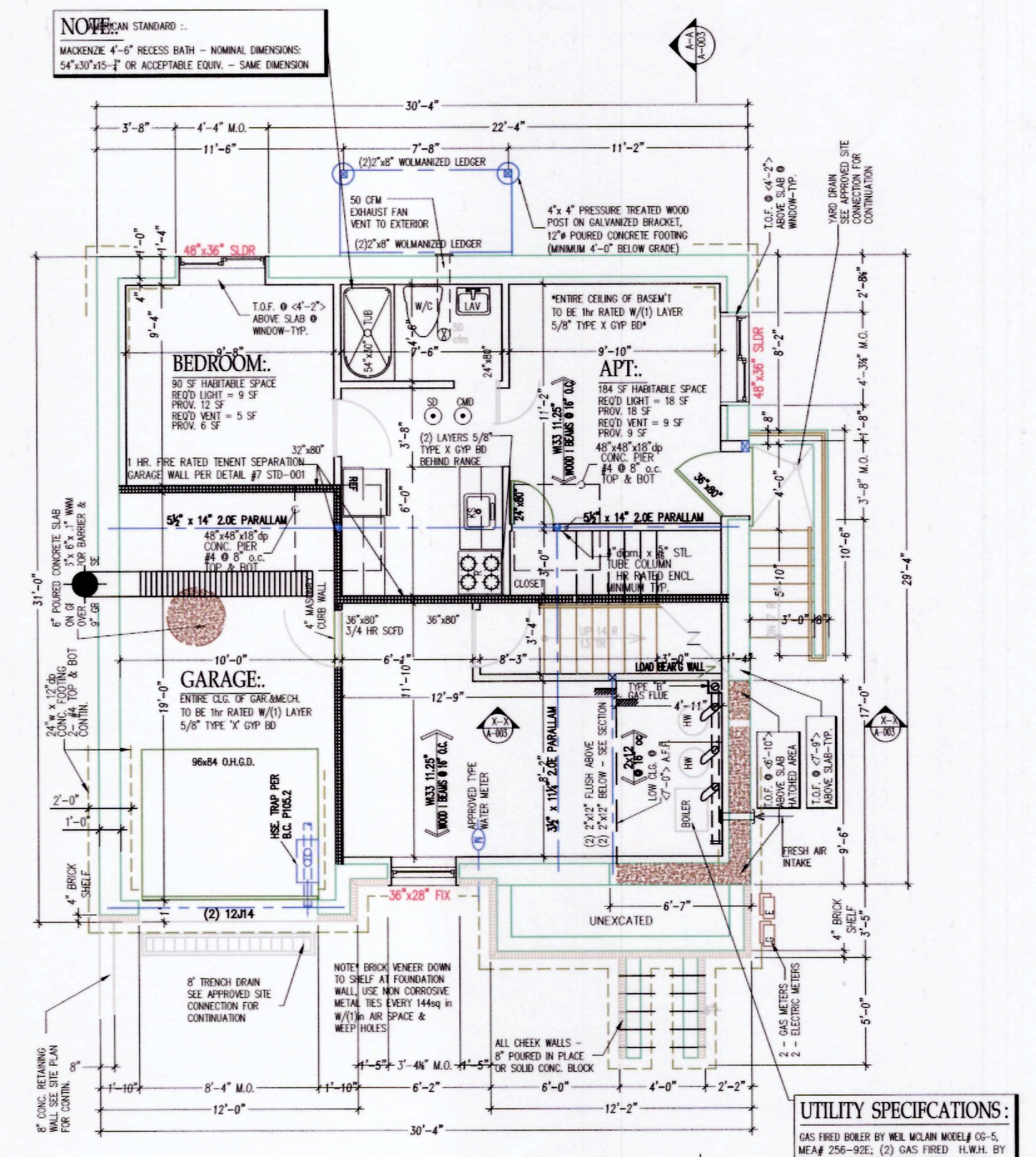
FIGURE 5
Vapor Barrier Details



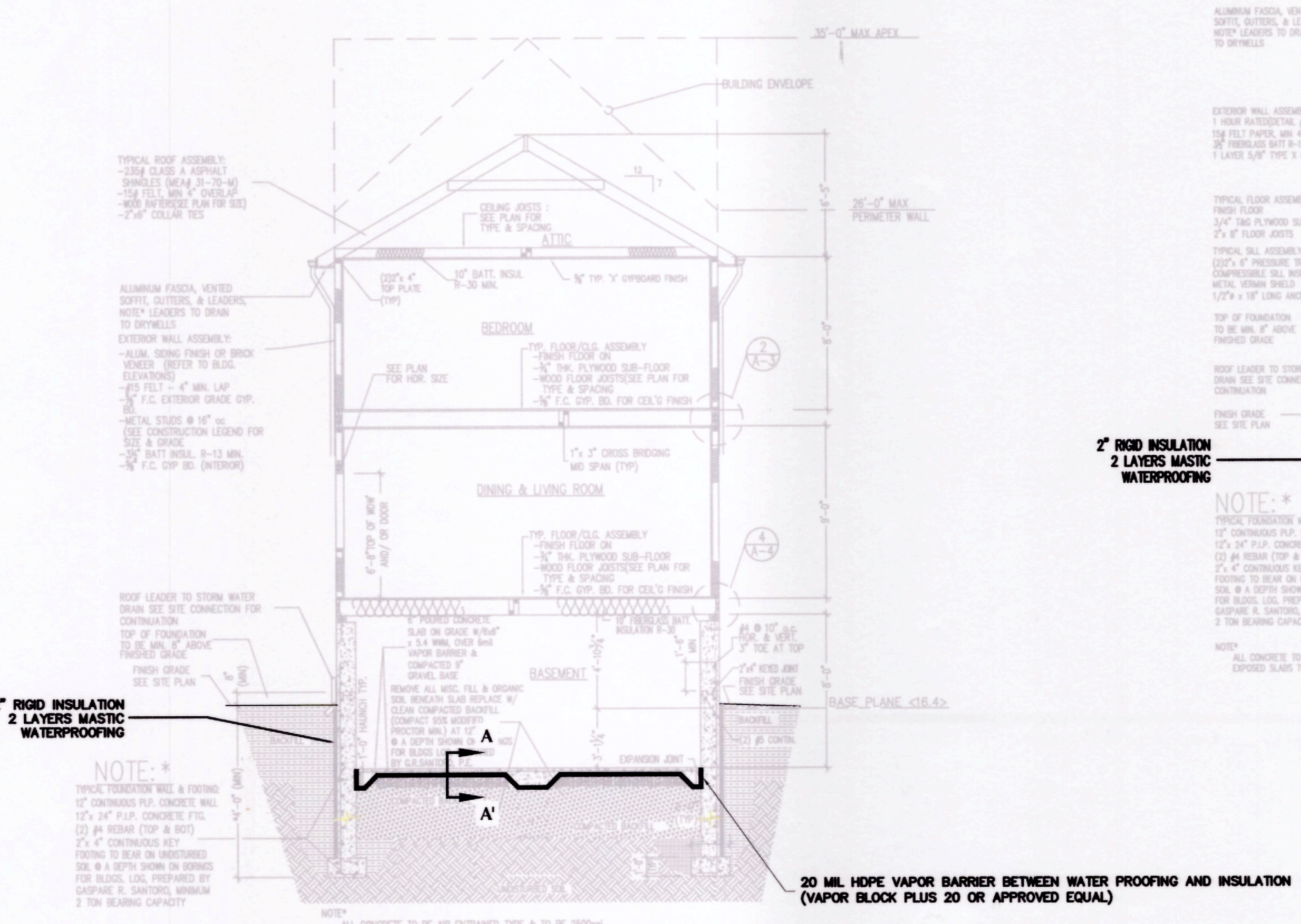
GARAGE/BASEMENT FLOOR: UNIT A



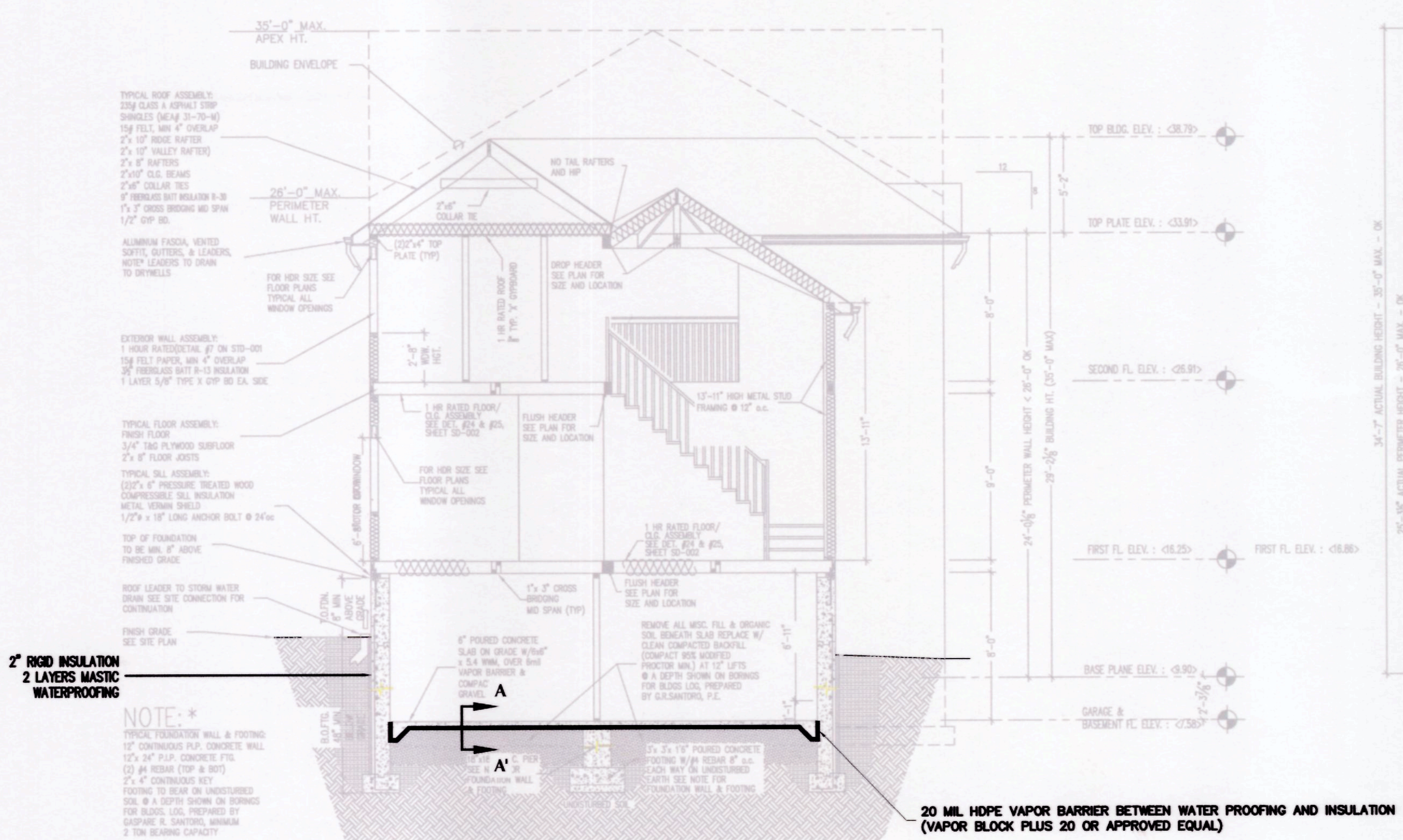
GARAGE/BASEMENT FLOOR: UNIT B



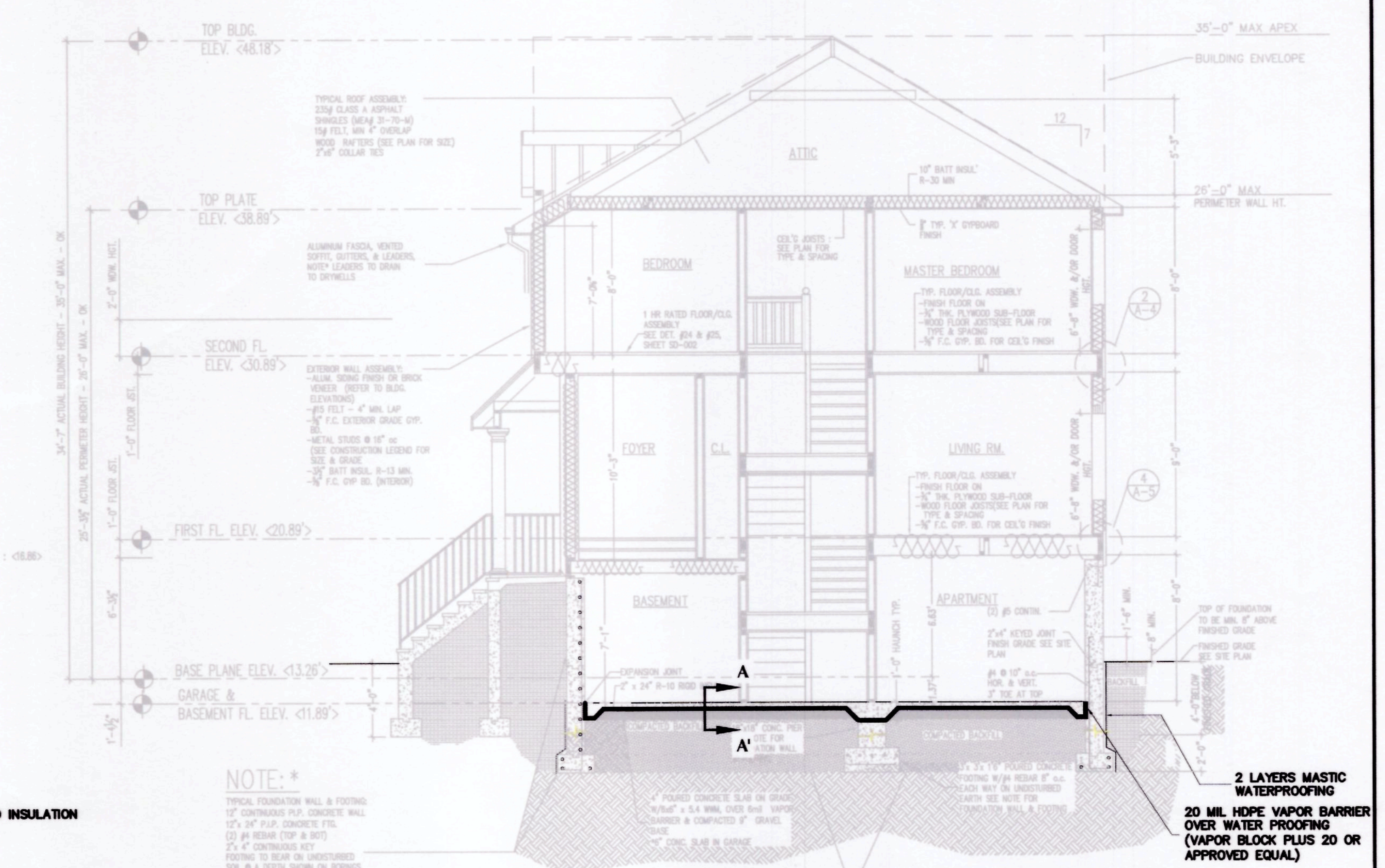
GARAGE/BASEMENT FLOOR: UNIT C



CROSS SECTION: UNIT A



CROSS SECTION: UNIT B



CROSS SECTION: UNIT C

KEITH T. D'AMBROSIO
PROFESSIONAL ENGINEER
NEW YORK LICENSE No. 076095

LEGEND

PROPOSED PSSVS VENTING LOCATION (APPROX.) SEE DETAILS ON PAGE 2 OF 2.

REFERENCE

THIS PLAN IS BASED UPON A LAST REVISED AUGUST 31, 2012 FLOOR PLANS/FLOOR PLANS, RISER DIAGRAM, DETAILS FLOOR AREA DEDUCTIONS, A LAST REVISED NOVEMBER 1, 2012 BUILDING ELEVATIONS & SECTION PLAN/FLOOR PLANS & SECTION/FLOOR PLANS, DETAIL, RISER DIAGRAM & SECTION/SECTIONS, DETAILS, RISER DIAGRAM PLANS PREPARED BY LAND PLANNING & ENGINEERING CONSULTANTS, P.C.

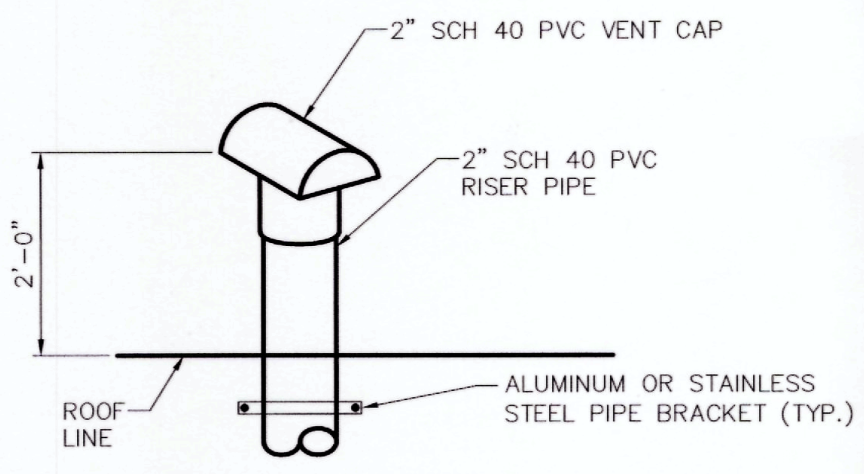
TITLE: **PROPOSED PASSIVE SUB-SLAB VENTING SYSTEM (PSSVS) GENERAL ARRANGEMENT**

CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

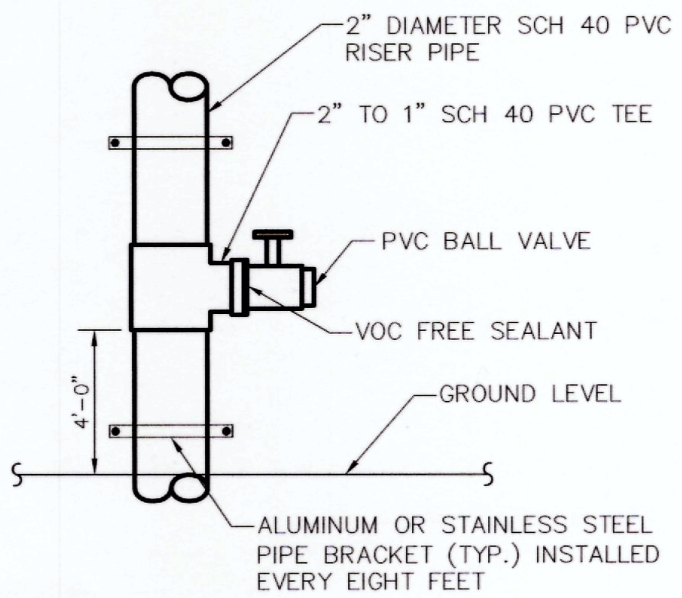
WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE 5:
EJ1212234.001	KR	CS	03/15/13	N.T.S.	1 OF 2



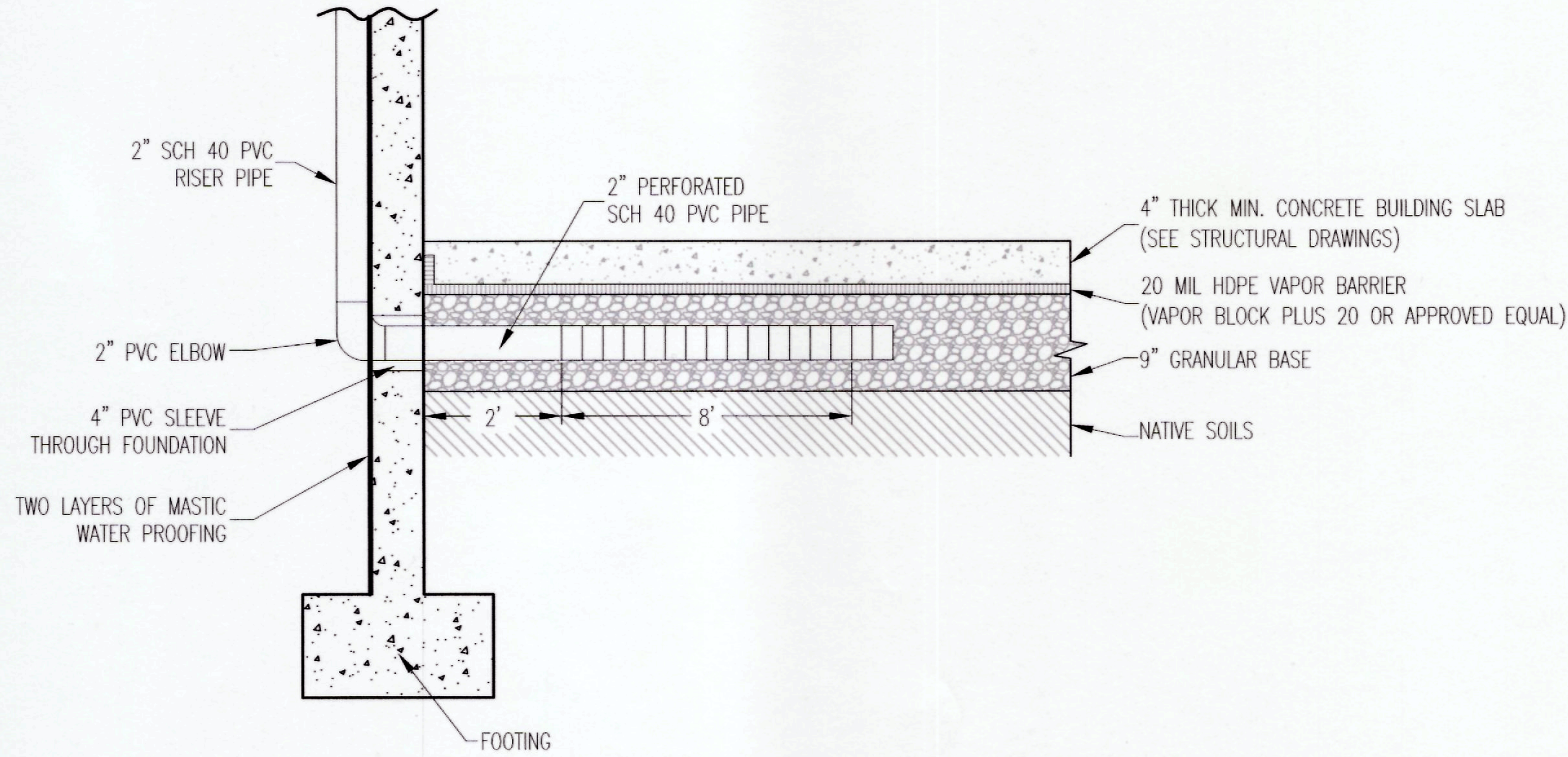
PSSVS EXHAUST

SCALE: N.T.S.



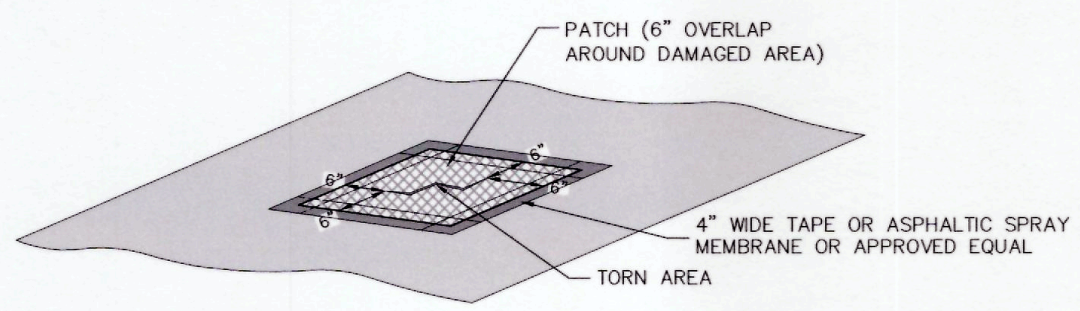
PSSVS SAMPLING PORT ON RISER PIPE

SCALE: N.T.S.



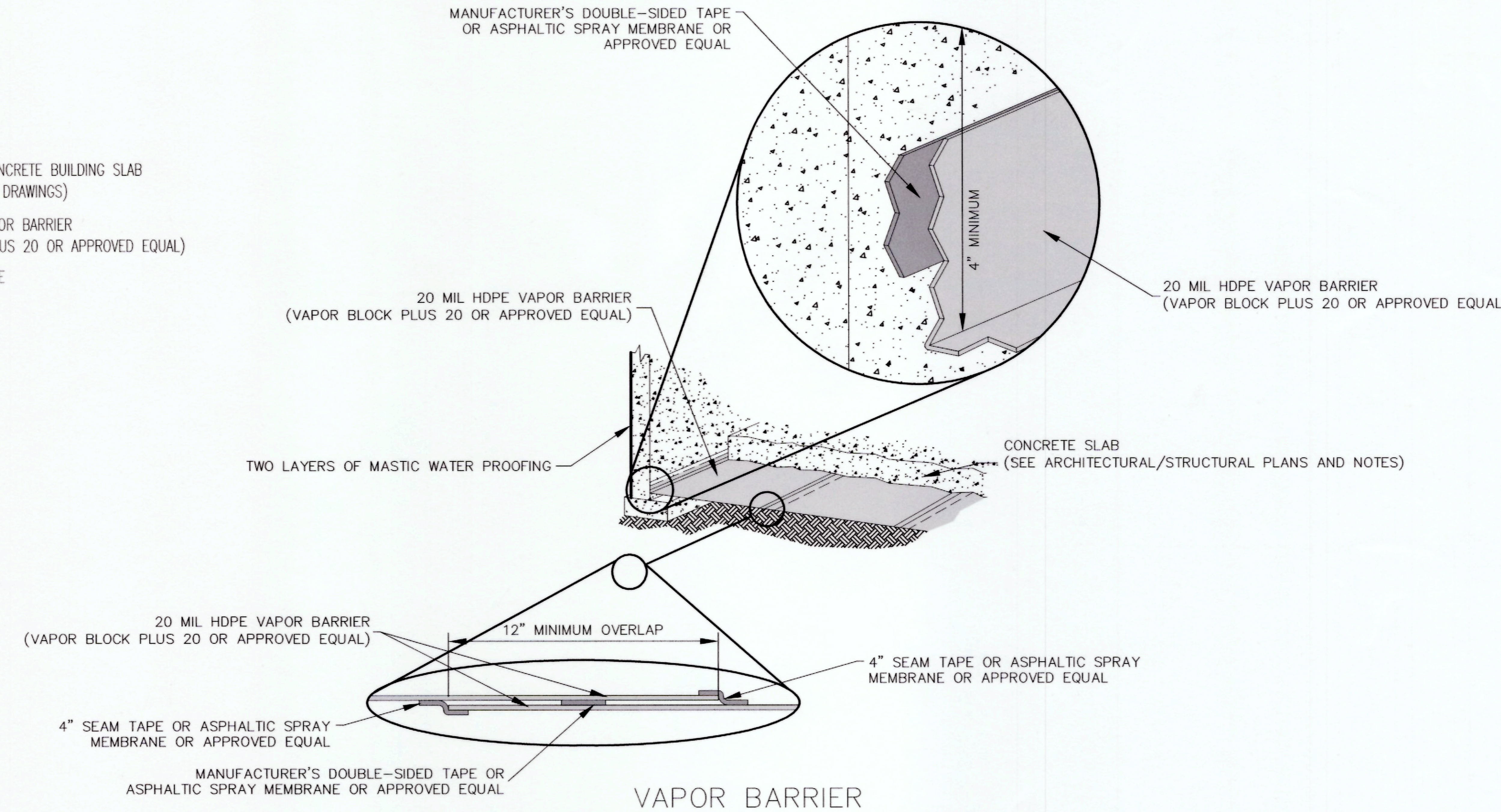
PASSIVE VENTING SYSTEM AND RISER

SCALE: N.T.S.



VAPOR BARRIER REPAIR (TYP.)

SCALE: N.T.S.



VAPOR BARRIER INSTALLATION DETAIL (TYP.)

SCALE: N.T.S.

NOTES:

1. THIS PLAN IS FOR USE IN SIZING AND GENERAL LAYOUT OF SUBSLAB VENTING SYSTEM ONLY. ANY STRUCTURAL ELEMENTS SHOWN ARE FOR GENERAL ILLUSTRATION ONLY. REFER TO STRUCTURAL DRAWINGS AND/OR CONTACT THE STRUCTURAL ENGINEER OF RECORD REGARDING ANY STRUCTURAL COMPONENTS.

2. ALL PVC CONNECTIONS SHALL BE SLIP FITTINGS OR FASTENED WITH STAINLESS STEAL SCREWS. NO GLUE SHALL BE UTILIZED AT ANY PVC CONNECTIONS.

3. THE PVC PIPING SHALL BE PLACED IN THE GRANULAR BASE BENEATH THE CONCRETE FLOOR SLAB. DO NOT SUPPORT THE PIPING FROM THE CONCRETE FLOOR SLAB.

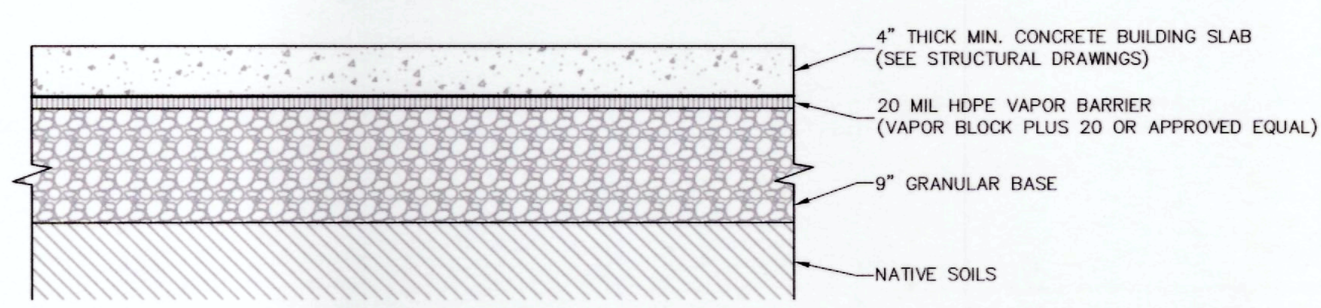
4. THE PSSVS SYSTEM EXHAUST SHALL BE INSTALLED TWO FEET ABOVE THE TOP OF THE ROOF AND A MINIMUM OF TEN FEET FROM ANY OPENINGS TO INTERIOR SPACES.

5. THE VAPOR BARRIER SHALL BE SECURED TO THE CONCRETE FOOTING USING 4" WIDE TAPE OR ASPHALTIC SPRAY MEMBRANE FASTENED PER MANUFACTURER'S INSTRUCTIONS.

6. 20 MIL HDPE VAPOR BARRIER SHALL BE INSTALLED CONTINUOUSLY BENEATH THE CONCRETE FLOOR SLAB IN ACCORDANCE WITH ASTM STANDARD E-1643-94 AND MANUFACTURER'S INSTRUCTIONS. ALL SEAMS SHALL OVERLAP A MINIMUM OF 12" AND BE SEALED WITH 4" WIDE TAPE OR ASPHALTIC SPRAY MEMBRANE.

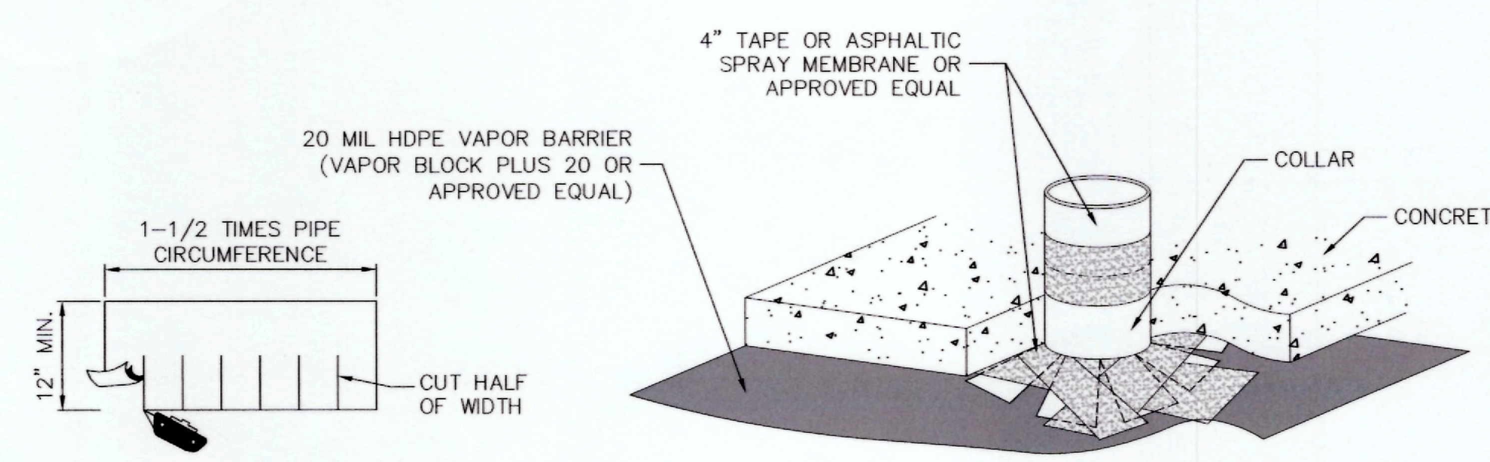
7. ALL PENETRATIONS THROUGH THE VAPOR BARRIER SHALL BE SEALED PER MANUFACTURER'S SPECIFICATIONS AND BE SEALED WITH 4" WIDE TAPE OR ASPHALTIC SPRAY MEMBRANE.

8. THIS SYSTEM HAS BEEN DESIGNED AS A PSSVS. IF WARRANTED THE PSSVS MAY BE RETROFITTED WITH A BLOWER/FAN TO CREATE AN ACTIVE VENTING SYSTEM. RETRO-FITTING WOULD INCLUDE CONNECTING A BLOWER/FAN TO THE PSSVS EXHAUST STACK. PREPARATION AND APPROVAL OF PROJECT-SPECIFIC DESIGN PLANS FOR AN ACTIVE SYSTEM WOULD BE REQUIRED PRIOR TO ANY FUTURE CONVERSION OF THIS PSSVS TO AN ACTIVE SYSTEM.



SECTION A-A'

SCALE: N.T.S.



COLLAR

COLLAR INSTALLATION

PENETRATIONS (TYP.)

SCALE: N.T.S.

KEITH T. D'AMBROSIO
PROFESSIONAL ENGINEER
NEW YORK LICENSE No. 076095

TITLE: **PROPOSED PASSIVE SUB-SLAB VENTING SYSTEM (PSSVS) DETAILS**

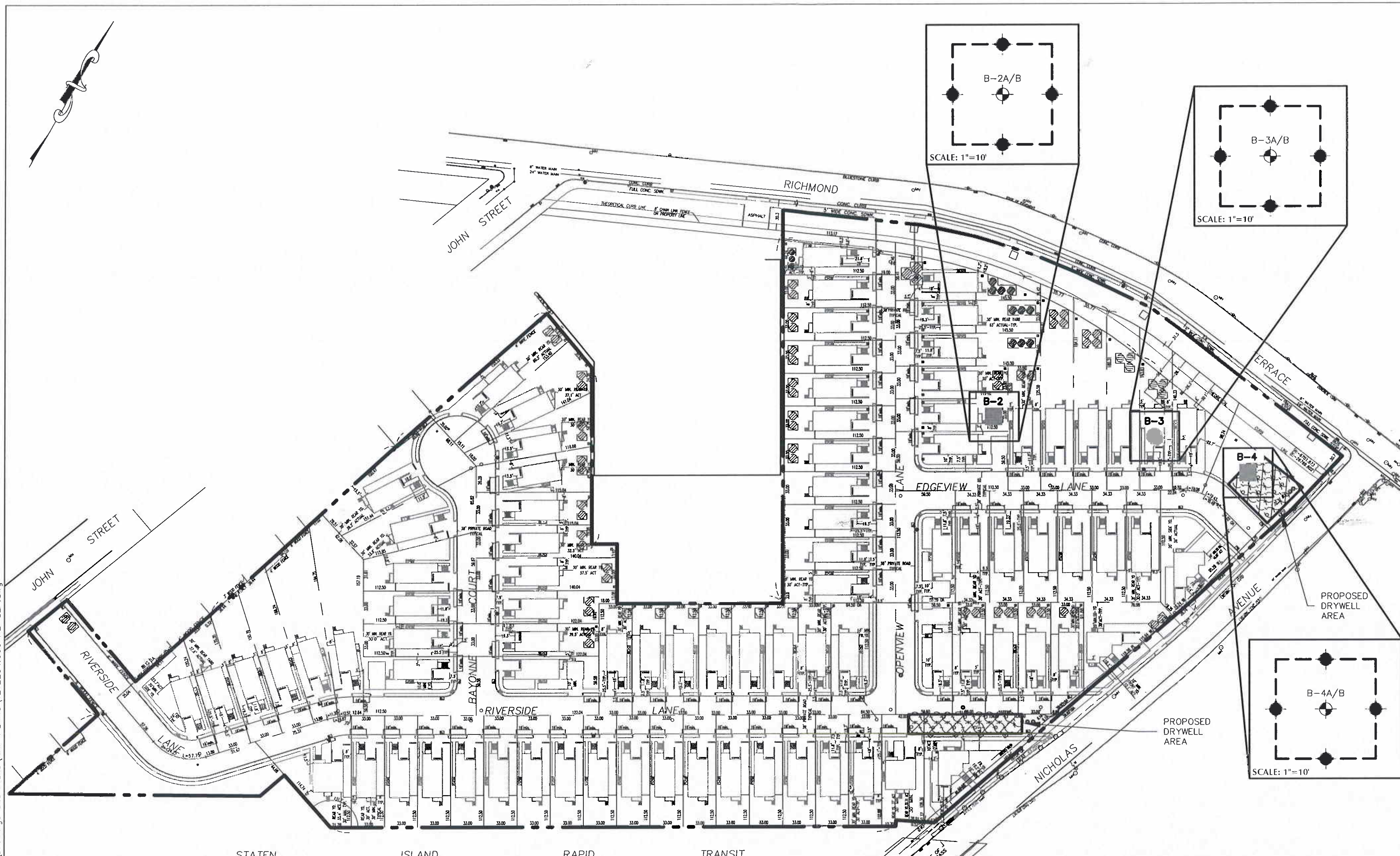
CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE 5:
EJ1212234.001	KR	CS	03/15/13	N.T.S.	2 OF 2

FIGURE 6
Proposed End-Point Sampling Plan



0 100
1 inch = 100 ft.

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LEGEND

B-2 BORING/SAMPLE LOCATION (APPROX.)

PROPOSED END-POINT SAMPLE LOCATION (APPROX.)

SUBJECT PROPERTY BOUNDARY

REFERENCE

THIS PLAN IS BASED UPON A SEPTEMBER 17, 2010 OVERALL SITE PLAN PREPARED BY LAND PLANNING & ENGINEERING CONSULTANTS, P.C.

WHITESTONE ASSOCIATES, INC.
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WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

FIGURE: 6

SCALE: AS SHOWN

DATE: 03/15/13

PROJ. MGR.: CS

BY: KR

PROJECT #: EJ1212234.000

TITLE: PROPOSED END-POINT SAMPLE LOCATION PLAN

CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: REMEDIAL ACTION PLAN
NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

TABLE 1
List of Proposed SCOs (Residential)

TABLE 1
LIST OF PROPOSED SCOs (RESIDENTIAL)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

ANALYTE	CasNum	Track 2 Residential SCO
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)		
Acenaphthene	83-32-9	100
Acenaphthylene	208-96-8	100
Anthracene	120-12-7	100
Benzo(a)anthracene	56-55-3	1
Benzo(a)pyrene	50-32-8	1
Benzo(b)fluoranthene	205-99-2	1
Benzo(ghi)perylene	191-24-2	100
Benzo(k)fluoranthene	207-08-9	1
Chrysene	218-01-9	1
Dibenzo(a,h)anthracene	53-70-3	0.33
Fluoranthene	206-44-0	100
Fluorene	86-73-7	100
Indeno(1,2,3-cd)Pyrene	193-39-5	0.5
Naphthalene	91-20-3	100
2-Methylnaphthalene	91-57-6	0.41
Phenanthrene	85-01-8	100
Pyrene	129-00-0	100
METALS		
Barium	7440-39-3	350

Notes:
SCOs reported in parts per million (ppm or mg/kg)
SCO - Soil Cleanup Objective
NA - No Applicable NYSDEC SCO

TABLE 2A
Soil Sampling and Analyses Data Summary (September 2012)

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES, INC.		**SAMPLE ID:**	B-1A			B-1B			B-2A			B-2B			B-3A			B-3B			B-4A			B-4B			B-4C			B-5A		
		LAB ID:	AC68504-003			AC68504-004			AC68504-041			AC68504-042			AC68504-001			AC68504-002			AC68504-043			AC68504-044			AC68504-045			AC68504-033		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																																
1,1,1-Trichloroethane	0.68	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,1,2,2-Tetrachloroethane	NA	35	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,1,2-Trichloroethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,1-Dichloroethane	0.27	26	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,1-Dichloroethene	0.33	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2,3-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2,4-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2-Dibromo-3-chloropropane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2-Dibromoethane	NA	NA	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
1,2-Dichlorobenzene	1.1	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2-Dichloroethane	0.02	3.1	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,2-Dichloropropane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,3-Dichlorobenzene	2.4	49	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,4-Dichlorobenzene	1.8	13	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
1,4-Dioxane	0.1	13	ND		0.11	ND		0.11	ND		0.11	ND		0.12	ND		0.11	ND		0.11	ND		0.12	ND		0.11	ND		0.11	ND		0.11
2-Butanone	0.12	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
2-Hexanone	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
4-Methyl-2-pentanone	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Acetone	0.05	100	ND		0.011	ND		0.011	ND		0.011	ND		0.012	ND		0.011	ND		0.011	ND		0.012	ND		0.011	ND		0.011	ND		0.011
Benzene	0.06	4.8	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
Bromochloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Bromodichloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Bromoform	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Bromomethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Carbon disulfide	NA	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Carbon tetrachloride	0.76	2.4	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Chlorobenzene	1.1	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Chloroethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Chloroform	0.37	49	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Chloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
cis-1,2-Dichloroethene	0.25	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
cis-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Cyclohexane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Dibromochloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Dichlorodifluoromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Ethylbenzene	1	41	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
Isopropylbenzene	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
m&p-Xylenes	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
Methyl Acetate	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Methylcyclohexane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Methylene chloride	0.05	100/51	0.0037		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	0.0034		0.0021	0.0026		0.0022	0.0024		0.0023	0.0026		0.0023	ND		0.0023	ND		0.0022
Methyl-t-butyl ether	0.93	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
o-Xylene	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
Styrene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Tetrachloroethene	1.3	19	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Toluene	0.7	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
Trans-1,2-dichloroethene	0.19	100	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
trans-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Trichloroethene	0.47	21	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Trichlorofluoromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Vinyl chloride	0.02	0.9	ND		0.0022	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0021	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023	ND		0.0022
Xylenes (Total)	0.26	NA	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011
SEMI-VOLATILE ORGANICS (SVOs)																																
1,1'-Biphenyl	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1B			B-2A			B-2B			B-3A			B-3B			B-4A			B-4B			B-4C			B-5A		
		LAB ID:	AC68504-003			AC68504-004			AC68504-041			AC68504-042			AC68504-001			AC68504-002			AC68504-043			AC68504-044			AC68504-045			AC68504-033		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
1,2,4,5-Tetrachlorobenzene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2,3,4,6-Tetrachlorophenol	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2,4,5-Trichlorophenol	NA	100	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2,4,6-Trichlorophenol	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2,4-Dichlorophenol	NA	100	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
2,4-Dimethylphenol	NA	NA	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
2,4-Dinitrophenol	NA	100	ND		0.078	ND		0.20	ND		0.19	ND		0.20	ND		0.18	ND		0.18	ND		3.9	ND		0.19	ND		0.19	ND		0.19
2,4-Dinitrotoluene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2,6-Dinitrotoluene	NA	1.03	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2-Chloronaphthalene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2-Chlorophenol	NA	100	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2-Methylnaphthalene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2-Methylphenol	0.33	100	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
2-Nitroaniline	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
2-Nitrophenol	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
3&4-Methylphenol	0.33	100	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
3,3'-Dichlorobenzidine	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
3-Nitroaniline	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
4,6-Dinitro-2-methylphenol	NA	NA	ND		0.038	ND		0.20	ND		0.19	ND		0.20	ND		0.18	ND		0.18	ND		3.9	ND		0.19	ND		0.19	ND		0.19
4-Bromophenyl-phenylether	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
4-Chloro-3-methylphenol	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
4-Chloroaniline	NA	NA	ND		0.018	ND		0.019	ND		0.018	ND		0.019	ND		0.017	ND		0.017	ND		0.37	ND		0.018	ND		0.018	ND		0.018
4-Chlorophenyl-phenylether	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
4-Nitroaniline	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
4-Nitrophenol	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Acenaphthene	20	100/100	ND		0.038	ND		0.039	ND		0.038	ND		0.040	0.060		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Acenaphthylene	100	100/100	0.080		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Acetophenone	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Anthracene	100	100/100	0.10		0.038	ND		0.039	ND		0.038	ND		0.040	0.60		0.036	ND		0.037	3.3		0.78	ND		0.039	ND		0.039	ND		0.039
Atrazine	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Benzaldehyde	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Benzo[a]anthracene	1	1/1	0.61		0.038	ND		0.039	ND		0.038	ND		0.040	**1.4**		**0.036**	ND		0.037	**12**		**0.78**	ND		0.039	ND		0.039	0.043		0.039
Benzo[a]pyrene	1	1/1	0.58		0.038	ND		0.039	ND		0.038	ND		0.040	**1.1**		**0.036**	ND		0.037	**11**		**0.78**	ND		0.039	ND		0.039	0.040		0.039
Benzo[b]fluoranthene	1	1/1	0.70		0.038	ND		0.039	ND		0.038	ND		0.040	**1.2**		**0.036**	ND		0.037	**12**		**0.78**	ND		0.039	ND		0.039	0.054		0.039
Benzo[g,h,i]perylene	100	100/100	0.37		0.038	ND		0.039	ND		0.038	ND		0.040	0.82		0.036	ND		0.037	8.3		0.78	ND		0.039	ND		0.039	ND		0.039
Benzo[k]fluoranthene	0.8	3.9/1	0.22		0.038	ND		0.039	ND		0.038	ND		0.040	0.51		0.036	ND		0.037	**4.7**		**0.78**	ND		0.039	ND		0.039	ND		0.039
bis(2-Chloroethoxy)methane	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
bis(2-Chloroethyl)ether	NA	NA	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
bis(2-Chloroisopropyl)ether	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
bis(2-Ethylhexyl)phthalate	NA	NA	0.080		0.038	0.039		0.039	0.038		0.038	0.086		0.040	ND		0.036	ND		0.037	ND		0.78	0.068		0.039	0.042		0.039	ND		0.039
Butylbenzylphthalate	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Caprolactam	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Carbazole	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	0.037		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Chrysene	1	3.9/1	0.61		0.038	ND		0.039	ND		0.038	ND		0.040	**1.3**		**0.036**	ND		0.037	**11**		**0.78**	ND		0.039	ND		0.039	ND		0.039
Dibenzo[a,h]anthracene	0.33	0.33/0.33	0.11		0.038	ND		0.039	ND		0.038	ND		0.040	0.23		0.036	ND		0.037	**2.3**		**0.78**	ND		0.039	ND		0.039	ND		0.039
Dibenzofuran	7	59/14	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	0.028		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
Diethylphthalate	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Dimethylphthalate	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Di-n-butylphthalate	NA	NA	ND		0.019	ND		0.020	0.038		0.019	0.021		0.020	ND		0.018	ND		0.018	ND		0.39	ND		0.019	ND		0.019	ND		0.019
Di-n-octylphthalate	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Fluoranthene	100	100/100	0.49		0.038	ND		0.039	ND		0.038	ND		0.040	2.3		0.036	ND		0.037	19		0.78	ND		0.039	ND		0.039	0.055		0.039
Fluorene	30	100/100	ND		0.038	ND		0.039	ND		0.038	ND		0.040	0.077		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Hexachlorobenzene	0.33	1.2	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Hexachlorobutadiene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Hexachlorocyclopentadiene	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1B			B-2A			B-2B			B-3A			B-3B			B-4A			B-4B			B-4C			B-5A		
		LAB ID:	AC68504-003			AC68504-004			AC68504-041			AC68504-042			AC68504-001			AC68504-002			AC68504-043			AC68504-044			AC68504-045			AC68504-033		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Hexachloroethane	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Indeno[1,2,3-cd]pyrene	0.5	0.5/0.5	0.31		0.038	ND		0.039	ND		0.038	ND		0.040	**0.78**		**0.036**	ND		0.037	**7.5**		**0.78**	ND		0.039	ND		0.039	ND		0.039
Isophorone	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Naphthalene	12	100	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
Nitrobenzene	NA	15	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
N-Nitroso-di-n-propylamine	NA	NA	ND		0.0096	ND		0.0098	ND		0.0095	ND		0.0099	ND		0.0091	ND		0.0092	ND		0.19	ND		0.0097	ND		0.0097	ND		0.0097
N-Nitrosodiphenylamine	NA	NA	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Pentachlorophenol	0.8	6.7	ND		0.19	ND		0.20	ND		0.19	ND		0.20	ND		0.18	ND		0.18	ND		3.9	ND		0.19	ND		0.19	ND		0.19
Phenanthrene	100	100/100	0.21		0.038	ND		0.039	ND		0.038	ND		0.040	1.9		0.036	ND		0.037	11		0.78	ND		0.039	ND		0.039	ND		0.039
Phenol	0.33	100	ND		0.038	ND		0.039	ND		0.038	ND		0.040	ND		0.036	ND		0.037	ND		0.78	ND		0.039	ND		0.039	ND		0.039
Pyrene	100	100/100	1.0		0.038	ND		0.039	ND		0.038	ND		0.040	3.1		0.036	ND		0.037	23		0.78	ND		0.039	ND		0.039	0.068		0.039
METALS																																
Mercury	0.18	0.81/0.81	ND		0.096	ND		0.098	ND		0.095	ND		0.099	0.18		0.091	ND		0.092	0.22		0.097	ND		0.097	ND		0.097	ND		0.097
Aluminum	NA	NA	12,000		230	13,000		240	13,000		230	9,500		240	13,000		220	14,000		220	11,000		230	10,000		230	11,000		230	14,000		230
Antimony	NA	NA	ND		2.3	ND		2.4	ND		2.3	ND		2.4	ND		2.2	ND		2.2	ND		2.3	ND		2.3	ND		2.3	ND		2.3
Arsenic	13	16/16	5.2		2.3	3.9		2.4	4.9		2.3	ND		2.4	5.3		2.2	4.9		2.2	4.9		2.3	3.3		2.3	2.9		2.3	4.8		2.3
Barium	350	400/350	91		11	160		12	**680**		**11**	100		12	110		11	200		11	98		12	130		12	150		12	160		12
Beryllium	7.2	72/14	0.77		0.69	1.1		0.71	2.1		0.68	ND		0.71	1.1		0.65	1.3		0.66	ND		0.70	ND		0.70	ND		0.70	ND		0.70
Cadmium	2.5	4.3	ND		0.69	ND		0.71	ND		0.68	ND		0.71	ND		0.65	ND		0.66	ND		0.70	ND		0.70	ND		0.70	ND		0.70
Calcium	NA	NA	2,500		1,100	3,200		1,200	2,800		1,100	25,000		1,200	2,700		1,100	3,400		1,100	3,200		1,200	2,700		1,200	20,000		1,200	4,100		1,200
Chromium	30	NA	22		5.7	27		5.9	26		5.7	21		6.0	15		5.4	26		5.5	14		5.8	21		5.8	22		5.8	25		5.8
Cobalt	NA	NA	10		2.9	10		2.9	15		2.8	9.5		3.0	10		2.7	13		2.7	7.7		2.9	11		2.9	11		2.9	14		2.9
Copper	50	270/270	29		5.7	21		5.9	22		5.7	14		6.0	29		5.4	21		5.5	41		5.8	20		5.8	15		5.8	26		5.8
Iron	NA	NA	28,000		230	29,000		240	32,000		230	23,000		240	20,000		220	34,000		220	18,000		230	25,000		230	26,000		230	33,000		230
Lead	63	400/400	110		5.7	14		5.9	15		5.7	12		6.0	60		5.4	16		5.5	100		5.8	12		5.8	12		5.8	45		5.8
Magnesium	NA	NA	5,300		570	7,000		590	7,200		570	6,700		600	4,000		540	7,800		550	3,500		580	6,100		580	6,600		580	6,700		580
Manganese	1,600	2,000/2,000	410		11	400		12	930		11	430		12	930		11	1,100		11	420		12	620		12	590		12	530		12
Nickel	30	310/140	20		5.7	25		5.9	37		5.7	21		6.0	18		5.4	32		5.5	16		5.8	26		5.8	23		5.8	27		5.8
Potassium	NA	NA	1,600		570	2,300		590	2,100		570	2,100		600	820		540	2,500		550	710		580	2,000		580	2,400		580	2,200		580
Selenium	3.9	180	ND		2.1	ND		2.1	ND		2.0	ND		2.1	ND		2.0	ND		2.0	ND		2.1	ND		2.1	ND		2.1	ND		2.1
Silver	2	180	ND		1.7	ND		1.8	ND		1.7	ND		1.8	ND		1.6	ND		1.6	ND		1.7	ND		1.7	ND		1.7	ND		1.7
Sodium	NA	NA	ND		290	ND		290	ND		280	ND		300	ND		270	290		270	ND		290	ND		290	ND		290	ND		290
Thallium	NA	NA	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.3	ND		1.3	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vanadium	NA	NA	29		11	29		12	34		11	25		12	25		11	35		11	23		12	28		12	28		12	34		12
Zinc	109	10,000/2,200	93		11	71		12	69		11	51		12	89		11	68		11	100		12	52		12	54		12	79		12
POLYCHLORINATED BIPHENYLS (PCBs)																																
Aroclor (Total)	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1016	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1221	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1232	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1242	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1248	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1254	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1260	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1262	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
Aroclor-1268	0.1	1	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
PESTICIDES																																
Aldrin	0.005	0.097	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Alpha-BHC	0.02	0.48	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
beta-BHC	0.036	0.36	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Chlordane	NA	4.2	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
delta-BHC	0.04	100	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Dieldrin	0.005	0.2	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Endosulfan I	2.4	24	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Endosulfan II	2.4	24	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1B			B-2A			B-2B			B-3A			B-3B			B-4A			B-4B			B-4C			B-5A		
		LAB ID:	AC68504-003			AC68504-004			AC68504-041			AC68504-042			AC68504-001			AC68504-002			AC68504-043			AC68504-044			AC68504-045			AC68504-033		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Endosulfan Sulfate	2.4	24	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Endrin	0.014	11	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Endrin Aldehyde	NA	NA	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Endrin Ketone	NA	NA	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
gamma-BHC	0.1	NA	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Heptachlor	0.042	2.1	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Heptachlor Epoxide	NA	NA	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
Methoxychlor	NA	NA	ND		0.0057	ND		0.0059	ND		0.0057	ND		0.0060	ND		0.0054	ND		0.0055	ND		0.0058	ND		0.0058	ND		0.0058	ND		0.0058
p,p'-DDD	0.0033	13	ND		0.0029	ND		0.0029	ND		0.0028	ND		0.0030	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0029	ND		0.0029	ND		0.0029
p,p'-DDE	0.0033	8.9	ND		0.0029	ND		0.0029	ND		0.0028	ND		0.0030	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0029	ND		0.0029	ND		0.0029
p,p'-DDT	0.0033	7.9	ND		0.0029	ND		0.0029	ND		0.0028	ND		0.0030	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0029	ND		0.0029	ND		0.0029
Toxaphene	NA	NA	ND		0.029	ND		0.029	ND		0.028	ND		0.030	ND		0.027	ND		0.027	ND		0.029	ND		0.029	ND		0.029	ND		0.029
OTHER PARAMETERS																																
Percent Solids	NA	NA	87			85			88			84			92			91			86			86			86			86		

Notes:
Shaded and bold value indicates an exceedence of the NYSDEC RSCO
All results reported in parts per million (ppm or mg/kg)
Sample depths reported in feet below ground surface (fbgs)
UUSCO - NYSDEC Remedial Program Part 375 Unrestricted Use Soil Cleanup Objective
RRSCO - NYSDEC Restricted Residential Soil Cleanup Objective
RSCO - NYSDEC Residential Soil Cleanup Objective (shown when there is a detection)
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected exceeding RL
NA - No Applicable NYSDEC SCO

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES INC.																																
		SAMPLE ID:	B-5B			B-6A			B-6B			B-7A			B-7B			B-8A			B-8B			B-9A			B-9B			B-10A		
		LAB ID:	AC68504-034			AC68504-031			AC68504-032			AC68504-010			AC68504-011			AC68504-039			AC68504-040			AC68504-037			AC68504-038			AC68504-035		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																																
1,1,1-Trichloroethane	0.68	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,1,2,2-Tetrachloroethane	NA	35	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,1,2-Trichloroethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,1-Dichloroethane	0.27	26	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,1-Dichloroethene	0.33	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2,3-Trichlorobenzene	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2,4-Trichlorobenzene	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2-Dibromo-3-chloropropane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2-Dibromoethane	NA	NA	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
1,2-Dichlorobenzene	1.1	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2-Dichloroethane	0.02	3.1	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,2-Dichloropropane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,3-Dichlorobenzene	2.4	49	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,4-Dichlorobenzene	1.8	13	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
1,4-Dioxane	0.1	13	ND		0.12	ND		0.11	ND		0.12	ND		0.11	ND		0.10	ND		0.11	ND		0.11	ND		0.11	ND		0.12	ND		0.11
2-Butanone	0.12	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
2-Hexanone	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
4-Methyl-2-pentanone	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Acetone	0.05	100	ND		0.012	ND		0.011	ND		0.012	ND		0.011	ND		0.010	ND		0.011	ND		0.011	ND		0.011	ND		0.012	ND		0.011
Benzene	0.06	4.8	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
Bromochloromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Bromodichloromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Bromoform	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Bromomethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Carbon disulfide	NA	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Carbon tetrachloride	0.76	2.4	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Chlorobenzene	1.1	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Chloroethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Chloroform	0.37	49	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Chloromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
cis-1,2-Dichloroethene	0.25	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
cis-1,3-Dichloropropene	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Cyclohexane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Dibromochloromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Dichlorodifluoromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Ethylbenzene	1	41	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
Isopropylbenzene	NA	100	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
m&p-Xylenes	NA	100	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
Methyl Acetate	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Methylcyclohexane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Methylene chloride	0.05	100/51	ND		0.0023	ND		0.0022	0.0028		0.0023	0.0042		0.0021	0.0043		0.0021	0.0035		0.0022	ND		0.0022	ND		0.0023	0.0035		0.0023	ND		0.0023
Methyl-t-butyl ether	0.93	100	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
o-Xylene	NA	100	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
Styrene	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Tetrachloroethene	1.3	19	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Toluene	0.7	100	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
Trans-1,2-dichloroethene	0.19	100	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
trans-1,3-Dichloropropene	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Trichloroethene	0.47	21	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Trichlorofluoromethane	NA	NA	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Vinyl chloride	0.02	0.9	ND		0.0023	ND		0.0022	ND		0.0023	ND		0.0021	ND		0.0021	ND		0.0022	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0023
Xylenes (Total)	0.26	NA	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0010	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0011
SEMI-VOLATILE ORGANICS (SVOs)																																
1,1'-Biphenyl	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-5B			B-6A			B-6B			B-7A			B-7B			B-8A			B-8B			B-9A			B-9B			B-10A		
		LAB ID:	AC68504-034			AC68504-031			AC68504-032			AC68504-010			AC68504-011			AC68504-039			AC68504-040			AC68504-037			AC68504-038			AC68504-035		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
1,2,4,5-Tetrachlorobenzene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2,3,4,6-Tetrachlorophenol	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2,4,5-Trichlorophenol	NA	100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2,4,6-Trichlorophenol	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2,4-Dichlorophenol	NA	100	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
2,4-Dimethylphenol	NA	NA	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
2,4-Dinitrophenol	NA	100	ND		0.20	ND		0.19	ND		0.20	ND		0.18	ND		0.18	ND		0.19	ND		0.19	ND		0.20	ND		0.20	ND		0.19
2,4-Dinitrotoluene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2,6-Dinitrotoluene	NA	1.03	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2-Chloronaphthalene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2-Chlorophenol	NA	100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2-Methylnaphthalene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2-Methylphenol	0.33	100	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
2-Nitroaniline	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
2-Nitrophenol	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
3&4-Methylphenol	0.33	100	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
3,3'-Dichlorobenzidine	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
3-Nitroaniline	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
4,6-Dinitro-2-methylphenol	NA	NA	ND		0.20	ND		0.037	ND		0.040	ND		0.18	ND		0.18	ND		0.19	ND		0.19	ND		0.20	ND		0.20	ND		0.19
4-Bromophenyl-phenylether	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
4-Chloro-3-methylphenol	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
4-Chloroaniline	NA	NA	ND		0.019	ND		0.018	ND		0.019	ND		0.017	ND		0.017	ND		0.018	ND		0.018	ND		0.019	ND		0.019	ND		0.018
4-Chlorophenyl-phenylether	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
4-Nitroaniline	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
4-Nitrophenol	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Acenaphthene	20	100/100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Acenaphthylene	100	100/100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Acetophenone	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Anthracene	100	100/100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Atrazine	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzaldehyde	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzo[a]anthracene	1	1/1	ND		0.040	ND		0.037	ND		0.040	0.069		0.037	0.077		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzo[a]pyrene	1	1/1	ND		0.040	ND		0.037	ND		0.040	0.052		0.037	0.064		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzo[b]fluoranthene	1	1/1	ND		0.040	ND		0.037	ND		0.040	0.067		0.037	0.074		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzo[g,h,i]perylene	100	100/100	ND		0.040	ND		0.037	ND		0.040	0.039		0.037	0.047		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Benzo[k]fluoranthene	0.8	3.9/1	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
bis(2-Chloroethoxy)methane	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
bis(2-Chloroethyl)ether	NA	NA	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
bis(2-Chloroisopropyl)ether	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
bis(2-Ethylhexyl)phthalate	NA	NA	ND		0.040	ND		0.037	ND		0.040	0.11		0.037	ND		0.035	0.051		0.037	0.065		0.038	0.052		0.039	ND		0.040	ND		0.038
Butylbenzylphthalate	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Caprolactam	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Carbazole	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Chrysene	1	3.9/1	ND		0.040	ND		0.037	ND		0.040	0.061		0.037	0.081		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Dibenzo[a,h]anthracene	0.33	0.33/0.33	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Dibenzofuran	7	59/14	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
Diethylphthalate	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Dimethylphthalate	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Di-n-butylphthalate	NA	NA	ND		0.020	ND		0.019	ND		0.020	ND		0.018	ND		0.018	ND		0.019	ND		0.019	0.062		0.020	ND		0.020	ND		0.019
Di-n-octylphthalate	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Fluoranthene	100	100/100	ND		0.040	ND		0.037	ND		0.040	0.096		0.037	0.12		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Fluorene	30	100/100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Hexachlorobenzene	0.33	1.2	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Hexachlorobutadiene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Hexachlorocyclopentadiene	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-5B			B-6A			B-6B			B-7A			B-7B			B-8A			B-8B			B-9A			B-9B			B-10A		
		LAB ID:	AC68504-034			AC68504-031			AC68504-032			AC68504-010			AC68504-011			AC68504-039			AC68504-040			AC68504-037			AC68504-038			AC68504-035		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Hexachloroethane	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Indeno[1,2,3-cd]pyrene	0.5	0.5/0.5	ND		0.040	ND		0.037	ND		0.040	ND		0.037	0.043		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Isophorone	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Naphthalene	12	100	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
Nitrobenzene	NA	15	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
N-Nitroso-di-n-propylamine	NA	NA	ND		0.0099	ND		0.0093	ND		0.0099	ND		0.0092	ND		0.0088	ND		0.0094	ND		0.0095	ND		0.0098	ND		0.010	ND		0.0096
N-Nitrosodiphenylamine	NA	NA	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Pentachlorophenol	0.8	6.7	ND		0.20	ND		0.19	ND		0.20	ND		0.18	ND		0.18	ND		0.19	ND		0.19	ND		0.20	ND		0.20	ND		0.19
Phenanthrene	100	100/100	ND		0.040	ND		0.037	ND		0.040	0.076		0.037	0.10		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Phenol	0.33	100	ND		0.040	ND		0.037	ND		0.040	ND		0.037	ND		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
Pyrene	100	100/100	ND		0.040	ND		0.037	ND		0.040	0.15		0.037	0.18		0.035	ND		0.037	ND		0.038	ND		0.039	ND		0.040	ND		0.038
METALS																																
Mercury	0.18	0.81/0.81	ND		0.099	ND		0.093	ND		0.099	ND		0.092	0.55		0.088	ND		0.094	ND		0.095	ND		0.098	ND		0.10	ND		0.096
Aluminum	NA	NA	13,000		240	11,000		220	11,000		240	12,000		220	8,000		210	11,000		220	9,300		230	12,000		240	14,000		240	11,000		230
Antimony	NA	NA	ND		2.4	ND		2.2	ND		2.4	ND		2.2	ND		2.1	ND		2.2	ND		2.3	ND		2.4	ND		2.4	ND		2.3
Arsenic	13	16/16	3.7		2.4	4.5		2.2	3.3		2.4	4.7		2.2	3.4		2.1	3.0		2.2	2.4		2.3	3.2		2.4	3.6		2.4	3.7		2.3
Barium	350	400/350	150		12	83		11	160		12	70		11	33		11	160		11	140		11	98		12	150		12	120		11
Beryllium	7.2	72/14	ND		0.71	ND		0.67	ND		0.71	0.74		0.66	ND		0.63	ND		0.67	ND		0.68	ND		0.71	ND		0.72	ND		0.69
Cadmium	2.5	4.3	ND		0.71	ND		0.67	ND		0.71	ND		0.66	ND		0.63	ND		0.67	ND		0.68	ND		0.71	ND		0.72	ND		0.69
Calcium	NA	NA	19,000		1,200	1,600		1,100	5,800		1,200	2,000		1,100	ND		1,100	17,000		1,100	22,000		1,100	22,000		1,200	21,000		1,200	5,100		1,100
Chromium	30	NA	21		6.0	24		5.6	20		6.0	17		5.5	9.7		5.3	21		5.6	20		5.7	22		5.9	25		6.0	21		5.7
Cobalt	NA	NA	11		3.0	13		2.8	10		3.0	7.2		2.7	3.9		2.6	10		2.8	10		2.8	11		2.9	12		3.0	9.7		2.9
Copper	50	270/270	20		6.0	17		5.6	18		6.0	15		5.5	7.8		5.3	19		5.6	18		5.7	19		5.9	25		6.0	22		5.7
Iron	NA	NA	28,000		240	30,000		220	25,000		240	21,000		220	11,000		210	26,000		220	24,000		230	28,000		240	33,000		240	24,000		230
Lead	63	400/400	12		6.0	15		5.6	12		6.0	17		5.5	16		5.3	19		5.6	11		5.7	13		5.9	14		6.0	57		5.7
Magnesium	NA	NA	7,700		600	6,100		560	6,300		600	3,300		550	1,500		530	7,100		560	7,300		570	7,400		590	8,400		600	5,600		570
Manganese	1,600	2,000/2,000	590		12	570		11	610		12	420		11	230		11	590		11	560		11	560		12	530		12	370		11
Nickel	30	310/140	23		6.0	21		5.6	22		6.0	14		5.5	8.5		5.3	22		5.6	21		5.7	24		5.9	26		6.0	22		5.7
Potassium	NA	NA	2,700		600	1,800		560	2,300		600	890		550	ND		530	2,300		560	2,300		570	2,500		590	3,000		600	1,800		570
Selenium	3.9	180	ND		2.1	ND		2.0	ND		2.1	ND		2.0	ND		1.9	ND		2.0	ND		2.0	ND		2.1	ND		2.2	ND		2.1
Silver	2	180	ND		1.8	ND		1.7	ND		1.8	ND		1.6	ND		1.6	ND		1.7	ND		1.7	ND		1.8	ND		1.8	ND		1.7
Sodium	NA	NA	ND		300	ND		280	ND		300	ND		270	ND		260	ND		280	ND		280	ND		290	ND		300	ND		290
Thallium	NA	NA	ND		1.4	ND		1.3	ND		1.4	ND		1.3	ND		1.3	ND		1.3	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vanadium	NA	NA	31		12	32		11	29		12	22		11	13		11	29		11	27		11	32		12	35		12	28		11
Zinc	109	10,000/2,200	57		12	53		11	53		12	38		11	24		11	58		11	49		11	58		12	65		12	71		11
POLYCHLORINATED BIPHENYLS (PCBs)																																
Aroclor (Total)	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1016	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1221	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1232	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1242	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1248	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1254	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1260	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1262	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
Aroclor-1268	0.1	1	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
PESTICIDES																																
Aldrin	0.005	0.097	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Alpha-BHC	0.02	0.48	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011
beta-BHC	0.036	0.36	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011
Chlordane	NA	4.2	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
delta-BHC	0.04	100	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Dieldrin	0.005	0.2	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011
Endosulfan I	2.4	24	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Endosulfan II	2.4	24	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES, INC.		**SAMPLE ID:**	B-5B			B-6A			B-6B			B-7A			B-7B			B-8A			B-8B			B-9A			B-9B			B-10A		
		LAB ID:	AC68504-034			AC68504-031			AC68504-032			AC68504-010			AC68504-011			AC68504-039			AC68504-040			AC68504-037			AC68504-038			AC68504-035		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Endosulfan Sulfate	2.4	24	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Endrin	0.014	11	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Endrin Aldehyde	NA	NA	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Endrin Ketone	NA	NA	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
gamma-BHC	0.1	NA	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011
Heptachlor	0.042	2.1	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Heptachlor Epoxide	NA	NA	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
Methoxychlor	NA	NA	ND		0.0060	ND		0.0056	ND		0.0060	ND		0.0055	ND		0.0053	ND		0.0056	ND		0.0057	ND		0.0059	ND		0.0060	ND		0.0057
p,p'-DDD	0.0033	13	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0027	ND		0.0026	ND		0.0028	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0029
p,p'-DDE	0.0033	8.9	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0027	0.0093		0.0026	ND		0.0028	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0029
p,p'-DDT	0.0033	7.9	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0027	ND		0.0026	ND		0.0028	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0029
Toxaphene	NA	NA	ND		0.030	ND		0.028	ND		0.030	ND		0.027	ND		0.026	ND		0.028	ND		0.028	ND		0.029	ND		0.030	ND		0.029
OTHER PARAMETERS																																
Percent Solids	NA	NA	84			90			84			91			95			89			88			85			83			87		

Notes:

Shaded and bold value indicates an exceedence of the NYSDEC RSCO
All results reported in parts per million (ppm or mg/kg)
Sample depths reported in feet below ground surface (fbgs)
UUSCO - NYSDEC Remedial Program Part 375 Unrestricted Use Soil Cleanup Objective
RRSCO - NYSDEC Restricted Residential Soil Cleanup Objective
RSCO - NYSDEC Residential Soil Cleanup Objective (shown when there is a detection)
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected exceeding RL
NA - No Applicable NYSDEC SCO

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-10B			B-11A			B-11B			B-12A			B-12B			B-13A			B-13A (D)			B-13B			B-14A			B-14B		
		LAB ID:	AC68504-036			AC68504-025			AC68504-026			AC68504-005			AC68504-006			AC68504-027			AC68504-046			AC68504-028			AC68504-029			AC68504-030		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																																
1,1,1-Trichloroethane	0.68	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,1,2,2-Tetrachloroethane	NA	35	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,1,2-Trichloroethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,1-Dichloroethane	0.27	26	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,1-Dichloroethene	0.33	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2,3-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2,4-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2-Dibromo-3-chloropropane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2-Dibromoethane	NA	NA	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
1,2-Dichlorobenzene	1.1	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2-Dichloroethane	0.02	3.1	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,2-Dichloropropane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,3-Dichlorobenzene	2.4	49	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,4-Dichlorobenzene	1.8	13	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
1,4-Dioxane	0.1	13	ND		0.11	ND		0.11	ND		0.11	ND		0.11	ND		0.12	ND		0.12	ND		0.11	ND		0.12	ND		0.11	ND		0.12
2-Butanone	0.12	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
2-Hexanone	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
4-Methyl-2-pentanone	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Acetone	0.05	100	ND		0.011	ND		0.011	ND		0.011	ND		0.011	ND		0.012	ND		0.012	ND		0.011	ND		0.012	ND		0.011	ND		0.012
Benzene	0.06	4.8	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Bromochloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Bromodichloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Bromoform	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Bromomethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Carbon disulfide	NA	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Carbon tetrachloride	0.76	2.4	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Chlorobenzene	1.1	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Chloroethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Chloroform	0.37	49	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Chloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
cis-1,2-Dichloroethene	0.25	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
cis-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Cyclohexane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Dibromochloromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Dichlorodifluoromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Ethylbenzene	1	41	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Isopropylbenzene	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
m&p-Xylenes	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Methyl Acetate	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Methylcyclohexane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Methylene chloride	0.05	100/51	ND		0.0022	0.0045		0.0023	0.0041		0.0023	0.0035		0.0021	0.0029		0.0024	0.0024		0.0023	ND		0.0022	0.0042		0.0024	ND		0.0022	0.0055		0.0023
Methyl-t-butyl ether	0.93	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
o-Xylene	NA	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Styrene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Tetrachloroethene	1.3	19	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Toluene	0.7	100	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Trans-1,2-dichloroethene	0.19	100	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
trans-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Trichloroethene	0.47	21	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Trichlorofluoromethane	NA	NA	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Vinyl chloride	0.02	0.9	ND		0.0022	ND		0.0023	ND		0.0023	ND		0.0021	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024	ND		0.0022	ND		0.0023
Xylenes (Total)	0.26	NA	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
SEMI-VOLATILE ORGANICS (SVOs)																																
1,1'-Biphenyl	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES, INC.		**SAMPLE ID:**	B-10B			B-11A			B-11B			B-12A			B-12B			B-13A			B-13A (D)			B-13B			B-14A			B-14B		
		LAB ID:	AC68504-036			AC68504-025			AC68504-026			AC68504-005			AC68504-006			AC68504-027			AC68504-046			AC68504-028			AC68504-029			AC68504-030		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
1,2,4,5-Tetrachlorobenzene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2,3,4,6-Tetrachlorophenol	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2,4,5-Trichlorophenol	NA	100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2,4,6-Trichlorophenol	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2,4-Dichlorophenol	NA	100	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
2,4-Dimethylphenol	NA	NA	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
2,4-Dinitrophenol	NA	100	ND		0.19	ND		0.19	ND		0.20	ND		0.19	ND		0.20	ND		0.20	ND		0.19	ND		0.20	ND		0.19	ND		0.20
2,4-Dinitrotoluene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2,6-Dinitrotoluene	NA	1.03	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2-Chloronaphthalene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2-Chlorophenol	NA	100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2-Methylnaphthalene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2-Methylphenol	0.33	100	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
2-Nitroaniline	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
2-Nitrophenol	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
3&4-Methylphenol	0.33	100	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
3,3'-Dichlorobenzidine	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
3-Nitroaniline	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
4,6-Dinitro-2-methylphenol	NA	NA	ND		0.19	ND		0.19	ND		0.040	ND		0.19	ND		0.041	ND		0.040	ND		0.19	ND		0.040	ND		0.038	ND		0.040
4-Bromophenyl-phenylether	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
4-Chloro-3-methylphenol	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
4-Chloroaniline	NA	NA	ND		0.018	ND		0.018	ND		0.019	ND		0.018	ND		0.019	ND		0.019	ND		0.018	ND		0.019	ND		0.018	ND		0.019
4-Chlorophenyl-phenylether	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
4-Nitroaniline	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
4-Nitrophenol	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Acenaphthene	20	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Acenaphthylene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Acetophenone	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Anthracene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Atrazine	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzaldehyde	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzo[a]anthracene	1	1/1	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzo[a]pyrene	1	1/1	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzo[b]fluoranthene	1	1/1	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzo[g,h,i]perylene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Benzo[k]fluoranthene	0.8	3.9/1	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
bis(2-Chloroethoxy)methane	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
bis(2-Chloroethyl)ether	NA	NA	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
bis(2-Chloroisopropyl)ether	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
bis(2-Ethylhexyl)phthalate	NA	NA	ND		0.037	0.13		0.039	0.071		0.040	ND		0.037	0.062		0.041	0.097		0.040	ND		0.038	0.076		0.040	0.039		0.038	ND		0.040
Butylbenzylphthalate	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Caprolactam	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Carbazole	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Chrysene	1	3.9/1	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Dibenzo[a,h]anthracene	0.33	0.33/0.33	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Dibenzofuran	7	59/14	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
Diethylphthalate	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Dimethylphthalate	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Di-n-butylphthalate	NA	NA	ND		0.019	ND		0.019	ND		0.020	ND		0.019	ND		0.020	ND		0.020	ND		0.019	ND		0.020	ND		0.019	ND		0.020
Di-n-octylphthalate	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Fluoranthene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Fluorene	30	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Hexachlorobenzene	0.33	1.2	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Hexachlorobutadiene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Hexachlorocyclopentadiene	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-10B			B-11A			B-11B			B-12A			B-12B			B-13A			B-13A (D)			B-13B			B-14A			B-14B		
		LAB ID:	AC68504-036			AC68504-025			AC68504-026			AC68504-005			AC68504-006			AC68504-027			AC68504-046			AC68504-028			AC68504-029			AC68504-030		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Hexachloroethane	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Indeno[1,2,3-cd]pyrene	0.5	0.5/0.5	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Isophorone	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Naphthalene	12	100	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
Nitrobenzene	NA	15	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
N-Nitroso-di-n-propylamine	NA	NA	ND		0.0093	ND		0.0097	ND		0.0099	ND		0.0093	ND		0.010	ND		0.0099	ND		0.0096	ND		0.010	ND		0.0095	ND		0.0099
N-Nitrosodiphenylamine	NA	NA	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Pentachlorophenol	0.8	6.7	ND		0.19	ND		0.19	ND		0.20	ND		0.19	ND		0.20	ND		0.20	ND		0.19	ND		0.20	ND		0.19	ND		0.20
Phenanthrene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Phenol	0.33	100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
Pyrene	100	100/100	ND		0.037	ND		0.039	ND		0.040	ND		0.037	ND		0.041	ND		0.040	ND		0.038	ND		0.040	ND		0.038	ND		0.040
METALS																																
Mercury	0.18	0.81/0.81	ND		0.093	ND		0.097	ND		0.099	ND		0.093	ND		0.10	ND		0.099	ND		0.096	ND		0.10	ND		0.095	ND		0.099
Aluminum	NA	NA	9,200		220	11,000		230	14,000		240	12,000		220	14,000		240	14,000		240	12,000		230	11,000		240	12,000		230	13,000		240
Antimony	NA	NA	ND		2.2	ND		2.3	ND		2.4	ND		2.2	ND		2.4	ND		2.4	ND		2.3	ND		2.4	ND		2.3	ND		2.4
Arsenic	13	16/16	3.0		2.2	4.0		2.3	4.0		2.4	4.1		2.2	4.6		2.4	5.7		2.4	3.9		2.3	3.6		2.4	3.3		2.3	3.7		2.4
Barium	350	400/350	170		11	140		12	160		12	76		11	150		12	130		12	150		11	120		12	120		11	190		12
Beryllium	7.2	72/14	ND		0.67	0.95		0.70	1.0		0.71	1.0		0.67	1.1		0.73	1.1		0.71	ND		0.69	ND		0.72	ND		0.68	ND		0.71
Cadmium	2.5	4.3	ND		0.67	ND		0.70	ND		0.71	ND		0.67	ND		0.73	ND		0.71	ND		0.69	ND		0.72	ND		0.68	ND		0.71
Calcium	NA	NA	27,000		1,100	21,000		1,200	24,000		1,200	2,300		1,100	3,200		1,200	14,000		1,200	42,000		1,100	22,000		1,200	3,100		1,100	21,000		1,200
Chromium	30	NA	21		5.6	23		5.8	23		6.0	26		5.6	25		6.1	24		6.0	22		5.7	20		6.0	23		5.7	24		6.0
Cobalt	NA	NA	11		2.8	12		2.9	12		3.0	14		2.8	13		3.0	12		3.0	9.7		2.9	10		3.0	10		2.8	12		3.0
Copper	50	270/270	12		5.6	18		5.8	23		6.0	19		5.6	22		6.1	30		6.0	21		5.7	18		6.0	17		5.7	23		6.0
Iron	NA	NA	25,000		220	28,000		230	31,000		240	34,000		220	33,000		240	28,000		240	25,000		230	27,000		240	27,000		230	31,000		240
Lead	63	400/400	12		5.6	15		5.8	13		6.0	16		5.6	14		6.1	38		6.0	20		5.7	11		6.0	13		5.7	14		6.0
Magnesium	NA	NA	7,200		560	7,400		580	7,200		600	8,000		560	7,100		610	6,600		600	6,400		570	8,200		600	6,600		570	7,900		600
Manganese	1,600	2,000/2,000	650		11	710		12	560		12	700		11	840		12	720		12	520		11	520		12	610		11	650		12
Nickel	30	310/140	23		5.6	25		5.8	24		6.0	29		5.6	26		6.1	23		6.0	21		5.7	20		6.0	28		5.7	25		6.0
Potassium	NA	NA	2,300		560	2,500		580	2,800		600	2,400		560	2,500		610	1,900		600	1,800		570	2,400		600	2,200		570	2,600		600
Selenium	3.9	180	ND		2.0	ND		2.1	ND		2.1	ND		2.0	ND		2.2	ND		2.1	ND		2.1	ND		2.2	ND		2.0	ND		2.1
Silver	2	180	ND		1.7	ND		1.7	ND		1.8	ND		1.7	ND		1.8	ND		1.8	ND		1.7	ND		1.8	ND		1.7	ND		1.8
Sodium	NA	NA	ND		280	ND		290	ND		300	ND		280	ND		300	ND		300	ND		290	ND		300	ND		280	ND		300
Thallium	NA	NA	ND		1.3	ND		1.4	ND		1.4	ND		1.3	ND		1.5	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vanadium	NA	NA	30		11	29		12	32		12	32		11	32		12	32		12	29		11	29		12	28		11	33		12
Zinc	109	10,000/2,200	53		11	61		12	64		12	71		11	69		12	86		12	62		11	55		12	57		11	68		12
POLYCHLORINATED BIPHENYLS (PCBs)																																
Aroclor (Total)	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1016	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1221	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1232	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1242	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1248	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1254	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1260	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1262	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
Aroclor-1268	0.1	1	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
PESTICIDES																																
Aldrin	0.005	0.097	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Alpha-BHC	0.02	0.48	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
beta-BHC	0.036	0.36	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Chlordane	NA	4.2	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
delta-BHC	0.04	100	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Dieldrin	0.005	0.2	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Endosulfan I	2.4	24	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Endosulfan II	2.4	24	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-10B			B-11A			B-11B			B-12A			B-12B			B-13A			B-13A (D)			B-13B			B-14A			B-14B		
		LAB ID:	AC68504-036			AC68504-025			AC68504-026			AC68504-005			AC68504-006			AC68504-027			AC68504-046			AC68504-028			AC68504-029			AC68504-030		
		COLLECTION DATE:	9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012		
		SAMPLE DEPTH:	5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Endosulfan Sulfate	2.4	24	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Endrin	0.014	11	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Endrin Aldehyde	NA	NA	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Endrin Ketone	NA	NA	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
gamma-BHC	0.1	NA	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0012
Heptachlor	0.042	2.1	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Heptachlor Epoxide	NA	NA	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
Methoxychlor	NA	NA	ND		0.0056	ND		0.0058	ND		0.0060	ND		0.0056	ND		0.0061	ND		0.0060	ND		0.0057	ND		0.0060	ND		0.0057	ND		0.0060
p,p'-DDD	0.0033	13	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030
p,p'-DDE	0.0033	8.9	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030
p,p'-DDT	0.0033	7.9	ND		0.0028	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030	ND		0.0028	ND		0.0030
Toxaphene	NA	NA	ND		0.028	ND		0.029	ND		0.030	ND		0.028	ND		0.030	ND		0.030	ND		0.029	ND		0.030	ND		0.028	ND		0.030
OTHER PARAMETERS																																
Percent Solids	NA	NA	90			86			84			90			82			84			87			83			88			84		

Notes:
Shaded and bold value indicates an exceedence of the NYSDEC RSCO
All results reported in parts per million (ppm or mg/kg)
Sample depths reported in feet below ground surface (fbgs)
UUSCO - NYSDEC Remedial Program Part 375 Unrestricted Use Soil Cleanup Objective
RRSCO - NYSDEC Restricted Residential Soil Cleanup Objective
RSCO - NYSDEC Residential Soil Cleanup Objective (shown when there is a detection)
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected exceeding RL
NA - No Applicable NYSDEC SCO

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES, INC.		**SAMPLE ID:**	B-15A			B-15B			B-16A			B-16B			B-17A			B-17B			B-18A			B-18B			B-18C		
		LAB ID:	AC68504-012			AC68504-013			AC68504-023			AC68504-024			AC68504-021			AC68504-022			AC68504-007			AC68504-008			AC68504-009		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/28/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																													
1,1,1-Trichloroethane	0.68	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,1,2,2-Tetrachloroethane	NA	35	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,1,2-Trichloroethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,1-Dichloroethane	0.27	26	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,1-Dichloroethene	0.33	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2,3-Trichlorobenzene	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2,4-Trichlorobenzene	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2-Dibromo-3-chloropropane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2-Dibromoethane	NA	NA	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
1,2-Dichlorobenzene	1.1	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2-Dichloroethane	0.02	3.1	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,2-Dichloropropane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,3-Dichlorobenzene	2.4	49	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,4-Dichlorobenzene	1.8	13	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
1,4-Dioxane	0.1	13	ND		0.11	ND		0.11	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.12	ND		0.11	ND		0.12
2-Butanone	0.12	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
2-Hexanone	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
4-Methyl-2-pentanone	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Acetone	0.05	100	ND		0.011	ND		0.011	ND		0.012	ND		0.012	ND		0.012	ND		0.012	ND		0.012	ND		0.011	ND		0.012
Benzene	0.06	4.8	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
Bromochloromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Bromodichloromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Bromoform	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Bromomethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Carbon disulfide	NA	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Carbon tetrachloride	0.76	2.4	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Chlorobenzene	1.1	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Chloroethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Chloroform	0.37	49	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Chloromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
cis-1,2-Dichloroethene	0.25	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
cis-1,3-Dichloropropene	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Cyclohexane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Dibromochloromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Dichlorodifluoromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Ethylbenzene	1	41	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
Isopropylbenzene	NA	100	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
m&p-Xylenes	NA	100	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
Methyl Acetate	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Methylcyclohexane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Methylene chloride	0.05	100/51	0.0022		0.0021	ND		0.0021	0.0028		0.0023	0.0036		0.0024	ND		0.0024	0.0037		0.0024	ND		0.0023	ND		0.0022	0.0042		0.0024
Methyl-t-butyl ether	0.93	100	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
o-Xylene	NA	100	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
Styrene	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Tetrachloroethene	1.3	19	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Toluene	0.7	100	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
Trans-1,2-dichloroethene	0.19	100	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
trans-1,3-Dichloropropene	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Trichloroethene	0.47	21	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Trichlorofluoromethane	NA	NA	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Vinyl chloride	0.02	0.9	ND		0.0021	ND		0.0021	ND		0.0023	ND		0.0024	ND		0.0024	ND		0.0024	ND		0.0023	ND		0.0022	ND		0.0024
Xylenes (Total)	0.26	NA	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0011	ND		0.0012
SEMI-VOLATILE ORGANICS (SVOs)																													
1,1'-Biphenyl	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-15A			B-15B			B-16A			B-16B			B-17A			B-17B			B-18A			B-18B			B-18C		
		LAB ID:	AC68504-012			AC68504-013			AC68504-023			AC68504-024			AC68504-021			AC68504-022			AC68504-007			AC68504-008			AC68504-009		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/28/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
1,2,4,5-Tetrachlorobenzene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2,3,4,6-Tetrachlorophenol	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2,4,5-Trichlorophenol	NA	100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2,4,6-Trichlorophenol	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2,4-Dichlorophenol	NA	100	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
2,4-Dimethylphenol	NA	NA	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
2,4-Dinitrophenol	NA	100	ND		0.18	ND		0.18	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20
2,4-Dinitrotoluene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2,6-Dinitrotoluene	NA	1.03	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2-Chloronaphthalene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2-Chlorophenol	NA	100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2-Methylnaphthalene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2-Methylphenol	0.33	100	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
2-Nitroaniline	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
2-Nitrophenol	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
3&4-Methylphenol	0.33	100	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
3,3'-Dichlorobenzidine	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
3-Nitroaniline	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
4,6-Dinitro-2-methylphenol	NA	NA	ND		0.18	ND		0.18	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.20	ND		0.039	ND		0.040
4-Bromophenyl-phenylether	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
4-Chloro-3-methylphenol	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
4-Chloroaniline	NA	NA	ND		0.017	ND		0.017	ND		0.019	ND		0.019	ND		0.019	ND		0.019	ND		0.019	ND		0.019	ND		0.019
4-Chlorophenyl-phenylether	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
4-Nitroaniline	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
4-Nitrophenol	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Acenaphthene	20	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Acenaphthylene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Acetophenone	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Anthracene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Atrazine	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzaldehyde	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzo[a]anthracene	1	1/1	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzo[a]pyrene	1	1/1	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzo[b]fluoranthene	1	1/1	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzo[g,h,i]perylene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Benzo[k]fluoranthene	0.8	3.9/1	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
bis(2-Chloroethoxy)methane	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
bis(2-Chloroethyl)ether	NA	NA	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
bis(2-Chloroisopropyl)ether	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
bis(2-Ethylhexyl)phthalate	NA	NA	0.16		0.036	0.10		0.036	0.060		0.039	0.071		0.040	0.10		0.040	ND		0.040	0.046		0.040	ND		0.039	ND		0.040
Butylbenzylphthalate	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Caprolactam	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Carbazole	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Chrysene	1	3.9/1	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Dibenzo[a,h]anthracene	0.33	0.33/0.33	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Dibenzofuran	7	59/14	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
Diethylphthalate	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Dimethylphthalate	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Di-n-butylphthalate	NA	NA	ND		0.018	ND		0.018	ND		0.020	ND		0.020	ND		0.020	ND		0.020	ND		0.020	ND		0.020	ND		0.020
Di-n-octylphthalate	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Fluoranthene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Fluorene	30	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Hexachlorobenzene	0.33	1.2	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Hexachlorobutadiene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Hexachlorocyclopentadiene	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

WHITESTONE ASSOCIATES, INC.		SAMPLE ID:	B-15A			B-15B			B-16A			B-16B			B-17A			B-17B			B-18A			B-18B			B-18C		
		LAB ID:	AC68504-012			AC68504-013			AC68504-023			AC68504-024			AC68504-021			AC68504-022			AC68504-007			AC68504-008			AC68504-009		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/28/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Hexachloroethane	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Indeno[1,2,3-cd]pyrene	0.5	0.5/0.5	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Isophorone	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Naphthalene	12	100	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
Nitrobenzene	NA	15	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
N-Nitroso-di-n-propylamine	NA	NA	ND		0.0090	ND		0.0091	ND		0.0098	ND		0.010	ND		0.010	ND		0.0099	ND		0.0099	ND		0.0098	ND		0.010
N-Nitrosodiphenylamine	NA	NA	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Pentachlorophenol	0.8	6.7	ND		0.18	ND		0.18	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20	ND		0.20
Phenanthrene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Phenol	0.33	100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
Pyrene	100	100/100	ND		0.036	ND		0.036	ND		0.039	ND		0.040	ND		0.040	ND		0.040	ND		0.040	ND		0.039	ND		0.040
METALS																													
Mercury	0.18	0.81/0.81	0.093		0.090	ND		0.091	ND		0.098	ND		0.10	ND		0.10	ND		0.099	ND		0.099	ND		0.098	ND		0.10
Aluminum	NA	NA	10,000		220	7,700		220	18,000		240	15,000		240	14,000		240	12,000		240	11,000		240	12,000		240	13,000		240
Antimony	NA	NA	ND		2.2	ND		2.2	ND		2.4	ND		2.4	ND		2.4	ND		2.4	ND		2.4	ND		2.4	ND		2.4
Arsenic	13	16/16	8.3		2.2	3.6		2.2	5.2		2.4	5.2		2.4	4.9		2.4	4.6		2.4	4.3		2.4	4.5		2.4	4.7		2.4
Barium	350	400/350	65		11	36		11	190		12	180		12	120		12	140		12	130		12	110		12	150		12
Beryllium	7.2	72/14	0.73		0.65	ND		0.65	1.2		0.71	1.1		0.72	1.1		0.72	1.0		0.71	0.91		0.71	0.99		0.71	1.1		0.72
Cadmium	2.5	4.3	ND		0.65	ND		0.65	ND		0.71	ND		0.72	ND		0.72	ND		0.71	ND		0.71	ND		0.71	ND		0.72
Calcium	NA	NA	6,000		1,100	ND		1,100	18,000		1,200	24,000		1,200	3,600		1,200	19,000		1,200	2,800		1,200	20,000		1,200	25,000		1,200
Chromium	30	NA	38		5.4	9.8		5.4	29		5.9	27		6.0	26		6.0	22		6.0	22		6.0	22		5.9	25		6.0
Cobalt	NA	NA	5.9		2.7	3.4		2.7	15		2.9	14		3.0	14		3.0	11		3.0	10		3.0	11		2.9	13		3.0
Copper	50	270/270	24		5.4	6.9		5.4	30		5.9	25		6.0	24		6.0	20		6.0	21		6.0	20		5.9	23		6.0
Iron	NA	NA	21,000		220	11,000		220	40,000		240	35,000		240	35,000		240	28,000		240	26,000		240	29,000		240	31,000		240
Lead	63	400/400	16		5.4	8.7		5.4	17		5.9	15		6.0	14		6.0	12		6.0	26		6.0	13		5.9	14		6.0
Magnesium	NA	NA	2,900		540	1,100		540	9,100		590	8,300		600	7,600		600	7,500		600	5,200		600	7,400		590	8,200		600
Manganese	1,600	2,000/2,000	320		11	170		11	1,100		12	700		12	770		12	510		12	480		12	520		12	660		12
Nickel	30	310/140	12		5.4	7.9		5.4	34		5.9	28		6.0	36		6.0	23		6.0	21		6.0	23		5.9	26		6.0
Potassium	NA	NA	970		540	ND		540	3,300		590	3,000		600	2,700		600	2,500		600	1,600		600	2,600		590	2,800		600
Selenium	3.9	180	ND		1.9	ND		2.0	ND		2.1	ND		2.2	ND		2.2	ND		2.1	ND		2.1	ND		2.1	ND		2.2
Silver	2	180	ND		1.6	ND		1.6	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Sodium	NA	NA	ND		270	ND		270	ND		290	ND		300	ND		300	ND		300	ND		300	ND		290	ND		300
Thallium	NA	NA	ND		1.3	ND		1.3	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vanadium	NA	NA	20		11	13		11	39		12	38		12	35		12	29		12	28		12	31		12	35		12
Zinc	109	10,000/2,200	51		11	29		11	75		12	69		12	70		12	56		12	61		12	61		12	71		12
POLYCHLORINATED BIPHENYLS (PCBs)																													
Aroclor (Total)	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1016	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1221	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1232	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1242	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1248	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1254	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1260	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1262	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
Aroclor-1268	0.1	1	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
PESTICIDES																													
Aldrin	0.005	0.097	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Alpha-BHC	0.02	0.48	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
beta-BHC	0.036	0.36	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Chlordane	NA	4.2	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
delta-BHC	0.04	100	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Dieldrin	0.005	0.2	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Endosulfan I	2.4	24	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Endosulfan II	2.4	24	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060

TABLE 2A
SOIL SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-15A			B-15B			B-16A			B-16B			B-17A			B-17B			B-18A			B-18B			B-18C		
		LAB ID:	AC68504-012			AC68504-013			AC68504-023			AC68504-024			AC68504-021			AC68504-022			AC68504-007			AC68504-008			AC68504-009		
		COLLECTION DATE:	9/28/2012			9/28/2012			9/26/2012			9/26/2012			9/26/2012			9/26/2012			9/28/2012			9/28/2012			9/28/2012		
		SAMPLE DEPTH:	0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			0.0 to 2.0			5.0 to 7.0			10.0 to 12.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Endosulfan Sulfate	2.4	24	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Endrin	0.014	11	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Endrin Aldehyde	NA	NA	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Endrin Ketone	NA	NA	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
gamma-BHC	0.1	NA	ND		0.0011	ND		0.0011	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012	ND		0.0012
Heptachlor	0.042	2.1	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Heptachlor Epoxide	NA	NA	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
Methoxychlor	NA	NA	ND		0.0054	ND		0.0054	ND		0.0059	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0060	ND		0.0059	ND		0.0060
p,p'-DDD	0.0033	13	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030
p,p'-DDE	0.0033	8.9	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030
p,p'-DDT	0.0033	7.9	ND		0.0027	ND		0.0027	ND		0.0029	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0030	ND		0.0029	ND		0.0030
Toxaphene	NA	NA	ND		0.027	ND		0.027	ND		0.029	ND		0.030	ND		0.030	ND		0.030	ND		0.030	ND		0.029	ND		0.030
OTHER PARAMETERS																													
Percent Solids	NA	NA	93			92			85			83			83			84			84			85			83		

Notes:
Shaded and bold value indicates an exceedence of the NYSDEC RSCO
All results reported in parts per million (ppm or mg/kg)
Sample depths reported in feet below ground surface (fbgs)
UUSCO - NYSDEC Remedial Program Part 375 Unrestricted Use Soil Cleanup Objective
RRSCO - NYSDEC Restricted Residential Soil Cleanup Objective
RSCO - NYSDEC Residential Soil Cleanup Objective (shown when there is a detection)
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected exceeding RL
NA - No Applicable NYSDEC SCO

TABLE 2B
Soil Sampling and Analyses Data Summary (December 2012/Comparison)

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)														
1,1,1,2-Tetrachloroethane	NA	NA	~		~	ND		0.0012	~		~	ND		0.0013
1,1,1-Trichloroethane	0.68	100	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
1,1,2,2-Tetrachloroethane	NA	NA	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
1,1,2-Trichloro-1,2,2-trifluoroethane	100	NA	ND		0.0022	~		~	ND		0.0021	~		~
1,1,2-Trichloroethane	NA	NA	ND		0.0022	ND		0.0018	ND		0.0021	ND		0.0019
1,1-Dichloroethane	0.27	26	ND		0.0022	ND		0.0018	ND		0.0021	ND		0.0019
1,1-Dichloroethene	0.33	100	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
1,1-Dichloropropene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
1,2,3-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
1,2,3-Trichloropropane	NA	NA	~		~	ND		0.012	~		~	ND		0.013
1,2,4,5-Tetramethylbenzene	NA	NA	~		~	ND		0.0049	~		~	ND		0.0051
1,2,4-Trichlorobenzene	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
1,2,4-Trimethylbenzene	3.6	52	~		~	ND		0.0062	~		~	ND		0.0063
1,2-Dibromo-3-chloropropane	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
1,2-Dibromoethane	NA	NA	ND		0.0011	ND		0.0049	ND		0.0011	ND		0.0051
1,2-Dichlorobenzene	1.1	100	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
1,2-Dichloroethane	0.02	3.1	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
1,2-Dichloropropane	NA	NA	ND		0.0022	ND		0.0043	ND		0.0021	ND		0.0044
1,3,5-Trimethylbenzene	8.4	52	~		~	ND		0.0062	~		~	ND		0.0063
1,3-Dichlorobenzene	2.4	49	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
1,3-Dichloropropane	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
1,4-Dichlorobenzene	1.8	13	ND		0.0022	ND		0.0062	ND		0.0024	ND		0.0063
1,4-Diethylbenzene	NA	NA	~		~	ND		0.0049	~		~	ND		0.0051
1,4-Dioxane	0.1	13	ND		0.11	ND		0.12	ND		0.11	ND		0.13
2,2-Dichloropropane	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
2-Butanone	0.12	100	ND		0.0022	ND		0.012	ND		0.0021	ND		0.013
2-Hexanone	NA	NA	ND		0.0022	ND		0.012	ND		0.0021	ND		0.013
4-Ethyltoluene	NA	NA	~		~	ND		0.0049	~		~	ND		0.0051
4-Methyl-2-pentanone	NA	NA	ND		0.0022	ND		0.012	ND		0.0021	ND		0.013
Acetone	0.05	100	ND		0.011	ND		0.012	ND		0.011	ND		0.013
Acrylonitrile	NA	NA	~		~	ND		0.012	~		~	ND		0.013
Benzene	0.06	4.8	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0013
Bromobenzene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
Bromochloromethane	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
Bromodichloromethane	NA	NA	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Bromoform	NA	NA	ND		0.0022	ND		0.0049	ND		0.0021	ND		0.0051

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Bromomethane	NA	NA	ND		0.0022	ND		0.0025	ND		0.0021	ND		0.0025
Carbon disulfide	NA	NA	ND		0.0022	ND		0.012	ND		0.0021	ND		0.013
Carbon tetrachloride	0.76	2.4	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Chlorobenzene	1.1	100	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Chloroethane	NA	NA	ND		0.0022	ND		0.0025	ND		0.0021	ND		0.0025
Chloroform	0.37	49	ND		0.0022	ND		0.0018	ND		0.0021	ND		0.0019
Chloromethane	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
cis-1,2-Dichloroethene	0.25	100	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
cis-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Dibromochloromethane	NA	NA	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Dibromomethane	NA	NA	~		~	ND		0.012	~		~	ND		0.013
Dichlorodifluoromethane	NA	NA	ND		0.0022	ND		0.012	ND		0.0021	ND		0.013
Ethyl ether	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
Ethylbenzene	1	41	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0013
Hexachlorobutadiene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
Isopropylbenzene	NA	NA	ND		0.0011	ND		0.0012	ND		0.0011	ND		0.0013
Methyl tert butyl ether	0.93	100	ND		0.0011	ND		0.0025	ND		0.0011	ND		0.0025
Methylene chloride	0.05	100/51	0.0037		0.0022	ND		0.012	0.0034		0.0021	ND		0.013
n-Butylbenzene	12	100	~		~	ND		0.0012	~		~	ND		0.0013
n-Propylbenzene	3.9	100	~		~	ND		0.0012	~		~	ND		0.0013
Naphthalene	12	100	~		~	ND		0.0062	~		~	ND		0.0063
o-Chlorotoluene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
o-Xylene	NA	NA	ND		0.0011	ND		0.0025	ND		0.0011	ND		0.0025
p-Chlorotoluene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
p-Isopropyltoluene	NA	NA	~		~	ND		0.0012	~		~	ND		0.0013
p/m-Xylene	NA	NA	ND		0.0011	ND		0.0025	ND		0.0011	ND		0.0025
sec-Butylbenzene	11	100	~		~	ND		0.0012	~		~	ND		0.0013
Styrene	NA	NA	ND		0.0022	ND		0.0025	ND		0.0021	ND		0.0025
tert-Butylbenzene	5.9	100	~		~	ND		0.0062	~		~	ND		0.0063
Tetrachloroethene	1.3	19	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Toluene	0.7	100	ND		0.0021	ND		0.0018	ND		0.0011	ND		0.0019
trans-1,2-Dichloroethene	0.19	100	ND		0.0022	ND		0.0018	ND		0.0021	ND		0.0019
trans-1,3-Dichloropropene	NA	NA	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
trans-1,4-Dichloro-2-butene	NA	NA	~		~	ND		0.0062	~		~	ND		0.0063
Trichloroethene	0.47	21	ND		0.0022	ND		0.0012	ND		0.0021	ND		0.0013
Trichlorofluoromethane	NA	NA	ND		0.0022	ND		0.0062	ND		0.0021	ND		0.0063
Vinyl acetate	NA	NA	~		~	ND		0.012	~		~	ND		0.013

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Vinyl chloride	0.02	0.9	ND		0.0022	ND		0.0025	ND		0.0021	ND		0.0025
SEMI-VOLATILE ORGANICS (SVOs)														
1,2,4,5-Tetrachlorobenzene	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
1,2,4-Trichlorobenzene	NA	NA	~		~	ND		0.19	~		~	ND		0.2
1,2-Dichlorobenzene	1.1	100	~		~	ND		0.19	~		~	ND		0.2
1,3-Dichlorobenzene	2.4	49	~		~	ND		0.19	~		~	ND		0.2
1,4-Dichlorobenzene	1.8	13	~		~	ND		0.19	~		~	ND		0.2
2,4,5-Trichlorophenol	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2,4,6-Trichlorophenol	NA	NA	ND		0.038	ND		0.11	ND		0.036	ND		0.12
2,4-Dichlorophenol	NA	NA	ND		0.0096	ND		0.17	ND		0.0091	ND		0.18
2,4-Dimethylphenol	NA	NA	ND		0.0096	ND		0.19	ND		0.0091	ND		0.2
2,4-Dinitrophenol	NA	NA	ND		0.078	ND		0.91	ND		0.18	ND		0.99
2,4-Dinitrotoluene	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2,6-Dinitrotoluene	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2-Chloronaphthalene	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2-Chlorophenol	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2-Methylnaphthalene	NA	NA	ND		0.038	ND		0.23	ND		0.036	ND		0.25
2-Methylphenol	0.33	100	ND		0.0096	ND		0.19	ND		0.0091	ND		0.2
2-Nitroaniline	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
2-Nitrophenol	NA	NA	ND		0.038	ND		0.41	ND		0.036	ND		0.44
3,3'-Dichlorobenzidine	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
3-Methylphenol/4-Methylphenol	0.33	100	ND		0.0096	ND		0.27	ND		0.0091	ND		0.3
3-Nitroaniline	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
4,6-Dinitro-o-cresol	NA	NA	~		~	ND		0.49	~		~	ND		0.54
4-Bromophenyl phenyl ether	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
4-Chloroaniline	NA	NA	ND		0.018	ND		0.19	ND		0.017	ND		0.2
4-Chlorophenyl phenyl ether	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
4-Nitroaniline	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
4-Nitrophenol	NA	NA	ND		0.038	ND		0.27	ND		0.036	ND		0.29
Acenaphthene	20	100/100	ND		0.038	ND		0.15	0.060		0.036	ND		0.16
Acenaphthylene	100	100/100	0.080		0.038	ND		0.15	ND		0.036	ND		0.16
Acetophenone	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Anthracene	100	100/100	0.10		0.038	ND		0.11	0.60		0.036	ND		0.12
Benzo(a)anthracene	1	1/1	0.61		0.038	ND		0.11	**1.4**		**0.036**	0.07	J	0.12
Benzo(a)pyrene	1	1/1	0.58		0.038	ND		0.15	**1.1**		**0.036**	0.061	J	0.16
Benzo(b)fluoranthene	1	1/1	0.70		0.038	ND		0.11	**1.2**		**0.036**	0.062	J	0.12
Benzo(ghi)perylene	100	100/100	0.37		0.038	ND		0.15	0.82		0.036	ND		0.16

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Benzo(k)fluoranthene	0.8	3.9/1	0.22		0.038	ND		0.11	0.51		0.036	ND		0.12
Benzoic Acid	NA	NA	~		~	ND		0.62	~		~	ND		0.67
Benzyl Alcohol	NA	NA	~		~	ND		0.19	~		~	ND		0.2
Biphenyl	NA	NA	~		~	ND		0.43	~		~	ND		0.47
Bis(2-chloroethoxy)methane	NA	NA	ND		0.038	ND		0.2	ND		0.036	ND		0.22
Bis(2-chloroethyl)ether	NA	NA	ND		0.0096	ND		0.17	ND		0.0091	ND		0.18
Bis(2-chloroisopropyl)ether	NA	NA	ND		0.038	ND		0.23	ND		0.036	ND		0.25
Bis(2-Ethylhexyl)phthalate	NA	NA	0.080		0.038	ND		0.19	ND		0.036	ND		0.2
Butyl benzyl phthalate	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Carbazole	NA	NA	ND		0.038	ND		0.19	0.037		0.036	ND		0.2
Chrysene	1	3.9/1	0.61		0.038	ND		0.11	1.3		0.036	0.075	J	0.12
Di-n-butylphthalate	NA	NA	~		~	ND		0.19	~		~	ND		0.2
Di-n-octylphthalate	NA	NA	~		~	ND		0.19	~		~	ND		0.2
Dibenzo(a,h)anthracene	0.33	0.33/0.33	0.11		0.038	ND		0.11	0.23		0.036	ND		0.12
Dibenzofuran	7	59/14	ND		0.0096	ND		0.19	0.028		0.0091	ND		0.2
Diethyl phthalate	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Dimethyl phthalate	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Fluoranthene	100	100/100	0.49		0.038	ND		0.11	2.3		0.036	0.11	J	0.12
Fluorene	30	100/100	ND		0.038	ND		0.19	0.077		0.036	ND		0.2
Hexachlorobenzene	0.33	1.2	ND		0.038	ND		0.11	ND		0.036	ND		0.12
Hexachlorobutadiene	NA	NA	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Hexachlorocyclopentadiene	NA	NA	ND		0.038	ND		0.54	ND		0.036	ND		0.59
Hexachloroethane	NA	NA	ND		0.038	ND		0.15	ND		0.036	ND		0.16
Indeno(1,2,3-cd)Pyrene	0.5	0.5/0.5	0.31		0.038	ND		0.15	**0.78**		**0.036**	ND		0.16
Isophorone	NA	NA	ND		0.038	ND		0.17	ND		0.036	ND		0.18
n-Nitrosodi-n-propylamine	NA	NA	ND		0.0096	ND		0.19	ND		0.0091	ND		0.2
Naphthalene	12	100	ND		0.0096	ND		0.19	ND		0.0091	ND		0.2
Nitrobenzene	NA	15	ND		0.038	ND		0.17	ND		0.036	ND		0.18
NitrosoDiPhenylAmine(NDPA)/DPA	NA	NA	ND		0.038	ND		0.15	ND		0.036	ND		0.16
P-Chloro-M-Cresol	NA	NA	~		~	ND		0.19	~		~	ND		0.2
Pentachlorophenol	0.8	6.7	ND		0.19	ND		0.15	ND		0.18	ND		0.16
Phenanthrene	100	100/100	0.21		0.038	ND		0.11	1.9		0.036	0.054	J	0.12
Phenol	0.33	100	ND		0.038	ND		0.19	ND		0.036	ND		0.2
Pyrene	100	100/100	1.0		0.038	ND		0.11	3.1		0.036	0.12		0.12
METALS														
Aluminum	NA	NA	12,000		230	18,000		8.9	13,000		220	20,000		9.8

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Antimony	NA	NA	ND		2.3	3	J	4.4	ND		2.2	2.1	J	4.9
Arsenic	13	16/16	5.2		2.3	4.1		0.89	5.3		2.2	4.4		0.98
Barium	350	400/350	91		11	280		0.89	110		11	130		0.98
Beryllium	7.2	72/14	0.77		0.69	1.1		0.44	1.1		0.65	1		0.49
Cadmium	2.5	4.3/2.5	ND		0.69	ND		0.89	ND		0.65	0.07	J	0.98
Calcium	NA	NA	2,500		1,100	2,800		8.9	2,700		1,100	2,000		9.8
Chromium	30	NA	22		5.7	28		0.89	15		5.4	18		0.98
Cobalt	NA	NA	10		2.9	17		1.8	10		2.7	11		2
Copper	50	270/270	29		5.7	23		0.89	29		5.4	23		0.98
Iron	NA	NA	28,000		230	31,000		4.4	20,000		220	20,000		4.9
Lead	63	400/400	110		5.7	14		4.4	60		5.4	39		4.9
Magnesium	NA	NA	5,300		570	7,100		8.9	4,000		540	3,200		9.8
Manganese	1,600	2,000/2,000	410		11	760		0.89	930		11	1,500		0.98
Mercury	0.18	0.81/0.81	ND		0.096	ND		0.09	0.18		0.091	0.3		0.08
Nickel	30	310/140	20		5.7	32		2.2	18		5.4	19		2.4
Potassium	NA	NA	1,600		570	2,700		220	820		540	710		240
Selenium	3.9	180/36	ND		2.1	1.6	J	1.8	ND		2.0	2.1		2
Silver	2	180	ND		1.7	ND		0.89	ND		1.6	ND		0.98
Sodium	NA	NA	ND		290	390		180	ND		270	580		200
Thallium	NA	NA	ND		1.4	ND		1.8	ND		1.3	ND		2
Vanadium	NA	NA	29		11	36		0.89	25		11	28		0.98
Zinc	109	10,000/2,200	93		11	67		4.4	89		11	87		4.9
POLYCHLORINATED BIPHENYLS (PCBs)														
Aroclor 1016	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1221	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1232	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1242	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1248	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1254	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
Aroclor 1260	1	0.1	ND		0.029	ND		0.037	ND		0.027	ND		0.04
PESTICIDES														
4,4'-DDD	0.0033	13	ND		0.0029	ND		0.00179	ND		0.0027	ND		0.00192
4,4'-DDE	0.0033	8.9	ND		0.0029	ND		0.00179	ND		0.0027	ND		0.00192
4,4'-DDT	0.0033	7.9	ND		0.0029	ND		0.00335	ND		0.0027	ND		0.0036
Aldrin	0.005	0.097	ND		0.0057	ND		0.00179	ND		0.0054	ND		0.00192
Alpha-BHC	0.02	0.48	ND		0.0011	ND		0.00074	ND		0.0011	ND		0.0008
Beta-BHC	0.036	0.36	ND		0.0011	ND		0.00179	ND		0.0011	ND		0.00192

TABLE 2B
SOIL SAMPLING AND ANALYSES DATA SUMMARY (DECEMBER 2012/COMPARISON)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

		SAMPLE ID:	B-1A			B-1A			B-3A			B-3A		
		LAB ID:	AC68504-003			L1222681-01			AC68504-001			L1222681-02		
		COLLECTION DATE:	9/28/2012			12/12/2012			9/28/2012			12/12/2012		
		SAMPLE DEPTH:	0.0 to 2.0			0.0 to 2.0			0.0 to 2.0			0.0 to 2.0		
		SAMPLE MATRIX:	SOIL			SOIL			SOIL			SOIL		
ANALYTE	**UUSCO**	**RRSCO/RSCO**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Chlordane	NA	NA	ND		0.029	ND		0.0145	ND		0.027	ND		0.0156
cis-Chlordane	0.094	4.2	~		~	ND		0.00224	~		~	ND		0.0024
Delta-BHC	0.04	100	ND		0.0057	ND		0.00179	ND		0.0054	ND		0.00192
Dieldrin	0.005	0.2	ND		0.0011	ND		0.00112	ND		0.0011	ND		0.0012
Endosulfan I	2.4	24	ND		0.0057	ND		0.00179	ND		0.0054	ND		0.00192
Endosulfan II	2.4	24	ND		0.0057	ND		0.00179	ND		0.0054	ND		0.00192
Endosulfan sulfate	2.4	24	ND		0.0057	ND		0.00074	ND		0.0054	ND		0.0008
Endrin	0.014	11	ND		0.0057	ND		0.00074	ND		0.0054	ND		0.0008
Endrin ketone	NA	NA	ND		0.0057	ND		0.00179	ND		0.0054	ND		0.00192
Heptachlor	0.042	2.1	ND		0.0057	ND		0.00089	ND		0.0054	ND		0.00096
Heptachlor epoxide	NA	NA	ND		0.0057	ND		0.00335	ND		0.0054	ND		0.0036
Lindane	0.1	1.3	~		~	ND		0.00074	~		~	ND		0.0008
Methoxychlor	NA	NA	ND		0.0057	ND		0.00335	ND		0.0054	ND		0.0036
Toxaphene	NA	NA	ND		0.029	ND		0.0335	ND		0.027	ND		0.036
trans-Chlordane	NA	NA	~		~	ND		0.00224	~		~	ND		0.0024
OTHER PARAMETERS														
Percent Solids	NA	NA	87			86			92			79		

Notes:

Shaded and bold value indicates an exceedence of the NYSDEC RSCO
All results reported in parts per million (ppm or mg/kg)
Sample depths reported in feet below ground surface (fbgs)
UUSCO - NYSDEC Remedial Program Part 375 Unrestricted Use Soil Cleanup Objective
RRSCO - NYSDEC Restricted Residential Soil Cleanup Objective
RSCO - NYSDEC Residential Soil Cleanup Objective (shown when there is a detection)
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected exceeding RL
NA - No Applicable NYSDEC SCO
J - Detected at an estimated concentration

TABLE 3
Groundwater Sampling and Analyses Data Summary

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-1 U			WP-1 F			WP-2 U			WP-2 F			WP-3 U			WP-3 F			WP-4 U			WP-4 F			WP-4 (D) U			WP-4 (D) F		
	LAB ID:	AC68504-015			AC68504-048			AC68504-014			AC68504-047			AC68710-001			AC68710-002			AC68504-016			AC68504-049			AC68504-018			AC68504-051		
	COLLECTION DATE:	9/28/2012			9/28/2012			9/28/2012			9/28/2012			10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012		
	DEPTH TO GW:	9.05			9.05			9.10			9.10			17.55			17.55			8.95			8.95			8.95			8.95		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																															
1,1,1-Trichloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,1,2,2-Tetrachloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,1,2-Trichloroethane	1	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,1-Dichloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,1-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2,3-Trichlorobenzene	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2,4-Trichlorobenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2-Dibromo-3-chloropropane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2-Dibromoethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,2-Dichloroethane	0.6	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~
1,2-Dichloropropane	1	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,3-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,4-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
1,4-Dioxane	NA	ND		50	~		~	ND		50	~		~	ND		50	~		~	ND		50	~		~	ND		50	~		~
2-Butanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
2-Hexanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
4-Methyl-2-pentanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Acetone	NA	ND		10	~		~	ND		10	~		~	ND		10	~		~	ND		10	~		~	ND		10	~		~
Benzene	1	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~
Bromochloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Bromodichloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Bromoform	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Bromomethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Carbon disulfide	60	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Carbon tetrachloride	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Chlorobenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Chloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Chloroform	7	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Chloromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
cis-1,2-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
cis-1,3-Dichloropropene	0.4	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Cyclohexane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Dibromochloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Dichlorodifluoromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Ethylbenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Isopropylbenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
m&p-Xylenes	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Methyl Acetate	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Methylcyclohexane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Methylene chloride	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	**9.0**		**1.0**	~		~
Methyl-t-butyl ether	NA	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~
o-Xylene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Styrene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Tetrachloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Toluene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
trans-1,2-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
trans-1,3-Dichloropropene	0.4	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Trichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-1 U			WP-1 F			WP-2 U			WP-2 F			WP-3 U			WP-3 F			WP-4 U			WP-4 F			WP-4 (D) U			WP-4 (D) F		
	LAB ID:	AC68504-015			AC68504-048			AC68504-014			AC68504-047			AC68710-001			AC68710-002			AC68504-016			AC68504-049			AC68504-018			AC68504-051		
	COLLECTION DATE:	9/28/2012			9/28/2012			9/28/2012			9/28/2012			10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012		
	DEPTH TO GW:	9.05			9.05			9.10			9.10			17.55			17.55			8.95			8.95			8.95			8.95		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Trichlorofluoromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Vinyl chloride	2	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
Xylenes (Total)	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~
SEMI-VOLATILE ORGANICS (SVOs)																															
1,1'-Biphenyl	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
1,2,4,5-Tetrachlorobenzene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,3,4,6-Tetrachlorophenol	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,4,5-Trichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,4,6-Trichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,4-Dichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,4-Dinitrotoluene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,6-Dinitrotoluene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2-Chloronaphthalene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2-Chlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2-Methylnaphthalene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2-Methylphenol	1	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
2-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2-Nitrophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
3&4-Methylphenol	1	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
3,3'-Dichlorobenzidine	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
3-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4,6-Dinitro-2-methylphenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4-Bromophenyl-phenylether	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4-Chloro-3-methylphenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4-Chloroaniline	5	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
4-Chlorophenyl-phenylether	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
4-Nitrophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Acenaphthene	20	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Acenaphthylene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Acetophenone	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Atrazine	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzaldehyde	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzo[a]anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzo[a]pyrene	ND	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzo[b]fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzo[g,h,i]perylene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Benzo[k]fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
bis(2-Chloroethoxy)methane	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
bis(2-Chloroethyl)ether	1	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
bis(2-Chloroisopropyl)ether	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
bis(2-Ethylhexyl)phthalate	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Butylbenzylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Caprolactam	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Carbazole	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Chrysene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Dibenzo[a,h]anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Dibenzofuran	NA	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
Diethylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Dimethylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-1 U			WP-1 F			WP-2 U			WP-2 F			WP-3 U			WP-3 F			WP-4 U			WP-4 F			WP-4 (D) U			WP-4 (D) F		
	LAB ID:	AC68504-015			AC68504-048			AC68504-014			AC68504-047			AC68710-001			AC68710-002			AC68504-016			AC68504-049			AC68504-018			AC68504-051		
	COLLECTION DATE:	9/28/2012			9/28/2012			9/28/2012			9/28/2012			10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012		
	DEPTH TO GW:	9.05			9.05			9.10			9.10			17.55			17.55			8.95			8.95			8.95			8.95		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Di-n-butylphthalate	50	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
Di-n-octylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Fluorene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Hexachlorobenzene	0.04	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Hexachlorobutadiene	0.5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Hexachlorocyclopentadiene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Hexachloroethane	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Indeno[1,2,3-cd]pyrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Isophorone	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Naphthalene	NA	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
N-Nitroso-di-n-propylamine	NA	ND		0.50	~		~	ND		0.52	~		~	ND		0.50	~		~	ND		0.51	~		~	ND		0.56	~		~
N-Nitrosodiphenylamine	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Pentachlorophenol	1	ND		10	~		~	ND		10	~		~	ND		10	~		~	ND		10	~		~	ND		11	~		~
Phenanthrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
Pyrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	ND		2.0	~		~	ND		2.2	~		~
2,4-Dimethylphenol	1	ND		0.25	~		~	ND		0.25	~		~	ND		0.25	~		~	ND		0.25	~		~	ND		0.27	~		~
2,4-Dinitrophenol	1	ND		3.5	~		~	ND		3.6	~		~	ND		3.5	~		~	ND		3.6	~		~	ND		3.9	~		~
Nitrobenzene	0.4	ND		0.34	~		~	ND		0.35	~		~	ND		0.34	~		~	ND		0.35	~		~	ND		0.38	~		~
Phenol	1	ND		0.29	~		~	ND		0.30	~		~	ND		0.29	~		~	ND		0.30	~		~	ND		0.33	~		~
METALS																															
Mercury	0.7	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70
Aluminum	NA	17,000		180	ND		180	430		180	ND		180	38,000		180	ND		180	47,000		180	ND		180	ND		180	ND		180
Antimony	3	ND		12	ND		12	ND		12	ND		12	ND		12	ND		12	ND		12	ND		12	ND		12	ND		12
Arsenic	25	17		7.5	ND		7.5	ND		7.5	ND		7.5	**26**		**7.5**	ND		7.5	21		7.5	ND		7.5	ND		7.5	ND		7.5
Barium	1,000	270		50	51		50	94		50	68		50	730		50	110		50	600		50	80		50	ND		50	ND		50
Beryllium	NA	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0
Cadmium	5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5
Calcium	NA	71,000		2,000	60,000		2,000	120,000		2,000	120,000		2,000	70,000		2,000	57,000		2,000	110,000		2,000	95,000		2,000	ND		2,000	ND		2,000
Chromium	50	ND		50	ND		50	ND		50	ND		50	**68**		**50**	ND		50	**85**		**50**	ND		50	ND		50	ND		50
Cobalt	NA	ND		20	ND		20	ND		20	ND		20	30		20	ND		20	32		20	ND		20	ND		20	ND		20
Copper	200	56		50	ND		50	ND		50	ND		50	150		50	ND		50	110		50	ND		50	ND		50	ND		50
Iron	300	**27,000**		**280**	ND		280	**440**		**280**	ND		280	**66,000**		**280**	ND		280	**80,000**		**280**	ND		280	ND		280	ND		280
Lead	25	**34**		**4.0**	ND		4.0	4.4		4.0	ND		4.0	**66**		**4.0**	4.1		4.0	**160**		**4.0**	ND		4.0	ND		4.0	ND		4.0
Magnesium	NA	26,000		2,000	16,000		2,000	24,000		2,000	24,000		2,000	33,000		2,000	12,000		2,000	44,000		2,000	24,000		2,000	ND		2,000	ND		2,000
Manganese	300	**2,400**		**40**	**810**		**40**	54		40	**310**		**40**	**2,700**		**40**	96		40	**2,500**		**40**	**430**		**40**	ND		40	ND		40
Nickel	100	ND		50	ND		50	ND		50	ND		50	65		50	ND		50	79		50	ND		50	ND		50	ND		50
Potassium	NA	7,900		5,000	ND		5,000	ND		5,000	ND		5,000	14,000		5,000	5,300		5,000	14,000		5,000	ND		5,000	ND		5,000	ND		5,000
Selenium	10	ND		40	ND		40	ND		40	ND		40	ND		40	ND		40	ND		40	ND		40	ND		40	ND		40
Silver	50	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20	ND		20
Sodium	20,000	**28,000**		**5,000**	**24,000**		**5,000**	**31,000**		**5,000**	**30,000**		**5,000**	14,000		5,000	13,000		5,000	**23,000**		**5,000**	**26,000**		**5,000**	ND		5,000	ND		5,000
Thallium	NA	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10	ND		10
Vanadium	NA	54		50	ND		50	ND		50	ND		50	110		50	ND		50	130		50	ND		50	ND		50	ND		50
Zinc	NA	140		50	ND		50	ND		50	ND		50	230		50	ND		50	290		50	ND		50	ND		50	ND		50
POLYCHLORINATED BIPHENYLS (PCBs)																															
Aroclor (Total)	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1016	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1221	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1232	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1242	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-1 U			WP-1 F			WP-2 U			WP-2 F			WP-3 U			WP-3 F			WP-4 U			WP-4 F			WP-4 (D) U			WP-4 (D) F		
	LAB ID:	AC68504-015			AC68504-048			AC68504-014			AC68504-047			AC68710-001			AC68710-002			AC68504-016			AC68504-049			AC68504-018			AC68504-051		
	COLLECTION DATE:	9/28/2012			9/28/2012			9/28/2012			9/28/2012			10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012		
	DEPTH TO GW:	9.05			9.05			9.10			9.10			17.55			17.55			8.95			8.95			8.95			8.95		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Aroclor-1248	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1254	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1260	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1262	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
Aroclor-1268	0.09	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~
PESTICIDES																															
Aldrin	ND	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Alpha-BHC	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
beta-BHC	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Chlordane	0.05	ND		0.020	~		~	ND		0.020	~		~	ND		0.020	~		~	ND		0.024	~		~	ND		0.022	~		~
delta-BHC	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Dieldrin	0.004	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endosulfan I	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endosulfan II	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endosulfan Sulfate	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endrin	ND	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endrin Aldehyde	5	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Endrin Ketone	5	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
gamma-BHC	NA	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Heptachlor	0.04	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Heptachlor Epoxide	0.03	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Methoxychlor	35	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
p,p'-DDD	0.3	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
p,p'-DDE	0.2	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
p,p'-DDT	0.2	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0022	~		~
Toxaphene	0.06	ND		0.050	~		~	ND		0.050	~		~	ND		0.050	~		~	ND		0.060	~		~	ND		0.056	~		~

Notes:
Shaded and bold value indicates an exceedence of the NYSDEC TOGS
All results reported in parts per billion (ppb or ug/L)
Depth to groundwater reported in feet below ground surface (fbgs)
TOGS - NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected Exceeding RL
NA - No Applicable NYSDEC TOGS
~ - Not analyzed for this compound

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-5 U			WP-5 F			WP-6 U			WP-6 F			FB U			FB F			TB		
	LAB ID:	AC68710-003			AC68710-004			AC68504-017			AC68504-050			AC68504-019			AC68504-052			AC68504-020		
	COLLECTION DATE:	10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012			9/26/2012		
	DEPTH TO GW:	7.55			7.55			8.75			8.75			---			---			---		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			BLANK			BLANK			BLANK		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
VOLATILE ORGANICS (VOs)																						
1,1,1-Trichloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,1,2,2-Tetrachloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,1,2-Trichloroethane	1	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,1-Dichloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,1-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2,3-Trichlorobenzene	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2,4-Trichlorobenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2-Dibromo-3-chloropropane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2-Dibromoethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,2-Dichloroethane	0.6	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50
1,2-Dichloropropane	1	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,3-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,4-Dichlorobenzene	3	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
1,4-Dioxane	NA	ND		50	~		~	ND		50	~		~	ND		50	~		~	ND		50
2-Butanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
2-Hexanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
4-Methyl-2-pentanone	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Acetone	NA	ND		10	~		~	ND		10	~		~	ND		10	~		~	ND		10
Benzene	1	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50
Bromochloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Bromodichloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Bromoform	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Bromomethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Carbon disulfide	60	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Carbon tetrachloride	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Chlorobenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Chloroethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Chloroform	7	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Chloromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
cis-1,2-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
cis-1,3-Dichloropropene	0.4	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Cyclohexane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Dibromochloromethane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Dichlorodifluoromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Ethylbenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Isopropylbenzene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
m&p-Xylenes	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Methyl Acetate	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Methylcyclohexane	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Methylene chloride	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Methyl-t-butyl ether	NA	ND		0.50	~		~	ND		0.50	~		~	ND		0.50	~		~	ND		0.50
o-Xylene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Styrene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Tetrachloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Toluene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
trans-1,2-Dichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
trans-1,3-Dichloropropene	0.4	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Trichloroethene	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-5 U			WP-5 F			WP-6 U			WP-6 F			FB U			FB F			TB		
	LAB ID:	AC68710-003			AC68710-004			AC68504-017			AC68504-050			AC68504-019			AC68504-052			AC68504-020		
	COLLECTION DATE:	10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012			9/26/2012		
	DEPTH TO GW:	7.55			7.55			8.75			8.75			---			---			---		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			BLANK			BLANK			BLANK		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Trichlorofluoromethane	5	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Vinyl chloride	2	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
Xylenes (Total)	NA	ND		1.0	~		~	ND		1.0	~		~	ND		1.0	~		~	ND		1.0
SEMI-VOLATILE ORGANICS (SVOs)																						
1,1'-Biphenyl	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
1,2,4,5-Tetrachlorobenzene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,3,4,6-Tetrachlorophenol	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,4,5-Trichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,4,6-Trichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,4-Dichlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,4-Dinitrotoluene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,6-Dinitrotoluene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2-Chloronaphthalene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2-Chlorophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2-Methylnaphthalene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2-Methylphenol	1	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
2-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2-Nitrophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
3&4-Methylphenol	1	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
3,3'-Dichlorobenzidine	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
3-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4,6-Dinitro-2-methylphenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4-Bromophenyl-phenylether	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4-Chloro-3-methylphenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4-Chloroaniline	5	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
4-Chlorophenyl-phenylether	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4-Nitroaniline	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
4-Nitrophenol	1	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Acenaphthene	20	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Acenaphthylene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Acetophenone	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Atrazine	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzaldehyde	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzo[a]anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzo[a]pyrene	ND	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzo[b]fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzo[g,h,i]perylene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Benzo[k]fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
bis(2-Chloroethoxy)methane	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
bis(2-Chloroethyl)ether	1	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
bis(2-Chloroisopropyl)ether	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
bis(2-Ethylhexyl)phthalate	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Butylbenzylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Caprolactam	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Carbazole	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Chrysene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Dibenzo[a,h]anthracene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Dibenzofuran	NA	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
Diethylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Dimethylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~

TABLE 3
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Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-5 U			WP-5 F			WP-6 U			WP-6 F			FB U			FB F			TB		
	LAB ID:	AC68710-003			AC68710-004			AC68504-017			AC68504-050			AC68504-019			AC68504-052			AC68504-020		
	COLLECTION DATE:	10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012			9/26/2012		
	DEPTH TO GW:	7.55			7.55			8.75			8.75			---			---			---		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			BLANK			BLANK			BLANK		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Di-n-butylphthalate	50	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
Di-n-octylphthalate	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Fluoranthene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Fluorene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Hexachlorobenzene	0.04	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Hexachlorobutadiene	0.5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Hexachlorocyclopentadiene	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Hexachloroethane	5	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Indeno[1,2,3-cd]pyrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Isophorone	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Naphthalene	NA	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
N-Nitroso-di-n-propylamine	NA	ND		0.50	~		~	ND		0.53	~		~	ND		0.50	~		~	~		~
N-Nitrosodiphenylamine	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Pentachlorophenol	1	ND		10	~		~	ND		11	~		~	ND		10	~		~	~		~
Phenanthrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
Pyrene	NA	ND		2.0	~		~	ND		2.1	~		~	ND		2.0	~		~	~		~
2,4-Dimethylphenol	1	ND		0.25	~		~	ND		0.26	~		~	ND		0.25	~		~	~		~
2,4-Dinitrophenol	1	ND		3.5	~		~	ND		3.7	~		~	ND		3.5	~		~	~		~
Nitrobenzene	0.4	ND		0.34	~		~	ND		0.36	~		~	ND		0.34	~		~	~		~
Phenol	1	ND		0.29	~		~	ND		0.31	~		~	ND		0.29	~		~	~		~
METALS																						
Mercury	0.7	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	ND		0.70	~		~
Aluminum	NA	450,000		360	ND		180	14,000		180	ND		180	ND		180	ND		180	~		~
Antimony	3	ND		24	ND		12	ND		12	ND		12	ND		12	ND		12	~		~
Arsenic	25	**290**		**15**	ND		7.5	ND		7.5	ND		7.5	ND		7.5	ND		7.5	~		~
Barium	1,000	**12,000**		**100**	100		50	310		50	180		50	ND		50	ND		50	~		~
Beryllium	NA	42		8.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	ND		4.0	~		~
Cadmium	5	ND		7.0	ND		3.5	ND		3.5	ND		3.5	ND		3.5	ND		3.5	~		~
Calcium	NA	250,000		4,000	60,000		2,000	140,000		2,000	140,000		2,000	ND		2,000	ND		2,000	~		~
Chromium	50	**860**		**100**	ND		50	ND		50	ND		50	ND		50	ND		50	~		~
Cobalt	NA	470		40	ND		20	ND		20	ND		20	ND		20	ND		20	~		~
Copper	200	**2,600**		**100**	ND		50	ND		50	ND		50	ND		50	ND		50	~		~
Iron	300	**740,000**		**550**	ND		280	**25,000**		**280**	ND		280	ND		280	ND		280	~		~
Lead	25	**1,200**		**8.0**	5.5		4.0	17		4.0	ND		4.0	ND		4.0	ND		4.0	~		~
Magnesium	NA	290,000		4,000	12,000		2,000	39,000		2,000	29,000		2,000	ND		2,000	ND		2,000	~		~
Manganese	300	**49,000**		**80**	ND		40	**900**		**40**	110		40	ND		40	ND		40	~		~
Nickel	100	**890**		**100**	ND		50	ND		50	ND		50	ND		50	ND		50	~		~
Potassium	NA	95,000		10,000	ND		5,000	9,000		5,000	7,200		5,000	ND		5,000	ND		5,000	~		~
Selenium	10	ND		80	ND		40	ND		40	ND		40	ND		40	ND		40	~		~
Silver	50	ND		40	ND		20	ND		20	ND		20	ND		20	ND		20	~		~
Sodium	20,000	17,000		10,000	13,000		5,000	18,000		5,000	20,000		5,000	ND		5,000	ND		5,000	~		~
Thallium	NA	ND		20	ND		10	ND		10	ND		10	ND		10	ND		10	~		~
Vanadium	NA	1,200		100	ND		50	71		50	ND		50	ND		50	ND		50	~		~
Zinc	NA	2,900		100	ND		50	110		50	ND		50	ND		50	ND		50	~		~
POLYCHLORINATED BIPHENYLS (PCBs)																						
Aroclor (Total)	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1016	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1221	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1232	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1242	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~

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Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	WP-5 U			WP-5 F			WP-6 U			WP-6 F			FB U			FB F			TB		
	LAB ID:	AC68710-003			AC68710-004			AC68504-017			AC68504-050			AC68504-019			AC68504-052			AC68504-020		
	COLLECTION DATE:	10/8/2012			10/8/2012			9/28/2012			9/28/2012			9/28/2012			9/28/2012			9/26/2012		
	DEPTH TO GW:	7.55			7.55			8.75			8.75			---			---			---		
	SAMPLE MATRIX:	GROUNDWATER			GROUNDWATER			GROUNDWATER			GROUNDWATER			BLANK			BLANK			BLANK		
ANALYTE	**TOGS**	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL	Result	Flg	RL
Aroclor-1248	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1254	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1260	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1262	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
Aroclor-1268	0.09	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~
PESTICIDES																						
Aldrin	ND	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Alpha-BHC	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
beta-BHC	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Chlordane	0.05	ND		0.020	~		~	ND		0.024	~		~	ND		0.023	~		~	~		~
delta-BHC	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Dieldrin	0.004	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endosulfan I	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endosulfan II	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endosulfan Sulfate	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endrin	ND	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endrin Aldehyde	5	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Endrin Ketone	5	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
gamma-BHC	NA	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Heptachlor	0.04	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Heptachlor Epoxide	0.03	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Methoxychlor	35	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
p,p'-DDD	0.3	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
p,p'-DDE	0.2	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
p,p'-DDT	0.2	ND		0.0020	~		~	ND		0.0024	~		~	ND		0.0023	~		~	~		~
Toxaphene	0.06	ND		0.050	~		~	ND		0.059	~		~	ND		0.058	~		~	~		~

Notes:
Shaded and bold value indicates an exceedence of the NYSDEC TOGS
All results reported in parts per billion (ppb or ug/L)
Depth to groundwater reported in feet below ground surface (fbgs)
TOGS - NYSDEC Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards
Flg - Data Qualifier
RL - Laboratory Reporting Limit
ND - Not Detected Exceeding RL
NA - No Applicable NYSDEC TOGS
~ - Not analyzed for this compound

TABLE 4
Soil Vapor Sampling and Analyses Data Summary (September 2012 and December 2012)

TABLE 4
SOIL VAPOR SAMPLING AND ANALYSES DATA SUMMARY (SEPTEMBER 2012 AND DECEMBER 2012)
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

	SAMPLE ID:	A-1	SV-1	SV-1	SV-2	SV-3	SV-4	SV-4	SV-5	SV-5	SV-6	SV-7	SV-7	SV-8	SV-8	SV-9	SV-10	SV-11
	LAB ID:	JB23840-6	L1217613-01	JB23840-1	L1217613-02	L1217613-03	L1217613-04	JB23840-2	L1217613-05	JB23840-3	L1217613-06	L1217613-07	JB23840-4	L1217613-08	JB23840-5	L1217613-09	L1217613-10	L1217613-11
	COLLECTION DATE:	12/12/2012	9/27/2012	12/12/2012	9/27/2012	9/27/2012	9/27/2012	12/12/2012	9/27/2012	12/12/2012	9/27/2012	9/27/2012	12/12/2012	9/27/2012	12/12/2012	9/27/2012	9/27/2012	9/27/2012
	Sample Matrix:	AMBIENT AIR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR	SOIL VAPOR
ANALYTE	**CasNum**	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
VOLATILE ORGANICS (VOs)																		
1,1,1-Trichloroethane	71-55-6	ND (0.13)	2.18 U	ND (0.53)	2.18 U	2.18 U	3.64 U	ND (0.53)	2.18 U	ND (0.53)	2.18 U	2.18 U	ND (0.53)	2.18 U	ND (0.53)	2.18 U	5.46 U	3.64 U
1,1,2,2-Tetrachloroethane	79-34-5	ND (0.23)	2.75 U	ND (0.96)	2.75 U	2.75 U	4.58 U	ND (0.96)	2.75 U	ND (0.96)	2.75 U	2.75 U	ND (0.96)	2.75 U	ND (0.96)	2.75 U	6.87 U	4.58 U
1,1,2-Trichloroethane	79-00-5	ND (0.19)	2.18 U	ND (0.76)	2.18 U	2.18 U	3.64 U	ND (0.76)	2.18 U	ND (0.76)	2.18 U	2.18 U	ND (0.76)	2.18 U	ND (0.76)	2.18 U	5.46 U	3.64 U
1,1-Dichloroethane	75-34-3	ND (0.077)	1.62 U	ND (0.32)	1.62 U	1.62 U	2.7 U	ND (0.32)	1.62 U	ND (0.32)	1.62 U	1.62 U	ND (0.32)	1.62 U	ND (0.32)	1.62 U	4.05 U	2.7 U
1,1-Dichloroethene	75-35-4	ND (0.091)	1.58 U	ND (0.36)	1.58 U	1.58 U	2.64 U	ND (0.36)	1.58 U	ND (0.36)	1.58 U	1.58 U	ND (0.36)	1.58 U	ND (0.36)	1.58 U	3.96 U	2.64 U
1,2,4-Trichlorobenzene	120-82-1	ND (0.71)	2.97 U	ND (2.8)	2.97 U	2.97 U	4.95 U	ND (2.8)	2.97 U	ND (2.8)	2.97 U	2.97 U	ND (2.8)	2.97 U	ND (2.8)	2.97 U	7.42 U	4.95 U
1,2,4-Trimethylbenzene	95-63-6	0.79 J	26.6	7.4	22.2	28.6	3.28 U	4.4	4.55	5.4	35.8	24.6	2.6 J	20.9	ND (0.59)	31.6	25.7	19.3
1,2-Dibromoethane	106-93-4	ND (0.22)	3.07 U	ND (0.92)	3.07 U	3.07 U	5.12 U	ND (0.92)	3.07 U	ND (0.92)	3.07 U	3.07 U	ND (0.92)	3.07 U	ND (0.92)	3.07 U	7.68 U	5.12 U
1,2-Dichlorobenzene	95-50-1	ND (0.23)	2.4 U	ND (0.90)	2.4 U	2.4 U	4.01 U	ND (0.90)	2.4 U	ND (0.90)	2.4 U	2.4 U	ND (0.90)	2.4 U	ND (0.90)	2.4 U	6.01 U	4.01 U
1,2-Dichloroethane	107-06-2	ND (0.11)	1.62 U	ND (0.45)	1.62 U	1.62 U	2.7 U	ND (0.45)	1.62 U	ND (0.45)	1.62 U	1.62 U	ND (0.45)	1.62 U	ND (0.45)	1.62 U	4.05 U	2.7 U
1,2-Dichloropropane	78-87-5	ND (0.16)	1.85 U	ND (0.65)	1.85 U	1.85 U	3.08 U	ND (0.65)	1.85 U	ND (0.65)	1.85 U	1.85 U	ND (0.65)	1.85 U	ND (0.65)	1.85 U	4.62 U	3.08 U
1,3,5-Trimethybenzene	108-67-8	ND (0.22)	7.57	2.4 J	6.39	8.21	3.28 U	ND (0.88)	1.97 U	ND (0.88)	9.88	6.93	ND (0.88)	5.8	ND (0.88)	9	7.28	5.6
1,3-Butadiene	106-99-0	ND (0.058)	16	ND (0.24)	8.27	16.8	22.3	ND (0.24)	17.9	ND (0.24)	14.3	8.69	ND (0.24)	21.2	ND (0.24)	22.1	30.8	49.8
1,3-Dichlorobenzene	541-73-1	ND (0.17)	40.8	ND (0.66)	2.4 U	48.5	4.01 U	ND (0.66)	2.4 U	ND (0.66)	65.5	32.2	ND (0.66)	120	ND (0.66)	40.1	64.9	187
1,4-Dichlorobenzene	106-46-7	ND (0.36)	2.4 U	ND (1.4)	2.4 U	2.4 U	4.01 U	ND (1.4)	2.4 U	ND (1.4)	2.4 U	2.4 U	ND (1.4)	2.4 U	ND (1.4)	2.4 U	6.01 U	4.01 U
1,4-Dioxane	123-91-1	ND (0.43)	1.44 U	ND (1.7)	1.44 U	1.44 U	2.4 U	ND (1.7)	1.44 U	ND (1.7)	1.44 U	1.44 U	ND (1.7)	1.44 U	ND (1.7)	1.44 U	3.6 U	2.4 U
2,2,4-Trimethylpentane	540-84-1	1.6	4.44	4.4	3.9	4.76	4.37	7.5	4.18	11	6.82	4.81	1.9 J	11	2.7 J	6.68	7.24	14.2
2-Butanone	78-93-3	0.59	105	9.4	123	149	134	6.5	149	4.4	153	155	6.2	157	ND (0.50)	158	126	124
2-Chlorotoluene	95-49-8	ND (0.16)	~	ND (0.62)	~	~	~	ND (0.62)	~	ND (0.62)	~	~	ND (0.62)	~	ND (0.62)	~	~	~
2-Hexanone	591-78-6	ND (0.21)	14.8	ND (0.86)	21.2	11.6	8.56	ND (0.86)	16.6	ND (0.86)	47.5	28.2	ND (0.86)	20.6	ND (0.86)	30.6	31.2	13.4
3-Chloropropene	107-05-1	ND (0.11)	1.25 U	ND (0.44)	1.25 U	1.25 U	2.09 U	ND (0.44)	1.25 U	ND (0.44)	1.25 U	1.25 U	ND (0.44)	1.25 U	ND (0.44)	1.25 U	3.13 U	2.09 U
4-Ethyltoluene	622-96-8	ND (0.14)	6.68	2.4 J	5.85	7.77	3.28 U	ND (0.54)	1.97 U	ND (0.54)	9.49	6.49	ND (0.54)	5.41	ND (0.54)	7.67	6.19	4.75
4-Methyl-2-pentanone	108-10-1	ND (0.34)	1.64 U	ND (1.4)	1.64 U	1.64 U	2.73 U	ND (1.4)	1.64 U	ND (1.4)	3.05	2.09	ND (1.4)	2.36	ND (1.4)	1.64 U	4.1 U	2.73 U
Acetone	67-64-1	5	591	41.6	546	694	689	22	613	31.1	684	717	23	710	1.2 J	784	575	342
Benzene	71-43-2	0.96	12.3	19	8.69	9.55	10	19	9.68	12	13.8	11.9	6.1	20.4	1.6 J	17.6	20.4	34.5
Benzyl chloride	100-44-7	ND (0.25)	2.07 U	ND (0.98)	2.07 U	2.07 U	3.45 U	ND (0.98)	2.07 U	ND (0.98)	2.07 U	2.07 U	ND (0.98)	2.07 U	ND (0.98)	2.07 U	5.18 U	3.45 U
Bromodichloromethane	75-27-4	ND (0.21)	2.68 U	ND (0.80)	2.68 U	2.68 U	4.47 U	ND (0.80)	2.68 U	ND (0.80)	2.68 U	2.68 U	ND (0.80)	2.68 U	ND (0.80)	2.68 U	6.7 U	4.47 U
Bromoform	75-25-2	ND (0.30)	4.14 U	ND (1.2)	4.14 U	4.14 U	6.9 U	ND (1.2)	4.14 U	ND (1.2)	4.14 U	4.14 U	ND (1.2)	4.14 U	ND (1.2)	4.14 U	10.3 U	6.9 U
Bromomethane	74-83-9	ND (0.093)	1.55 U	ND (0.37)	1.55 U	1.55 U	2.59 U	ND (0.37)	1.55 U	ND (0.37)	1.55 U	1.55 U	ND (0.37)	1.55 U	ND (0.37)	1.55 U	3.88 U	2.59 U
Bromoethene	593-60-2	ND (0.12)	1.75 U	ND (0.48)	1.75 U	1.75 U	2.92 U	ND (0.48)	1.75 U	ND (0.48)	1.75 U	1.75 U	ND (0.48)	1.75 U	ND (0.48)	1.75 U	4.37 U	2.92 U
Carbon disulfide	75-15-0	ND (0.075)	15.5	11	13.9	12.2	11.6	7.5	15.4	24	14.8	30.2	5.3	55.7	ND (0.29)	13.6	18.6	24.5
Carbon tetrachloride	56-23-5	ND (0.13)	2.52 U	ND (0.49)	2.52 U	2.52 U	4.2 U	ND (0.49)	2.52 U	ND (0.49)	2.52 U	2.52 U	ND (0.49)	2.52 U	ND (0.49)	2.52 U	6.29 U	4.2 U
Chlorobenzene	108-90-7	ND (0.18)	1.84 U	ND (0.74)	1.84 U	1.84 U	3.07 U	ND (0.74)	1.84 U	ND (0.74)	1.84 U	1.84 U	ND (0.74)	1.84 U	ND (0.74)	1.84 U	4.6 U	3.07 U
Chloroethane	75-00-3	ND (0.092)	1.06 U	ND (0.37)	1.06 U	1.06 U	1.76 U	ND (0.37)	1.06 U	ND (0.37)	1.06 U	1.06 U	ND (0.37)	1.06 U	ND (0.37)	1.06 U	2.64 U	1.76 U
Chloroform	67-66-3	ND (0.13)	1.95 U	ND (0.49)	1.95 U	1.95 U	3.26 U	ND (0.49)	1.95 U	ND (0.49)	1.95 U	1.95 U	ND (0.49)	1.95 U	ND (0.49)	4.6	4.88 U	3.26 U
Chloromethane	74-87-3	1.1	0.987	1.5 J	0.826 U	1.07	1.38 U	1.3 J	0.855	1.6 J	0.826 U	0.871	1.2 J	0.962	1.2 J	0.975	2.44	1.38 U
cis-1,2-Dichloroethene	156-59-2	ND (0.099)	1.58 U	ND (0.40)	1.58 U	1.58 U	2.64 U	ND (0.40)	1.58 U	ND (0.40)	1.58 U	1.58 U	ND (0.40)	1.58 U	ND (0.40)	1.58 U	3.96 U	2.64 U
cis-1,3-Dichloropropene	10061-01-5	ND (0.15)	1.82 U	ND (0.59)	1.82 U	1.82 U	3.03 U	ND (0.59)	1.82 U	ND (0.59)	1.82 U	1.82 U	ND (0.59)	1.82 U	ND (0.59)	1.82 U	4.54 U	3.03 U
Cyclohexane	110-82-7	ND (0.17)	3.89	4.1	3.36	3.68	3.75	3	3.26	5.5	5.89	4.68	ND (0.69)	9.88	ND (0.69)	6.5	7.37	16
Dibromochloromethane	124-48-1	ND (0.30)	3.41 U	ND (1.2)	3.41 U	3.41 U	5.68 U	ND (1.2)	3.41 U	ND (1.2)	3.41 U	3.41 U	ND (1.2)	3.41 U	ND (1.2)	3.41 U	8.52 U	5.68 U
Dichlorodifluoromethane	75-71-8	2.7	3.59	2.6 J	2.41	3.34	3.46	2.6 J	3.32	2.7 J	3.6	3.23	2.6 J	3.89	2.8 J	4.29	4.94 U	4.05
Ethanol	64-17-5	7.9	63.5	31.8	17.7	65.8	47.7	11	32	39.2	62.6	57.8	9.4	181	15	79.7	65.2	309
Ethyl Acetate	141-78-6	1.3	3.6 U	3.2	3.6 U	3.6 U	6.02 U	ND (1.8)	3.6 U	10	3.6 U	3.6 U	ND (1.8)	3.6 U	ND (1.8)	3.6 U	9.01 U	6.02 U
Ethylbenzene	100-41-4	0.74 J	18.3	16	15.1	18	5.65	10	8.08	6.1	23.5	19.2	4.8	22.6	ND (0.52)	22.9	23.4	20.7
Freon-113	76-13-1	ND (0.21)	3.06 U	ND (0.84)	3.06 U	3.06 U	5.11 U	ND (0.84)	3.06 U	ND (0.84)	3.06 U	3.06 U	ND (0.84)	3.06 U	ND (0.84)	3.06 U	7.66 U	5.11 U
Freon-114	76-14-2	ND (0.16)	2.8 U	ND (0.65)	2.8 U	2.8 U	4.66 U	ND (0.65)	2.8 U	ND (0.65)	2.8 U	2.8 U	ND (0.65)	2.8 U	ND (0.65)	2.8 U	6.99 U	4.66 U
Heptane	142-82-5	0.66 J	10.8	12	8.81	9.06	6.88	9	8.07	9.4	15.1	11.9	3.9	19.6	1.6 J	16.4	19.3	27.9
Hexachlorobutadiene	87-68-3	ND (0.32)	4.27 U	ND (1.3)	4.27 U	4.27 U	7.11 U	ND (1.3)	4.27 U	ND (1.3)	4.27 U	4.27 U	ND (1.3)	4.27 U	ND (1.3)	4.27 U	10.7 U	7.11 U
Hexane	110-54-3	1.1	17.9	21	15.1	17.6	19.2	17	15.3	21	27.7	19.7	6	31.7	3.3	27.2	32	50.4
Isopropanol	67-63-0	1.1	21.2	1.1 J	3	17.8	5.01	ND (0.64)	3.86	6.9	20.4	18.1	1.8 J	57.5	ND (0.64)	26.5	19.5	86.3
Methyl tert butyl ether	1634-04-4	ND (0.16)	1.44 U	ND (0.65)	1.44 U	1.44 U	2.4 U	ND (0.65)	1.44 U	ND (0.65)	1.44 U	1.44 U	ND (0.65)	1.44 U	ND (0.65)	1.44 U	3.6 U	2.4 U
Methylene chloride	75-09-2	0.76	6.95 U	5.2	6.95 U	15.1	11.6 U	ND (0.76)	15.3	ND (0.76)	6.95 U	6.95 U	3	6.95 U	ND (0.76)	6.95 U	17.4 U	11.6 U
Methylmethacrylate	80-62-6	ND (0.16)	~	ND (0.61)	~	~	~	ND (0.61)	~	ND (0.61)	~	~	ND (0.61)	~	ND (0.61)	~	~	~
o-Xylene	95-47-6	0.96	27.4	16	21.2	28.8	6.08	11	9.47	6.1	32.8	26.1	4.3	25.8	ND (0.65)	30	31.1	23.3
p/m-Xylene	179601-23-1	2.6	69.5	59.9	57.8	73.4	18.7	37	28.9	23	89.9	70.4	17	75.1	3.2 J	85.6	84.7	72.5
Propylene	115-07-1	1.4	275	111	152	239	413	93.1	298	53.4	289	205	24.7	358 E	2.1 J	415 E	558	714 E
Styrene	100-42-5	ND (0.11)	1.7 U	ND (0.42)	1.7 U	1.7 U	2.84 U	ND (0.42)	1.7 U	ND (0.42)	2.63	1.7 U	ND (0.42)	1.86	ND (0.42)	1.79	4.26 U	2.84 U
Tertiary Butyl Alcohol	75-65-0	ND (0.15)	~	ND (0.61)	~	~	~	ND (0.61)	~	ND (0.61)	~	~	ND (0.61)	~	ND (0.61)	~	~	~
Tetrachloroethene	127-18-4	0.29	2.71 U	1.6	2.71 U	2.71 U	4.52 U	2.9	2.71 U	1.4	2.71 U	2.71 U	ND (0.66)	2.71 U	ND (0.66)	2.71 U	6.78 U	4.52 U
Tetrahydrofuran	109-99-9	ND (0.22)	5.96	12	1.6	4.01	2.17	8	3.72	2.3 J	7.26	5.46	1.9 J	11.5	ND (0.88)	3.39	7.08	9.26
Toluene	108-88-3	3.1	65.6	119	56.5	67.4	43.3	85.5	50.1	51.3	88.2	74.6	35	116	4.9	93.8	111	126
trans-1,2-Dichloroethene	156-60-5	ND (0.11)	1.58 U	ND (0.44)	1.58 U	1.58 U	2.64 U	ND (0.44)	1.58 U	ND (0.44)	1.58 U	1.58 U	ND (0.44)	1.58 U	ND (0.44)	1.58 U	3.96 U	2.64 U
trans-1,3-Dichloropropene	10061-02-6	ND (0.11)	1.82 U	ND (0.44)	1.82 U	1.82 U	3.03 U	ND (0.44)	1.82 U	ND (0.44)	1.82 U	1.82 U	ND (0.44)	1.82 U	ND (0.44)	1.82 U	4.54 U	3.03 U
Trichloroethene	79-01-6	ND (0.19)	2.15 U	0.91	2.15 U	2.15 U	3.58 U	2.1	2.15 U	0.81 J	2.15 U	2.15 U	ND (0.75)	2.15 U	ND (0.75)	2.15 U	5.37 U	3.58 U
Trichlorofluoromethane	75-69-4	1.5	2.53	2.6 J	2.25 U	2.25 U	3.75 U	ND (0.62)	2.25 U	ND (0.62)	2.33	2.25 U	ND (0.62)	2.5	1.6 J	2.53	5.62 U	3.75 U
Vinyl acetate	108-05-4	ND (0.19)	1.41 U	ND (0.77)	1.41 U	1.41 U	2.35 U	ND (0.77)	1.41 U	ND (0.77)	1.41 U	1.41 U	ND (0.77)	1.41 U	ND (0.77)	1.41 U	3.52 U	2.35 U
Vinyl chloride	75-01-4	ND (0.056)	1.02 U	ND (0.22)	1.02 U	1.02 U	1.7 U	ND (0.22)	1.02 U	ND (0.22)	1.02 U	1.02 U	ND (0.22)	1.02 U	ND (0.22)	1.02 U	2.56 U	1.7 U

Notes:
All results reported in micrograms per cubic meter (mg/m^3)
ND - Not Detected exceeding RL
U - Not Detected exceeding RL
E - Concentration of the analyte exceeds the range of the calibration curve and/or linear range of the instrument
J - Detected at an estimated concentration
( ) - Reporting Limit (RL)
~ - Not analyzed for this compound

TABLE 5
Quantities for Soil Disposal, Reuse, and Import

TABLE 5
QUANTITIES FOR SOIL DISPOSAL, REUSE, AND IMPORT
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

Material	Quantities (Tons)	Disposal/Source Information
Clean Soil to be Disposed Off Site (General Earthwork)	+/- 20,400	J. Bruno & Sons, Inc. (Staten Island, NY) Staten Island Recycling (Staten Island, NY)
Contaminated Soil to be Disposed Off Site (B-2A, B-3A, and B-4A)	55	Clean Earth of Carteret NJ, Inc. (Carteret, NJ)*
Soil to be Reused On Site	1,000	Site
Material to be Imported as Backfill	3/4" Stone - 1,300 Sand - 250 RCA - 0	American Materials, Inc. (Staten Island, NY)* American Materials, Inc. (Staten Island, NY)* Permitted RCA Facility*

Notes:

RCA Recycled Concrete Aggregate
NA Not Applicable
* Source/Disposal Facility to be Confirmed

APPENDIX 1
Soil/Materials Management Plan

Appendix 1

SOIL/MATERIALS MANAGEMENT PLAN

1.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the Remedial Closure Report (RCR). Soil screening will be performed during invasive work performed during the remedy prior to issuance of the Notice of Satisfaction.

1.2 Stockpile Methods

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 Characterization of Excavated Materials

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

1.4 Materials Excavation, Load-Out and Departure

The PE/QEP overseeing the remedial action will:

- oversee remedial work and the excavation and load-out of excavated material;
- ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site;
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

1.5 Off-Site Materials Transport

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound truck transport routes are in Section 3.8 of the RAP. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 Materials Disposal Off-Site

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Applicant to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Applicant. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RCR.

The RCR will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RCR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RCR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the RCR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

1.7 Materials Reuse On-Site

Soil and fill that is derived from the property that meets the soil cleanup objectives established in this plan may be reused on-Site. The soil cleanup objectives for on-Site reuse are listed in the RAP. "Reuse on-Site" means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on comparable soil/fill material. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAP are followed. The expected location for placement of reused material is shown in the RAP.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within landscaping berms.

1.8 Import of Backfill Soil from Off-Site Sources

This Section presents the requirements for imported fill materials to be used on site. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill soil quality objectives are listed in the RAP.

A process will be established to evaluate sources of backfill soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this RAP. The RCR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

Source Screening and Testing

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported backfill soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the RCR. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete.

1.9 Fluids Management

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

1.10 Storm-water Pollution Prevention

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this RAP (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

1.11 Contingency Plan

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for Full List volatiles and semi-volatiles, pesticides/PCBs, and TAL metals, as appropriate.

1.12 Odor, Dust and Nuisance Control

Odor Control

All necessary means will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of foams to cover exposed odorous soils. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorants in spray or misting systems.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the RCR.

Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Closure Report.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

APPENDIX 2
Construction Health and Safety Plan

WHITESTONE ASSOCIATES, INC.
ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

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SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
BLOCK 1116, LOTS 40, 75, AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

Submitted to:

NEW YORK CITY OFFICE OF ENVIRONMENTAL REMEDIATION
NYC MAYOR'S OFFICE OF OPERATIONS
E-Designation Program
100 Gold Street, 2nd Floor
New York, New York 10038

Prepared for:

NICHOLAS AVENUE ESTATES HOA
48 Liberty Avenue
New Rochelle, New York 10801

Prepared by:

WHITESTONE ASSOCIATES, INC.
35 Technology Drive
Warren, New Jersey 07059

Whitestone Proposal No. EJ1212234.000
April 2013

SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

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SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

SIGNATURE SHEET

This Health and Safety Plan has been reviewed and approved. By their signatures, the following undersigned certify that this Health and Safety Plan meets the requirements of 29 CFR 1910.120 and other applicable regulations for the protection of worker health and safety at this site.

Thomas K. Uzzo, LSRP, Principal	Whitestone Associates, Inc.
Printed Name/Title	Company
Thomas Uzzo	4/16/13
Signature	Date
Christopher Seib, LSRP, Director/Project Manager	Whitestone Associates, Inc.
Printed Name/Title	Company
	4/16/13
Signature	Date
Patrick Beesley, Site Inspector/Health & Safety Officer	Whitestone Associates, Inc.
Printed Name/Title	Company
Patrick Beesley	4/16/13
Signature	Date
Printed Name/Title	Company
Signature	Date

SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
AOC	Area of Concern
ASTM	American Society of Testing Materials
CFR	Code of Federal Regulations
dBA	Decibels
fbgs	Feet Below Ground Surface
H&S	Health and Safety
HASP	Site-Specific Health and Safety Plan
HSA	Hollow-Stem Auger
HST	Health and Safety Technician
IDLH	Immediately Dangerous to Life and Health
LTANKS	New York Leaking Underground Storage Tank List
MSA	Mine Safety Apparatus
MSDS	Material Safety Data Sheet
MSHA	Mine Safety Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NYCDEP	New York City Department of Environmental Protection
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PNOC	Total Nuisance Dust/Particulates Not Otherwise Classified
PPE	Personal Protective Equipment
ppm	parts per million
PRCS	Permit Required Confined Space
RSCOs	Recommended Soil Cleanup Objectives
SHSO	Site Health and Safety Officer
SI	Site Investigation
SOP	Standard Operating Procedure
STEL	Short-Term Exposure Limit
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristics Leaching Procedure
TPHC	Total Petroleum Hydrocarbon
TWA	Time-Weighted Average
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
Whitestone	Whitestone Associates, Inc.

SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

INTRODUCTION

The health and safety protocol established in this plan are based on the site conditions and chemical hazards known and/or anticipated to be present from available site data. The following *Site-Specific Health and Safety Plan* (HASP) was developed by Whitestone Associates, Inc. (Whitestone) and is intended solely for use during general construction phase grading (earthwork) and limited soil remediation operations associated with the proposed residential development located at Richmond Terrace and Nicholas Avenue (Block 1116, Lots 40, 75, and 105; Block 1121, Lot 101) in Staten Island, Richmond County, New York (hereinafter referred to as the "site" or the "subject property").

Operations associated with this project will be conducted in compliance with:

- Occupational Safety and Health (OSHA) Regulations 29 CFR 1910.120, *"Hazardous Waste Operations and Emergency Response"*;
- Applicable parts of OSHA 29 CFR 1910, *General Industry*, OSHA Safety and Health Standards;
- Applicable parts of OSHA 29 CFR 1926, *Construction Industry*, OSHA Safety and Health Standards;
- Other applicable Federal, State, and local regulations; and
- Subcontractor general safety plans/requirements.

All persons wishing to gain entry to active work areas of the site will:

1. Read or review the contents of this HASP with the Site Health and Safety Officer (SHSO); and
2. Acknowledge, in writing on the attached HASP Acknowledgment/Visitor Sign-In Sheet, their understanding of this HASP and all revisions[1] made to it.

---

[1] This HASP is subject to review and revision based on actual conditions encountered in the field.

SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR CONSTRUCTION

Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, New York

HASP ACKNOWLEDGMENT/VISITOR SIGN-IN SHEET

Persons wishing to gain entry to restricted work areas at the project site are required to acknowledge their understanding of this HASP.

I have read (or reviewed with the SHSO) the Site Health and Safety Plan for the referenced site and understand its provisions for my health and safety.

PRINTED NAME	SIGNATURE	COMPANY	DATE

SECTION 1.0
Project Overview

1.1 SITE DESCRIPTION

The subject property is an approximately 10.1 acre tract identified as Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101 in Staten Island, Richmond County, New York (see Figure 1). The site currently is vacant and unimproved and is bordered by Richmond Terrace to the north, Nicholas Avenue the east, John Street to the west, and Staten Island Rapid Transit Lines to the south. The site reportedly housed a former Linseed oil storage and distribution facility and bulk sand and gravel storage and distribution facility until the mid-twentieth century.

Whitestone understands that the proposed redevelopment will include construction of approximately 86 detached, two-family houses and associated roadways and utilities.

1.2 SCOPE OF WORK ITEMS COVERED BY HASP

This HASP is intended to cover potential exposures during general construction phase grading activities and limited soil remediation (areas B-2A, B-3A, and B-4A) during site redevelopment. All site contractors will be required to follow their own general safety plans/requirements for all typical construction-related activities and will be responsible for assuming the health and safety of their employees.

SECTION 2.0
Hazard Assessment and Risk Analysis

An assessment and analysis of chemical, physical, and biological hazards associated with this project is presented in the subsections that follow. A task-by-task risk analysis of the potential exposure to the identified hazards is provided below.

Task	Potential Exposure Risk
Mobilization/Demobilization	Low
General Earthwork (construction phase grading) Operations	Moderately High
Soil Remediation	High

Anticipated Exposure Risk Definitions:

LOW =	Non-Intrusive Work--No Chance of Exposure.
SLIGHT =	Non-Intrusive Work, Possible Safety Hazards with Tools--Little to No Chance of Exposure.
MODERATE =	Non-Intrusive Work, Possible Safety Hazards with Power Tools, Heavy Equipment, and/or Work Near or in Water--No Possible Exposure to Contaminants.
MODERATELY HIGH =	Intrusive Work, Possible Safety Hazards with Equipment--Exposure to Contaminants Possible.
HIGH =	Intrusive Work, Possible Safety Hazards with Equipment--Exposure to Contaminants Probable.

2.1 CHEMICAL HAZARDS

2.1.1 Contaminants of Concern

Soil and groundwater samples collected in support of the SI/RI efforts will be analyzed for VOC, SVOC, PCBs, pesticides, and TAL metals. Exposure information for these potential constituents of concern (COCs) are provided in Table 1, however, with the exception of the naturally-occurring metals, they are not anticipated to be encountered at the site based on the SI/RI data. Table 1 also contains information for total petroleum hydrocarbons due to the historical presence of linseed oil tanks at the project site.

The COCs associated with the soil remediation are limited to barium and SVOCs in the areas of soil samples B-2A, B-3A, and B-4A. Contaminant data can be found in Whitestone's April 2013 *Remedial Investigation Report*.

TABLE 1 POTENTIAL CHEMICAL EXPOSURES Nicholas Avenue Estates Richmond Terrace and Nicholas Avenue Staten Island, Richmond County, NY			
Substance	**Route of Entry**	**Exposure Symptoms**	**Action Level**
VOC	Inhalation Contact	Acute - May cause unconsciousness and death. May cause the heart to beat irregularly or to stop. Chronic - High or repeated lower exposures can damage the liver and kidneys. Long term skin contact can cause thickening and cracking of the skin.	10 ppm
SVOC	Inhalation Ingestion Contact	CANCER SUSPECT AGENTS Irritation, pulmonary edema, sensitizer, dermatitis, dizziness, nausea, convulsions, kidney, and liver damage.	0.2 mg/m^3
PCBs	Contact Inhalation Ingestion	PCBs are KNOWN HUMAN CARCINOGENS AND MAY BE TERATOGENS. Exposure to PCBs can occur through inhalation or absorption and cause an acne like skin rash (called chloracne). PCBs can damage the liver. High exposure can damage the nervous system, causing numbness, weakness, and tingling ("pins and needles") in the arms and legs.	0.5 mg/m^3 SKIN
Pesticide	Inhalation Contact Ingestion	POTENTIAL CARCINOGEN - HANDLE WITH EXTREME CAUTION. Short-term exposure may irritate the eyes, the skin, and the respiratory tract. The substance may cause effects on the central nervous system. Exposure may result in death. Long-term or repeated exposure to the substance may have effects on the blood and liver.	NE
TPHC	Inhalation Skin Contact Eye Contact	Harmful if in contact with or absorbed through the skin. Contact may cause skin and eye irritation. Prolonged or repeated exposure may cause liver or blood forming organ damage. May cause skin irritation or dermatitis.	300 ppm 500 ppm
Metals			
Barium	Contact Inhalation Ingestion	Causes eye and skin irritation. Irritates the respiratory tract. Ingestion of large amounts may cause gastrointestinal irritation.	0.5 mg/m^3
Chromium	Inhalation Contact	CARCINOGEN - HANDLE WITH EXTREME CAUTION Chromium is a steel gray, lustrous metal often found as a powder. Chromium metal ore has been reported to cause lung allergy. Chromium fumes can cause "metal fume fever," a flu like illness lasting about 24 hours with chills, aches, cough and fever. Chromium particles can irritate the eyes.	0.5 mg/m^3
Lead	Skin Contact Eye Contact Ingestion Inhalation	TERATOGEN - HANDLE WITH EXTREME CAUTION. Repeated exposure causes lead build-up in the body. Low levels may cause tiredness, mood changes, headaches, stomach problems, and trouble sleeping. Higher levels may cause aching, weakness, and concentration or memory problems. Lead exposure can cause serious permanent kidney or brain damage at high levels and increases the risk of high blood pressure.	0.05 mg/m^3 100 mg/m^3 IDLH

TABLE 1
POTENTIAL CHEMICAL EXPOSURES
Nicholas Avenue Estates
Richmond Terrace and Nicholas Avenue
Staten Island, Richmond County, NY

Substance	Route of Entry	Exposure Symptoms	Action Level
Mercury	Inhalation Absorption Contact	High exposure can cause chest pain, shortness of breath, and a build-up of fluid in the lungs (pulmonary edema). This can cause death. Repeated exposures can cause Mercury poisoning with kidney disease, tremors, gum problems, trouble remembering and concentrating and changes in mood. Long-term exposure can cause clouding of the eyes.	PEL: 0.01 mg/m^3 IDLH: 26 mg/m^3
Nickel	Inhalation Contact	CARCINOGEN - HANDLE WITH EXTREME CAUTION. Nickel is a silvery-white metal. Skin contact may cause skin allergy, with itching, redness and later rash. Lung allergy occasionally occurs with asthma-type effects. High exposure can cause cough, shortness of breath and fluid in the lungs, which is sometimes delayed for 1 to 2 days after exposure. HIGHLY FLAMMABLE SOLID - EXPLOSION HAZARD.	1.5 mg/m^3 Elemental/ Metal 0.1 mg/m^3 Soluble 0.2 mg/m^3 Insoluble
Zinc	Inhalation Contact	Zinc is a soft white metal with a bluish tinge. Exposure to solid Zinc is not known to cause acute or chronic health effects, but heated Zinc may give off Zinc Oxide Fume which can cause health effects. Metal fragments can scratch the eyes. When Zinc is refined, Cadmium is released. Cadmium is a cancer causing agent.	15 mg/m^3 Dust 5 mg/m^3 Fume

NOTES:

PEL	OSHA's Final Rule Limits Permissible Exposure Limit for an 8-hour Time Weighted Average (TWA).
IDLH	NIOSH Level Immediately Dangerous to Life and Health.
ppm	parts per million
ACGIH	American Conference of Governmental Industrial Hygienist
TWA	8-hour time weighted average (TWA) as established by ACGIH
STEL/C	Short-Term Exposure Limit/Ceiling as established by ACGIH
NE	Not Established

Hazards associated with potential exposure to the COCs identified in Table 1 will be mitigated through training, administrative controls (e.g., proper labeling and storage), and proper use of prescribed personal protective equipment (PPE).

2.1.2 Concrete

Persons who place concrete will be trained in the chemical hazards associated with handling concrete, which is mildly corrosive. Sufficient amounts of clean water will be available for workers to wash concrete from their skin and eyes. Safety glasses will be worn during concrete placement.

2.1.3 Chemicals Brought On Site

The use of chemicals on site will be in compliance with the requirements of 29 CFR 1910.1200 (OSHA's Hazard Communication Standard), all applicable Federal OSHA regulations found in 1910.1000, and the Spill Containment Plan (Appendix C). Potential hazards associated with chemicals brought on site for the work will be mitigated through training, administrative controls (e.g., proper labeling and storage), and proper use of prescribed PPE.

Material Safety Data Sheets (MSDSs) for all chemicals brought to the site shall be available in the location where the chemical is used or stored. The SHSO will be responsible for maintaining the project MSDS file.

2.2 PHYSICAL HAZARDS

The following general and physical hazards may be associated with earthwork operations at the subject property.

- **Potential Hazard:** Operation of heavy equipment.

  Procedure(s) to Mitigate Hazard: (1) Before any machinery or mechanized equipment is placed in use, it will be inspected and tested by a competent person and certified to be in safe operating condition. The soil boring and monitor well installation subcontractor will designate a competent person to be responsible for the inspection of all machinery and equipment daily and during use to make sure it is in safe operating condition. Tests will be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition. All inspections will be documented. Any machinery or equipment found to be unsafe will be deadlined and its use prohibited until unsafe conditions have been corrected. (2) Only designated personnel holding required licenses will operate machinery and mechanized equipment. (3) Equipment deficiencies observed at any item that affect their safe operation will be corrected before continuing operation. (4) Utilize appropriate warning signs and backup alarms.

- **Potential Hazard:** Possible exposure to continuous sound pressure levels in excess of 85 dBA during heavy equipment operation.

  Procedure(s) to Mitigate Hazard: Wear disposable ear plugs or ear muffs with a NRR rating of 20 or greater any time that noise is determined to be a hazard by the SHSO (or his designated site representative). An appropriate rule of thumb is that when normal conversation is difficult at a distance of two feet to three feet, hearing protection is required.

- **Potential Hazard:** Above and/or Underground Utilities within Work Area(s)

  Procedure(s) to Mitigate Hazard: The soil boring and monitor well installation subcontractor will notify NEW YORK CITY ONE CALL (1-800-272-4480 or 811) a minimum of three days prior to performing any intrusive subsurface activities to request utility markout. Ensure that overhead electrical lines (if any) are not energized.

- **Potential Hazard:** Slips, Trips, and Falls.

  Procedure(s) to Mitigate Hazard: (1) Exercise extreme caution in all work areas. (2) Be sure of footing during equipment access/egress and when moving through the work area. (3) Avoid stepping or standing on uneven or unsteady surfaces. (4) Clearly delineate excavations, open pits, and other fall hazards with caution tape. Securely cover as appropriate.

  Any time that employees are exposed to a fall hazards or leading edge hazards, the SHSO or his designated representative will install protection or provide fall protection to prevent any personnel from failing during the course of project. The SHSO will attempt to limit these exposures with proper project planning. If at any time employees can not be kept from fall hazards or leading edges, employees will be issued and use proper fall protection. Fall Protection Training will be required before any employee is issued fall protection equipment.

  Proper project house keeping is the key to preventing any slip, trips, or falls. Project personnel will do everything possible to keep the project site neat and tidy. A clean project site is a safe project site.

- **Potential Hazard:** Exposure to inclement weather.

  Procedure(s) to Mitigate Hazard: Threats to site personnel can arise from natural causes (i.e., lightening, high winds, etc.). In the event that severe weather is imminent, the field engineer will notify site employees. As the storm approaches, all work will cease, loose objects will be secured, and site personnel will take shelter at pre-arranged locations. After the severe weather event has passed, the field engineer will inspect the work area(s) for safety hazards prior to resuming work.

- **Potential Hazard:** Housekeeping

  Procedure(s) to Mitigate Hazard: (1) Store equipment properly. (2) Remove rubbish/scrap material from the work area.

- **Potential Hazard:** Hazardous Material Storage

  Procedure(s) to Mitigate Hazard: (1) Segregate flammable/combustible liquid from ignition sources. (2) Store in approved containers. (3) Keep solvent wastes, oily rags, and liquids in fire resistant containers. (4) Provide spill control for equipment fueling operations.

The Standard Operating Procedures (SOPs), engineering controls, and work practices set forth in Section 10.0 are to be strictly adhered to by all site personnel to minimize the potential for physical injury.

2.3 BIOLOGICAL HAZARDS

2.3.1 Bites and Stings

The potential exists for encountering biting animals (dogs, rats) and insects (bees, spiders, flies). All animal and insect bites will be reported to the field engineer who will arrange for first aid treatment and/or medical evaluation. Individuals with allergies to wasps or bees shall notify his/her immediate supervisor of his/her condition prior to working at the site and should have a medical ID bracelet and epinephrine pen in his/her possession.

2.3.2 Bloodborne Pathogens

The following program has been developed in compliance with OSHA regulation 29 CFR 1910.1030 to protect first aid responders who may come into contact with potentially infectious materials.

Potentially, all employees trained in first aid may have exposure to infectious materials. In general, employees will:

- Avoid contact with blood;
- Clean-up blood with disinfectant;
- Wear PPE while cleaning up blood; and
- Contact the SHSO regarding medical evaluation if exposed (i.e., blood contacts eyes, mouth, or nose).

In addition, the following general guidelines will apply:

1. All employees will wash their hands immediately after potential exposure to infectious materials.

2. No eating, drinking, smoking, or applying cosmetics or lip balm will be permitted in designated work, decontamination, and first aid areas.

3. PPE (i.e., gloves, CPR shields, and respirators) will be available with all first aid kits.

4. PPE will be used by employees who are trained in first aid to prevent exposure to blood or other potentially infectious materials.

5. If a garment (including gloves) is penetrated by blood or other potentially infectious materials, the garment or garments will be removed immediately or as soon as feasible.

6. All equipment and environmental and working surfaces will be cleaned and decontaminated with an appropriate disinfectant immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials.

7. After an exposure incident, a confidential medical evaluation and follow-up will be immediately available to the exposed individual. Arrangements for the medical evaluation should be coordinated with the SHSO.

Hand washing facilities with clean paper towels will be provided at the job site. First aid kits will be equipped with antiseptic hand cleanser or antiseptic towelettes.

Employees will receive training on blood borne pathogens from the SHSO as part of the pre-entry safety briefing and thereafter when new tasks or procedures will affect the employee's occupational exposure.

2.4 AIR QUALITY HAZARDS

Dust shall be kept to a minimum during all operations. Clean (i.e., free from salt, oil, and other deleterious materials) water will be applied to control dust as necessary. The application rate will be controlled to prevent surface run-off.

SECTION 3.0
Project Organization

3.1 RESPONSIBILITIES

3.1.1 Whitestone Associates, Inc.

Whitestone has primary responsibility for supplying the personnel and coordinating the equipment required to conduct the construction phase grading activities and remediation described in Section 1.2 of this HASP. Whitestone personnel to be assigned to the project include the following.

Technical Advisor (Home Office)	Thomas K. Uzzo	908-668-7777 (Office)
Project Manager (Home Office)	Christopher Seib	908-668-7777 (Office) 908-803-5261 (Mobile)
Environmental Site Inspector/ Site Health & Safety Officer	Patrick Beesley	908-668-7777 (Office) 908-285-2489 (Mobile)

The Project Manager has overall responsibility for ensuring that all aspects for the project are implemented and progress is constant. The Environmental Site Inspector is responsible for supervising on-site investigation activities. The Environmental Site Inspector will function as Whitestone's Site Health and Safety Officer (SHSO).

The SHSO generally will be responsible for day-to-day implementation of this HASP, and will have knowledge of conditions which may require the upgrading or downgrading of PPE. The SHSO will make recommendations to protect the health and safety of individuals on site. However, the SHSO will confirm with Project Management on matters of significant importance, such as recommendations for upgrading or downgrading PPE being used.

3.1.2 Subcontractors

Subcontractors will be required to follow the guidelines set forth in this HASP. All subcontractors are responsible for providing their employees with the PPE required by this HASP and for ensuring that this equipment is properly monitored and tested. All subcontractors are responsible for ensuring that their employees conform to all applicable health and safety regulations. All subcontractors will be required to follow their own general safety plans/requirements for all typical construction-related activities.

3.2 SURVEILLANCE AND INTERNAL AUDITING RESPONSIBILITIES

Whitestone's periodic on-site representatives will monitor job-site safety via inspection at the start and completion of each day's work as well as monitoring the job site for this purpose throughout the day (when on site). Any safety violations shall be reported to the Project Manager and Owner's site safety representative. All observed safety violations will be immediately corrected, explained to the perpetrator, and reviewed at the next safety meeting. Excessive violations of the site safety rules will be grounds for disciplinary action which could lead to employee termination or expulsion of subcontractor personnel from the site.

SECTION 4.0
Site Personnel Training Requirements

4.1 GENERAL TRAINING

Site workers shall be provided by their employer (Whitestone or the subcontractor, as appropriate) with the H&S training required to comply with its HASP, achieve compliance with regulatory standards, and other training and qualifications necessary for the workers to complete the assigned job duties safely and in an environmentally sound manner.

Documentation of all required training (e.g., training certificates, attendance rosters) shall be maintained by the Project Manager. Training documentation shall be maintained in an organized manner that is readily retrievable and shows that individual workers have the required training.

All personnel shall have the right and responsibility to stop work anytime when unsafe conditions (i.e., those that have not been previously addressed) arise, or the scope of work changes from that which was originally briefed or understood.

4.2 SITE-SPECIFIC TRAINING/SAFETY MEETINGS

4.2.1 Site Orientation

Prior to the commencement of field activities, all personnel assigned to the project shall have completed site-specific training that includes hazardous activities, procedures, monitoring, and equipment used in the site operations. Site-specific training also will include site layout, potential hazardous, risks associated with identified hazardous substances at the site, hazard communication as necessary, PPE, incident reporting, emergency response actions, and available emergency services. This training shall allow site workers to clarify anything they do not understand and to reinforce their responsibilities regarding H&S requirements and work operations for their particular activity.

4.2.2 Daily "Toolbox" Safety Meetings

The SHSO shall conduct daily "toolbox" H&S meetings prior to the start of each day's work when on site. The meetings shall include a discussion of the planned work activities and periodic special H&S topics of interest to site personnel. In addition, the following items shall be discussed as appropriate:

- Necessary training requirements and site work rules;
- Changes in work practices or environmental conditions;
- Precautions and safe work practices related to the day's site activities;

- New or modified procedures or requirements;
- Incident alerts;
- Disclosure of potential hazards or hazardous operations;
- Procedures into restricted areas;
- Vehicle rules and requirements;
- Equipment to be used;
- Restrictions on handling of materials; and
- PPE requirements.

Documentation of daily H&S meetings shall be maintained by the SHSO.

4.3 OSHA TRAINING

All personnel assigned to work in potentially contaminated areas at the Project Site will be in trained per the requirements of 29 CFR 1910 and 1926 as listed below. This will only apply to remediation performed in the areas of soil samples B-2A, B-3A, and B-4A. Site personnel shall have met the following requirements prior to the start of operations at the site:

- A 40-hour minimum hazardous materials safety and health course, as stipulated in 29 CFR 1926.65 e(3).

- An eight (8)-hour minimum refresher course per year after the 40-hour minimum training has occurred (29 CFR 1926.65.e[8]).

On-site managers and supervisors will be in compliance with the additional supervisory training requirements of 29 CFR 1926.65.e(4).

OSHA training certificates shall be maintained by the Project Manager.

4.4 SUBSTANCE ABUSE

The Project site will be "Drug Free Site". Use or working under the influence of alcohol or controlled substances (other than prescribed or over-the-counter medication) is strictly prohibited at all times during the work shift. Use of alcohol or controlled substances at any time during the work shift shall result in immediate removal from the site and permanent loss of access. Site workers are subject to substance use testing at any time "for cause" or following a safety or property damage incident.

Subcontractors are responsible for conducting testing as specified by their own company policies.

4.5 OTHER REQUIRED TRAINING AND QUALIFICATIONS

Other training and qualifications may be required depending on the task work scope and assigned duties on an individual site worker. This may include training for waste handling, respiratory protection, hazard communication, noise exposure or hearing conservation, and various qualified/competent person requirements (e.g., operation of heavy equipment, confined space entry, excavation). Specific additional training/qualified person requirements will be identified by the subcontractors. All subcontractors are responsible for ensuring that identified training and/or qualified/competent person requirements are met for site workers. Subcontractors must identify who its competent person is for the activity as required. Documentation is required for establishing the basis of competency.

4.6 VISITORS

Visitors who must enter potentially contaminated work areas will receive health and safety instruction from the SHSO (or the SHSO's designated site representative). Visitor instruction will include:

- Hazard identification;
- PPE requirements;
- Decontamination procedures;
- Emergency procedures; and
- Other site-specific information as determined by the SHSO.

The SHSO (or designated site representative) will establish, on a case-by-case basis, a safe location from which visitors can observe the site activity of interest.

SECTION 5.0
Medical Surveillance

5.1 GENERAL

Medical monitoring is required by OSHA as a means of monitoring worker exposure to certain toxic substances under 29 CFR 1910.120(f), OSHA's Hazardous Waste Operations and Emergency Response Standard. An examination will be given not more than one year prior to a worker reporting to the job site. The Medical Surveillance Exams will meet the requirement of the USEPA, OSHA Standard 29 CFR 1910.120 and ANSI 88.2 (1980).

Subcontractors shall provide Whitestone with a copy of the physician's statement certifying each employee's ability to work at task-specific operations upon request.

5.2 PROJECT-SPECIFIC MEDICAL MONITORING

As noted above.

5.3 HEAT STRESS MONITORING PROGRAM

The following program shall be implemented if the ambient air temperatures exceed 70°F.

Site personnel who wear protective clothing allow body heat to be accumulated with an elevation of the body temperature. Heat cramps, heat exhaustion, and heat stroke can be experienced, which, if not remedied, can threaten life or health. Therefore, an American Red Cross Standard First Aid book or equivalent will be maintained on site so that the SHSO and site personnel will be able to recognize symptoms of heat emergencies and be capable of controlling the problem.

When protective clothing is worn, especially Levels A, B, and C, the suggested guidelines for ambient temperature and maximum wearing time per excursion are:

Ambient Temperature (°F)	Maximum Wearing Time Per Excursion (Minutes)
Above 90	15
85 to 90	30
80 to 85	60
70 to 80	90
60 to 70	120
50 to 60	180

One method of measuring the effectiveness of employees' rest-recovery regime is by monitoring the heart rate as follows:

- During a 3-minute period, count the pulse rate for the last 30 seconds of the first minute, the last 30 seconds of the second minute, and the last 30 seconds of the third minute.

- Double the count.

If the recovery pulse rate during the last 30 seconds of the first minute is at 110 beats/minute or less and the deceleration between the first, second, and third minutes is at least 10 beats/minute, the work-recovery regime is acceptable. If the employee's rate is above that specified, a longer rest period is required, accompanied by an increased intake of fluids.

In the case of heat cramps or heat exhaustion, "Gatorade" or its equivalent is suggested as part of the treatment regime. The reason for this type of liquid refreshment is that such beverages will return much-needed electrolytes to the system. Without these electrolytes, body systems cannot function properly, thereby increasing the represented health hazard.

This liquid refreshment will be stored in a cooler at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles. Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

A. Personnel shall wash and rinse their outer gloves and remove them.

B. Personnel shall remove their hard hats and respirators and place on table.

C. Personnel shall remove their inner gloves and place them on table.

D. Personnel shall wash and rinse their face and hands.

E. Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.

F. The used bottle or cups will not be returned to the cooler, but will be placed in a receptacle or container to be cleaned or disposed of.

G. Personnel shall replace their respirators, hard hats, gloves, and tape gloves prior to re-entering the hazardous zone.

When personnel are working in situations where the ambient temperatures and humidity are high-and especially in situations where protection Levels A, B, and C are required, the SHSO must:

- Assure that all employees drink plenty of fluids ("Gatorade" or its equivalent);

- Assure that frequent breaks are scheduled so overheating does not occur; and
- Revise work schedules, when necessary, to take advantage of the cooler parts of the day (i.e., 5:00 a.m. to 1:00 p.m., and 6:00 p.m. to nightfall).

SECTION 6.0
Personal Protective Equipment

6.1 EQUIPMENT REQUIREMENTS

Based on an evaluation of potential hazards (see Section 2.0), the following minimum levels of protection have been assigned for this project:

Work Operation	Initial Level of Protection
Impacted Soil Excavation/Handling	Level D Modified
General Earthwork/Construction Phase Grading	Level D
Sample Collection	Level D Modified

The **Level D PPE** ensemble will include work clothing as dictated by weather; a hard hat; safety glasses; work gloves; and steel toe/steel shank work boots. Hearing protection (ear plugs) and disposable dust masks will be worn as directed by the SHSO (or his designated site representative). **Level D Modified** includes the afore-mentioned and latex gloves.

The initial level of protection identified is to be considered preliminary and may change based on site conditions encountered during project work (see Section 7.0).

In the event that prescribed dust suppression techniques do not adequately mitigate ambient particulate concentrations, alternative mitigative measures, PPE, and/or personnel training requirements may be instituted by the SHSO.

No changes to the specified level of protection will be made without the approval of the SHSO.

6.2 HEARING PROTECTION PROGRAM

Any and all possible controls will be used to protect employees from sound levels in excess of the levels shown in the table on the following page. If these controls are not sufficient, ear protective devices will be provided.

Exposure to impulse or impact noise should not exceed 140 dBA peak sound pressure level.

Duration per days in hours	Sound level dBA Slow Response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

SECTION 7.0
Air Monitoring Program

To achieve compliance with 29 CFR 1926.55 (gases, vapors, fumes, dusts, and mists), administrative or engineering controls must first be implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other protective measures shall be used to keep the exposure of employees to air contaminants within applicable limits.

Whitestone recommends that ambient dust be monitored visually. The presence of visible airborne dust/particulates requires mitigation via Section 2.4 of this HASP. Water will be utilized for dust suppression as deemed necessary by site safety personnel (Whitestone or Contractor as appropriate).

In addition, Whitestone's site representative will periodically screen the breathing zone with a PID during impacted soil excavation/removal.

SECTION 8.0
Site Security/Control

8.1 SITE SECURITY AND ACCESS

The SHSO will be responsible for coordinating access to the site with the Owner's Representative. The SHSO (or his designated site representative) will be responsible for controlling access to established work areas (see Section 8.2).

8.2 ESTABLISHMENT/CONTROL OF WORK AREA

The SHSO (or his designated site representative) will be responsible for establishing work zones. Work Zones shall be defined as follows:

- **Work Zone.** The Work Zone shall include all areas where a potential hazard may exist to workers. The level of PPE required in these areas shall be as stated in Section 6.0 of this HASP and as determined by the SHSO. The Work Zone will be set-up at work location at the time of investigation.

- **Support Zone.** Whitestone's support zone shall be located in an area approved by the Owner's site representative.

The SHSO (or his designated site representative) will insure that the Work Zones are properly established and maintained. All Work Zones will be clearly laid out and delineated to prevent unauthorized access. Access to established Work Zones shall be controlled by the SHSO (or his designated site representative). **Unauthorized persons will not be permitted entry into established work areas.**

8.3 VISITOR CONTROL

All Whitestone visitors must be escorted full-time by a Whitestone employee trained in H&S requirements. At a minimum, visitors shall wear a hard hat and eye protection. Whitestone visitors shall receive a H&S orientation briefing from Whitestone's SHSO (see Section 4.6).

SECTION 9.0
Decontamination Procedures

9.1 PERSONNEL DECONTAMINATION

All personnel will be made aware of any personal habit that may allow contaminants into or onto the body. All personnel will check that regularly worn PPE (e.g., hard hats and liners, eye protection, etc.) is clean and in good condition. Any products for personal consumption or application are prohibited in any work area. Break area(s) will be limited to specific areas where eating, drinking, smoking, etc. and the storage of these materials will be allowed.

No PPE will be removed from a controlled work area without proper decontamination or disposal. All personnel leaving a controlled work area will pass through a contamination reduction zone where they will:

- Remove and discard any disposable, single use items (gloves, tyvek suits, overboots, etc.); and
- Thoroughly wash/rinse exposed skin with water and biodegradable soap (or equivalent).

Site workers are encouraged to shower and launder personal clothing as soon as possible upon completing daily activities.

All materials generated during decontamination will be drummed for disposal in accordance with applicable local, state, and federal regulations.

9.2 EQUIPMENT DECONTAMINATION

Tools and equipment that may have come into contact with contaminated materials will be decontaminated prior to commencing activities at each location, according to the following procedure:

1. Flush and wipe components to remove debris and other gross contamination.

2. Clean with potable water and non-phosphate detergent using a brush or high pressure wash, as necessary, to remove particulate matter and surface films.

3. Rinse thoroughly with potable water.

4. Allow to air dry as long as possible.

Sampling equipment (if not disposable) will be decontaminated prior to collecting each sample, according to the following procedure:

1. Wash with solution of Simple Green® (or equal) and potable (clean tap) water. Brush, if necessary, to remove all visible foreign matter.

2. Rinse with potable water.

3. Rinse with clean distilled water.

4. Visibly inspect openings and treads for solid materials.

5. Allow to air dry as long as possible on a clean polyethylene sheet or aluminum foil.

6. Wrap in clean polyethylene sheet or aluminum foil until required.

Soil will be removed from construction equipment prior to demobilization.

Wash water from equipment decontamination operations will be collected, packaged, and off-site disposal at an approved disposal facility in accordance with applicable local, state, and federal regulations.

SECTION 10.0
Site Standard Operating Procedures

Site workers will observe the following Standard Operating Safety Procedures and Engineering Controls when working at the project site.

10.1 STANDARD OPERATING SAFETY PROCEDURES

1. Ensure that all safety equipment and protective clothing is kept clean and well maintained.
2. Ensure that all prescription eyeglasses in use on this project are safety rated. Contact lenses are not permitted on site.
3. Ensure that all project personnel have vision or corrected vision to at least 20/40 in one eye.
4. Site workers found to be disregarding any provision of this HASP will, at the request of the SHSO, be barred from the project.
5. Prohibit eating, drinking, chewing gum or tobacco, and smoking in active work areas.
6. All personnel will thoroughly cleanse their hands, face, and forearms and other exposed areas prior to eating, smoking, or drinking.
7. Workers will shower at the completion of the work day.
8. All personnel will wash their hands, face, and forearms before using toilet facilities.
9. Do not allow alcohol, firearms, or drugs (without prescriptions) on site at any time.
10. All personnel who are on medication should report it to the SHSO who will make a determination whether or not the individual will be allowed to work and in what capacity. The SHSO may require a letter from the individual's personal physician stating what limitations (if any) the medication may impose on the individual.

10.2 ENGINEERING CONTROLS

The Contractor will provide all equipment and personnel necessary to control air emissions. Water will be utilized for dust suppression as deemed necessary by the on-site contractor's SHSO.

SECTION 11.0
Emergency Response and Contingency Plan

The following Emergency Response and Contingency Plan considers and recommends:

- Preventative measures;
- Personnel training and regular safety meetings conducted to reduce the likelihood of accidents;
- Mitigative measures to limit the scope of any accident; and
- Contingency actions to respond to and remedy the effects of accidents.

11.1 PRE-PLANNING

All work will be coordinated with the Owner's Site Representative. In addition, local police and fire departments, local hospital(s), and local ambulance services will be contacted by the SHSO prior to initiation of site operations to inform them of scheduled activities at the site if deemed necessary. Arrangements for emergency communication will be made with these organizations prior to initiating on-site operations.

Emergency response procedures will be covered as part of each site personnel's training. Training in site-specific emergency procedures will be provided by the site health and safety officer before work begins on-site in accordance with Section 5.0 of this HASP. This training will include, but is not limited to, the following;

- Emergency chain-of-command;
- Communication methods and signals;
- Location of phones and emergency numbers;
- Use of emergency equipment;
- Evacuation and emergency procedures;
- Off-site support;
- Site-specific hazards;
- Decontamination procedures;
- Standard operating procedures; and
- Location and use of first aid equipment.

11.2 EMERGENCY CHAIN-OF-COMMAND

Personnel will immediately notify the SHSO (or his designated site representative) in the event of an emergency using available communications (see Section 11.3).

The SHSO (or his designated site representative) will make a rapid assessment of the situation and take appropriate action which (depending upon emergency circumstances) can include notifying the Project Manager of the situation; initiating engineering controls (i.e., implementing dust or spill response control measures); ordering the suspension of work; ordering evacuation of the work zone; implementing emergency altering and response procedures; requesting emergency medical treatment; and/or administering first aid.

11.3 COMMUNICATION METHODS AND SIGNALS

For emergency situations when two-way radio communication is not available or practical, oral, hand, and semaphore safety signals have been established to protect project personnel. These signals will be made available to personnel for all phases of operation before going on-site. This will ensure quick communication during adverse or emergency situations.

Examples of established signals and their meanings are provided below.

Signal	Indicates
Hand gripping throat	Out of air, can't breath
Wave hands over head from side-to-side	Attention: stand-by for next signal
Swing hand from direction of person receiving signal to directly overhead and through in a circle	Come here
Pointed finger on extended arm	Look in that direction
Grip partner's wrist or both hands around wrist	Leave the area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I'm alright, I understand
Thumbs down	No, negative

Examples of audio signals include:

Signal	Indicates
Short blast of air or vehicle horn	Caution or look here
Four (4) blasts of air or vehicle horn	Leave the area

Each field team member will be assigned a buddy. Field personnel will watch for hazards or problems his/her buddy might encounter. Buddies will pre-arrange hand signals or other means of emergency signals for communication when respiratory protection or distance makes communication difficult. Communication between buddies must be maintained at all times. Visual contact must be maintained between buddies. Further, buddies must remain in close proximity to each other in order to assist in case of emergencies.

11.4 EVACUATION

Emergency escape routes will be designated by the SHSO for use in situations where rapid egress from the Exclusion Zone is required. The locations of these routes will be reviewed with site personnel during daily tool-box meetings.

An emergency evacuation alarm (i.e., air or vehicle horn) will be kept on site. A series of regularly spaced, repeated blasts (four blasts) will be used to signify that all personnel should evacuate the work area. After exiting the work area, personnel will meet at an upwind location designated by the SHSO (or his designated site representative). The emergency alarm will be sounded in the event of any serious problem or emergency on-site which requires the assistance of site personnel or the evacuation of the construction team.

In all situations when an on-site emergency results in evacuation of the Exclusion Zone, personnel will not be permitted to reenter until:

- The conditions resulting in the emergency have been corrected;
- The hazards have been reassessed;
- This HASP has been reviewed; and
- Site personnel have been briefed on any changes in the HASP.

11.5 EMERGENCY SERVICES/EMERGENCY VEHICLE ACCESS

Emergency telephone numbers (see Attachment B) will be posted at each project site telephone. Directions to the local hospital (see Attachment B) also will be posted at the site.

In the event that emergency services personnel (police, fire, rescue) need access to a location which is blocked by the working crew operations, those operations (equipment, materials, etc.) will be moved immediately to allow access. Emergency crews will be briefed as to site conditions and hazards by the SHSO (or his designated site representative).

11.6 WEATHER-RELATED HAZARD RESPONSE

Threats to site personnel can arise from natural causes (i.e., lightening, high winds, etc.). In the event that severe weather is imminent, the SHSO will notify field team members. As the storm approaches, all work will cease, loose objects will be secured, and site personnel will take shelter at pre-arranged locations. After the severe weather event has passed, the SHSO will inspect the work area for safety hazards prior to resuming work.

11.7 SPILL CONTROL AND CONTINGENCY PLAN

A site-specific Spill Prevention and Contingency Plan for equipment refueling is provided in Attachment C.

11.8 PERSONAL INJURIES

In the event of personal injuries the following procedures will be enacted.

1. ***Initial alarm and first aid.*** Upon observation of an injury, employees will quickly get the attention of other nearby workers; immediately act to protect the injured person from a life-threatening situation; render appropriate first aid; and warn unsuspecting persons of the potential hazard.

2. ***Notify the SHSO.*** Utilizing available personal radio communications or other rapid communication methods, the SHSO (or his designated site representative) will be notified of the situation, the identity of the injured person, the type of injury, and the project site location.

3. ***Ambulance and hospital services.*** The SHSO (or his designated site representative) will immediately assess the situation and, if necessary, notify the designated off-site hospital of the emergency situation.

4. ***Follow-up.*** The SHSO will determine why the injury occurred, and will take appropriate steps to prevent a similar recurrence. Events associated with the injury will be recorded in the safety officer's logbook.

An Incident Report Form (sample provided in Attachment A) must be completed by the SHSO and submitted to Project Manager within 24 hours of the injury.

11.8.1 Personnel Injury in the Exclusion Zone

Upon notification of any injury in the Exclusion Zone, the designated emergency signal will be sounded. All site personnel will assemble at a pre-arranged location. A rescue team made up of the SHSO (or his designated site representative) and other personnel as needed who have received proper training (see Section 4.0) will enter the Exclusion Zone (if required) to remove the injured person to the boundary of the Exclusion Zone.

The SHSO (or his designated site representative) then will evaluate the nature of the injury. Appropriate first aid will be initiated (see Section 11.12), and the ambulance and designated medical facility (Attachment B) will be contacted if required. No persons will reenter the Exclusion Zone until the cause of the injury or symptoms of the illness have been determined.

11.8.2 Personnel Injury in the Support Zone

Upon notification of an injury in the Support Zone, the SHSO (or his designated site representative) will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue. The appropriate first aid will be initiated (see Section 11.12) and necessary follow-up as stated in Section 11.5 above. If the injury increases the risk to others, the designated emergency signal will be sounded and all site personnel will move a prearranged location for further instructions. Activities on site will stop until the added risk is removed or minimized.

11.9 FIRE/EXPLOSION

The following contingency plan will be implemented in the event of a fire at the project site.

1. ***Initial Alarm.*** Upon observation of any on-site fire, personnel must immediately notify the SHSO (or his designated on-site representative). No attempt will be made to extinguish the fire prior to sounding the alarm.

2. ***Control and/or extinguish small fires which can be suppressed promptly with available on-site equipment.*** Without risking personal injury, an attempt will be made to control or extinguish small fire(s) utilizing ABC-type fire extinguishers. Water will not be used except on wood or paper fires.

3. ***Notify local fire company.*** The SHSO (or his designated on-site representative) will immediately assess the situation and, if deemed necessary, notify the local fire department of the location and type of fire or explosion. If required, the SHSO (or his designated site representative) will immediately order the site evacuated if a fire occurs which cannot be controlled with a portable fire extinguisher.

4. ***Follow-up.*** The SHSO will determine why the fire or explosion occurred, and will take appropriate steps to prevent a similar recurrence. Events associated with the fire or explosion will be recorded in the safety officer's logbook.

An Incident Report Form (sample provided in Attachment A) must be completed by the SHSO and submitted to the Project Manager within 24 hours of the fire/explosion.

11.10 PERSONAL PROTECTIVE EQUIPMENT FAILURE

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy immediately will leave the Exclusion Zone and notify the SHSO (or his designated site representative). Reentry will not be permitted until the equipment has been replaced or repaired.

11.11 OTHER EQUIPMENT FAILURE

If any on-site equipment other than PPE (see Section 11.10 above) fails to operate properly, the SHSO (or his designated site representative) will be notified. The SHSO (or his designated site representative) then will determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents the completion of the RI tasks, all personnel will leave the Work Zone until the situation is evaluated and all appropriate actions taken.

11.12 EMERGENCY EQUIPMENT AND ON-SITE FIRST AID

Emergency and first aid equipment to be maintained on-site includes:

- At least one first aid kit will be provided and maintained fully stocked at the site.
- The first aid kit locations will be specifically marked by the SHSO. Adequate water and other supplies necessary to cleanse and decontaminate burns, wounds, or lesions will be provided.
- 2A-10 B:C type dry chemical fire extinguishers will be provided at all site locations where flammable materials present a fire risk.

Agencies and medical facilities to be contacted in the event of an on-site emergency are identified in Attachment B of this HASP. The Emergency Response Notification Table also includes the route to the nearest hospital. The table will be posted in a prominent location(s) on site.

If a site worker becomes injured or ill, Red Cross first aid procedures will be followed. First aid or other appropriate initial actions will be provided by the site personnel closest to the incident. If the injury to the worker is chemical in nature, the following first aid procedures are to be instituted:

- ***Eye Exposure.*** If contaminated solids or liquids get into the eyes, wash eyes immediately using large amounts of water and lifting the lower and upper lids occasionally. Wash for at least 15 minutes. Obtain medical attention.
- ***Skin Exposure.*** If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap and water. Obtain medical attention immediately when exposed to concentrated solids or liquids.
- ***Respiratory Exposure.*** Move victim to fresh air at once and begin CPR. Obtain immediate medical attention.
- ***Ingestion Exposure.*** For swallowed contaminants, identify the item swallowed. Follow appropriate procedures and obtain medical attention as soon as possible.

Any person transported to the hospital for treatment related to an exposure injury will take with them the appropriate information (i.e., Table 1 of this HASP or MSDS) on the chemical(s) to which he/she has been exposed. MSDSs (if available) for chemicals known or suspected to exist on site will be maintained on site by the SHSO.

FIGURE 1
Site Location Map

LEGEND

SUBJECT PROPERTY BOUNDARY (APPROX.)

REFERENCE

THIS PLAN IS BASED UPON THE ELIZABETH TOWNSHIP USGS STORE.

TITLE:

SITE LOCATION MAP (USGS)

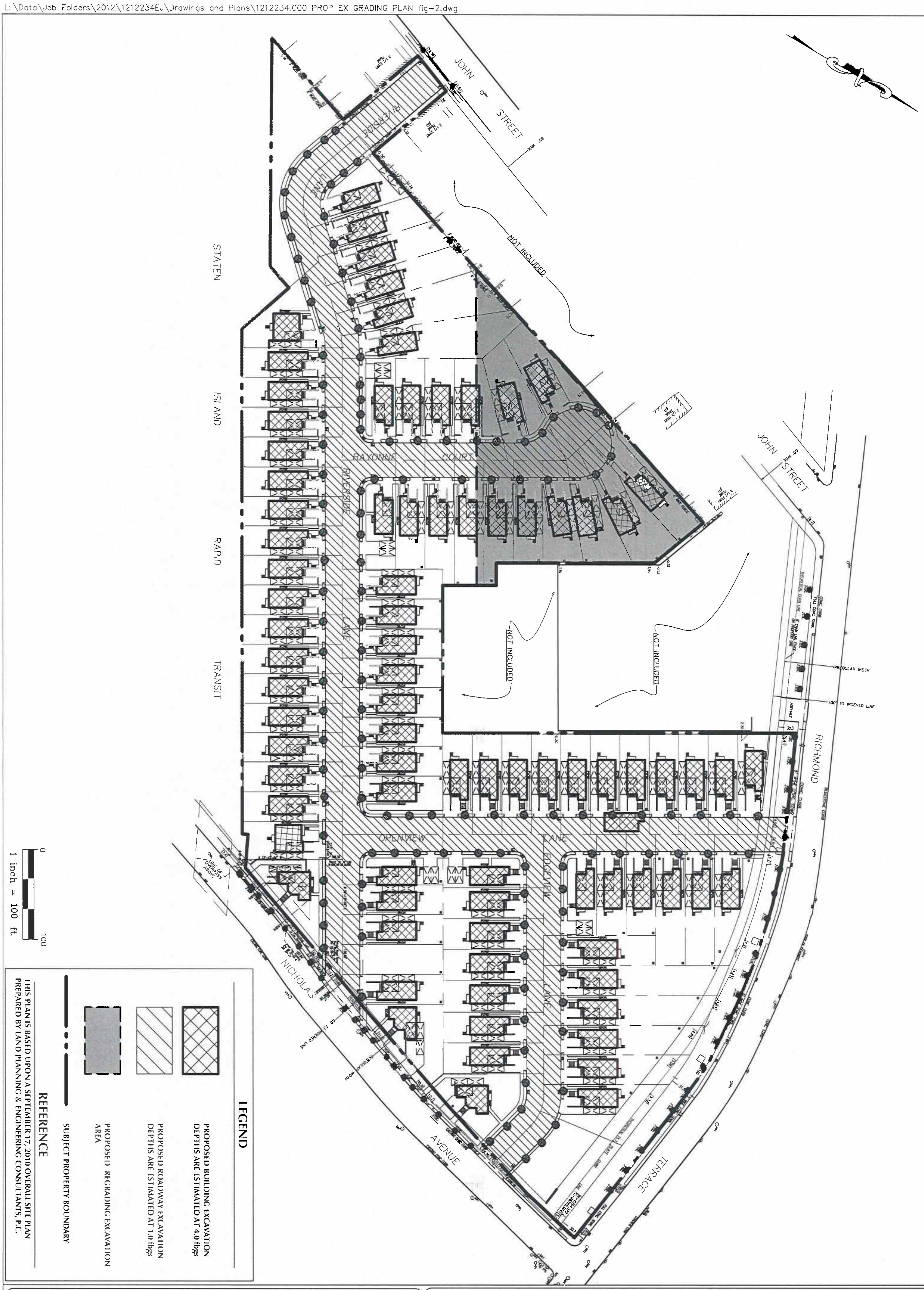
CLIENT: NICHOLAS AVENUE ESTATES HOA

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

PROJECT:	PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
REMEDIAL INVESTIGATION REPORT NICHOLAS AVENUE ESTATES RICHMOND TERRACE AND NICHOLAS AVENUE STATEN ISLAND, RICHMOND COUNTY, NEW YORK	EJ1212234.000	KR	CS	02/04/13	1"=1,200'	1

FIGURE 2
Proposed Excavation and Grading Plan

L:\Data\Job Folders\2012\1212234EJ\Drawings and Plans\1212234.000 PROP EX GRADING PLAN fig-2.dwg



TITLE:

PROPOSED EXCAVATION AND GRADING PLAN

WHITESTONE ASSOCIATES, INC.
35 TECHNOLOGY DRIVE
WARREN, NEW JERSEY 07059
908.668.7777 • 908.754.5936 FAX

CLIENT: NICHOLAS AVENUE ESTATES HOA

PROJECT: NICHOLAS AVENUE ESTATES
RICHMOND TERRACE AND NICHOLAS AVENUE
STATEN ISLAND, RICHMOND COUNTY, NEW YORK

PROJECT #:	BY:	PROJ. MGR.:	DATE:	SCALE:	FIGURE:
EJ1212234.000	KR	CS	03/13/13	1" = 100'	2

ATTACHMENT A
Sample Health & Safety Report Forms

DAILY SAFETY REPORT

Project Name: Nicholas Avenue Estates _______________ Date: _______________
Project Location: Richmond Terrace & Nicholas Avenue; Staten Island, NY

Weather Conditions

_______________ A.M.	Rain/Snowfall: ________ Inches (Approx.)
_______________ P.M.	Temp.: ___°F (Minimum) ___°F (Maximum)

Scheduled Work Activities

Personnel	Activity	PPE	Equipment

Noticed Deficiencies/Corrective Action

Deficiency	Corrective Action	Date Corrected	Time Corrected

Accidents/Incidents/Illnesses: (Briefly Describe and Complete In Full Incident Report Form For Submittal to the Project Manager and QC Supervisor.) _______________

Miscellaneous Comments: _______________

Report Completed By:

_______________ SHSO (Printed Name)

_______________ SHSO (Signature)

Date: _______________

EMPLOYEE MEETING RECORD

Project Information:

Project Name: Nicholas Avenue Estates ____________
Project Location: Richmond Terrace & Nicholas Avenue; Staten Island, NY ________

Meeting Information:

Meeting Date: ______________________ Instructor: ______________________________

Start Time: __________ ❑ A.M. ❑ P.M. End Time: __________ ❑ A.M. ❑ P.M.

Materials Covered: ____
____
____
____

Name of Person Attending	Social Security Number	Signature

Instructor Signature: ______________________________ Date: ________________

INCIDENT REPORT

Project Name: ______________________ Report Date: __________

Project Location: ______________________ Project No. __________

Report Prepared By: ______________________ Page: 1 of 5

Date of Incident: __________________ Time of Incident: ______________

INCIDENT CATEGORY (Check All That Apply):

_____ Injury	_____ Illness	_____ Property Damage
_____ Near Miss	_____ Fire	_____ Chemical Exposure
_____ Motor Vehicle	_____ On Site Equipment	_____ Electrical
_____ Mechanical	_____ Other (Describe):	____________________

NARRATIVE REPORT OF INCIDENT: Provide sufficient detail so that the reader may fully understand the actions leading to the incident, the incident occurrence, and actions following the incident. Append additional sheets of paper if necessary.

WITNESS TO INCIDENT:

1 Name: ______________________

Company: ______________________

Address: ______________________

Telephone Number: ______________________

2 Name: ______________________

Company: ______________________

Address: ______________________

Telephone Number: ______________________

INCIDENT REPORT

INJURIES - FIRST INJURED PERSON:

Name of Injured: ______________________________

Street Address: ______________________________

City/State/Zip: ______________________________

SSN: ______________ Age: ______________ Sex: ______________

Years of Service: ______________ Time on Present Job: ______________

Job Title/Classification: ______________________________

Severity of Injury: ❑ Non-Disabling ❑ Disabling ❑ Fatality ❑ Medical Treatment

Estimated No. of Days Away from Job: ______________________________

Nature of Injury/ Illness: ______________________________

Classification of Injury:

______	Fractures	______	Heat Burns	______	Cold Exposure
______	Dislocations	______	Chemical Burns	______	Frostbite
______	Sprains	______	Radiation Burns	______	Heat Stroke
______	Abrasions	______	Bruises	______	Heat Exhaustion
______	Lacerations	______	Blisters	______	Concussion
______	Punctures	______	Toxic Resp. Exp.	______	Faint/Dizziness
______	Bites	______	Respiratory Allergy	______	Toxic Ingestion
______	Dermal Allergy	______	Other (Describe):	______	

Part of Body Affected: ______________________________

Degree of Disability: ______________________________

Date Medical Care was Received: ______________________________

Where Medical Care was Received: ______________________________

Address of Medical Care (If Off-Site): ______________________________

If Hospitalized:

Hospital Name: ______________________________

Address: ______________________________

Telephone Number: ______________________________

Physician:

Name: ______________________________

Address: ______________________________

Telephone Number: ______________________________

INCIDENT REPORT

INJURIES - SECOND INJURED PERSON:
If more than two injuries, provide information on separate sheet.

Name of Injured: ______________________

Street Address: ______________________

City/State/Zip: ______________________

SSN: ____________ Age: ____________ Sex: ____________

Years of Service: ____________ Time on Present Job: ____________

Job Title/Classification: ______________________

Severity of Injury: ❑ Non-Disabling ❑ Disabling ❑ Fatality ❑ Medical Treatment

Estimated No. of Days Away from Job: ______________________

Nature of Injury/ Illness: ______________________

Classification of Injury:

______ Fractures	______ Heat Burns	______ Cold Exposure
______ Dislocations	______ Chemical Burns	______ Frostbite
______ Sprains	______ Radiation Burns	______ Heat Stroke
______ Abrasions	______ Bruises	______ Heat Exhaustion
______ Lacerations	______ Blisters	______ Concussion
______ Punctures	______ Toxic Resp. Exp.	______ Faint/Dizziness
______ Bites	______ Respiratory Allergy	______ Toxic Ingestion
______ Dermal Allergy	______ Other (Describe):	______________

Part of Body Affected: ______________________

Degree of Disability: ______________________

Date Medical Care was Received: ______________________

Where Medical Care was Received: ______________________

Address of Medical Care (If Off-Site): ______________________

If Hospitalized:

Hospital Name: ______________________

Address: ______________________

Telephone Number: ______________________

Physician:

Name: ______________________

Address: ______________________

Telephone Number: ______________________

INCIDENT REPORT

PROPERTY DAMAGE:

Brief Description of Property Damaged: ____________________

Estimate of Damage: $ ____________________

INCIDENT LOCATION:

INCIDENT ANALYSIS:

Causative Agency Most Directly Related to Accident (Object, Substance, Material Machinery, Equipment, Conditions): ____________________

Was weather a factor? ____________________

Unsafe Mechanical/Physical/ Environmental Condition at Time of Incident (Be Specific, **Must be Answered**): ____________________

Personal Factors (Improper Attitude, Lack of Knowledge or Skill, Slow Reaction, Fatigue): ____________________

INCIDENT REPORT

ON-SITE INCIDENTS:

Level of Personal Protection Equipment Required in Site Safety Plan: ______________________

Modifications: ______________________

Was Injured Using Required Equipment? ❑ YES ❑ NO

Comments: ______________________

If not, how did actual equipment use differ from Plan? ______________________

ACTION TAKEN TO PREVENT RECURRENCE: Be very specific. What has or will be done? When will it be done? Who is the responsible party to insure that the correction is made?

____

INCIDENT REPORT COMPLETED BY:

(Printed Name) (Signature)

OTHERS PARTICIPATING IN INVESTIGATION:

(Printed Name/Title) (Signature)

(Printed Name/Title) (Signature)

(Printed Name/Title) (Signature)

INCIDENT FOLLOW-UP REPORT

Project Name: Nicholas Avenue Estates

Report Date: ____________

Project Location: Richmond Terrace & Nicholas Avenue
Staten Island, NY

Project No. ____________

Report Prepared By: ______________________________

Incident Date: ____________

BRIEF DESCRIPTION OF INCIDENT:

OUTCOME OF INCIDENT:

PHYSICIAN'S RECOMMENDATIONS:

DATE INJURED RETURNED TO WORK: ______________________________

AIR MONITORING REPORT

Project Name:	Nicholas Avenue Estates	Date:	
Project Location:	Richmond Terrace & Nicholas Ave.	Project No.:	
	Staten Island, Richmond Co., NY	Page:	1 2

INSTRUMENT CALIBRATION:

Instrument	Calibrated By:	Date	Time(s)	

PERIMETER & PERSONNEL SAMPLING:

Perimeter Samples Collected: ______________________

Perimeter and Personnel Sample Results from Previous Days (Provide Data When Received, Indicate Date on Which Sample Was Collected): ______________________

METEOROLOGICAL DATA:

Temperature: ________ °F Wind Direction: ________ Humidity: _____ %

Weather Condition (e.g., Gusty, Rain, Snow, Sun, Etc.) ______________________

COMMENTS:

____

AIR MONITORING REPORT

Project Name: Nicholas Avenue Estates　　Date: ____________

Project Location: Richmond Terrace & Nicholas Ave.　　Project No.: ____________

Staten Island, Richmond Co., NY　　Page: 1　　2

OPERATION MONITORED: (If instruments have recorders, attach tape to report. Note when action levels are exceeded. Indicate response taken.)

Instrument	Sampling Location	Sample Time	Reading	Action Level Exceeded? Yes	No	Action(s) Taken

REPORT PREPARED BY:

(Printed Name)　　(Signature)

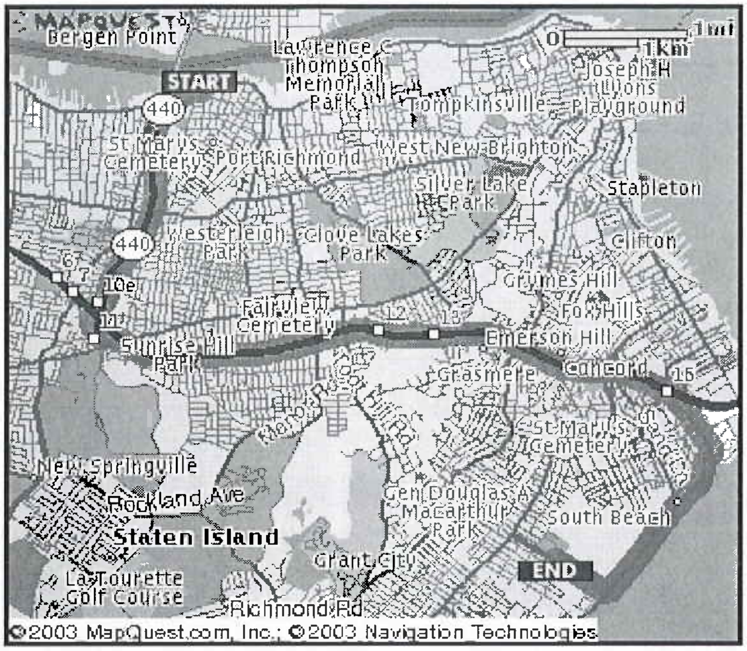
(Date)

ATTACHMENT B
Emergency Notification Table and Map to Hospital

EMERGENCY NOTIFICATION TABLE (Post On Site)		
Agency	**Contact**	**Phone Number**
Police	Emergency	911
Fire	Emergency	911
EMS/Ambulance	Emergency	911
Hospital	Staten Island University Hospital 475 Seaview Avenue Staten Island, NY 10309	(718) 226-9000 (800) 777-2880
Whitestone Associates, Inc.	Christopher Seib Project Manager	(908) 668-7777 *Office* (908) 803-5261 *Mobile*
	Patrick Beesley Site Inspector/Safety Officer	(908) 668-7777 *Office* (908) 285-2489 *Mobile*
Client Representatives (Nicholas Avenue Estates HOA)	Getz Obstfeld	(914) 235-7865
Spill Hotline	NYCDEP NYSDEC	(718) 595-4646 (800) 457-7362
NYC Office of Env. Remediation	Daniel Cole, Project Manager	(212) 341-0964
USEPA	Emergency Response Center	(800) 425-8500
	Regional Office	(800) 438-2474
Chemical Emergency Advice	CHEMTREC	(800) 424-9300
Poison Control Center	Hotline	(800) 962-1258
Utility Locating Service	New York City One-Call	(800) 272-4480 or 811
DIRECTIONS TO HOSPITAL (See Attached Map)	**FROM THE SITE:** Start out going West on Richmond Terrace toward John Street. Turn slight left onto Morningstar Road. Merge onto NY-440S via the ramp (on the left) toward I-278/Staten Island Expressway. Merge onto I-278E toward Verrazano Bridge/Brooklyn. Take the Lily Pond Avenue exit (Exit No. 15) toward South Beach/Bay Street. Turn right onto Lily Pond Avenue. Lily Pond Avenue becomes Father Capodanno Blvd. Turn right onto Seaview Avenue. Hospital is located at 475 Seaview Avenue (approximately 9.68 miles, 14 minutes from the Site).	

MAP TO HOSPITAL

Staten Island University Hospital
475 Seaview Avenue
Staten Island, NY 10309
718-226-9000, Toll Free: 800-777-2880



DIRECTIONS FROM SITE TO HOSPITAL:

1. Start out going West on Richmond Terrace toward John Street.

2. Turn slight left onto Morningstar Road.

3. Merge onto NY-440S via the ramp (on the left) toward I-278/Staten Island Expressway. Merge onto I-278E toward Verrazano Bridge/Brooklyn.

4. Take the Lily Pond Avenue exit (Exit No. 15) toward South Beach/Bay Street.

5. Turn right onto Lily Pond Avenue. Lily Pond Avenue becomes Father Capodanno Blvd.

6. Turn right onto Seaview Avenue. Hospital is located at 475 Seaview Avenue (approximately 9.68 miles, 14 minutes from the Site).

ATTACHMENT C
Spill Prevention and Contingency Plan

ATTACHMENT C
Spill Prevention and Contingency Plan

This Spill Prevention and Contingency Plan (SPCP) has been prepared for activities associated with the earthwork operations related to the proposed residential development located at Richmond Terrace and Nicholas Avenue (Block 1116, Lots 40, 75, and 105; Block 1121, Lot 101) in Staten Island, Richmond County, New York . Copies of this plan will be maintained by the SHSO on site. This plan will be reviewed with field personnel prior to project start-up and thereafter as necessary during regular safety meetings and daily briefings.

1.0 SPILL EMERGENCY NUMBERS

The names and phone numbers of emergency services and offices to be contacted in the event of a spill or other on-site emergency is provided in Attachment B of the HASP. This table will be posted by the SHSO in prominent position(s) throughout the site.

2.0 DEFINITION

For the purposes of this plan, a spill is defined as any material accidentally or intentionally leaked, pumped, poured, dumped, or emitted onto the ground, surface water, groundwater, or air. All spilled material will be considered hazardous; cleaned up following established spill response procedures; and reported as described in Section 4.0 of this plan.

Spills will be categorized in one of two ways: Priority 1 or Priority 2.

- ***Priority 1 spills*** result in a significant release of contamination into the air or onto the ground outside the exclusion zone.
- ***Priority 2 spills*** result in minor spillage (less than five [5] gallons) which can be cleaned up easily.

3.0 POTENTIAL SOURCES AND PREVENTATIVE MEASURES

The contracted work has one potential spill source.

Potential Spill Source	Preventative Measure(s)
Refueling on-site equipment	The amount of fuel kept on site should be limited to only that required for daily equipment usage. An easily accessible spill response station will be set up in the immediate vicinity of the equipment fueling area. The spill response station should contain absorbent pillows, floor dry, shovels, and/or brushes to be used in the event of a spillage.

4.0 SPILL RESPONSE PROCEDURES

The following procedures will be utilized in the event of a spill or release at the project site.

4.1 Initial Containment and Response

In the event of a spill, the following initial containment and response procedures must be implemented immediately.

1. ***Administer first aid to injured/contaminated persons.*** Any employee observing a spill will act immediately to remove and/or protect injured/contaminated persons from any life-threatening situation. First aid and/or decontamination procedures (see HASP, Section 11.12) will be implemented as appropriate.

2. ***Warn unsuspecting persons/vehicles of the hazard.*** Personnel will act to prevent any unsuspecting persons from coming in contact with spilled materials by alerting other nearby persons and by obtaining assistance of other project personnel who are familiar with spill control and cleanup techniques.

3. ***Stop the spill at the source, if possible.*** Without taking unnecessary risks, personnel will attempt to stop the spill at the source. This may involve activities such as uprighting a drum, closing a valve, or temporarily sealing a hole with a plug. Contractor personnel will not expend more than a brief effort prior to notifying the SHSO.

4. ***Notify the SHSO.*** Utilizing available on-site communication systems or other rapid communication procedures, the SHSO will be notified of the spill, including information on material spilled, quantity, personnel injuries, and immediate life-threatening hazards.

NOTE: If a flammable liquid is involved in the spill, remove all ignition sources and monitor for explosive conditions with an explosimeter during the clean-up. Also, remove any surrounding materials that might chemically react with the spill materials.

4.2 Spill Containment

The SHSO will make a rapid assessment of any spill occurring at the project site; apply the appropriate safety considerations to the use of protective clothing and equipment in the spill release zone; and direct primary containment measures.

Depending upon the nature of the spill, primary containment measures may include, but are not limited to:

- Constructing a temporary containment berm to control the horizontal flow of the spill using absorbent pads, booms, sandbags, sand, and/or other inert materials;
- Placing drums under the leak to collect the spilling material before it flows onto the ground;
- Digging a sump, installing a polyethylene liner, and diverting the spilled material to the sump; and/or
- Transferring the material from its original container to another container.

The SHSO will notify the Project Manager about the spill and steps taken to institute primary containment.

4.3 Spill Clean-Up

The SHSO and project manager will develop an incident-specific spill clean-up plan which takes into consideration associated hazards, quantity of spilled material, disposal methods, and costs. The incident-specific spill clean-up plan will be reviewed for acceptance by the Environmental Engineer and/or other involved federal, state, or local regulatory personnel.

Once approved, the spill clean-up plan will be implemented under the direct supervision of the SHSO.

Generally, all visually detectable spills, leaks, or releases of fuel oil will be collected and cleaned up using absorbent pads, booms, sandbags, sand, and/or other inert materials as practicable using the response procedures outlined below.

Spill Type	Response
Waste Oil on Ground	Contain spill and excavate visually contaminated soil. Containerize, sample for classification purposes, and dispose off site.
Building/Paved Surfaces	Contain spill. Power wash contaminated area. Collect and containerize resultant washwater. Sample for classification purposes and dispose off site.
Vehicle	Power wash in CRZ. Collect, handle, and dispose of decon fluids.

4.4 Inspection

A representative of the Environmental Engineer, the SHSO, and the Project Manager will jointly inspect the spill site to determine that the spill has been cleaned up to the satisfaction of involved regulatory agencies.

4.5 Spill Reporting

In the event of an incident, the SHSO will:

1. Immediately contact the Project Manager.
2. Initiate the emergency procedure steps provided in Sections 4.1 and 4.2 of this Plan, and
3. Complete a Spill Report Form (attached) for submittal to the Project Manager.

Priority 1 spills will be reported immediately following the incident. A written report will be submitted not more than seven days after the telephone call reporting the occurrence. The written report will include the item spilled, quantity, identification and manifest numbers, whether the amount spilled is USEPA/State/District reportable, exact location, containment procedures used, anticipated clean-up and disposal procedures, and disposal of spill residue.

5.0 EQUIPMENT

The following spill control equipment will be utilized as needed:

- Spill (absorbent) pads;
- Floor dry;
- Shovels and brushes;
- Salvage drums;
- Polyethylene sheeting;
- Sandbags;

- Pneumatic foam;
- Emergency eye wash station;
- Emergency decontamination equipment;
- Fire extinguishers, 10 A-20BC rated; and
- Modified Level D PPE.

SPILL REPORT FORM

Project Name: Nicholas Avenue Estates
Project Location: Richmond Terrace and Nicholas Avenue; Staten Island, New York

TYPE OF SPILL:

1. ❑ Priority 1 (Significant) ❑ Priority 2 (< 5 Gallons)
2. Date of Spill: ____/____/____
3. Time: __________ ❑ A.M. ❑ P.M.
4. Estimated Amount of Spill: ______________________________
5. Type of Material: ______________________________
6. Location: ______________________________
7. Identify Potential Impacts: ______________________________
8. Cause of Spill: ______________________________

   ____

9. Method of Containment and Cleanup Measures Taken (Describe): ______________________________

   ____

   ____

   ____

10. Contacts Made (If Priority 1):

    State: ______________________________
    Fire: ______________________________
    Police: ______________________________
    Other: ______________________________

11. Other Preventative Measures Taken: ______________________________

REPORT PREPARED BY:

______________________________ ______________________________
Printed Name, Title Signature

______________________________ ______________________________
Company Name Date

APPENDIX 3
Example RCR
Deliverable Requirements

Appendix 3

Example RCR Deliverable Requirements

Sub-Slab Depressurization System

The passive sub-slab depressurization system is designed to maintain ventilation beneath the entire area of the building slab addressed by this RAP. A PE certified drawing(s) of the sub-slab depressurization system is provided as Figure 6 and Appendix 4. The Remedial Closure Report will include photographs of the installation of SSDS laterals as well as if any deviations have occurred due to construction scope changes. The Remedial Closure Report will include PE/RA certified as-built plans depicting SSDS lateral, blower (if active), and riser pipe configuration and locations, as well as documentation proving that the active SSDS was appropriately designed to maintain ventilation beneath the entire area of the building slab.

Waterproofing/Vapor Barrier Membrane

Detailed certified drawings prepared by a PE or RA of Record depicting the extent of the proposed waterproofing/vapor barrier membrane and the installation details (penetrations, joints, etc.) with respect to the proposed building foundation, footings, slab, and sidewalls, and product specification sheets are provided as Figure 6 and Attachment 4. The Remedial Closure Report will include photographs (maximum of two photos per page) of the installation process, PE/RA certified letter (on company letterhead) from primary contractor responsible for installation oversight and field inspections, and a copy of the manufacturers certificate of warranty.

APPENDIX 4
Previous Regulatory Correspondence

nerali

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Angela Licata
Assistant Commissioner

Office of Environmental Planning & Assessment

Tel: (718) 595-4398
Fax: (718) 595-4479

DEPT OF CITY PL January 28, 2003

Robert Dobruskin
Director, Environmental Review & Assessment
New York City Development of City Planning
22 Reade Street, Room 4E
New York, NY 10007

Re: **Nicholas Avenue Rezoning - CEQR #99 DCP 012R**
Block 1116, Lots 40, 75 & 105, Block 1121, Lot 101
Staten Island Community District #1

Dear Mr. Dobruskin:

The NYCDEP Office of Environmental Planning and Assessment - Site Assessment Unit (SAU) has reviewed T&M Associates July 1998 Phase II Investigation Report and August 1998 Phase I ESA Report for the above referenced site. Note that an October 1980 Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond and some additional site background documentation was also included in the package. These documents were submitted to our department on January 10, 2003 for review. As proposed, the above referenced lots (soft sites only) are the subject of a rezoning action from M1-1 to R4 and R3-2. As we understand, 140 two-family homes would be constructed at the site as a result of this rezoning action.

Based upon review of the submitted documentation, SAU recommends that additional testing and remediation, as necessary, be undertaken to address potential significant hazardous materials and/or radiological issues at the site. Alternatively, a Restrictive Declaration or deed restriction could be recorded to ensure that the potential hazardous materials/radiological issues are adequately addressed prior to construction. The Restrictive Declaration should include appropriate measures to complete adequate testing (in regards to the proposed development) and address all potential environmental concerns and health risks at the site as a result of the proposed project, as well as to bind the property's assessors and assigns to prevent future exposure to either construction workers or residents of the site.

SAU's recommendations for future hazardous materials and radiological sampling/testing are summarized below:

- The entire site should be properly tested in order to identify/characterize all potential contaminants which may exist at the site. A detailed investigative workplan and health and safety plan (HASP) should be submitted to DEP for review/approval. Updated blueprints/site plans for the proposed residential construction project (including pre/post grade elevations for excavating/grading activities, subsurface utility elevations, etc.) should be included;

- In an effort to identify/locate any suspect USTs or buried drums/containers, an electromagnetic (EM) survey or ground penetrating radar (GPR) survey should be completed across the entire site. If any USTs and/or drums are found, they should be properly closed/removed in accordance with all applicable NYSDEC Guidelines;

- A thorough radiological survey should be completed across the entire site. A proposed workplan should be submitted to the NYC DOH (Bureau of Radiological Health) for review/approval prior to starting any field work. DEP recommends that the radiological survey be completed in conjunction with the investigative field work activities.

As mentioned above, a detailed investigative Workplan, HASP, and updated blueprints/site plans for the proposed residential construction project should be submitted to DEP for review. Soil disturbance should not occur without DEP's written approval.

If you have any comments or questions, please call Dan Cole at (718) 595-4536 or Ms. Marcella Eckels of DEP's Legal Affairs Unit at (718) 595-6535.

Sincerely,

Angela Licata

Angela Licata
Assistant Commissioner

cc: John Wuthenow
Dan Cole
Marcella Eckels
NYC DOH - Bureau of Radiological Health
James Merani - DCP
Spencer Salzberg - DCP

New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
Bureau of Hazardous Waste & Radiation Management
Radition Section
625 Broadway, Albany, New York 12233-7255
Phone: (518) 402-8579 **FAX**: (518) 402-8646
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

Site Visit Report

Site Name: Richmond Terrace Site
Staten Island, New York

Date of Visit: July 29, 2003

Participants: DEC: John Mitchell, Tom Papura, Sal Carlomagno
NYCDOH: Richard Borri and Edward Cutler

Reporting Inspector: John Mitchell, DEC

Purpose of Visit:

Recent correspondence has been received by DEC Region 2, which indicates a piece of the Richmond Terrace Site has been re-zoned for residential use, and that there are plans to build about 90 housing units there. Several parties are questioning the re-zoning of the parcel and asking to have the site investigated for radioactive contamination and remediated. Some have alleged that the site is also contaminated with lead. The correspondence has been referred to the DEC Bureau of Hazardous Waste & Radiation Management, Division of Solid & Hazardous Materials for action. The primary purpose of this visit is to perform a preliminary radiological survey to assess the potential for radiological contamination. Since we were back at the Richmond Terrace Site, a secondary purpose of this visit was to determine whether the contaminated area north of Richmond Terrace (Parcel 1 in DOE's 1980 survey) is still secured by the fence, (we were last on-site in 1992).

Observations:

Upon arriving at the site, Mr. Richard Borri and Mr. Edward Cutler of the New York City Department of Health (NYCDOH) were waiting for us on the corner of Richmond Terrace and John Street. We met and discussed the site in general and the site's accessibility. Since most of the property faced Nicholas Avenue, we drove to that side of the lot. At first, because the entire perimeter of the property was bermed and heavily vegetated, the property appeared to be inaccessible. However, there was a path into the property through the vegetation, and once over the berm, we saw that about 40% was tall grass, 30% taller weeds and thin brush, and the remaining 30% was heavy brush and trees. The property was fairly litter free, with only one burned out car, a grocery shopping cart, and a small amount of household trash observed (mainly along Nicholas Avenue). Three areas of vagrant "residences" were observed. One was just an area under a small section of tree canopy, the second was a tarp supported by a rope strung between two bushes, and the third was an actual tent.

Instrumentation:

	Instrument # 7	Instrument # 8
	Ludlum Model 2221 w/44-10 NaI Probe (Instrument # 7)	Ludlum Model 2221 w/44-10 NaI Probe (Instrument # 8)
	Calibration date - 10/9/02	Calibration date - 9/9/02
Background	= 10,233 cpm	= 10,227 cpm
Source	= 146,318 cpm	143,028 cpm
	146,240 cpm	143,599 cpm
	147,493 cpm	143,369 cpm

End of survey field instrument check

Source	= 145,556 cpm	141,891 cpm
	151,034 cpm	142,373 cpm
	149,041 cpm	142,061 cpm

Surveys Performed:

Upon arrival at Nicholas Avenue, background readings and field source checks of the instruments were performed. We (Tom Papura and John Mitchell) then proceeded up and over the berm. Since we had a large area to cover in a few hours, we walked paths (meandering around bushes and trees) usually about 25-30 feet apart, but sometimes as close as 10 feet and as far apart as 50 feet. These paths were confined to accessible areas; both vegetation and terrain limited access to some parts of the property.

Areas marked on the map show approximate locations of a drainage area, the pond area, vegetated area, and survey area. There were approximately six to eight piles of rock and concrete scattered around on the northern-half of the site.

In all areas radiologically surveyed, the count rates were between 10,000 and 12,000 cpm (i.e., normal background), with the exception of one rock in a pile that read about 27,000 cpm. Based on the fact that the radiation readings were barely three-times background, this was not high- grade uranium ore. The slightly elevated readings were probably due to naturally occurring radioactive material.

After this survey was performed, NYC DOH and DEC staff went over to Parcel 1. John Mitchell went to the on-site trailer and asked the tenant for permission to ascertain the current condition of the contaminated property that the NYCDOH previously had required to be fenced off. This permission was granted. This property is still primarily used for the parking of Wall Street Journal delivery trucks. Approaching the location, we could see a thick hedgerow of trees.
Peering through these trees, we could see the fence. Therefore, the consensus of the group was that this area appears to be secure and inaccessible.

Conclusions:

While this radiological survey did not cover 100 % of the property, this radiological survey gives a fair indication that the property is not grossly contaminated, as no unaccounted areas of radioactivity were identified.

Map of Survey Unit

Not To Scale

Photographs

Entering the site just after coming over the bermon Nicholas Avenue, looking southeast.

Standing near west end of pond, looking northeast.

Looking south, pond at right edge.

Looking south, showing berm and top of abandoned car. Blue structure is railroad bridge over Nicholas Avenue. Electric line is along Nicholas Avenue.

Looking directly south.

View of the site looking southeast and panning north.

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

October 17, 2003

Whitestone Associates, Inc.
786 Mountain Boulevard
Watchung, NJ 07069
Attention: Thomas K. Uzzo, P.E.A.

Dear Mr. Uzzo:

This concerns the Site Investigation Workplan for Nicholas Avenue Rezoning, CEQR No.: 99 DCP 012R, which was forwarded to this office by NYCDEP for review with respect to radiological evaluations.

Radiological evaluations must be conducted in accordance with the USEPA's Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), which provides guidance on planning and conducting site investigations and surveys for any site that many involve radioactive contamination. In general terms MARSSIM requires site investigations to proceed with the following:

1. Historic site assessment, to identify potential contaminants and contaminated locations.

2. Planning and designing scoping, characterization, remediation support and final status surveys.

3. Interpretation of survey data and documentation, using derived concentration guideline values to determine if the site can be released for restricted or general usage. Your work plan indicated that the objective is general release for residential housing.

A historic assessment of this site was performed in the 1980's by Oak Ridge National Lab for USDOE which found that Manhattan Project activities were conducted adjacent to or on this site. These activities were limited to the transfer of source material from ships to trucks or trains. In fact, considerable soil uranium contamination was found on the parcel directly north. In view of the DOE's concerns with your parcel and your objectives for this land, we conclude a MARSSIM based investigation is needed; and the investigation must cover the entire site. We note the work plan you submitted provided for radiological evaluations in only the west portion.

MARRSIM requires a cursory, scoping survey to find the general type and extent of radioactive contamination. Your site has been given cursory surveys, in the 1980's by the DOE and our program, and last summer by the NYSDEC and our program. At the time of each survey no radioactivity above background was noted, but considerable portions of your site were not surveyed, due to overgrowth. If you wish, you may consider these surveys to be your scoping and characterization surveys. Since no radioactive contamination has been found, no remediation support surveys are needed at this stage. You may thus proceed with a final status survey. Overgrowth or any other obstacles must be removed, however, to provide full access (Sec. 4.8.4.2 MARSSIM). Removal of growth, rain water or other materials must be performed with precautions to prevent the spread of potential contamination, the generation of airborne activity in workers's breathing spaces and to evaluate contamination concentrations in the removed materials. Your work and health and safety plans must be updated to detail this.

Your work plan indicated hand held surveys would be done with an SE International Monitor 5. We assume this refers to scanning the surface for gamma activity. Such scanning must be done using a scintillation survey meter with techniques detailed in 6.4.2.1. MARSSIM. Kindly confirm your meter is appropriate for this and detail its calibrations, field use checks, sensitivity and the scan rate, in meters per second, with which it will be used, so we may confirm that your surface activity scanning will be sufficiently sensitive.

In addition to surface scanning, soil samples will be required. Locations for this sampling must be generated using the grid system specified in 4.8.5 MARSSIM. The sample locations presently indicated in your work plan are insufficient with respect to the radiological assessment. The depth at which the samples will be taken need to be specified in the detailed work plan as well. Please contact my office to discuss this aspect in further detail.

Your work plan must also provide some survey plan to establish natural background readings for the general area of this sight, though typical values may be suitable. (4.5 MARSSIM)

In light of all the above you may wish to select a service provider to perform these surveys and sampling activities. If this is the case please detail this and make your selection as provided for in 6.3 MARSSIM.

Our office will review your updated work plan and conduct confirmatory activities and verifications as your investigation proceeds (2.4.7 MARSSIM). Please feel free to consult with us and update us as appropriate. If you do not have a copy of MARSSIM it is available on the EPA website. Please contact me at (212) 676-1570 if you have any questions related to this matter.

Sincerely,

JP for
Tobias Lickerman

Tobias Lickerman
Head Radioactive Materials Section
Office of Radiological Health

cc: J. Wuthenow, NYCDEP
B. Youngberg, NYSDEC
G. Miskin, DOHMH
J. Prud'homme, DOHMH
R. Borri, DOHMH

The City of New York
Department of Environmental Protection
59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Angela Licata
Assistant Commissioner

Office of Environmental Planning & Assessment

Tel: (718) 595-4398
Fax: (718) 595-4479

January 27, 2004

Thomas Uzzo
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: **Nicholas Avenue Rezoning**
Block 1116, Lots 40, 75 & 105, Block 1121, Lot 101
CEQR # 99DCP012R / 04DEP118R

Dear Mr. Uzzo:

The New York City Department of Environmental Protection, Office of Environmental Planning and Assessment (DEP) has reviewed the December 2003 Site Investigation Report and Supplemental Site Investigation /Corrective Action Workplan, prepared by Whitestone Associates Inc., on behalf of Natalie Lyn LLC, for the above referenced site. It is our understanding that Natalie Lyn is proposing to develop a residential site encompassing Block 116, Lots 40, 75, and 105, and Block 1121, Lot 101 within Staten Island Community District #1. The proposed development would include approximately 100 multi-story, single-family homes and associated roadways and utilities. Although the site is currently vacant and vegetated, past uses of the site reportedly include a linseed bulk oil and distribution facility, and a bulk sand and gravel storage and distribution facility. Furthermore, the shipment of uranium one reportedly may have been conducted on or adjacent to the site. The site investigation was conducted pursuant to the February 4, 2003 Restrictive Declaration executed by Natalie Lyn LLC, the T&M Associates July 1998 Phase II Site Investigation Workplan, and subsequent meetings/correspondence with DEP and New York City Department of Health (DOH) personnel.

Ground Penetrating Radar (GPR) and Electromagnetic surveys were performed at the site. Three (3) anomalies were excavated with a backhoe and determined to be scrap metal. No Underground Storage Tanks (USTs) were discovered. Soil samples were analyzed from eight (8) test pits. The results indicate modest exceedances above DEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs) for certain metals including: beryllium, chromium, nickel, zinc, and copper. These results are comparable to those from testing performed at the site in 1998 by T&M Associates. In addition, Test Pit 3 exhibited a modest exceedance of 2,6-Dinitrotoluene.

Please note that the radiological survey agreed upon in the July 1998 Phase II Workplan was not submitted. We understand the radiological survey report will be available for review by DEP and DOH in late January or early February 2004. Therefore, the following are our initial comments / recommendations based upon our

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
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review of the aforementioned documentation. Further comments are forthcoming pending the results of the radiological survey:

- A construction Health and Safety Plan (HASP) should be developed and submitted to DEP for review.

- The localized "hot spot" at Test Pit 3 containing 2,6-Dinitrotoluene should be excavated and disposed off-site in accordance with local, state, and federal regulations. Post excavation soil sampling should be conducted for SVOCs to confirm that soil cleanup objectives have been achieved.

- Due to exceedances of DEC TAGM 4046 RSCOs, all landscaped areas of the development site not covered by asphalt or concrete should be capped with two (2) feet of clean fill.

- DEP should be notified when excavation of the "hot spot" will take place.

- If USTs are discovered during construction, DEP and NYSDEC should be notified. The USTs should be removed in accordance with NYSDEC regulations.

If you have any comments or questions, please call Kate Demong at (718) 595-6443.

Sincerely,

Darryl Cabbagestalk
Director
Project Management-NYC Projects

cc:
A. Licata, DEP
J. Wuthenow, DEP
D. Cole, DEP
K. Demong, DEP
M. Eckels, DEP Legal Affairs
R. Dobruskin, DCP
T. Lickerman, DOH

The City of New York
Department of Environmental Protection
59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Angela Licata
Assistant Commissioner

Office of Environmental Planning & Assessment

Tel: (718) 595-4398
Fax: (718) 595-4479

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March 31, 2004

RECEIVED
APR 05 2004
By

Thomas Uzzo
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: **Nicholas Avenue Rezoning - CEQR #99 DCP 012R / 04 DEP 118R**
Block 1116, Lots 40, 75 & 105
Block 1121, Lot 101
Staten Island Community District #1

Dear Mr. Uzzo:

The New York City Department of Environmental Protection, Office of Environmental Planning and Assessment (DEP) has reviewed your letter of March 16, 2004 regarding the Supplement to the Site Investigation / Corrective Action Workplan. As previously mentioned in our January 27, 2004 correspondence, DEP's complete conclusions for the proposed project are pending review of the December 2003 Radiological Survey completed at the site. At this time, this document has not been submitted to our office for review. Once this document is submitted to DEP and DOH, our department will continue its review of this project. As our initial comments are tentative pending review of the radiological report, soil disturbance for remedial and/or construction purposes should not occur until final review is complete.

If you have any comments or questions, please call John Wuthenow at (718) 595-4426.

Sincerely,

Darryl H. Cabbagestalk
Director
Project Management- NYC Projects

cc: Gary Heath
John Wuthenow
Dan Cole
Kate Demong
Marcella Eckels – DEP Legal Affairs
Robert Dobruskin - DCP
Tobias Lickerman – DOH

5920

THE CITY OF NEW YORK

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

RECEIVED
JAN 22 2005
By

January 14, 2005

Thomas K. Uzzo, P.E.A
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site
Report No. 2003016G-2292 dated January 7. 2005
Submitted to Natalie Lyn, LLC, 48 Liberty Avenue, New Rochelle, NY 10805
By Integrated Environmental Management, Inc., 8 Brookes Ave, Suite 205, Gaithersburg, MD 20877

Dear Mr. Uzzo:

The New York City Department of Health and Mental Hygiene, Office of Radiological Health (DOHMH-ORH) has reviewed the above referenced plan and presents the following comments.

Section 1, page 1, third paragraph - Report No. 2003016/G-1272 "Radiological Status of the Nicholas Avenue Rezoning Site" dated April 23, 2004 was an evaluation of surface soils at the site.

Section 3.3, page 3 - It would be better to use the same/comparable equipment that was used in the previous field investigation. These instruments were

Ludlum model 2221 scaler/ratemeter with a Ludlum model 44-10 2"x2" NaI (Tl) gamma scintillator for contact exposure rates

Bicron MicroRem meter for ambient exposure rates

Section 3.4, page 3 – It is stated that "…soil sample collected from a depth of 12 to 18 inches…will be obtained". Sample should be collected between a depth of below 6 inches down to 18 inches.

Section 3.4, page 3 – The third biased sampling should be at grid square number B-2, location P-5 (not T-5) based on the maps provided in Report No. 2003016/G-1272, Appendix 8.2.

Office of Radiological Health
2 Lafayette Street, 11th Floor CN-60
New York, N.Y. 10013
Office: (212) 676-1556 Fax: (212) 676-1548

Section 3.4, page 3 – A biased subsurface sample "at" a given node location should not be absolutely limited to that location. In order to fine-tune the subsurface soil sampling location, sampling crews should scan the area within a limited radius in the vicinity of the node to locate the area of highest contact exposure rates. Before advancing drilling apparatus, a one-minute contact exposure measure should be collected at the surface.

Section 3.4, page 4 – It is assumed that footnote 6 should state "…a height of **one** meter…"

Section 3.4, page 4 – Please state what equipment will be used to advance the soil borings and to collect the soil samples.

Section 3.4, page 4 – In order to control for stratification within a soil bore sample, the bore/plug taken from the 6" to 18" depth will be homogenized, with the appropriate sample volume to be taken from the homogenized material.

Section 3.6, page 4 – Description of subsurface soil sampling methodology should be described in this Sampling Plan prior to sampling.

Section 3.6, page 5, last paragraph – Pending final review of all data submitted, the DOHMH-ORH will issue a written report to the Department of Environmental Protection (DEP). The DOHMH-ORH will collaborate with the DEP on the substance of the final determination. The DOHMH-ORH, however, does not agree with the proposed wording specified in this paragraph. Final determination statements can be made only when all appropriate information has been reviewed and considered.

Please do not hesitate to contact us if there are any further questions on these comments.

Very truly yours,

Tobias A. Lickerman

Tobias A. Lickerman
Chief of Radioactive Materials Division
Office of Radiological Health

cc: John Wuthenow, NYCDEP
Barbara Youngberg, NYSDEC

Office of Radiological Health
2 Lafayette Street, 11th Floor CN-60
New York, N.Y. 10013
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5920

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

RECEIVED
FEB 05 2005
By

January 31, 2005

Thomas K. Uzzo, P.E.A, Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site Report No. 2003016G-2292 dated January 7. 2005. Submitted to Natalie Lyn, LLC, 48 Liberty Avenue, New Rochelle, NY 10805 By Integrated Environmental Management, Inc., 8 Brookes Ave, Suite 205, Gaithersburg, MD 20877

Response letter dated January 20, 2005 from Integrated Environmental Management, Inc. to NYCDOHMH Comments on the Supplemental Sampling Plan

Response letter dated January 25, 2005 from Whitestone Associates, Inc. to NYCDOHMH Comments on the Supplemental Sampling Plan

Dear Mr. Uzzo:

The New York City Department of Health and Mental Hygiene, Office of Radiological Health (DOHMH-ORH) reviewed the above referenced Supplemental Sampling Plan and presented comments by letter dated January 14, 2005. We received the above referenced letters in response to our January 14 comment letter, and find those letters to be generally satisfactory.

While the DOHMH-ORH does not accept a priori assumptions concerning the condition of the subject Nicholas Avenue property, the three above referenced documents taken collectively – the Supplemental Sampling Plan Report No. 2003016G-2292 dated January 7, 2005, with IEM response letter dated January 20, 2005 and Whitestone Associates, Inc. response letter dated January 25, 2005, are hereby approved by the NYCDOHMH.

Very truly yours,

Tobias A. Lickerman

Tobias A. Lickerman
Chief of Radioactive Materials Division
Office of Radiological Health

cc: John Wuthenow, NYCDEP
Barbara Youngberg, NYSDEC

Office of Radiological Health
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THE CITY OF NEW YORK

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Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

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RECEIVED
APR 09 2005
By

April 5, 2005

Thomas K. Uzzo, P.E.A.
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site
Report No. 2003016/G-2292 dated March 10, 2005

Dear Mr. Uzzo:

Thank you for the above referenced submittal. Our comments on this report are provided below.

Some items presented in the referenced Report are actually at variance with information provided in earlier reports. We would like to move forward to a conclusion in this matter. Hopefully, a clear response, consistent with previous reports and responses to comments on those reports can move us in that direction.

Comment 1 – Results Table, page 4, report "U-238 ... Concentrations based on Bi-214 results". As stated in the Nov 29, 2004 report, you used then and previously Th-234 as the proxy isotope for U-238. This we considered to be acceptable and we so stated. Use of Bi-214 to indicate U-238 activity is not acceptable. Bi-214 is suitable as a proxy for Ra-226.

Comment 2 - An earlier report presented a summation of ratios of principal isotopic concentrations to their respective release concentrations. No such evaluation appears here. Only one table is shown, for U-238, and that with an incorrect basis.

A summation of ratios of principal isotopic concentrations to their respective release concentrations should be presented. All concentrations should be calculated in a similar manner. If activities of other isotopes are used to represent the activity of the reported isotopes, those proxy isotopes should be appropriately selected, consistent with approach previously used by Whitestone/IEM and previously accepted by us.

Office of Radiological Health
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New York, N.Y. 10013
Office: (212) 676-1556 Fax: (212) 676-1548

Comment 3 – Approach, page 2 – There is no statement about the size of the sample. This makes the statement "depths ranging from six (6) to 18 inches below ground" ambiguous. Please state if sample was a 1-foot core or was of some other size between these depths, and provide diameter.

Comment 4 - The report is lacking in detail on how borings were done. There is no information on how the first 6 inches of soil was removed, what devices were used to advance from 6" to 18", what equipment was used collect and transfer the samples to the sample jar (not even know if jars were used).

Please do not hesitate to contact us if there are any questions about these comments.

Very truly yours,

Tobias A. Lickerman

Tobias A. Lickerman
Chief of Radioactive Materials Division

cc: John Wuthenow, NYCDEP
Daniel Cole, DEP

Office of Radiological Health
2 Lafayette Street, 11th Floor CN-60
New York, N.Y. 10013
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THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

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Mayor

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Commissioner

nyc.gov/health

May 31, 2005

Angela Licata
Assistant Commissioner
Office of Environmental Planning and Assessment
NYC Department of Environmental Protection
59-17 Junction Blvd., 11th Floor
Flushing, NY 11373

Re: NICHOLAS AVENUE REZONING
BLOCK 116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Ms. Licata:

The above referenced property was surveyed for potential radiological contamination by Whitestone Associates (Whitestone) of Watchung, NJ, in conjunction with Integrated Environmental Management, Inc. (IEM) of Knoxville, TN & Gaithersburg, MD. Contamination reportedly resulted from activities associated with a uranium ore storage warehouse dating back to the Manhattan Project era. Principal contaminants of concern were stated to be "uranium-238 (U-238) plus progeny in equilibrium".

An initial Report of measurement results was issued by Whitestone/IEM. The Department of Health and Mental Hygiene/Office of Radiological Health presented comments on the initial report. Whitestone/IEM in turn issued follow-up Reports and correspondences in response to DOHMH/ORH comments.

Title 10 Code of Federal Regulations, Part §20.1402, stipulates a Total Effective Dose Limit of 25 mrem per year above background to the average member of the critical group as radiological criteria for unrestricted use. Volume 64 Federal Register No. 68395, December 7, 1999, presents soil surface contamination levels (screening values) which would be deemed to be in compliance with the 25 mrem per year dose limit above background stated in 10 CFR Part §20.1402.

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2 Lafayette Street, 11th Floor CN-60
New York, N.Y. 10007
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The City of New York
DEPARTMENT OF ENVIRONMENTAL PROTECTION
59-17 Junction Boulevard
Flushing, New York 11373

Emily Lloyd
Commissioner

Tel. (718) 595-6565
Fax: (718) 595-3525
elloyd@dep.nyc.gov

Angela Licata
Deputy Commissioner

Bureau of Environmental Planning & Assessment

Tel. (718) 595-4398
Fax: (718) 595-4479
alicata@dep.nyc.gov

NOTICE TO PROCEED

January 9, 2006

Mr. Werner deFoe
Staten Island Acting Borough Commissioner
NYC - Department of Buildings
10 Richmond Terrace, Borough Hall, 2nd Fl.
Staten Island, NY 10301

Re: **Nicholas Avenue Rezoning**
Restrictive Declaration Requirement
Block 1116, Lots 40, 75 & 105
Block 1121, Lot 101
CEQR #99DCP012R / 04DEP118R

Dear Mr. deFoe:

The New York City Department of Environmental Protection Bureau of Environmental Planning and Assessment (DEP) has reviewed the August 2005 Supplemental Site Investigation/Corrective Action Report and Supplemental Corrective Action Workplan, prepared by Whitestone Associates Inc. (Whitestone), on behalf of Natalie Lyn LLC, for the above referenced site. Proposed for this site is construction of approximately 100 multi-story, single-family homes and associated roadways and utilities on Block 1116, Lots 40, 75, and 105, and Block 1121, Lot 101, within Staten Island Community District #1. A restrictive declaration was executed on February 4, 2003 for Block 1116, Lots 40, 75, and 105, and Block 1121, Lot 101, pursuant to the City Environmental Quality Review (99DCP012R/020188ZMR) conducted in connection with the New York City Department of City Planning rezoning action.

On September 30, 2005, we found the Supplemental Site Investigation/ Corrective Action Report and Supplemental Corrective Action Workplan acceptable provided that 24 inches of clean fill/top soil cover meeting TAGM Criteria is imported and graded in all proposed landscaped/grass covered areas across the site (see attached). The consultant has confirmed via a January 9, 2006 email to DEP personnel that this requirement has been made part of the remedial activities; therefore DEP has concluded that the applicant may proceed with construction.

DEP has no objection to the issuance of Department of Buildings permits to the applicant for work relating to soil excavation, foundation and superstructure for the proposed development project, with the understanding that no other permit (i.e., Certificate of Occupancy) will be issued by your agency to the applicant until DEP has reviewed/approved a Final P.E. certified Closure Report (including all certified clean fill/top soil purchase tickets and site photos from the final grading activities) and has issued a "Notice of Satisfaction" for the proposed project.

If you have any comments or questions, please call Kate Demong, Project Manager, at (718) 595-6443 or myself at (718) 595-4451.

Sincerely,

Darryl H. Cabbagestalk
Director
Project Management- NYC Projects

cc: G. Heath, J. Wuthenow, D. Cole, K. Demong, M. Eckels – DEP
R. Dobruskin – DCP; T. Lickerman – DOH; E. Delli Paoli, Attorney at Law; L. Perfetto –

APPENDIX 5
Sample of Hazardous or Non-Hazardous Disposal Manifests

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Manifest Tracking Number **007744181 JJK**

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: ______
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month Day Year
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	**4. Waste Tracking Number**

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1.				
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Transporter 2 Printed/Typed Name	**Signature**	**Month**	**Day**	**Year**

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)	Month	Day	Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year

APPENDIX 6
Proposed Development Plans

DRAWING NOTES:

1. OVERALL SITE PLAN FOR DIMENSIONS AND LOCATIONS ONLY.
2. REFER TO DRAWING C-004.00 FOR ZONING COMPUTATIONS AND SITE INFORMATION.
3. REFER TO SITE PLANS (C-003.0 AND C-004.00) FOR SITE AND GRADING INFORMATION.
4. FOR STREET IMPROVEMENTS SEE APPROVED BUILDERS PAVEMENT PLAN, PREPARED BY WOHL & O'MARA, LLP. GENERAL CONTRACTOR SHALL COORDINATE AND PROVIDE IMPROVEMENTS PER ALL UTILITIES AND AGENCIES HAVING JURISDICTION.
5. FOR SANITARY AND STORM WATER DISPOSAL SYSTEM SEE APPROVED SD 1&2 PREPARED BY WOHL & O'MARA, LLP.

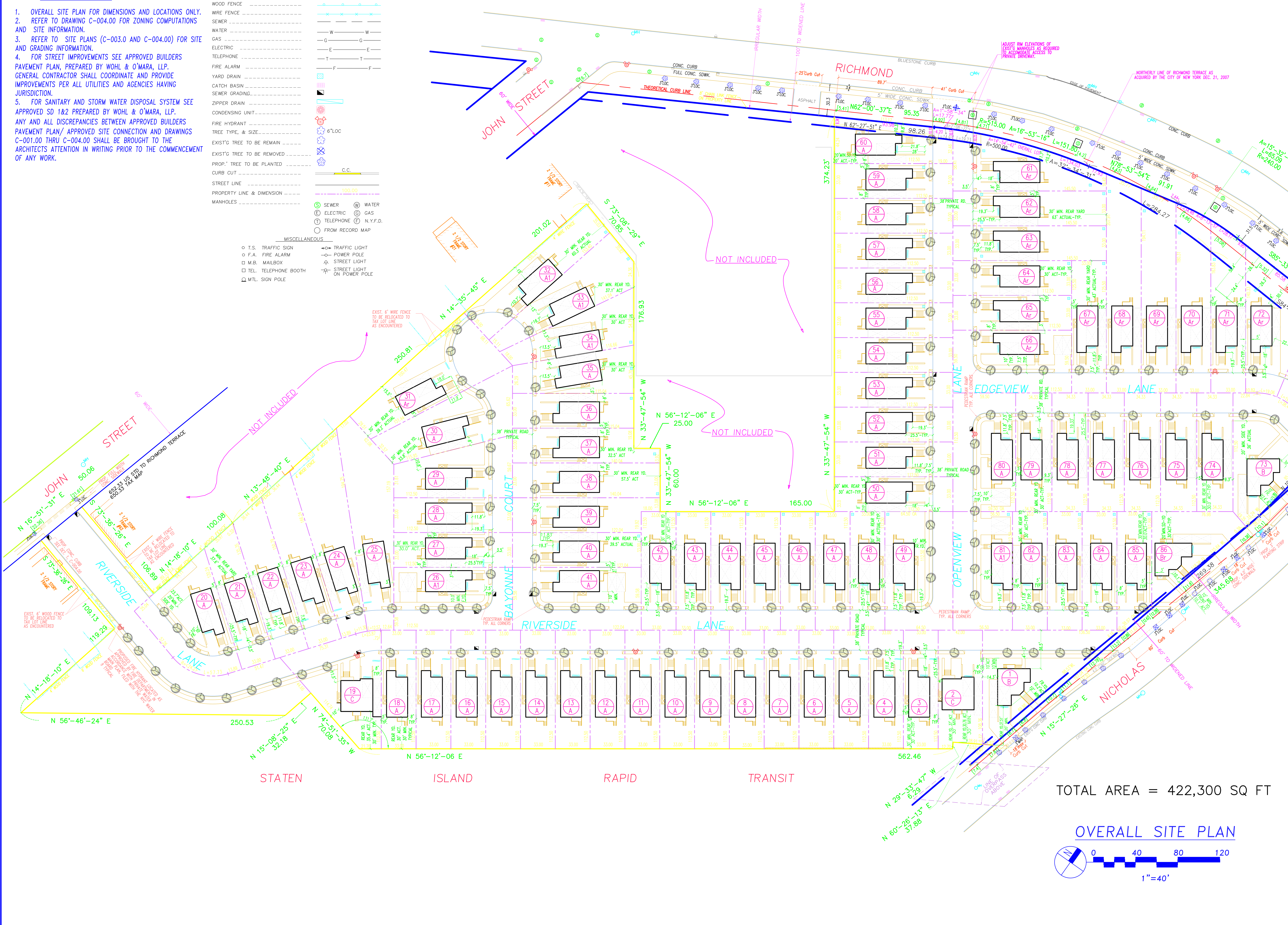
ANY AND ALL DISCREPANCIES BETWEEN APPROVED BUILDERS PAVEMENT PLAN/ APPROVED SITE CONNECTION AND DRAWINGS C-001.00 THRU C-004.00 SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IN WRITING PRIOR TO THE COMMENCEMENT OF ANY WORK.

LEGEND

WOOD FENCE
WIRE FENCE
SEWER
WATER
GAS
ELECTRIC
TELEPHONE
FIRE ALARM
YARD DRAIN
CATCH BASIN
SEWER GRADING
ZIPPER DRAIN
CONDENSING UNIT
FIRE HYDRANT
TREE TYPE, & SIZE — 6"LOC
EXIST'G TREE TO BE REMAIN
EXIST'G TREE TO BE REMOVED
PROP.' TREE TO BE PLANTED
CURB CUT — C.C.
STREET LINE
PROPERTY LINE & DIMENSION
MANHOLES — S SEWER, W WATER, E ELECTRIC, G GAS, T TELEPHONE, F N.Y.F.D., FROM RECORD MAP

MISCELLANEOUS

T.S. TRAFFIC SIGN — TRAFFIC LIGHT
F.A. FIRE ALARM — POWER POLE
M.B. MAILBOX — STREET LIGHT
TEL. TELEPHONE BOOTH — STREET LIGHT ON POWER POLE
MTL. SIGN POLE



LAND PLANNING & ENGINEERING CONSULTANTS, P.C.
ARCHITECTURAL - STRUCTURAL - CIVIL
MECHANICAL - PLUMBING - ELECTRICAL - URBAN DESIGN
2178 FOREST AVENUE
STATEN ISLAND, NEW YORK 10303
PHONE (718) 273-7825
FAX (718) 447-7368

NO.	DATE	DESCRIPTION
--	--.--.--	

REVISIONS

PROJECT NAME:
NICHOLAS AVENUE ESTATES UNITS #1B

DRAWING TITLE:
OVERALL SITE PLAN

SEAL & SIGNATURE:	
DATE:	09-17-10
PROJECT NO.	0090910PR
DRAWN BY:	v.f.
CHK. BY:	G.D.
DWG. NO.	C-002.00
CADD FILE NO.	OF

APPENDIX 7
Waterproofing/Vapor Barrier Specifications

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

RAVEN INDUSTRIES

Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

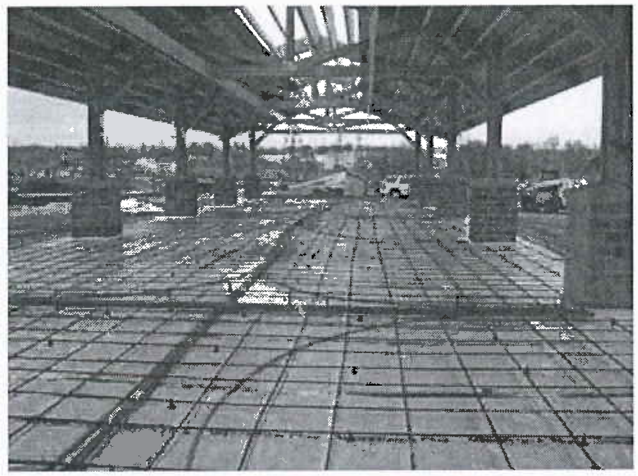
Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.



Under-Slab Vapor/Gas Retarder

Product	Part #
VaporBlock Plus 20	VBP 20

APPLICATIONS

Radon Barrier

Methane Barrier

VOC Barrier

Under-Slab Vapor Retarder

Foundation Wall Vapor Retarder

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VAPORBLOCK® PLUS™ VBP20

ISO 9001:2008 CERTIFIED MANAGEMENT SYSTEM

Under-Slab Vapor / Gas Barrier

PROPERTIES	TEST METHOD	VAPORBLOCK PLUS 20 IMPERIAL	VAPORBLOCK PLUS 20 METRIC
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m²
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
TENSILE STRENGTH LBF/IN (N/CM) AVERAGE MD & TD (NEW MATERIAL)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
MAXIMUM USE TEMPERATURE		180° F	82° C
MINIMUM USE TEMPERATURE		-70° F	-57° C
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0098 Perms grains/(ft²·hr·in·Hg)	0.0064 Perms g/(24hr·m²·mm Hg)
(AFTER CONDITIONING) PERMS (SAME MEASUREMENT AS ABOVE PERMEANCE)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	 0.0079 0.0079 0.0097 0.0113	 0.0052 0.0052 0.0064 0.0074
WVTR	ASTM E 96 Procedure B	0.0040 grains/hr-ft²	0.0028 gm/hr-m²
RADON DIFFUSION COEFFIECIENT	K124/02/95	< 1.1 x 10^{-13} m²/s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10^{-10} m²/d• atm 0.32 GTR (Gas Transmission Rate) ml/m²•D•ATM	

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.
Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.
ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™ UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Scan QR Code to download current technical data sheets via the Raven website.

RAVEN INDUSTRIES

Engineered Films Division
P.O. Box 5107
Sioux Falls, SD 57117-5107
Ph: (605) 335-0174 • Fx: (605) 331-0333

Toll Free: 800-635-3456
Email: efdsales@ravenind.com
www.ravenefd.com

March 18, 2013

Patrick E. Beesley
Whitestone Associates, Inc.
35 Technology Drive
Warren, New Jersey 07059

Re: Nicholas Avenue Estates
Richmond Terrace, Staten Island, NY

Dear Mr. Beesley,

I have reviewed the attached document for the above referenced project. The identified contaminants at the levels reported will not have an adverse effect on the vapor barrier properties of Raven VaporBlock Plus 20 mil systems, provided standard design and installation procedures are followed. If you have any questions, feel free to call or send an e-mail.

Erika Arens

Erika Arens
Product Development Specialist
Raven Industries, Inc.
(605) 357-0453
Erika.Arens@ravenind.com

APPENDIX 8
Previous Environmental Reports

Phase 1 Environmental Site Assessment

Pursuant to the ASTM Standard Practice for Phase 1 Environmental Site Assessments (E-1527-97)

Block 1116, Lots 40, 75 and 105
Block 1121, Lot 101
Borough of Staten Island
Richmond County, New York

Prepared For

Staten Island Savings Bank
260 Christopher Lane
Staten Island, New York 10314

Prepared by:

Michael L Francis

Michael L. Francis
Principal Environmental Planner

T&M Associates, Inc.
Eleven Tindall Road
Middletown, NJ 07748
Tel: (732) 671-6400
Fax: (732) 671-7365
Internet: http://www.tamace.com

Project No. SISB-00120

August 7, 1998

Table of Contents

Appendices

1.0 Executive Summary

The summary findings of this Phase I Environmental Site Assessment indicate that there are no readily observable Recognized Environmental Conditions on the subject property. Review of historical information indicates that there were large volume aboveground storage tanks (iron oil tanks) on the property adjacent to Richmond Terrace. These tanks appeared on the historical Sanborn Fire Insurance Maps from 1917 to 1951.

Due to the historical presence of oil tanks and evidence of past site disturbance, soil borings were conducted throughout the project site. Ten (10) soil borings were advanced to a depth of ten feet using a stainless steel hand augur. Soil samples were taken and analyzed for total petroleum hydrocarbons (TPHC) via the USEPA Method 418.1 with a contingent analysis for volatile organic compounds (VOC) via the USEPA Method 624+10 for samples exhibiting the highest TPHC concentration greater than 1,000 parts per million (ppm). In addition, samples were analyzed for USEPA Priority Pollutants (PP+40).

Based on visual inspection and soil sample results, the historic Recognized Environmental Condition does not require further investigation.

In addition, there are nine (9) sites with reported Recognized Environmental Conditions in the vicinity of the subject property, within the appropriate ASTM radii. These are:

- **Deville II Auto Collision**, located within 1/8 mile northwest of the subject property at 2432 Richmond Terrace in Staten Island, NY. This site has a United States Environmental Protection Agency (USEPA) record of a Resource Conservation and Recovery Act (RCRA) small quantity generator of hazardous waste.

- **Scara-Mix, Inc.**, located within 1/8 mile west northwest of the subject property at 2537 Richmond Terrace in Staten Island, NY. This site has a New York State Department of Environmental Conservation (NYSDEC) record of two registered underground storage tanks (gasoline and diesel fuel).

- **Sipco Oil Company**, located within 1/8 mile west of the subject property at 2541 Richmond Terrace in Staten Island, NY. This site has a NYSDEC record of a registered underground storage tank (diesel fuel) and a registered aboveground storage tank (out of service).

- **Drury Enterprises, Inc.**, located within 1/4 mile west of the subject property at 2589 Richmond Terrace in Staten Island, NY. This site has a NYSDEC record of a registered underground storage tank (No. 1, 2 or 4 fuel oil).

- **Maaco Auto Painting**, located within 1/4 mile west of the subject property at 2550 Richmond Terrace in Staten Island, NY. This site has a USEPA record of a RCRA small quantity generator of hazardous waste.

- **Chelsea Terminal**, located within 1/2 mile east northeast of the subject property at 2217 Richmond Terrace in Staten Island, NY. This site is listed as a Hazardous Substance Waste Disposal Site by the NYSDEC.

- **Spanpico**, located within 1/2 mile southwest of the subject property at 124 Granite Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (diesel fuel).

- **Raguso residence**, located within 1/2 mile west southwest of the subject property at 42 Wright Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (No. 2 fuel oil).

- **85 Blackford Avenue**, located within 1/2 mile south southeast of the subject property at 85 Blackford Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (No. 2 fuel oil).

These properties do not appear to have a significant environmental threat to the subject parcel due to the nature of the various conditions and/ore the suspected direction of groundwater flow.

It is noted that the Standard Environmental Record Search disclosed that the subject property contained environmental violations. Upon review of this information, it has been determined that the information was reported in error and is not the subject property. The search was initiated using "Richmond Terrace" as the subject address. The identified records also had "Richmond Terrace" as the facility address, thus assuming it was the same property. The "Richmond Terrace" sites in the database are at the eastern side of Staten Island and not in the vicinity of the subject property.

2.0 Scope of the Phase 1 Environmental Site Assessment

2.1 Statement of Work

This Phase I Environmental Site Assessment has been conducted under the recommended practices developed by the American Society of Testing and Materials (ASTM) and identified in their publication E-1527-97.

The purpose of ASTM practice, E-1527-97 is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. As such, this practice is intended to permit a user (client) to satisfy one of the requirements to qualify for the innocent landowner defense to CERCLA liability. That requirement is the practices that constitute "*all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice*" as defined in 42 U.S.C., §9601(35)(B).

Recognized Environmental Conditions

The purpose of conducting an environmental site assessment is to identify Recognized Environmental Conditions that are on, or may affect, the property in question. The term Recognized Environmental Condition is defined as: *the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate any existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.* The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

2.2 Special Terms and Conditions

Principles

The following principles are an integral part of the ASTM standard practice and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the user or environmental professional in performing an environmental site assessment or in judging whether a user or environmental professional has conducted appropriate inquiry or has otherwise conducted an adequate environmental site assessment.

Uncertainty Not Eliminated

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property, and the ASTM standard practices recognizes reasonable limits of time and costs.

Not Exhaustive – Appropriate Inquiry

An appropriate inquiry does not mean an exhaustive assessment of a clean property. There is a point at which the cost of information obtained or the time required to gather data outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an environmental site assessment and the reduction of uncertainty about unknown conditions resulting from additional information.

Level of Inquiry is Variable

Not every property will warrant the same level of assessment. Consistent with good commercial or customary practice, the appropriate level of environmental site assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the user, and the information developed in the course of the inquiry.

Additional Studies

Additional reconnaissance or testing may be conducted in a Phase I if the client specifically requests it. Such other Phase I services may include data gathering on lead, asbestos, radon, wetlands, soils, etc. These examinations are conducted according to state or federal agency standards or commonly accepted best professional practices. These additional studies are typically beyond the contracted scope of a Phase 1 Environmental Site Assessment. However, due to concern over the history of the tract, soil sampling has been conducted on the site in order to further assess the environmental condition of the site.

Exceptions

The standard ASTM radius search of environmental records has been conducted for this property. Recorded, known or suspected hazardous discharges have been identified and included in this report. However, T&M Associates has made a good faith effort to obtain and review only those agency records which are available for incidents which have occurred on the subject property or immediately adjacent sites. It is beyond the scope of this Phase I Environmental Site Assessment to seek out and review government agency files for incidents beyond the project site and immediately adjacent sites. Any agency files which exist for other identified sites can be reviewed at the request of the client as an amended scope of work.

3.0 Site Description

3.1 Location and Legal Description

The subject property is a 9.5 acre tract known as Block 1116, Lots 40, 75 and 105; Block 1121, Lot 101 in the Borough of Staten Island, Richmond County, New York. The tract is located on the southern side of Richmond Terrace, between John Street and Nicholas Avenue and is depicted on a portion of the United States Geological Survey (USGS) 7.5-minute series Topographic Quadrangle included as Figure 1.

3.2 Site and Vicinity Characteristics

The subject tract is located to the west and east of single family residences on John Street and Nicholas Avenue, north of an abandoned railroad tack and residential area and south of a Federal Express facility and waterfront junkyards along Richmond Terrace.

3.3 Descriptions of Structures and/or Other Improvements on the Site

There are no structures or other improvements on the subject property. A Site Map is included as Figure 2. Photographs are included in Appendix C.

3.4 Current Uses of the Property

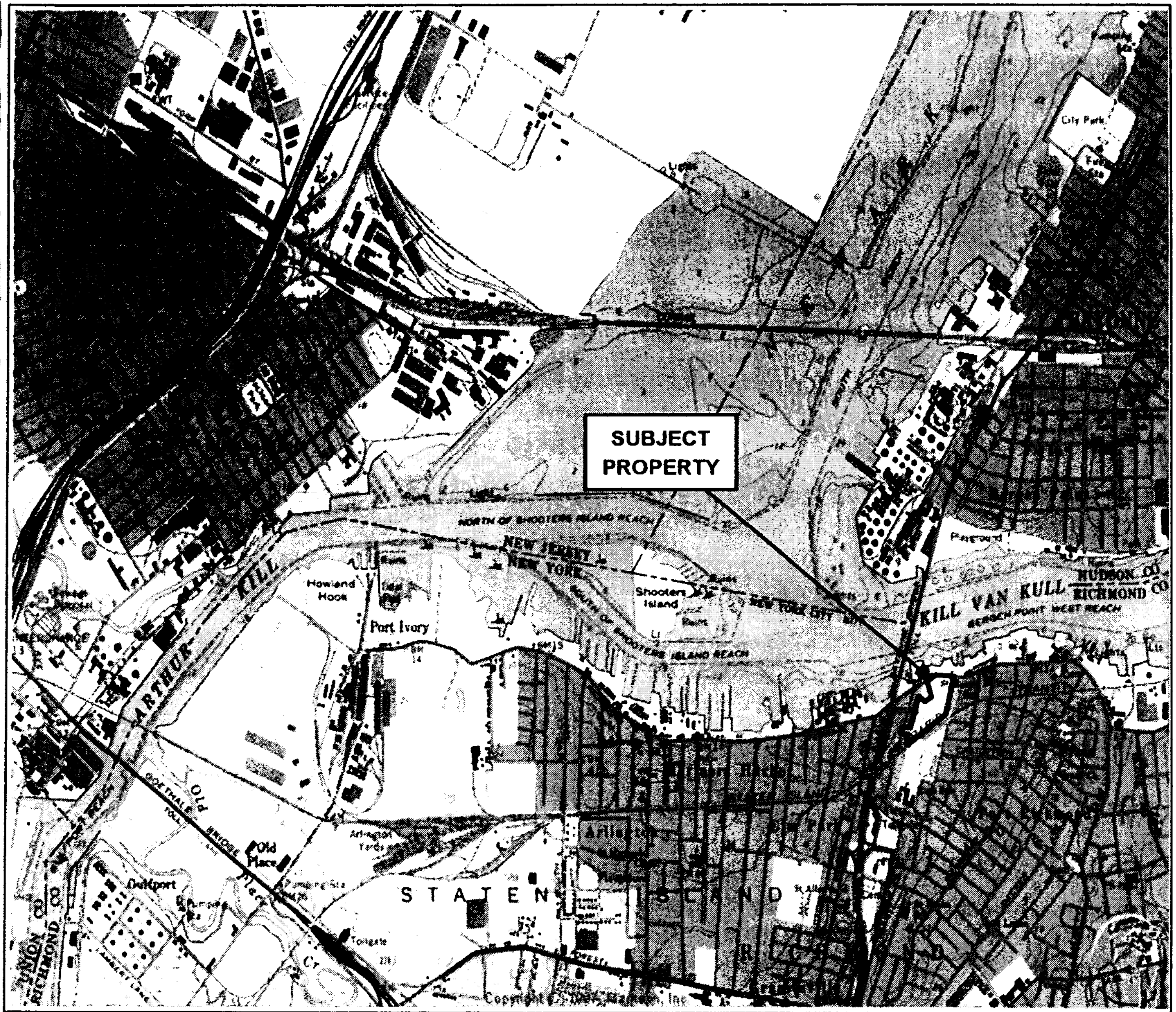
The property is currently vacant with no apparent use.

3.5 Past Uses of the Property

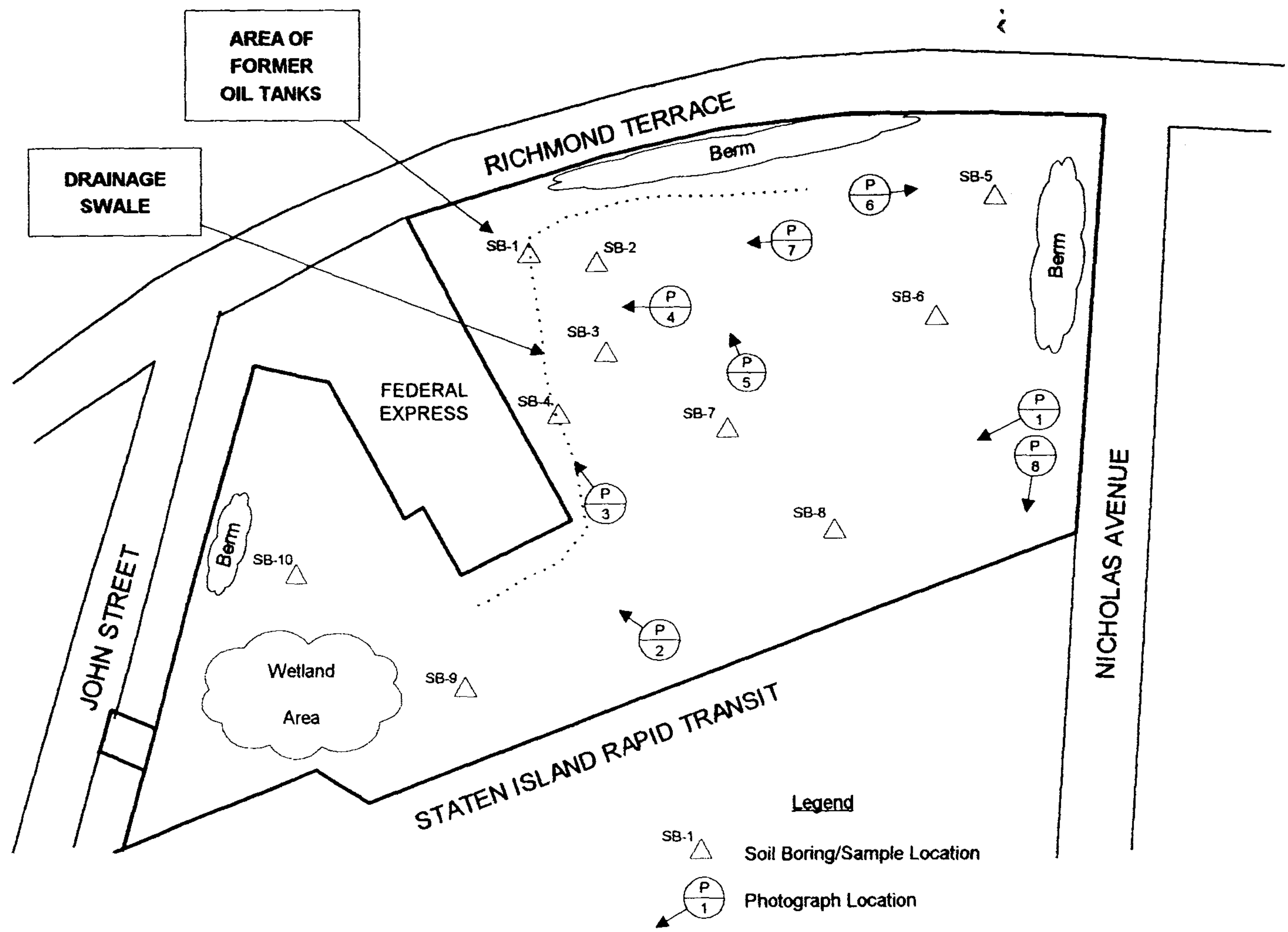
Prior ownership of the property has been identified as follows:

Date	Record Owner	Apparent Site Use	Identified in Deed Book/Page
8/9/95 to present	EOR Eighty-Three of New York, Inc. c/o Bank Leumi Trust Co. of NY 562 Fifth Avenue New York, New York 10036	Vacant	6243/232
Prior to 8/9/95	Cross Siclare/New York, Inc. 125 Lake Avenue Staten Island, New York 10303	Vacant	6243/232

Historical Sanborn Fire Insurance Maps confirm that this property was once used as a sand and stone storage yard and contained five large volume aboveground iron oil tanks from 1917 to at least 1951. The 1909 historical map indicates that the on-site oil tanks were controlled by J.A. Dean Linseed Oil Works, whose primary plant was on the northern side of Richmond Terrace. That use was later identified as American Linseed Company in (1917, 1922 and 1928), Archer Daniels Midland Company-storage of vegetable oils (1931) and International Engineering and Chemical Company (1951).



T&M ASSOCIATES ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748 PHONE:(732) 671-6400 FAX (732) 671-7365	**SITE LOCATION** **BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101** **BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK**		
0 2000 4000	SOURCE: USGS - ELIZABETH, NJ-NY QUADRANGLE (1981)		N
SCALE IN FEET	AUGUST 7, 1998	SISB-00120	FIGURE 1



T&M ASSOCIATES
ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

0 2000 4000

SCALE IN FEET

SITE SKETCH

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

SOURCE: T&M ASSOCIATES, INC.

N

AUGUST 7, 1998	SISB-00120	FIGURE 2

3.6 Current and Past Use of Adjoining Properties

Surrounding uses include waterfront commercial facilities to the north and residential uses to the west east and south. Similar uses are identified on Sanborn Fire Insurance Maps. Uses on the northern side of Richmond Terrace (opposite subject property) included Dolan Transportation (1998), Judy Lease & Trucking (1998), 4 Star Transportation (1986-1990), Carpet Contender/J Meade Employment (1981), Albatross Salvage (<1971-1976) and Carlson Marine (<1971-1976). Uses on the southern side of Richmond Terrace near the subject property included All Sports and Sedan/Morning Auto Repair (1986-1998) and Peterson Tool and Die (<1971-1981).

3.7 Environmental Liens or Specialized Knowledge

The following information has been ascertained regarding environmental liens or specialized knowledge or experience of the property in question:

There are no environmental liens on the property.

A prior environmental study was performed for the subject property as follows:

A *Subsurface Investigation for Contamination* report, dated May 8, 1995, was prepared by Hilmann Environmental Company, Inc. on a portion of the subject property. As a result of the investigation, Hilmann did not identify contamination and made no recommendations for further investigation or remediation.

4.0 Records Review

4.1 Federal and State Standard Environmental Record Sources

The environmental records search (Appendix G) indicates that there are no records for the subject property. There are, however, nine (9) sites with reported Recognized Environmental Conditions in the vicinity of the subject property, within the appropriate ASTM radii. These are:

- **Deville II Auto Collision**, located within 1/8 mile northwest of the subject property at 2432 Richmond Terrace in Staten Island, NY. This site has a United States Environmental Protection Agency (USEPA) record of a Resource Conservation and Recovery Act (RCRA) small quantity generator of hazardous waste.

- **Scara-Mix, Inc.**, located within 1/8 mile west northwest of the subject property at 2537 Richmond Terrace in Staten Island, NY. This site has a New York State Department of Environmental Conservation (NYSDEC) record of two registered underground storage tanks (gasoline and diesel fuel).

- **Sipco Oil Company**, located within 1/8 mile west of the subject property at 2541 Richmond Terrace in Staten Island, NY. This site has a NYSDEC record of a registered underground storage tank (diesel fuel) and a registered aboveground storage tank (out of service).

- **Drury Enterprises, Inc.**, located within 1/4 mile west of the subject property at 2589 Richmond Terrace in Staten Island, NY. This site has a NYSDEC record of a registered underground storage tank (No. 1, 2 or 4 fuel oil).

- **Maaco Auto Painting**, located within 1/4 mile west of the subject property at 2550 Richmond Terrace in Staten Island, NY. This site has a USEPA record of a RCRA small quantity generator of hazardous waste.

- **Chelsea Terminal**, located within 1/2 mile east northeast of the subject property at 2217 Richmond Terrace in Staten Island, NY. This site is listed as a Hazardous Substance Waste Disposal Site by the NYSDEC.

- **Spanpico**, located within 1/2 mile southwest of the subject property at 124 Granite Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (diesel fuel).

- **Raguso residence**, located within 1/2 mile west southwest of the subject property at 42 Wright Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (No. 2 fuel oil).

- **85 Blackford Avenue**, located within 1/2 mile south southeast of the subject property at 85 Blackford Avenue in Staten Island, NY. This site has a NYSDEC record of a leaking underground storage tank (No. 2 fuel oil).

These properties do not appear to have a significant environmental threat to the subject parcel due to the nature of the various conditions and/ore the suspected direction of groundwater flow.

It is noted that the Standard Environmental Record Search disclosed that the subject property contained environmental violations. Upon review of this information, it has been determined that the information was reported in error and is not the subject property. The search was initiated using "Richmond Terrace" as the subject address. The identified records also had "Richmond Terrace" as the facility address, thus assuming it was the same property. The "Richmond Terrace" sites in the database are at the eastern side of Staten Island and not in the vicinity of the subject property.

4.2 Published Mapping (Physical Setting)

The following sources have been reviewed for information regarding the physical setting of the property in question.

- USGS 7.5-minute series Topographic Quadrangle

This map is provided as a figure in this report.

4.3 Historical Use Information

The historical use of the properties in question was researched to 1930 or its undeveloped state or until data failure was reached. The following sources were contacted in order to research the historical use of the properties in question:

- Borough of Staten Island Health Official-Kevin McGrath: (718) 983-4502

- Borough of Staten Island Historian-Dick Dickenson: (718) 816-2137
- Borough of Staten Island Planning Department-Douglas Brooks (732) 727-8453
- Historical Sanborn Fire Insurance Maps

None of the Staten Island Departments reported any records or files concerning environmental issues, hazards, complaints or violations for the subject property.

Sanborn Fire Insurance Maps (Appendix D) were obtained and reviewed for the following years: 1898, 1917, 1922, 1928, 1937, 1951, 1977, 1981, 1992, 1993, 1995 and 1996. The large volume iron oil tanks appear on the maps between 1917 and 1951. No other areas of concern appear on the subject property on any of the historical maps reviewed.

5.0 Information From Site Reconnaissance and Interviews

A site inspection was conducted on the properties in question on July 29, 1998, during which photographs were taken (Appendix C).

5.1 Hazardous Substances in Connection with Identified Uses

There were no hazardous substances observed or identified in connection with the present use on the property.

5.2 Storage Tanks

No underground or aboveground storage tanks were observed or identified on the subject property.

5.3 Identification of PCBs

There are no features on the subject property which would indicate the presence of Polychlorinated biphenyls (PCBs).

5.4 Indications of Solid Waste Disposal

There is no observable evidence of solid waste disposal on the site.

5.5 Environmental Sampling

Due to the historical presence of large volume aboveground oil tanks and evidence of past site disturbance, soil borings were conducted throughout the project site. Ten (10) soil borings were advanced to a depth of ten feet using a stainless steel hand augur. Soil samples were taken and analyzed for total petroleum hydrocarbons (TPHC) via the USEPA Method 418.1 with a contingent analysis for volatile organic compounds (VOC) via the USEPA Method 624+10 for samples exhibiting the highest TPHC concentration greater than 1,000 parts per million (ppm). In addition, samples were analyzed for USEPA Priority Pollutants (PP+40). As a result of soil sampling and laboratory analysis, no evidence of contamination was revealed. Analytical results are presented in Appendix F.

6.0 Conclusions, Opinions and Recommendations

6.1 Conclusions

A Phase I Environmental Site Assessment has been conducted on the property in question in conformance with the scope and limitations of ASTM Practice E-1527-97. Any exceptions to, or deletions, from this practice are described in Section 2.2 of this report.

6.2 Opinions

It is our opinion that there are no readily observable Recognized Environmental Conditions on the subject property that require further investigation. It is also our opinion that, based on sample analyses, prior uses did not contaminate the on-site subsurface soils. It is our opinion that the conditions reported in the Standard Environmental Records Search would not have an adverse impact on the subject property based on the nature of the various conditions, surface topography and expected groundwater flow.

6.3 Recommendations

Additional examination may be conducted on the property in question, adjacent properties, or properties within the ASTM radii, if it is in the bank's interest to identify or characterize any known or suspect Recognized Environmental Conditions. It is also the bank's choice to select the next level of inquiry based on ownership, management, secured lending or fiduciary needs and responsibilities or any applicable requirements of law or regulations and the level of risk presented by the findings.

<u>Areas of Potential Further Inquiry</u>

Based on the findings and conclusions listed above, areas of potential further inquiry include the following:

- Seek to review local, county, State or Federal case management files and interview environmental case managers in order to identify and/or characterize any potential threat to the property in question from known off-site spills or leaks or releases of hazardous chemicals or hazardous wastes that may have occurred after the date of the records inquiry and subsequently come to the attention of the owner/user.

7.0 Qualifications of Environmental Professionals

Michael L. Francis, C.E.I.
Certified Environmental Inspector
Principal Environmental Planner

Professional Profile:	Bachelor of Arts (Geography: Environmental Analysis and Management) Rutgers - The State University of New Jersey, New Brunswick, NJ Master of Arts (Environmental Management) Montclair State College, Upper Montclair, NJ
Professional Affiliations:	National Association of Environmental Professionals (NAEP) Association of State Wetland Managers (ASWM) Society of Wetland Scientists (SWS) Environmental Assessment Association (EAA)
Professional Certifications:	OSHA 40-hour Hazardous Waste Site Health & Safety Training (General Site Worker) OSHA 8-hour Hazardous Waste Site Health and Safety Training (Site Supervisor) Certified Environmental Inspector Designation (EAA)

Experience:

Mr. Francis has over ten years of experience in the field of environmental consulting. He is experienced in Phase I environmental site evaluations pursuant to the ASTM Standard Practice E-1527-97 as well as the New Jersey Technical Requirements for Site Remediation (N.J.A.C. 7:26E) pertaining to contaminated sites, NJDEP Green Acres Program acquisition sites and New Jersey Industrial Site Recovery Act (ISRA) sites. Responsible for numerous projects involving State/Federal agency database coordination, on-site ISRA screening, evaluation and documentation.

He has directed and supervised approximately 300 wetland delineations and preparation of Wetland Delineation Reports for submission to the New Jersey Department of Environmental Protection (NJDEP), the U.S. Army Corps of Engineers (USACOE), the New Jersey Pinelands Commission (NJPC), the Hackensack Meadowlands Development Commission (HMDC) and the New York State Department of Environmental Conservation (NYSDEC). Experience includes a working knowledge of USACOE, NJDEP and NYSDEC regulations and methodologies including Freshwater and Saltwater/Tidal Wetlands, Stream Encroachment, CAFRA, Sewer Extension, NJPDES, and Treatment Works Permit processes. Mr. Francis has been successful in the planning and implementation of wetland mitigation and restoration projects approved by NJDEP.

Mr. Francis has been involved in the preparation of numerous Environmental Impact Statements including Natural Resource Inventories, Impact Assessments, Socio-Economic Impact Analyses and Traffic Analyses (for pollution assessments). Mr. Francis is experienced in the analysis of municipal ordinances and land use regulations including critically sensitive environmental areas, and in the preparation of Municipal Natural Resource Inventories in conjunction with updating Master Plans.

Michael L. Francis, C.E.I.
Certified Environmental Inspector
Principal Environmental Planner

Experience (continued):

Examples of representative project types in which an Environmental Impact Statement was prepared include: residential subdivisions (5 to 475 units), an electronics manufacturing facility, a chemical manufacturing facility, office buildings, parking garages, car washes, trucking facilities, bus terminals, highway improvement projects and restaurants.

He is also experienced in the use of the Metrosonics dB308 Sound Analyzer and CEL-493 Sound Level Meter including sound pressure level report generation and octave band analyses. Extensive experience in computer modelling for assessment of noise impacts for residential, commercial, industrial and highway improvement projects including construction and land use related impacts. Proficient in the application of the FHWA noise models STAMINA 2.0 and OPTIMA. He also has experience in modelling noise mitigation measures and related barrier cost effectiveness analyses. Mr. Francis has extensive experience in computer modelling for assessment of air quality impacts for highway related projects including construction and use related impacts. Proficient in the application of the following emission and mobile source prediction models: MOBILE5A, CALINE 3 and 4, CAL3QHC, and HIWAY2.

Mr. Francis has provided public hearing testimony and has been qualified as an expert witness in the field of environmental impact assessment and wetlands in many New Jersey municipalities and has been qualified as an expert in the field of wetland identification and delineation and has provided expert testimony before the Superior Court of New Jersey and the New York State Freshwater Wetlands Appeals Board.

Prior to joining T&M Associates in 1994, Mr. Francis served as Senior Environmental Specialist for The Hudson Partnership, Inc. in East Brunswick, New Jersey from 1991 to 1994 and as Senior Environmental Scientist for Connolly Environmental, Inc. in Denville, New Jersey from 1986 to 1991.

John E. Vanderslice, P.G.
Principal Hydrogeologist

PROFESSIONAL PROFILE:
B.S. Geology, Stockton State College, Pomona, NJ
M.S. Candidate Geology, Rutgers University, Newark, NJ

PROFESSIONAL AFFILIATIONS:
National Ground Water Association
Association of Engineering Geologists
Geological Association of New Jersey

PROFESSIONAL CERTIFICATIONS:
NJDEP Certified Subsurface Evaluator - License # 0012601
Professional Geologist License - State of Pennsylvania # PG-002915-G
NJDEP N-2 Industrial Wastewater Treatment Systems Operator License # 0008646
OSHA 40-hour Hazardous Waste Site Health & Safety Training
16- Hour Confined Space Training

EXPERIENCE:
Mr. Vanderslice has over ten years of experience in the field of environmental consulting. Since joining T&M, he has supervised and directed over 30 environmental projects from preliminary assessments and site investigations to corrective action. He has prepared Remedial Action Workplans proposing natural attenuation and has established Classification Exception Areas.

Prior to joining T&M Associates, Mr. Vanderslice served as a Project and Group Manager for Land Tech Remedial, Inc. where he worked for 2.5 years. His major responsibilities included:

Completion of Phase I, Phase II investigations and reports. Management of active remediation and intrinsic bioremediation projects for major oil companies. Completion of tenant compliance audits at industrial facilities for ISRA compliance. Management of field activities and preparation of tank excavation reports, Site Investigation Reports, Remedial Investigation Workplans, Remedial Action Workplans, and other reports for both clients and regulatory agencies. Coordination, preparation and review of cost proposals for sites involving soil and groundwater contamination. Preparation of scope of work proposals, budget tracking, contract negotiation, and project scheduling for remedial investigations. Field inspections to ensure all activities performed by contractors were in accordance with all applicable federal and state regulations. Oversight of the operation and maintenance of remedial treatment systems including groundwater pump and treat systems, soil vapor extraction, bioventing systems, and sparging systems. Supervised the installation of monitor wells, recovery wells, soil borings, interceptor trenches. Conducted aquifer testing (i.e., slug tests and long-term pumping tests), groundwater and soil sampling, soil vapor extraction/sparge testing. Provided contractor oversight on tank excavations and removals.

Mr. Vanderslice has also worked with Groundwater Environmental Services, Inc. in Wall, New Jersey, DUNN Geoscience of Parsippany, New Jersey, and Science Applications International Corporation in Paramus, New Jersey.

Appendix A
Certification

The undersigned certifies to ***Staten Island Savings Bank*** that:

1. The undersigned has no present or contemplated future (a) partnership with ***Staten Island Savings Bank*** nor (b) an interest in the property inspected which could adversely affect the ability to perform an objective inspection; and neither the employment of the undersigned to conduct the inspection, nor the compensation for it, is contingent on the results of the inspection.
2. The undersigned has no personal interest in or bias with respect to the subject matter of this ***Phase 1 Environmental Site Assessment*** or any parties who may be part of a financial transaction involving the property. The conclusions and recommendations of this report are not based in whole or in part upon the race, color, creed, sex or national origin of any of the principal parties of ***Staten Island Savings Bank*** or the property owner(s).
3. The undersigned has personally inspected the property and has made visual inspection of adjacent properties, to the extent possible by readily available access. The inspection does not include the removal of any soil, water or air samples, the moving of furniture or fixtures, or any type of inspection that would require extraordinary effort to access.
4. All contingent and limiting conditions are contained herein (imposed by the terms of the inspection assignment or by the undersigned affecting the conclusions and recommendations contained in this report).
5. This ***Phase 1 Environmental Site Assessment*** has been made in conformance with and is subject to the requirements of the Code of Professional Ethics of the Environmental Assessment Association.

Contingent and Limiting Conditions:

1. The undersigned assumes no responsibility for matters of a legal nature affecting the property inspected or the title thereto. The property is inspected assuming responsible ownership.
2. Any sketch appearing in or attached to the ***Phase 1 Environmental Site Assessment*** or any statement of dimensions, capacities, quantities or distances, are approximate and are included to assist the reader in visualizing the property. The undersigned has made no survey of the property.
3. The undersigned is not required to give testimony or appear in court because of having made the inspection with reference to the property in question, unless arrangements have been previously made therefor.
4. This ***Phase 1 Environmental Site Assessment*** is not intended to have any direct effect on the value of the property inspected but simply to provide a visual Environmental Assessment solely for the benefit of ***Staten Island Savings Bank***.
5. The undersigned assumes that there are no hidden, unapparent, or latent conditions or defects in or of the property, subsoil, or structures, other than those noted in the ***Phase 1 Environmental Site Assessment*** or any addendum which the undersigned has included. The undersigned assumes no responsibility for such conditions, or for the inspection, engineering or repair which might be required to discover or correct such factors.
6. Information, estimates and opinions furnished to the undersigned and contained in this report, were obtained from sources considered reliable and believed to be true and correct. However, the undersigned has made no independent investigation as to such matters and undertakes no responsibility for the accuracy of such items.
7. Neither the ***Phase 1 Environmental Site Assessment***, any part thereof, nor any copy of the same (including conclusions or recommendations, the identity of the inspector, professional designation, reference to any professional organization, or the firm with which the inspector is affiliated), shall be used for any purposes by anyone but ***Staten Island Savings Bank***. The report shall not be conveyed by anyone to the public through advertising, public relations, news, sales, or other media, without the prior written consent and approval of the undersigned.

Site Inspector:
Sign Name: Michael L Francis   Date: *August 7, 1998*

Print Name: *Michael L. Francis, CEI*   Phone: *(732) 671-6400*

Appendix B
Site Reconnaissance Checklist

Physical Findings Only

Property or Building Name: *Richmond Terrace Tract.*

Property Address: *2328-2354 Richmond Terr., 60 Nicholas Ave., 67 John St., Staten Island, New York*

Block(s): *1116/1121* Lot(s): *40, 75, 105/101* Municipality: *Borough of Staten Island*

Acreage: *9.5 Ac* Structures (Y/N): *N* Basement (Y/N): *N/A* Stories: *N/A*

General Property Description: *Vacant parcel in a residential/commercial area*

Neighborhood: *Residential/Commercial*

Recognized or Suspect Environmental Conditions (Based on Existing Physical Evidence)	**Subject Property** Yes	No	**Adjoining Properties(*)** Yes	No
1. An existing industrial site	[ ]	[X]	[ ]	[X]
2. A known or suspect past industrial site	[ ]	[X]	[ ]	[X]
3. An existing potentially hazardous commercial activity; i.e., A gasoline station, motor repair facility, commercial printing, dry cleaners, photodeveloping laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility	[ ]	[X]	[X]	[ ]
4. A known or suspect past commercial activity; i.e., A gasoline station, motor repair facility, commercial printing, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility	[X]	[ ]	[X]	[ ]

Note: (*) The responses to the adjoining properties reconnaissance are limited to the extent of the visibility of the properties from their public perimeters, therefore, limiting the comprehensiveness of the response.

(Continued)

Recognized or Suspect **<u>Environmental Conditions</u>** (Based on Existing Physical Evidence)	**Subject** **<u>Property</u>**		**Adjoining** **<u>Properties</u>(*)**	
	Yes	No	Yes	No
5. Discarded car batteries or chemicals in greater than 5-gallon containers or 50 gallons in aggregate	[ ]	[X]	[ ]	[X]
6. Current use or storage of tank trucks, drums or other containers of gas, liquids or powders	[ ]	[X]	[ ]	[X]
7. Signs of fill dirt	[X]	[ ]	[ ]	[X]
8. Waste piles, pits or lagoons	[ ]	[X]	[ ]	[X]
9. Stained soil or pavement greater than 1 meter in diameter	[ ]	[X]	[ ]	[X]
10A. Underground storage tanks	[ ]	[X]	[ ]	[X]
10B. Any records available on tank testing, leaks, spills, permit, age, tank protection or leak detection	[ ]	[X]	[ ]	[X]
11A. Aboveground storage tanks	[ ]	[X]	[ ]	[X]
11B. Leaking or spills around above ground storage tanks	[ ]	[X]	[ ]	[X]
12A. Stained floors, walls, drains	[ ]	[X]	N/A	
12B. Unidentified suspect odors	[ ]	[X]	[ ]	[X]
13A. Is the site served by private well	[ ]	[X]	N/A	
13B. If yes, contact Health Department	[ ]	N/A	N/A	
13C. Groundwater monitoring well on site	[ ]	[X]	[ ]	[X]
14. Surface discharges of waste water	[ ]	[X]	[ ]	[X]
15. Past waste dumping evidence	[ ]	[X]	[ ]	[X]
16. Leaking (or non-accessible) hydraulic or electrical equipment (suspect PCB's) or PCB labeled equipment	[ ]	[X]	N/A	

Note: (*) The responses to the adjoining properties reconnaissance are limited to the extent of the visibility of the properties from their public perimeters, therefore, limiting the comprehensiveness of the response.

(Continued)

Recognized or Suspect <u>Environmental Conditions</u> (Based on Existing Physical Evidence)	**<u>Subject Property</u>** Yes	No	**<u>Adjoining Properties</u>(*)** Yes	No
17. Distressed vegetation	[ ]	[X]	[ ]	[X]
18. Oil sheens on water (puddles, streams, ponds)	[ ]	[X]	[ ]	[X]
19. Obvious streams, ponds, or swamps and potential wetland fringes	[X]	[ ]	[X]	[ ]
20. Active or fallow agricultural land	[ ]	[X]	N/A	
21. Is the site served by a septic system	[ ]	[X]	[ ]	[X]
22. Is the site served by an oil furnace	[ ]	[X]	N/A	
23. Other________________	[ ]	[X]	N/A	
24. Potential hazard photographs	[ ]	[X]	[ ]	[X]
25. Known or approximate age of Building(s)	N/A Years		N/A	
<u>Optional Testing</u> (If Authorized)	<u>Sample Taken</u>			
26. Drinking water lead check	[ ]	[X]	N/A	
27. Lead paint check (built prior to 1978)	[ ]	[X]	N/A	
28. Friable asbestos check (built prior to 1980)	[ ]	[X]	N/A	
29. Radon check	[ ]	[X]	N/A	
30. Stained soil check	[ ]	[X]	N/A	
31. Soil samples	[X]	[ ]	N/A	

Note: (*) The responses to the adjoining properties reconnaissance are limited to the extent of the visibility of the properties from their public perimeters, therefore, limiting the comprehensiveness of the response.

35. DESCRIPTION OF FINDINGS

Add attachments as necessary and list in numerical order.

Item # 3: The adjacent properties are commercial (automotive wrecking and repair) uses along Richmond Terrace.

Item #4: The subject property was once a commercial sand and stone storage yard and contained five (5) large volume aboveground iron oil tanks. Adjacent past uses included bulk petroleum storage and chemical companies.

Item #7: There are piles of fill material on the subject property. It is unknown if these piles were a result of excavation activities on the site or brought onto the site from an off-site source.

Item #19: There are areas of isolated freshwater wetlands on the subject property under the jurisdiction of the New York District, U.S. Army Corps of Engineers. Properties on the opposite side of Richmond Terrace are adjacent to the Kill Van Kull.

Item #31: Soil samples were taken throughout the site and analyzed for total petroleum hydrocarbons (TPHC) and USEPA Priority Pollutants (PP+40). No evidence of contamination was revealed.

Appendix C
Photographs

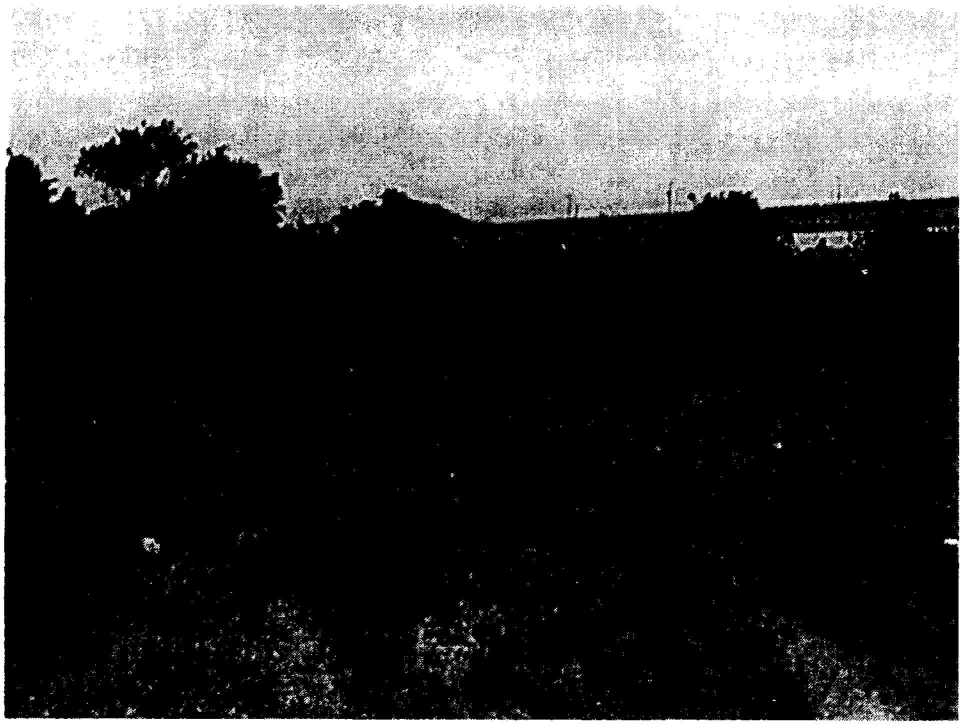


Photo #1: Subject property, looking west from Nicholas Avenue.

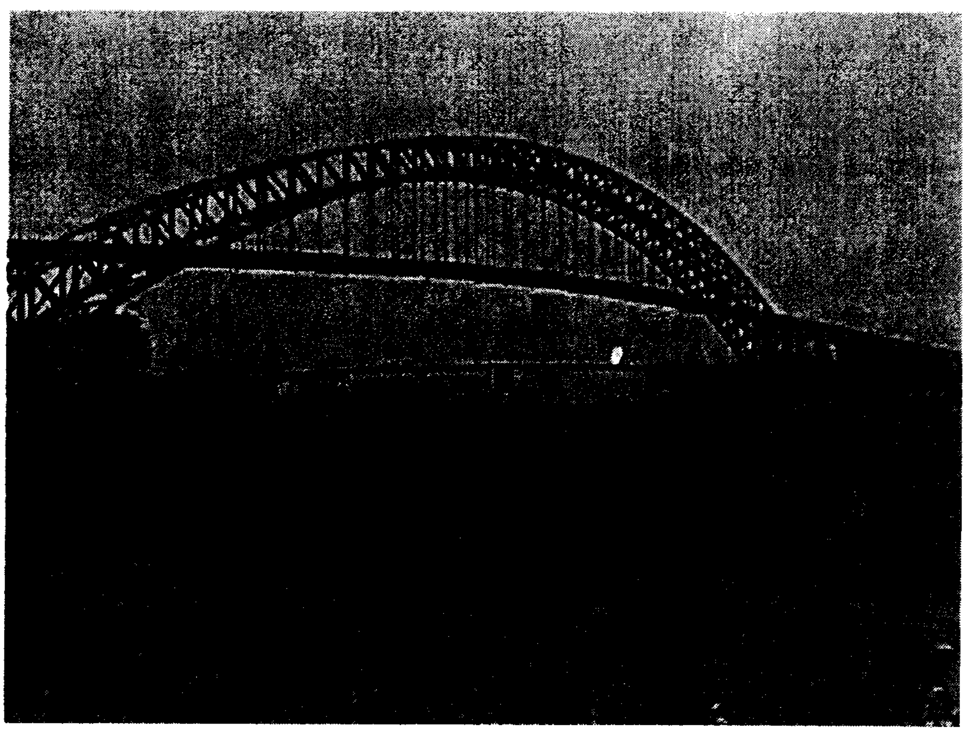


Photo #2: Central portion of the site, looking north towards the adjacent Federal Express facility on Richmond Terrace. The Bayonne Bridge can be seen in the background.

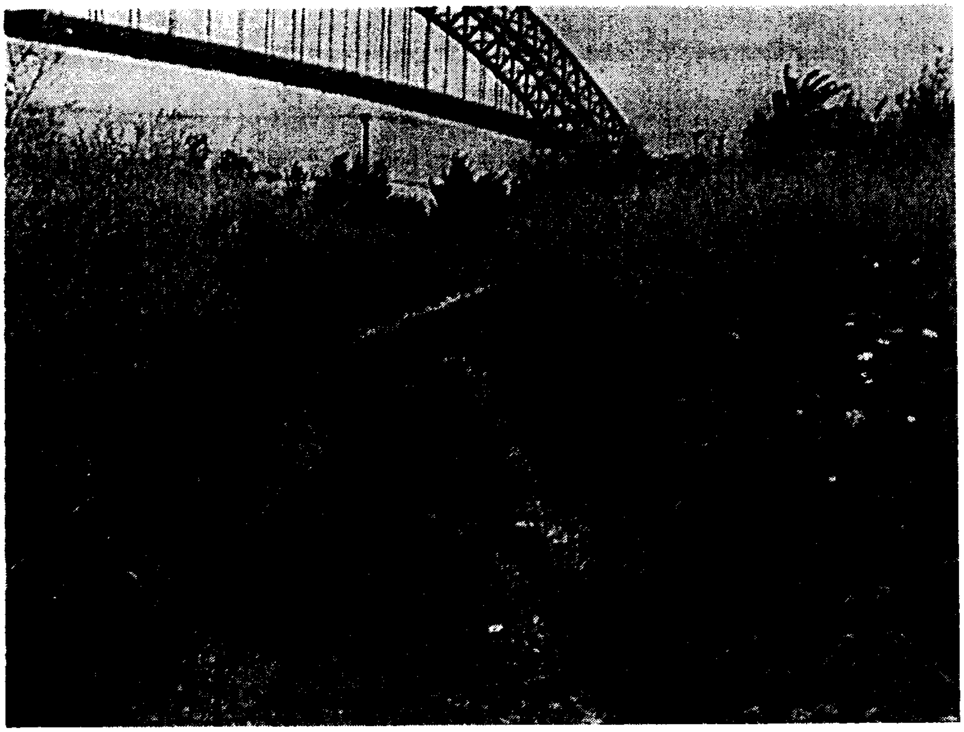


Photo #3: Drainage swale in the northern portion of the site, just east of the Federal Express facility. This is also the area of the historic presence of large volume aboveground oil tanks.

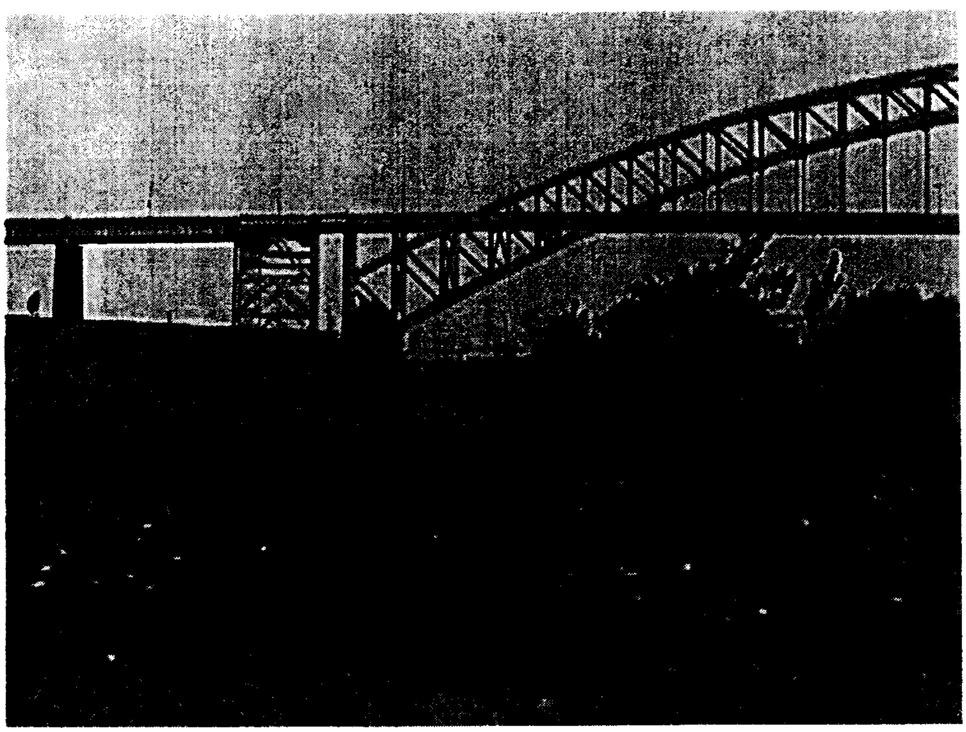


Photo #4: Central portion of the site, looking northwest towards the area of historic aboveground oil tanks.

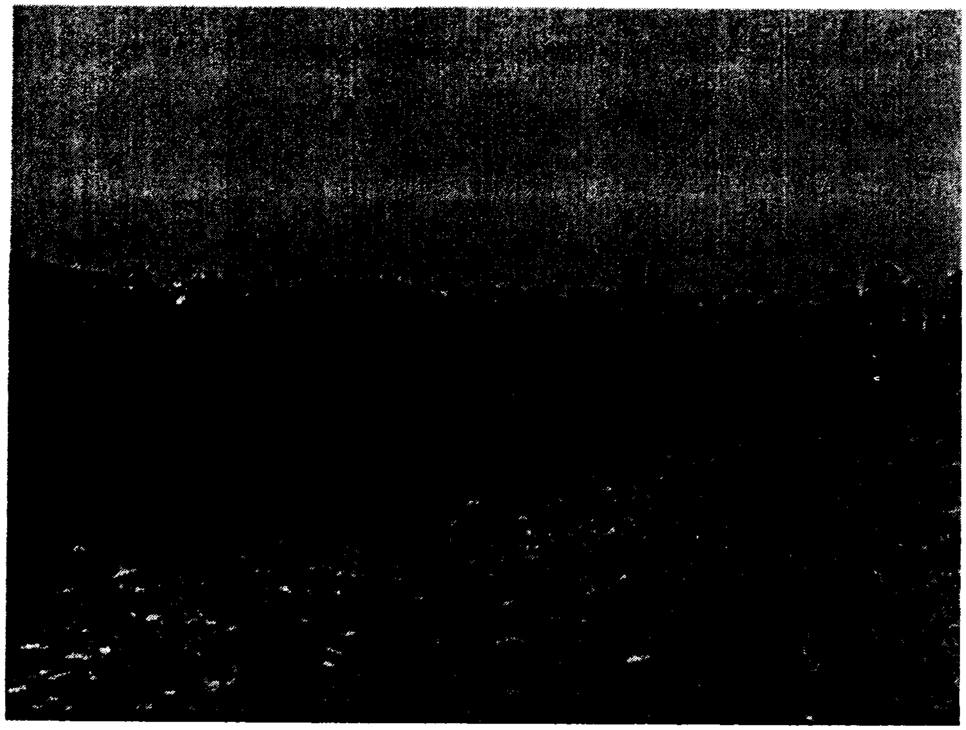


Photo #5: Western portion of the site, looking north.

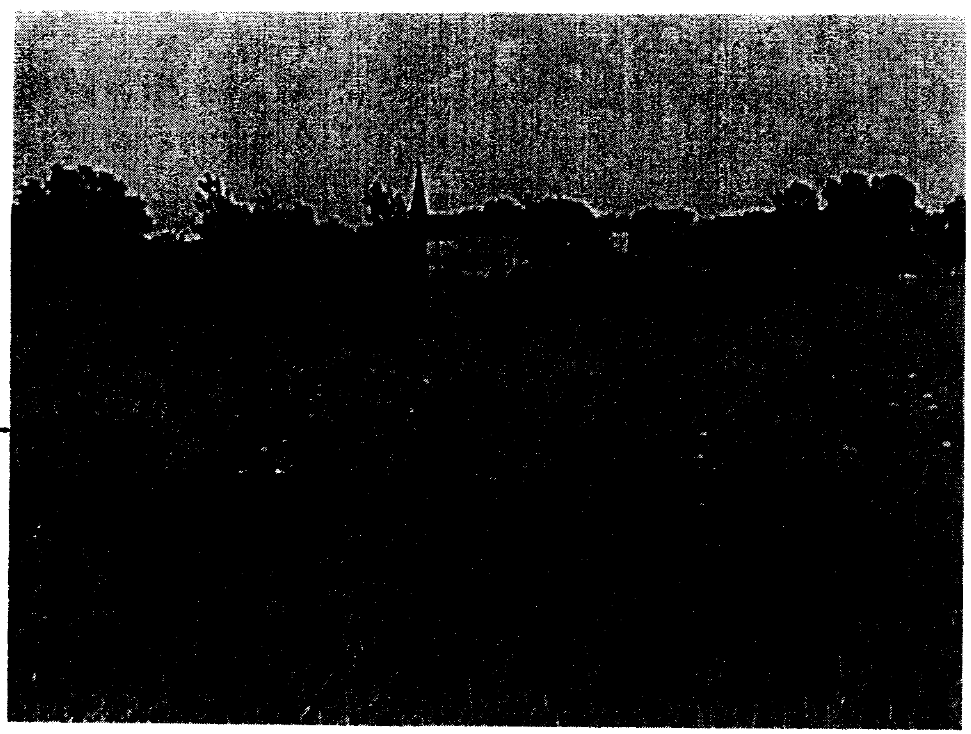


Photo #6: Northeastern portion of the site, looking east in the area of former sand and stone storage yard (1917-1951).

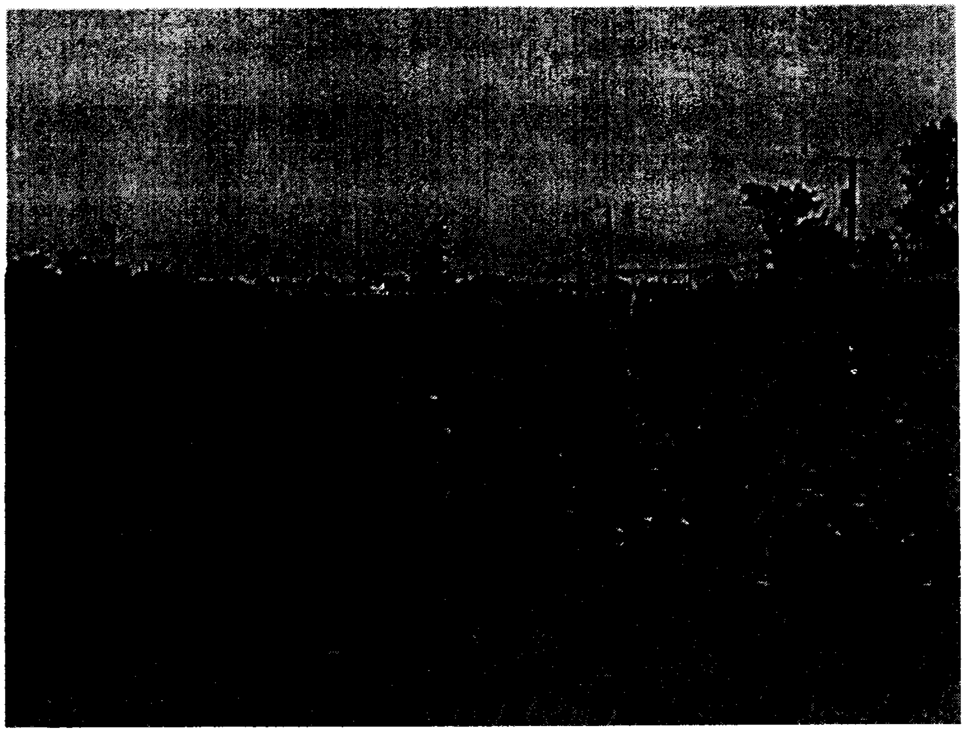
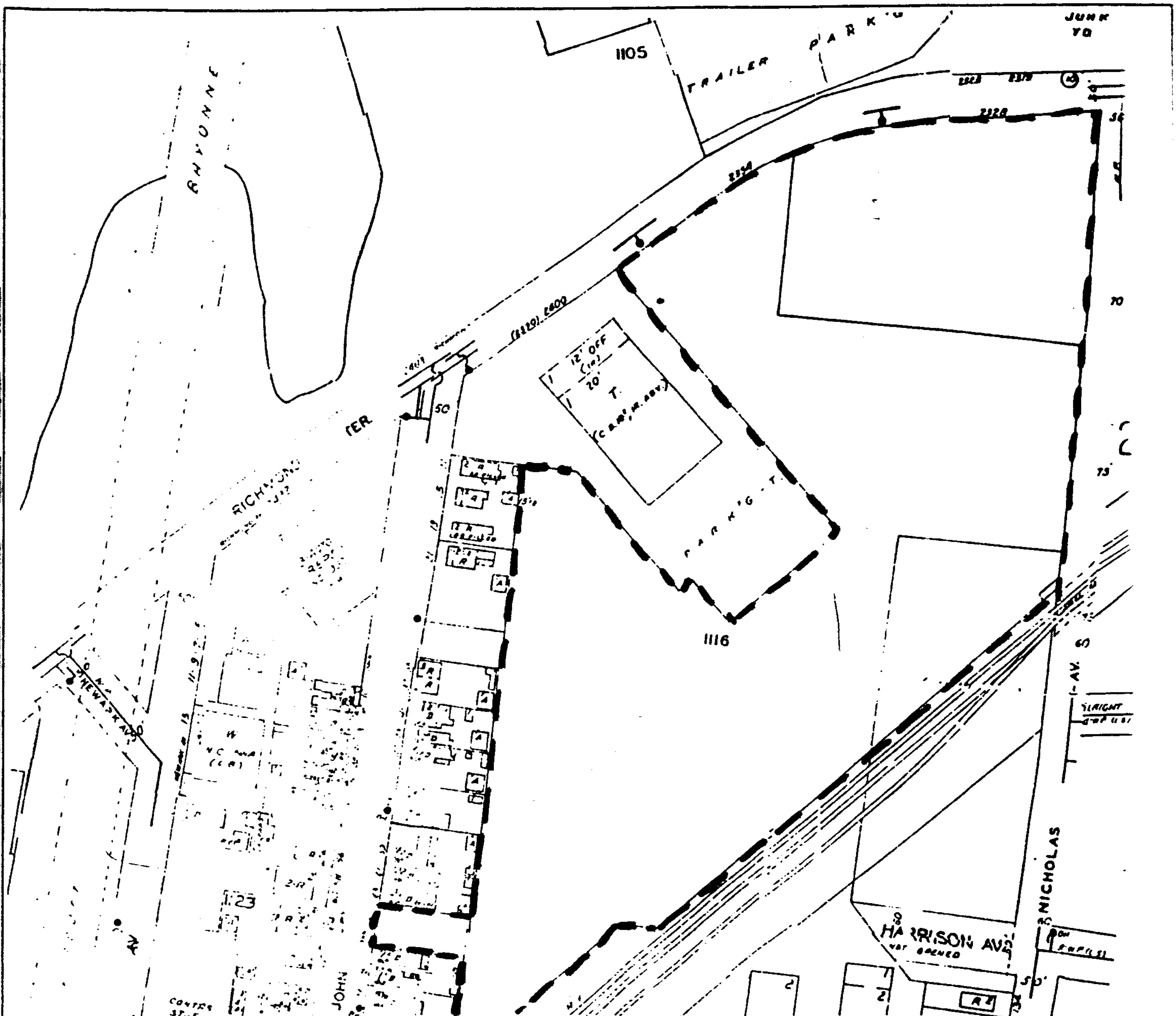


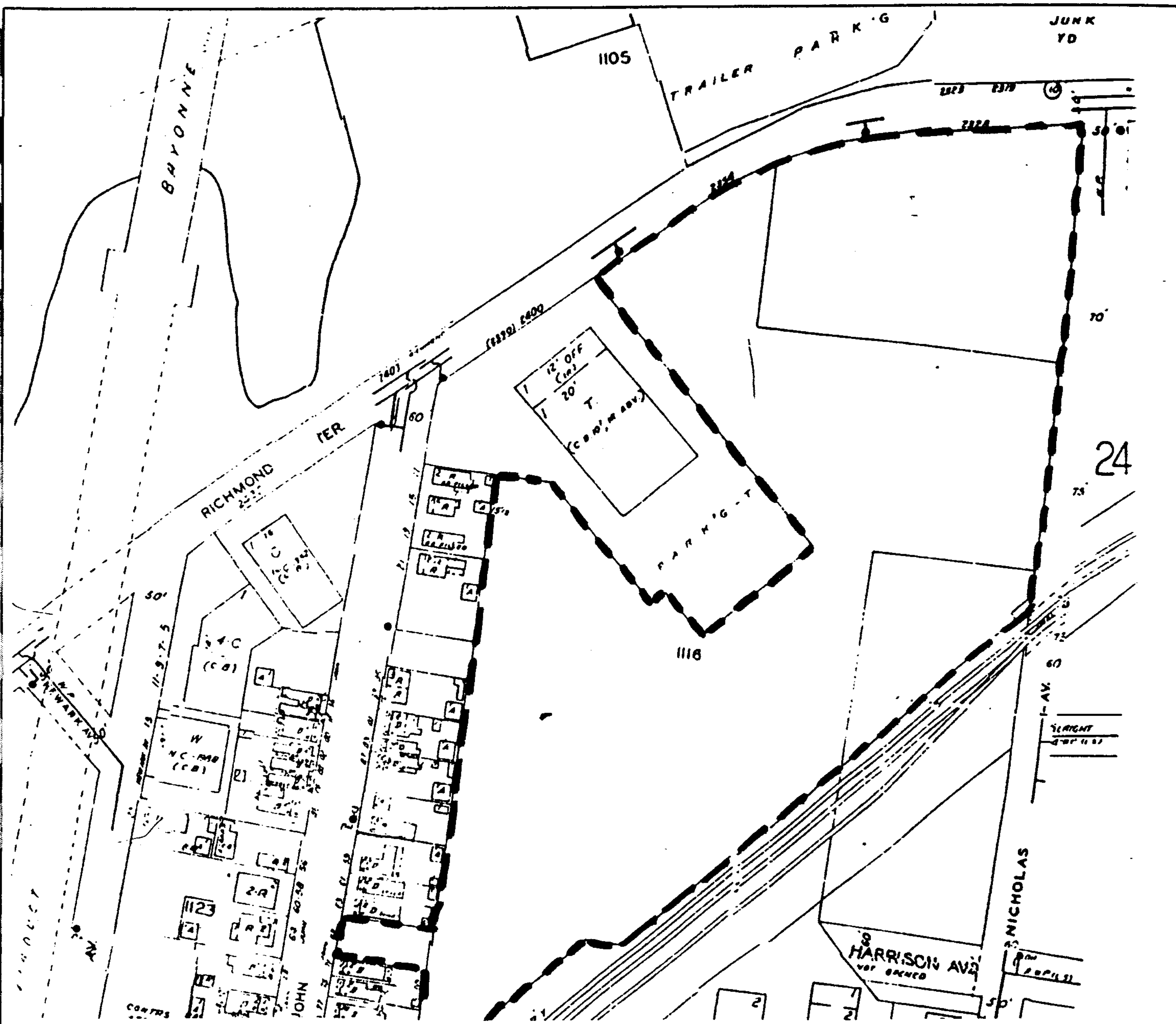
Photo #7: Northern portion of the site, looking west.

Photo #8: Southeastern portion of the site, looking south.

Appendix D
Historical Sanborn Fire Insurance Maps



T&M ASSOCIATES ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748 PHONE:(732) 671-6400 FAX (732) 671-7365	**1996 SANBORN MAP** **BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101** **BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK**
0 100 200	SOURCE: EDR SANBORN, INC.
SCALE IN FEET	AUGUST 7, 1998 | SISB-00120 | APPENDIX D



T&M ASSOCIATES
ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

0 100 200

SCALE IN FEET

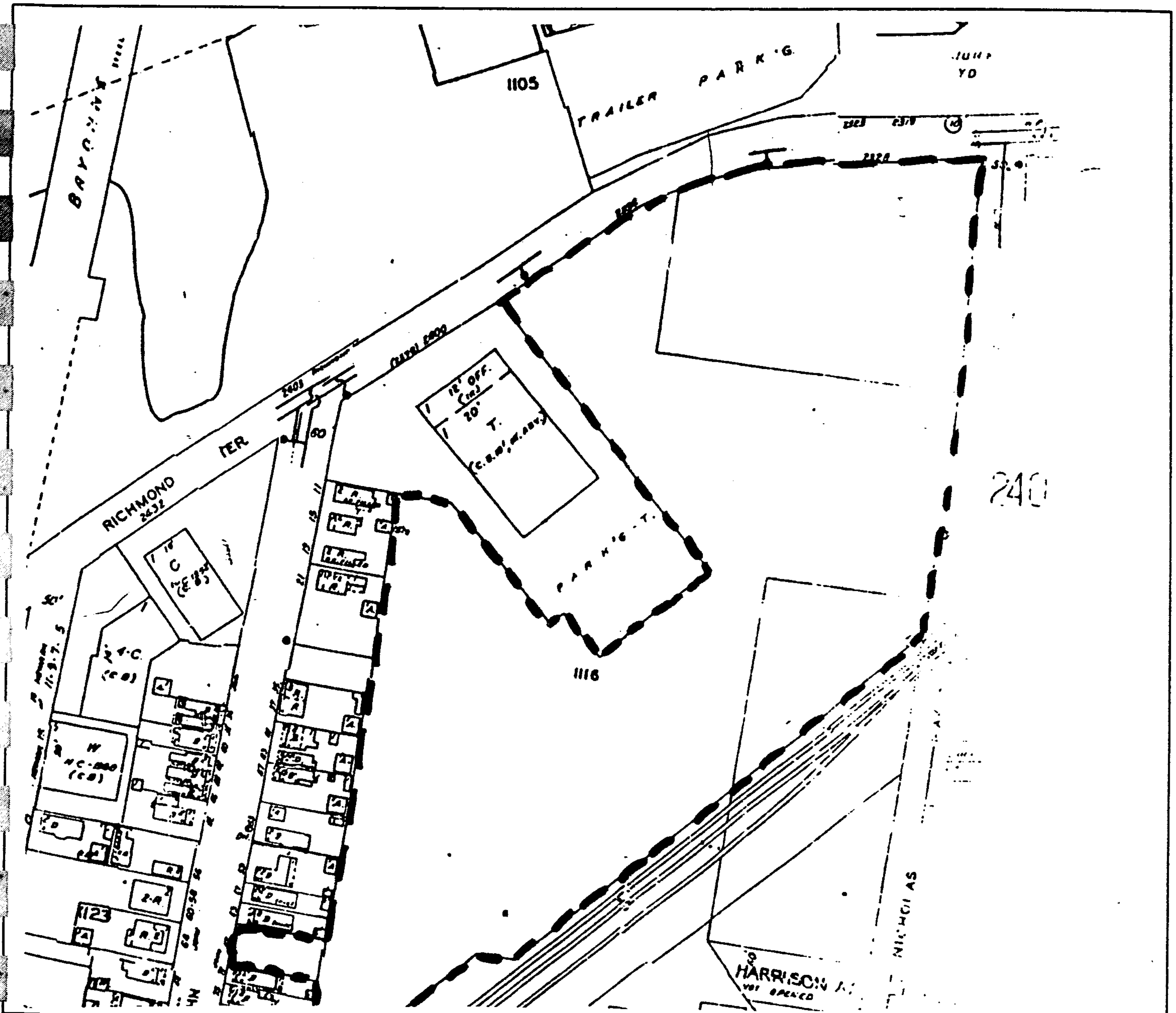
1995 SANBORN MAP

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

SOURCE: EDR SANBORN, INC.

N

AUGUST 7, 1998	SISB-00120	APPENDIX D



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

1993 SANBORN MAP

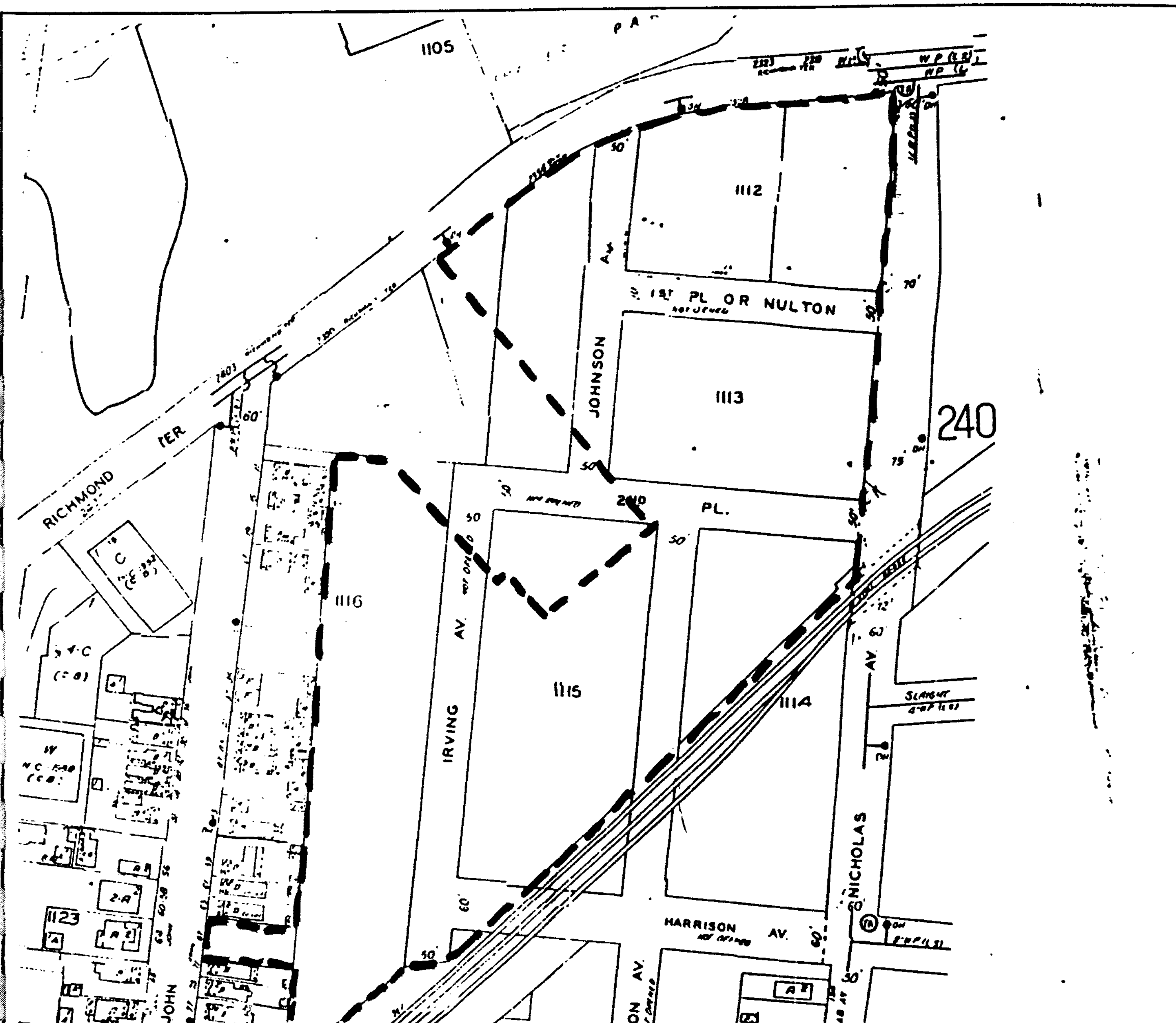
BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

0 100 200

SCALE IN FEET

SOURCE: EDR SANBORN, INC.

AUGUST 7, 1998	SISB-00120	APPENDIX D



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

0 100 200

SCALE IN FEET

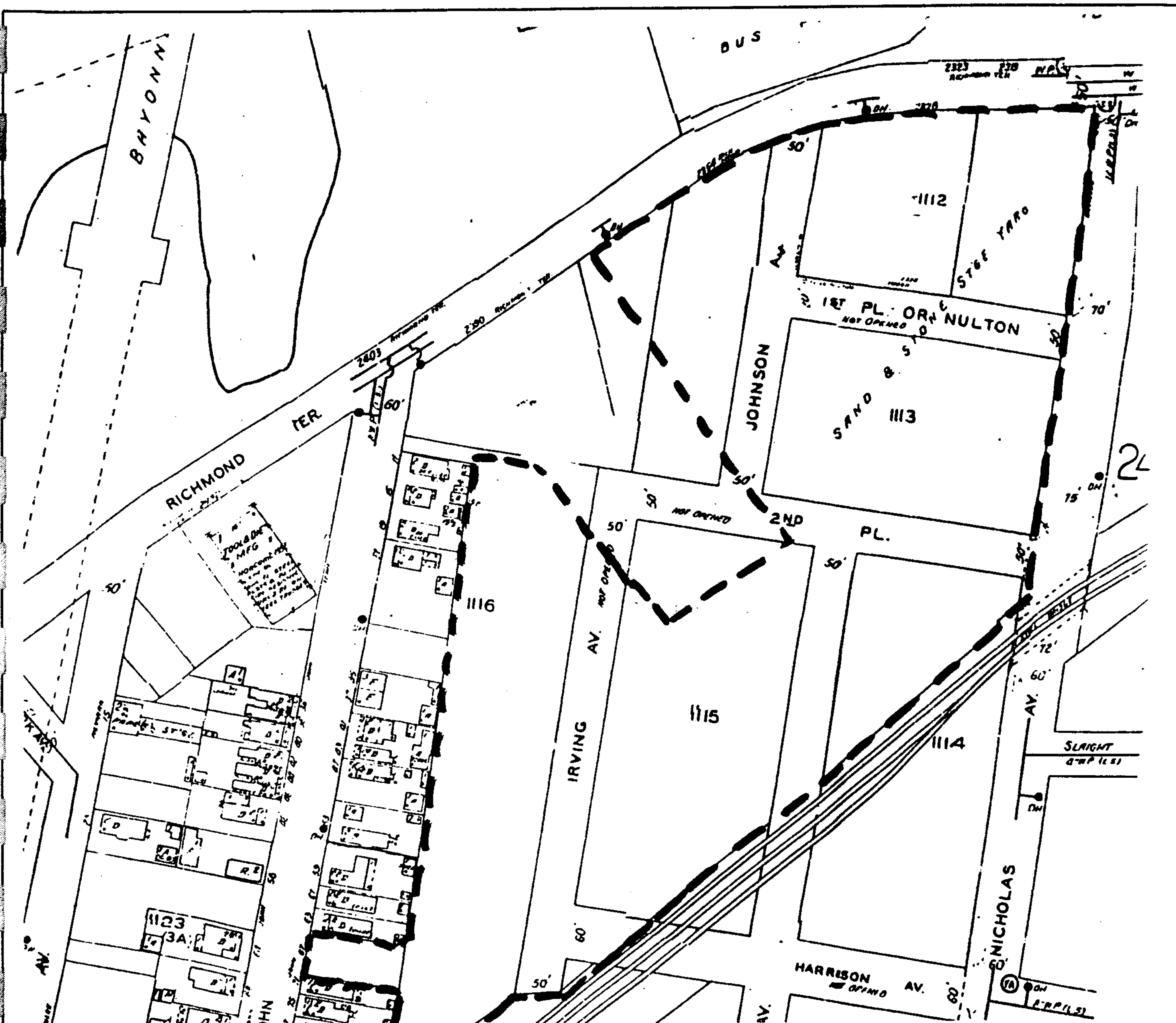
1992 SANBORN MAP

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

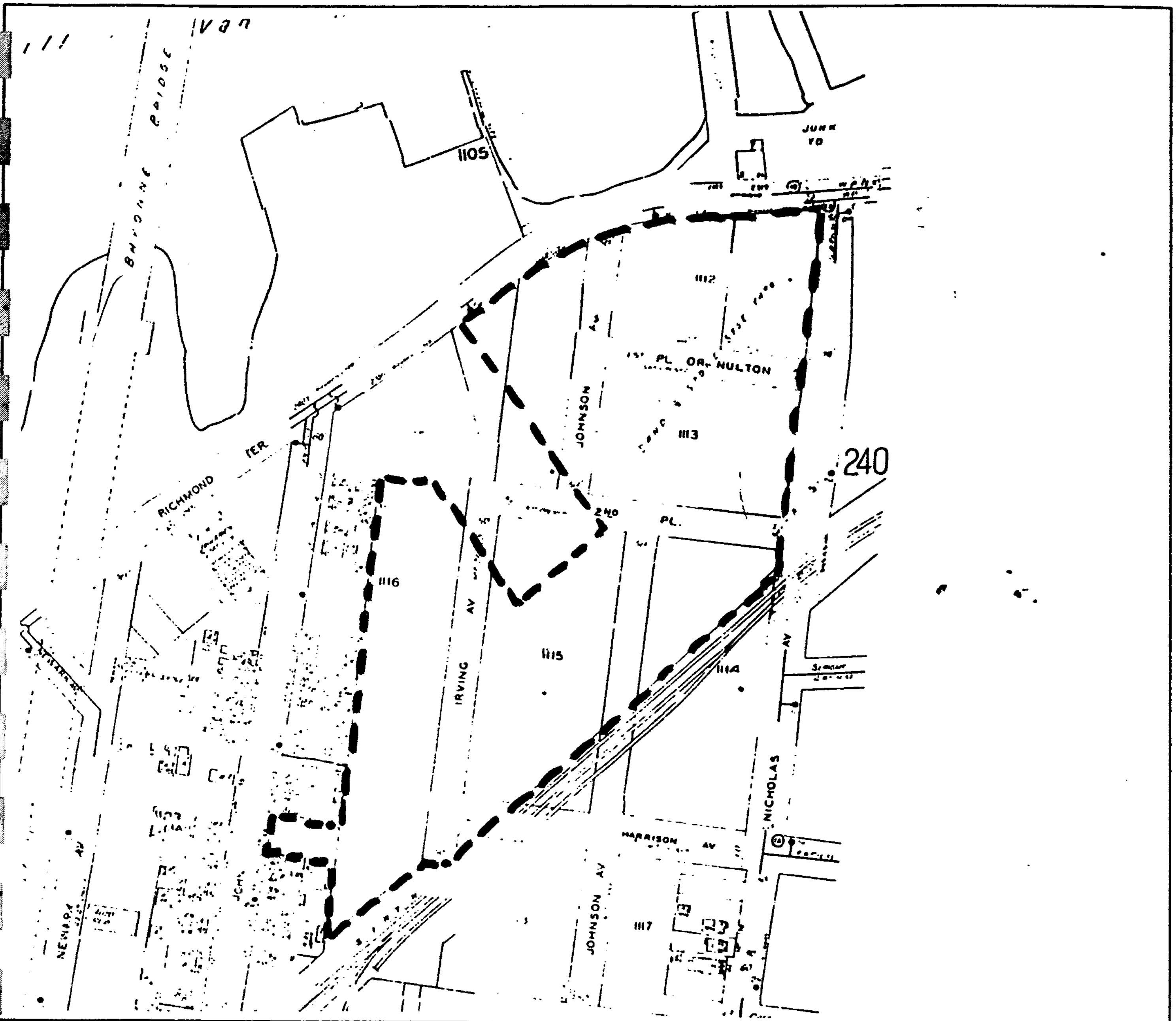
SOURCE: EDR SANBORN, INC.

N

AUGUST 7, 1998	SISB-00120	APPENDIX D



T&M ASSOCIATES	**1981 SANBORN MAP**
ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748 PHONE:(732) 671-6400 FAX (732) 671-7365	**BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101** **BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK**
0 100 200	SOURCE: EDR SANBORN, INC.
SCALE IN FEET	AUGUST 7, 1998 | SISB-00120 | APPENDIX D



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

1977 SANBORN MAP

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

0 100 200

SCALE IN FEET

SOURCE: EDR SANBORN, INC.

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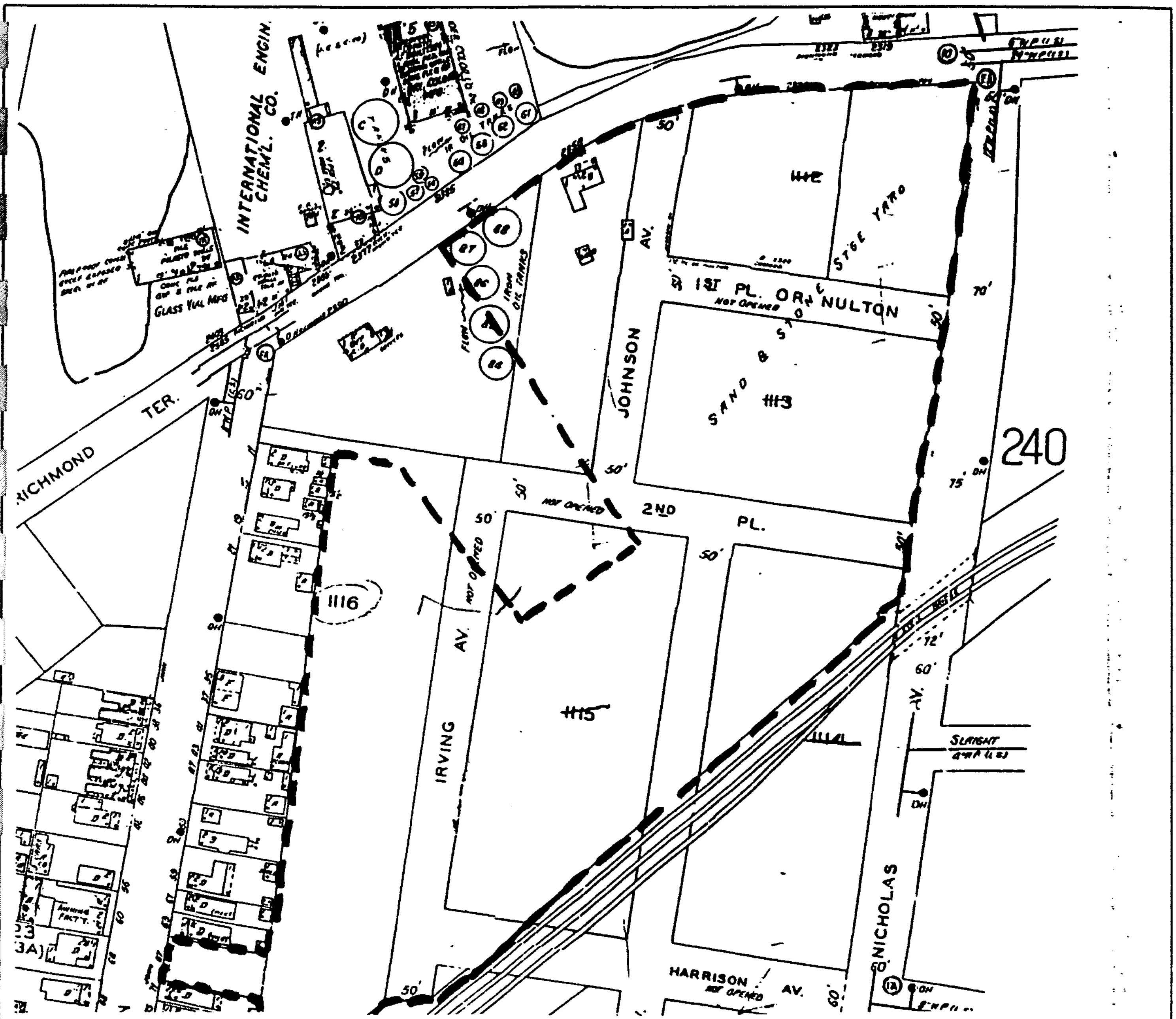
SCALE IN FEET	AUGUST 7, 1998	SISB-00120	APPENDIX D



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

0 100 200

SCALE IN FEET

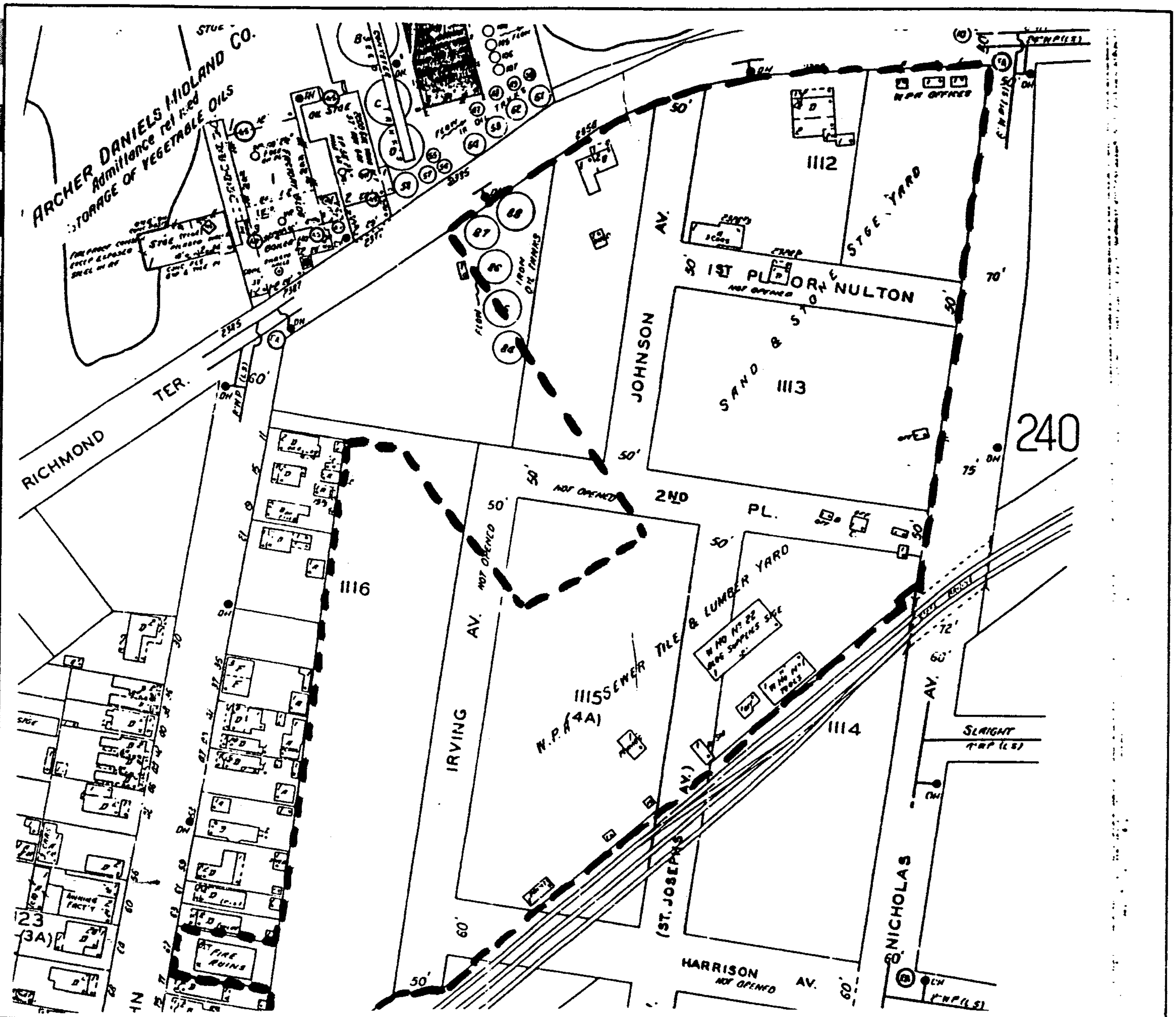
1951 SANBORN MAP

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

SOURCE: EDR SANBORN, INC.

N

AUGUST 7, 1998	SISB-00120	APPENDIX D



1937 SANBORN MAP

T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

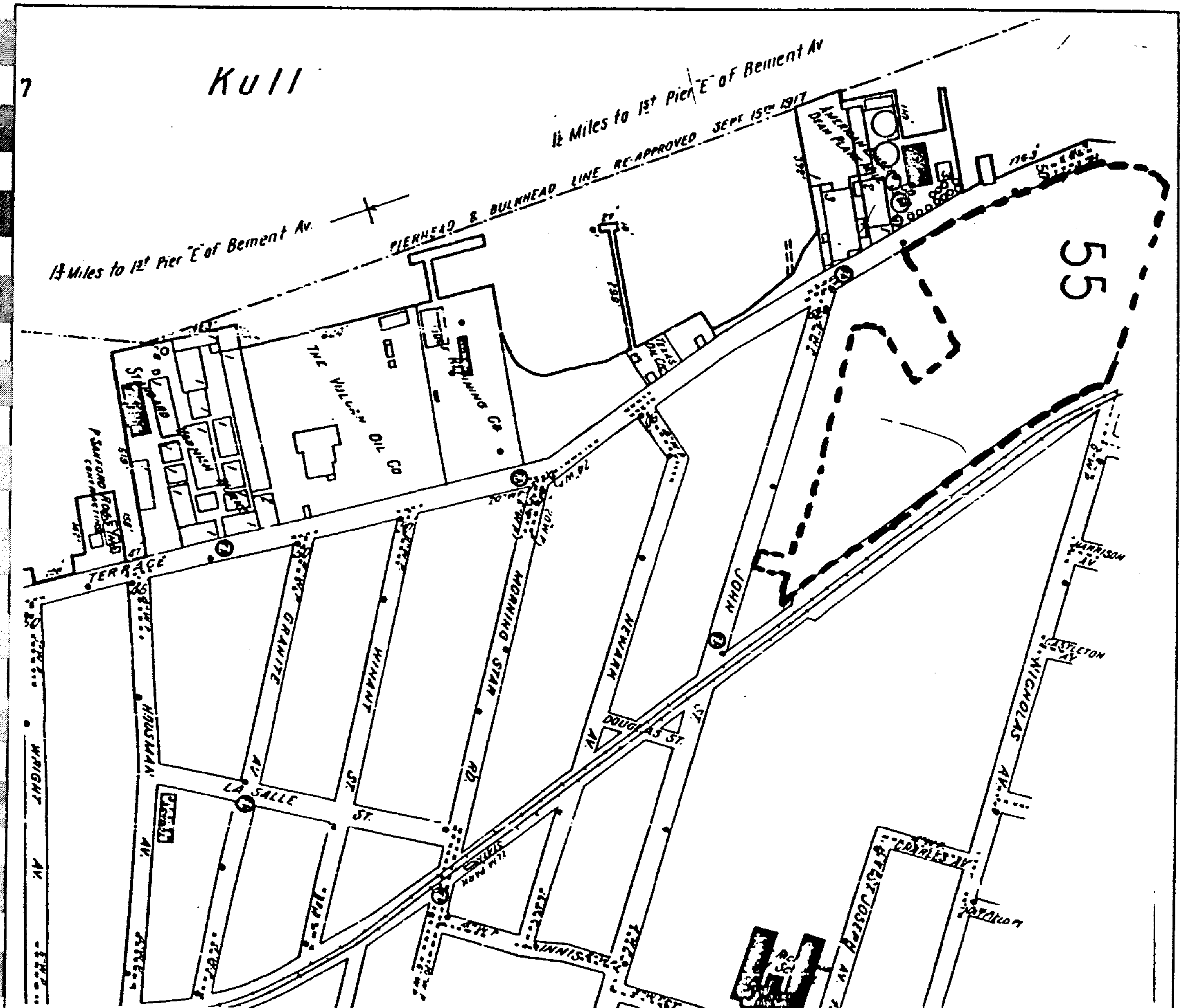
BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

0 100 200

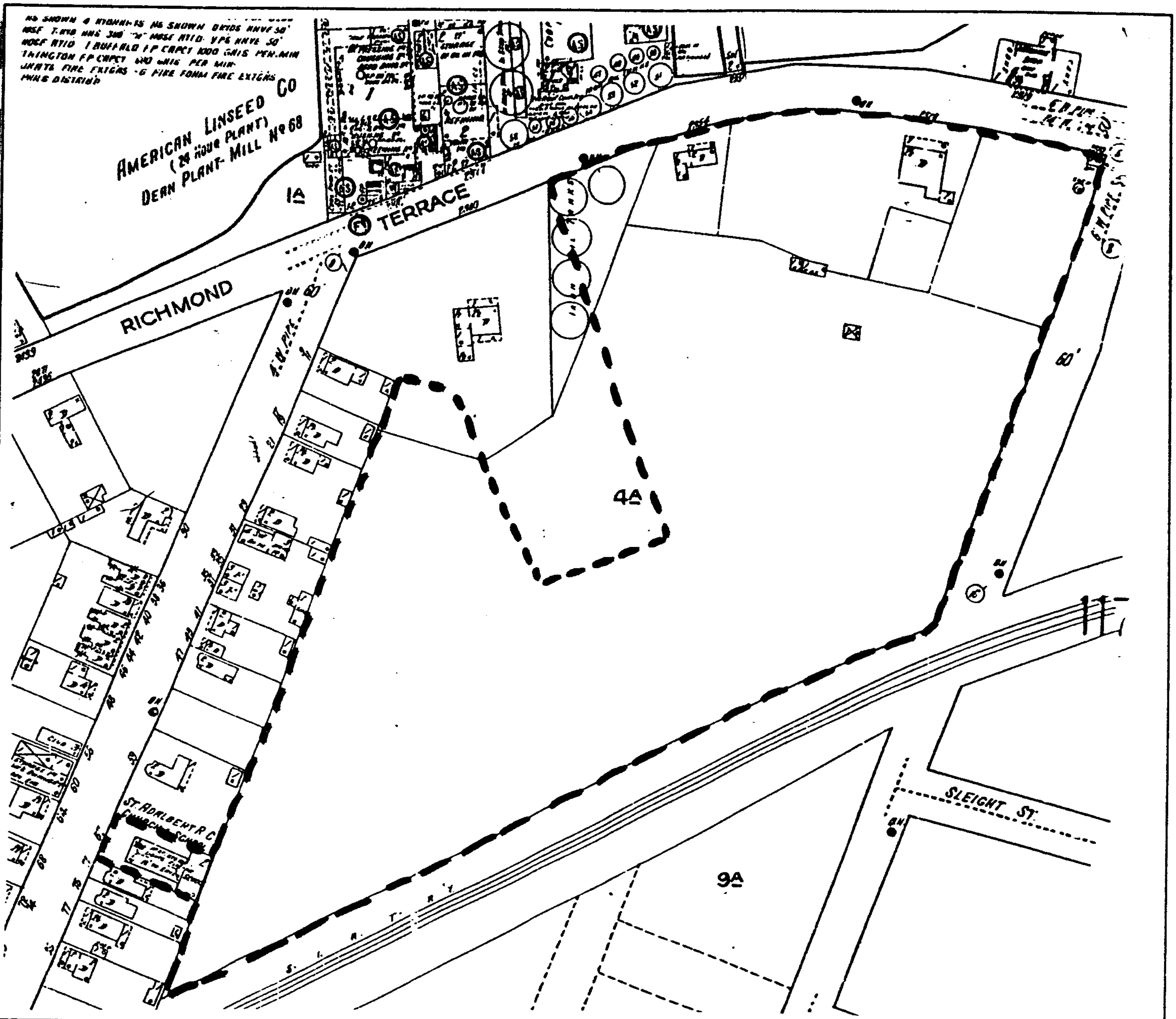
SCALE IN FEET

SOURCE: EDR SANBORN, INC.

AUGUST 7, 1998	SISB-00120	APPENDIX D



T&M ASSOCIATES ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748 PHONE:(732) 671-6400 FAX (732) 671-7365	**1928 SANBORN MAP** **BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101** **BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK**
0 100 200 SCALE IN FEET	SOURCE: EDR SANBORN, INC.
	AUGUST 7, 1998 | SISB-00120 | APPENDIX D



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

1917 SANBORN MAP

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

0 100 200

SCALE IN FEET

SOURCE: EDR SANBORN, INC.

N

AUGUST 7, 1998	SISB-00120	APPENDIX D

Appendix E
Correspondence

ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748-2792
(732) 671-6400 • Fax (732) 671-7365 • www.tamace.com • info@tamace.com

T&M ASSOCIATES

SISB-00120

July 31, 1998

Mr. Kevin McGrath- Health Official
Borough of Staten Island
51 Styvesant Place
Staten Island, NY 10301

Re: Health Department Records for Violations or Complaints

Dear Mr. McGrath:

By copy of this letter, I am requesting any information or records you may have for the properties known as **Block 1116, Lots 75, 40 and 105 and Block 1121, Lot 101** of the Borough of Staten Island, Richmond County, New York. Addresses for these are as follows: 2328 Richmond Terrace, 2354 Richmond Terrace, 60 Nicholas Avenue and 67 John Street.

The current owner of these parcels is EOR Eighty-Three of New York, Inc. A tax map is included to assist you in identifying these parcels.

We are in the process of conducting a Phase I Environmental Site Assessment for these properties. The information that the Staten Island Health Department may have concerning these properties may be important in determining the environmental condition of these properties. We are searching for any historical information pertaining to the environmental quality of the properties (i.e. underground storage tanks, violations, complaints, etc.).

Thank you for your assistance. If you have any questions, please call me at (732) 671-6400.

Very Truly Yours,

Sean P. Barnes
Environmental Planner

ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748-2792
(732) 671-6400 • Fax (732) 671-7365 • www.tamace.com • info@tamace.com

TM ASSOCIATES

SISB-00120

July 31, 1998

Mr. Dick Dickenson- Borough Historian
Borough Hall – Room 125
Staten Island, NY 10301

Re: Historical Records for Violations or Complaints

Dear Mr. Dickenson:

By copy of this letter, I am requesting any information or records you may have for the properties known as **Block 1116, Lots 75, 40 and 105 and Block 1121, Lot 101** of the Borough of Staten Island, Richmond County, New York. Addresses for these are as follows: 2328 Richmond Terrace, 2354 Richmond Terrace, 60 Nicholas Avenue and 67 John Street.

The current owner of these parcels is EOR Eighty-Three of New York, Inc. A tax map is included to assist you in identifying these parcels.

We are in the process of conducting a Phase I Environmental Site Assessment for these properties. The information that the Borough Historian may have concerning these properties may be important in determining the environmental condition of these properties. We are searching for any historical information pertaining to the environmental quality of the properties (i.e. underground storage tanks, violations, complaints, etc.).

Thank you for your assistance. If you have any questions, please call me at (732) 671-6400.

Very Truly Yours,

Sean P. Barnes
Environmental Planner

ELEVEN TINDALL ROAD MIDDLETOWN, NEW JERSEY 07748-2792
(732) 671-6400 • Fax (732) 671-7365 • www.tamace.com • info@tamace.com

T&M ASSOCIATES

SISB-00120

July 29, 1998

Mr. Douglas Brooks - Planning Director
Borough of Staten Island
56 Bay Street - 6th Floor
Staten Island, NY 10301

Re: Planning Department Records for Violations or Complaints

Dear Mr. Brooks:

By copy of this letter, I am requesting any information or records you may have for the properties known as **Block 1116, Lots 75, 40 and 105 and Block 1121, Lot 101** of the Borough of Staten Island, Richmond County, New York. Addresses for these are as follows: 2328 Richmond Terrace, 2354 Richmond Terrace, 60 Nicholas Avenue and 67 John Street.

The current owner of these parcels is EOR Eighty-Three of New York, Inc. A tax map is included to assist you in identifying these parcels.

We are in the process of conducting a Phase I Environmental Site Assessment for these properties. The information that the Staten Island Planning Department may have concerning these properties may be important in determining the environmental condition of these properties. We are searching for any historical information pertaining to the environmental quality of the properties (i.e. underground storage tanks, violations, complaints, etc.).

Thank you for your assistance. If you have any questions, please call me at (732) 671-6400.

Very Truly Yours,

Sean P. Barnes
Environmental Planner

Borough President's Office of Staten Island
Borough Hall
Staten Island, New York 10301
718 816-2000
Fax: 718 816-2152

fax Transmittal

To: Sean P. Barnes / T.M. Assoc's

Fax: 732/671-7365

From: Dick Dickenson, Borough Hist.

Date: Wed, 6 Aug. 1998

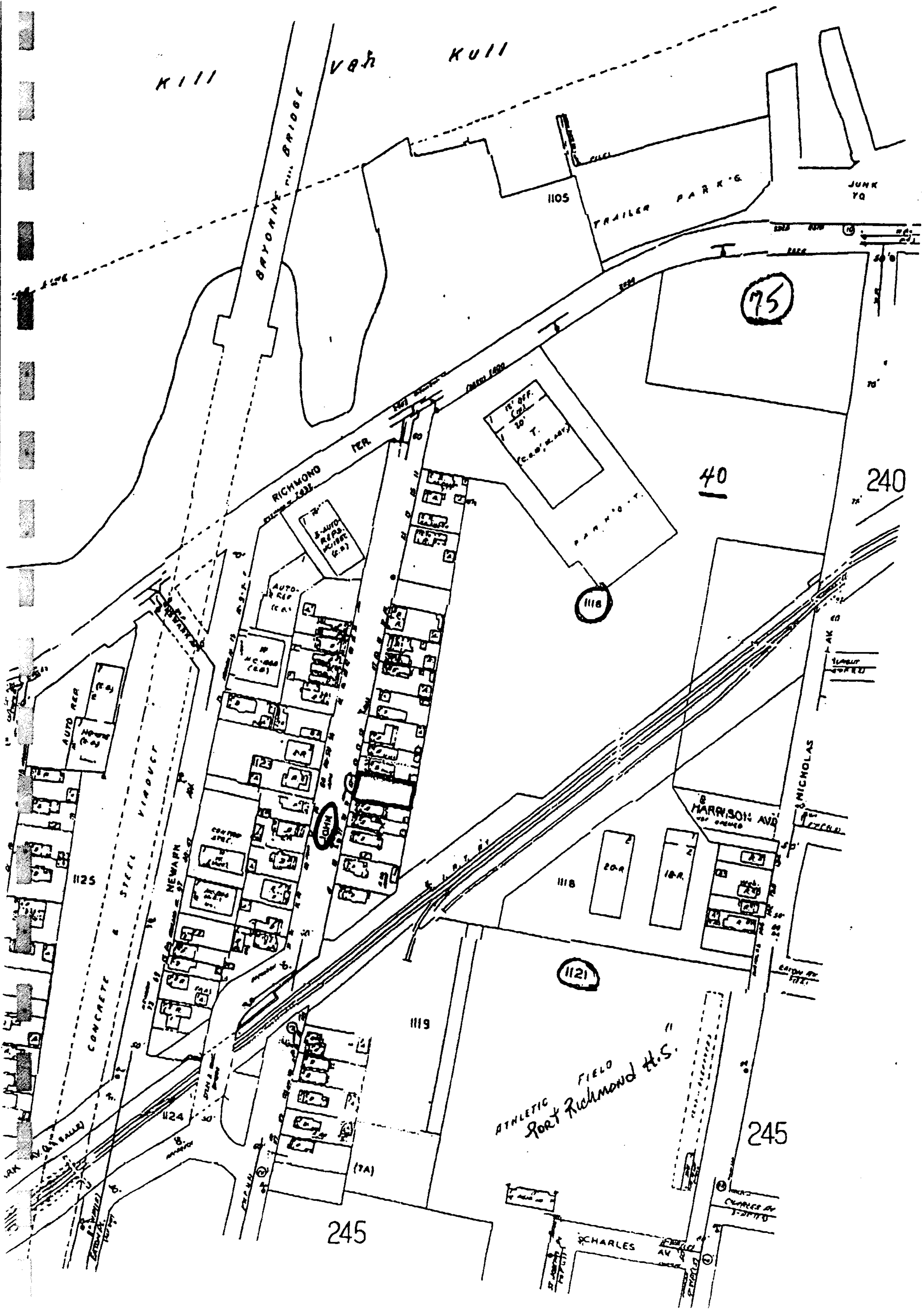
Re: Response to July 31, 1998 Letter

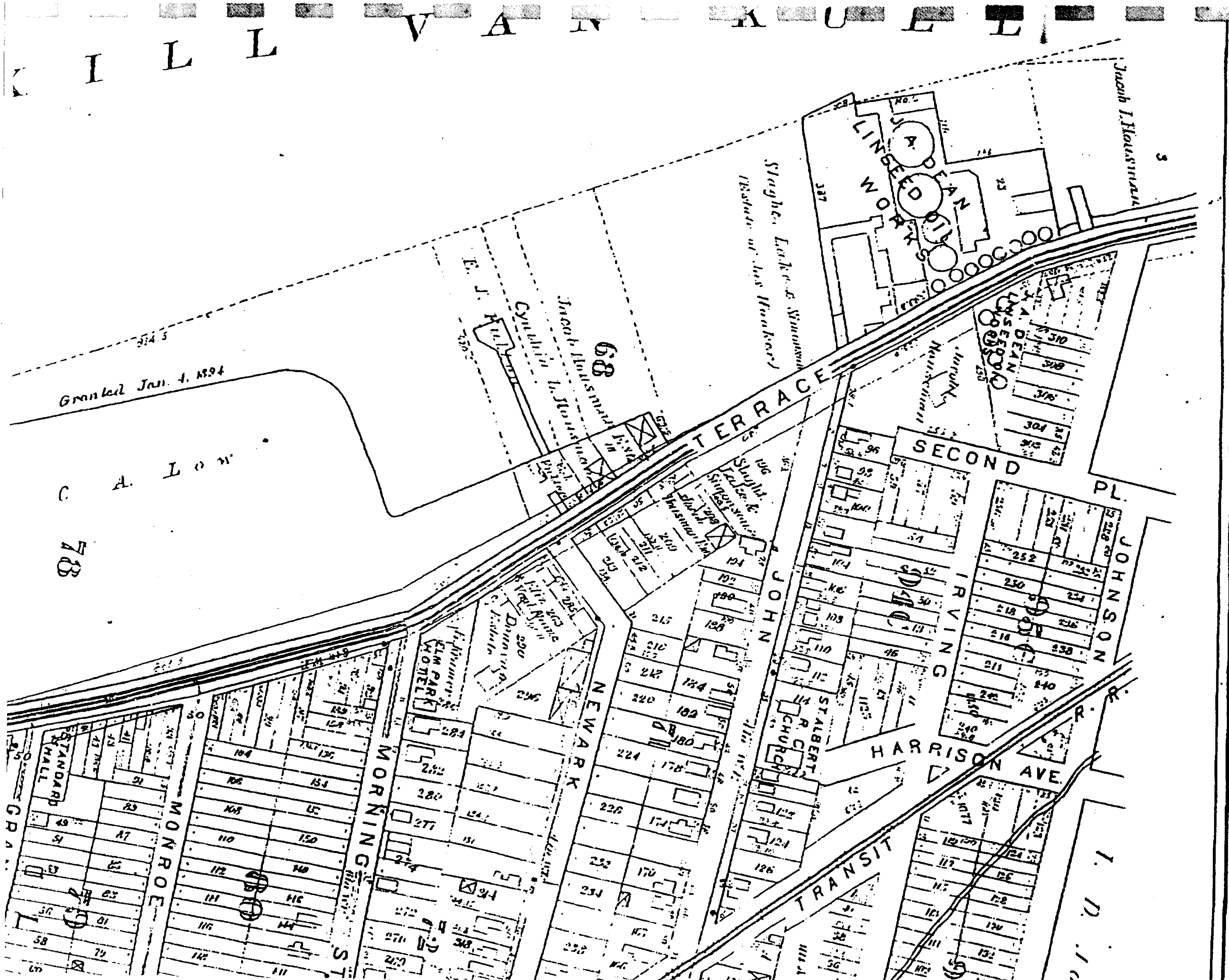
Pages: 5, including cover sheet.

COMMENTS:

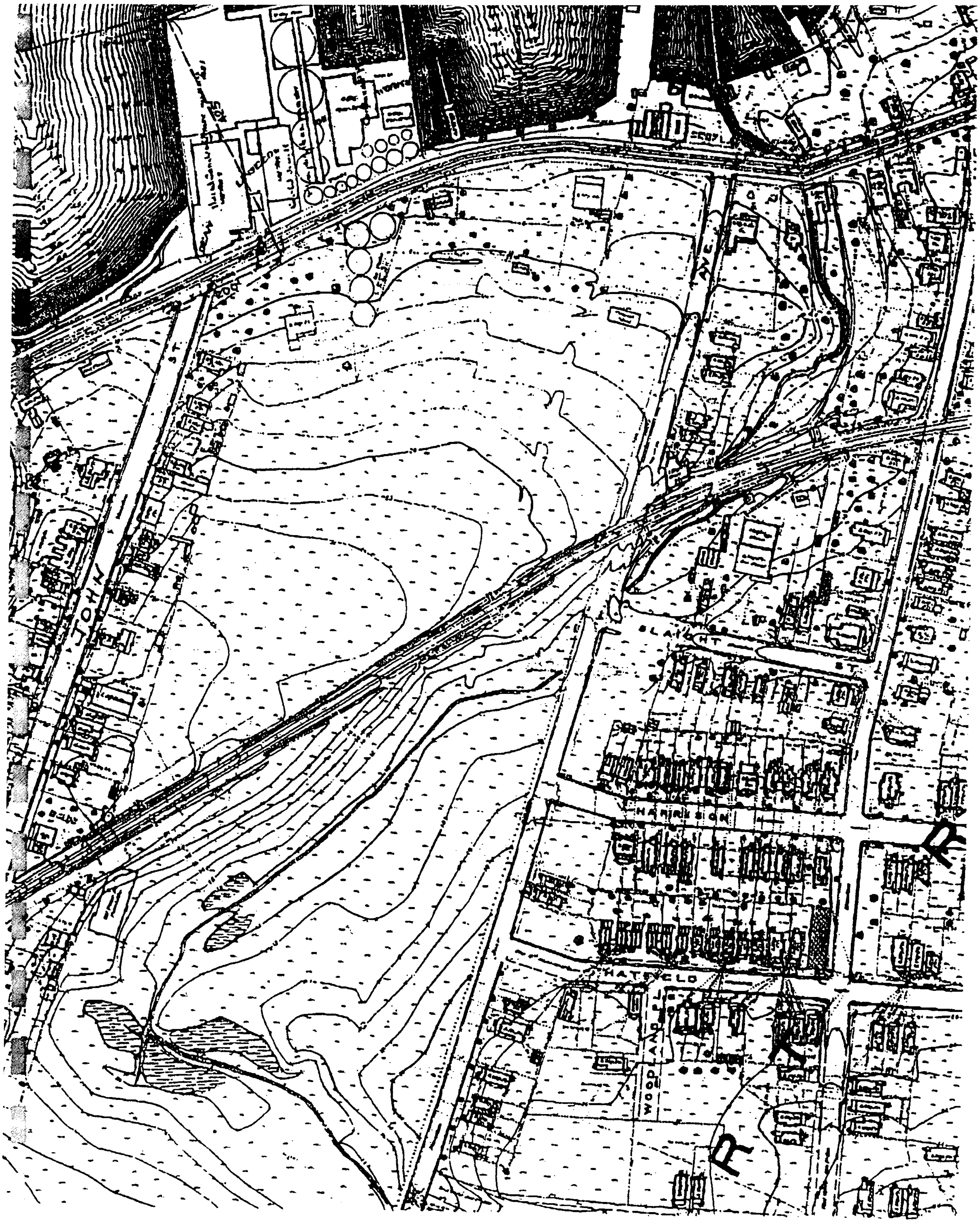
Violations and complaints on these properties are handled by the Buildings Dept. 718/816-2300 Historically (see 1909, 1917 maps) Dean Linseed Oil had tanks on the property but am unaware of contaminants left - if any. Have included a current Sanborn Map also.

FAX
AUG 6 1998

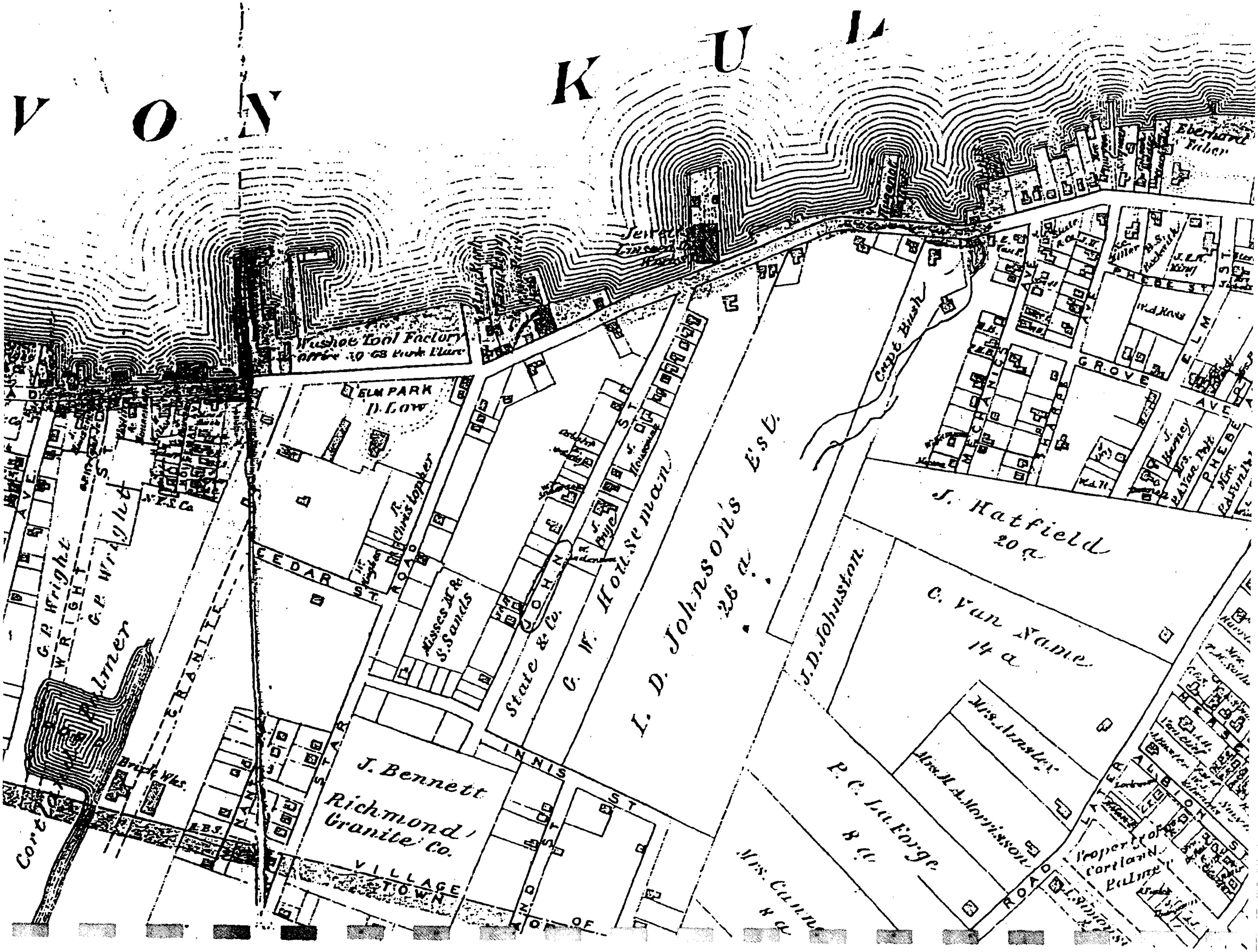

Kill Van Kull
BAYONNE BRIDGE
TRAILER PARK'G
JUNK YD
1105
75
40
240
RICHMOND TER.
PARK'G
1118
NEWARK
CONCRETE & STEEL VIADUCT
1125
1123
JOHN
HARRISON AVE
NICHOLAS
1121
1119
ATHLETIC FIELD
Port Richmond H.S.
1124
245
245
CHARLES AV


KILL VAN KULL
Granted Jan. 4. 1894
C. A. Low
68
TERRACE
J. A. DEAN LINSEED OIL WORKS
J. A. DEAN LINSEED OIL WORKS
SECOND PL.
JOHNSON
IRVING
JOHN
NEWARK
MORNING ST
MONROE
STANDARD HALL
ELM PARK HOTEL
ST. ALBERT R. C. CHURCH
HARRISON AVE.
TRANSIT
R. R.

1907.



1909 (Topographic



VON KUL
Washoe Tool Factory
ELM PARK
D. Low
R. Christopher
CEDAR ST
ROAD
Misses H. & S. Sands
JOHN ST
State & Co.
C. W. Housman
I. D. Johnson's Est.
26 a.
J. D. Johnston
Capt Bush
J. Hatfield
20 a.
C. Van Name
14 a.
Mrs. Annsley
Mrs. M. A. Morrison
P. C. La Forge
8 a.
GROVE AVE
PHEBE ST
ELM
ALBION
G. P. Wright
WRIGHT
ST
AVE
GRANITE
Brick Wks.
J. Bennett
Richmond Granite Co.
INNIS ST
VILLAGE
TOWN
STAR
Property of Cortland Palmer
ROAD
Eberhard Faber

The EDR-City Directory
Abstract

Richmond Terrace Tract
Richmond Terrace/John Street
Staten Island, NY 10302

August 4, 1998

Inquiry Number: 276845-6

Environmental Data Resources, Inc.
an edr company

The Source
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1527-97, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-97, Section 7.3.2, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-97 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-97, Section 7.3.2, page 11.

EDR's City Directory Abstract includes a search and abstract of available city directory data.

City Directories
City directories have been published for cities and towns across the U.S. since the 1700s. Originally a list of residents, the city directory developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural areas and small towns. ASTM E 1527-97 specifies that a *"review of city directories (standard historical sources) at less than approximately five year intervals is not required by this practice." (ASTM E 1527-97, Section 7.3.2.1, page 11.)*

Please call EDR Sanborn, Inc. Nationwide Customer Service at
1-800-352-0050 (8am-8pm EST)
with questions or comments about your report.
Thank you for your business!

Date EDR Searched Historical Sources:
City Directories August 04, 1998

Target Property:
Richmond Terrace/John Street
Staten Island, NY 10302

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1971	Address not Listed in Research Source		Cole's Criss Cross Directory
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1976	Address not Listed in Research Source		Cole's Criss Cross Directory
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1981	Address not Listed in Research Source		Cole's Criss Cross Directory
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1986	Address not Listed in Research Source		Cole's Criss Cross Directory
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1990	Address not Listed in Research Source		Cole's Criss Cross Directory
—	*Address not listed in research source. Address researched: 2328, 2354 Richmond Terr/67 John St*		
1998	Address not Listed in Research Source		Cole's Criss Cross Directory

Adjoining Properties

SURROUNDING AREA
Richmond Terrace/John Street
Staten Island, NY 10302

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1971	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory
	residence (2288)	N/A	
	Carlson Marine (2319)	N/A	
	not in source (2351)	N/A	
	Albatross Salvage (2385)	N/A	
	Pertersen Tool and Die (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	
1976	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory
	residence (2288)	N/A	
	Carlson Marine (2319)	N/A	
	not in source (2351)	N/A	
	Albatross Salvage (2385)	N/A	
	Pertersen Tool and Die (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	
1981	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory

PUR ID Year	Uses	Portion-Findings (FIM Information Only)	Source
1981 (continued)			
	residence (2288)	N/A	
	Carpet Contender/J Meade Employment (2319)	N/A	
	not in source (2351)	N/A	
	Petersen Tool and Die (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	
1986	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory
	residence (2288)	N/A	
	4 Star Transportation (2319)	N/A	
	not in source (2351)	N/A	
	All Sports and Sedan/Morning Auto Repair (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	
1990	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory
	residence (2288)	N/A	
	4 Star Transportation (2319)	N/A	
	not in source (2351)	N/A	
	All Sports and Sedan/Morning Auto Repair (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	
1998	** RICHMOND TERRACE Addresses **	N/A	Cole's Criss Cross Directory
	no return (2288)	N/A	
	Judy Lease and Trucking (2319)	N/A	
	Dolan Transportation/Terrace Cars (2351)	N/A	
	All Sports and Sedan/Morning Auto Repair (2432)	N/A	
	** JOHN STREET Addresses **	N/A	
	residence (64)	N/A	
	residence (68)	N/A	

Environmental Data Resources, Inc.
an edr company

Sanborn™ Map Report

Ship to:

Mr. Mike Francis
T and M Associates
11 Tindall Road
Middletown, NJ 07748

Order Date: 07/27/98 **Completion Date:** 07/28/98

Inquiry #: 276845-3 (ABSTRACT)

P.O. #:

Site Name: Richmond Terrace Tract

Address: Richmond Terrace

City/State: Staten Island, NY 10302

Cross Streets: John Street + Richmond Terr

1014121CPR 732-671-6400

Based on client-supplied information, fire insurance maps for the following years were identified:

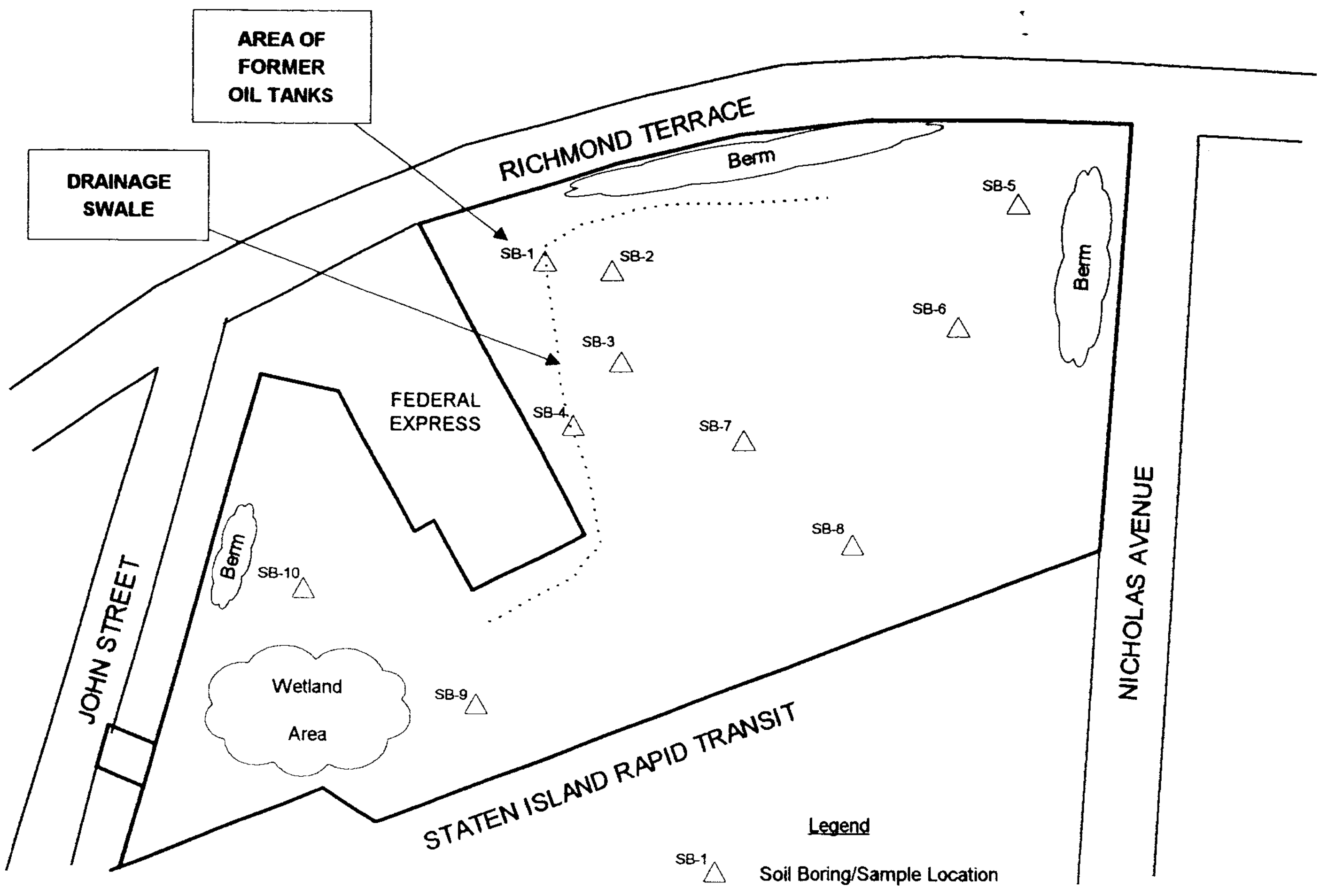
1996	- 1 map	1937	- 1 map
1995	- 1 map	1928	- 1 map
1993	- 1 map	1922	- 2 maps
1992	- 1 map	1917	- 1 map
1981	- 1 map	1898	- 1 map
1977	- 1 map		
1951	- 1 map		

Total maps: 13

Limited Permission to Photocopy

T and M Associates (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR Sanborn, Inc.'s copyright policy; a copy of which is available upon request.

Appendix F
Laboratory Analytical Results



T&M ASSOCIATES

ELEVEN TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
PHONE:(732) 671-6400 FAX (732) 671-7365

0 2000 4000

SCALE IN FEET

BORING LOCATION

BLOCK 1116, LOTS 40, 75 & 105 AND BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND - RICHMOND COUNTY - NEW YORK

SOURCE: T&M ASSOCIATES, INC.

N

AUGUST 7, 1998	SISB-00120	APPENDIX F

ANALYTICAL REPORT

TOTAL SOLIDS

CLIENT: T&M ASSOCIATES
CLIENT PROJECT: RICHMOND TERRACE
REPORT DATE: AUG. 6 1998
PROJECT RECEIPT DATE: 07/30/98

PROJECT: 98-07-0679
MATRIX: SOIL
UNITS: %

CLIENT ID	LAB ID	RESULTS	ANALYSIS DATE	ANALYST
SB-1	001	91	7/31/98	SS
SB-2	002	88	7/31/98	SS
SB-3	003	93	7/31/98	SS
SB-4	004	94	7/31/98	SS
SB-5	005	87	7/31/98	SS
SB-6	006	89	7/31/98	SS
SB-7	007	92	7/31/98	SS
SB-8	008	84	7/31/98	SS
SB-9	009	81	7/31/98	SS
SB-10	010	87	7/31/98	SS
TRIP BLANK	011			

COMMENTS:
NA = NOT APPLICABLE

wc115v

ANALYTICAL REPORT

TOTAL PETROLEUM HYDROCARBONS BY METHOD 418.1

CLIENT: T&M ASSOCIATES
CLIENT PROJECT: RICHMOND TERRACE
REPORT DATE: JULY 31 1998
PROJECT RECEIPT DATE: 07/30/98

PROJECT: 98-07-0679
MATRIX: SOIL
UNITS: Mg/Kg

CLIENT ID	LAB ID	RESULTS	MDL	ANALYSIS DATE	ANALYST
SB-1	001	33.3	25	7/31/98	DM
SB-2	002	<25.0	25	7/31/98	DM
SB-3	003	<25.0	25	7/31/98	DM
SB-4	004	<25.0	25	7/31/98	DM
SB-5	005	<25.0	25	7/31/98	DM
SB-6	006	<25.0	25	7/31/98	DM
SB-7	007	<25.0	25	7/31/98	DM
SB-8	008	<25.0	25	7/31/98	DM
SB-9	009	<25.0	25	7/31/98	DM
SB-10	010	<25.0	25	7/31/98	DM

COMMENTS:

RESULTS ARE REPORTED ON DRY WEIGHT BASIS

MDL - METHOD DETECTION LIMIT

NA - NOT APPLICABLE

< - LESS THAN

wc100b

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-1
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2382
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-01
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		6
74-97-5	BROMOCHLOROMETHANE	U		6
75-27-4	BROMODICHLOROMETHANE	U		6
75-25-2	BROMOFORM	U		6
74-83-9	BROMOMETHANE	U		6
104-51-8	N-BUTYLBENZENE	U		6
135-98-8	SEC-BUTYLBENZENE	U		6
98-06-6	TERT-BUTYLBENZENE	U		6
56-23-5	CARBON TETRACHLORIDE	U		6
108-90-7	CHLOROBENZENE	U		6
124-48-1	DIBROMOCHLOROMETHANE	U		6
74-00-3	CHLOROETHANE	U		6
67-66-3	CHLOROFORM	U		6
74-87-3	CHLOROMETHANE	U		6
95-49-8	2-CHLOROTOLUENE	U		6
106-43-4	4-CHLOROTOLUENE	U		6
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		6
106-93-4	1,2-DIBROMOETHANE	U		6
74-95-3	DIBROMOMETHANE	U		6
95-50-1	1,2-DICHLOROBENZENE	U		6
541-73-1	1,3-DICHLOROBENZENE	U		6
106-46-7	1,4-DICHLOROBENZENE	U		6
75-71-8	DICHLORODIFLUOROMETHANE	U		6
75-34-3	1,1-DICHLOROETHANE	U		6
107-06-2	1,2-DICHLOROETHANE	U		6
75-35-4	1,1-DICHLOROETHENE	U		6
156-59-2	CIS-1,2-DICHLOROETHENE	U		6
156-60-5	TRANS-1,2-DICHLOROETHENE	U		6
78-87-5	1,2-DICHLOROPROPANE	U		6
142-28-9	1,3-DICHLOROPROPANE	U		6
594-20-7	2,2-DICHLOROPROPANE	U		6
563-58-6	1,1-DICHLOROPROPENE	U		6

8

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-1
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2382
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-01
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		6
98-82-8	ISOPROPYLBENZENE	U		6
99-87-6	P-ISOPROPYLTOLUENE	U		6
75-09-2	METHYLENE CHLORIDE	U		6
91-20-3	NAPHTHALENE	U		6
103-65-1	N-PROPYLBENZENE	U		6
100-42-5	STYRENE	U		6
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		6
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		6
127-18-4	TETRACHLOROETHENE	U		6
108-88-3	TOLUENE	U		6
87-61-6	1,2,3-TRICHLOROBENZENE	U		6
120-82-1	1,2,4-TRICHLOROBENZENE	U		6
71-55-6	1,1,1-TRICHLOROETHANE	U		6
79-00-5	1,1,2-TRICHLOROETHANE	U		6
79-01-6	TRICHLOROETHENE	U		6
75-69-4	TRICHLOROFLUOROMETHANE	U		6
96-18-4	1,2,3-TRICHLOROPROPANE	U		6
95-63-6	1,2,4-TRIMETHYLBENZENE	U		6
108-67-8	1,3,5-TRIMETHYLBENZENE	U		6
75-01-4	VINYL CHLORIDE	U		6
95-47-6	O-XYLENE	U		6
108-38-3	M/P-XYLENE	U		6
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		6
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		6
1634-04-4	METHYL TERT-BUTYL ETHER	U		6
78-93-3	2-BUTANONE	U		11
67-64-1	ACETONE	U		11
108-10-1	4-METHYL-2-PENTANONE	U		11
591-78-6	2-HEXANONE	U		11
75-15-0	CARBON DISULFIDE	U		11
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		6
108-05-4	VINYL ACETATE	U		6

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-2
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2383
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-02
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
71-43-2	BENZENE	U		6
108-86-1	BROMOBENZENE	U		6
74-97-5	BROMOCHLOROMETHANE	U		6
75-27-4	BROMODICHLOROMETHANE	U		6
75-25-2	BROMOFORM	U		6
74-83-9	BROMOMETHANE	U		6
104-51-8	N-BUTYLBENZENE	U		6
135-98-8	SEC-BUTYLBENZENE	U		6
98-06-6	TERT-BUTYLBENZENE	U		6
56-23-5	CARBON TETRACHLORIDE	U		6
108-90-7	CHLOROBENZENE	U		6
124-48-1	DIBROMOCHLOROMETHANE	U		6
74-00-3	CHLOROETHANE	U		6
67-66-3	CHLOROFORM	U		6
74-87-3	CHLOROMETHANE	U		6
95-49-8	2-CHLOROTOLUENE	U		6
106-43-4	4-CHLOROTOLUENE	U		6
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		6
106-93-4	1,2-DIBROMOETHANE	U		6
74-95-3	DIBROMOMETHANE	U		6
95-50-1	1,2-DICHLOROBENZENE	U		6
541-73-1	1,3-DICHLOROBENZENE	U		6
106-46-7	1,4-DICHLOROBENZENE	U		6
75-71-8	DICHLORODIFLUOROMETHANE	U		6
75-34-3	1,1-DICHLOROETHANE	U		6
107-06-2	1,2-DICHLOROETHANE	U		6
75-35-4	1,1-DICHLOROETHENE	U		6
156-59-2	CIS-1,2-DICHLOROETHENE	U		6
156-60-5	TRANS-1,2-DICHLOROETHENE	U		6
78-87-5	1,2-DICHLOROPROPANE	U		6
142-28-9	1,3-DICHLOROPROPANE	U		6
594-20-7	2,2-DICHLOROPROPANE	U		6
563-58-6	1,1-DICHLOROPROPENE	U		6

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-2
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2383
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-02
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	U		6
87-68-3	HEXACHLOROBUTADIENE	U		6
98-82-8	ISOPROPYLBENZENE	U		6
99-87-6	P-ISOPROPYLTOLUENE	U		6
75-09-2	METHYLENE CHLORIDE	U		6
91-20-3	NAPHTHALENE	U		6
103-65-1	N-PROPYLBENZENE	U		6
100-42-5	STYRENE	U		6
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		6
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		6
127-18-4	TETRACHLOROETHENE	U		6
108-88-3	TOLUENE	U		6
87-61-6	1,2,3-TRICHLOROBENZENE	U		6
120-82-1	1,2,4-TRICHLOROBENZENE	U		6
71-55-6	1,1,1-TRICHLOROETHANE	U		6
79-00-5	1,1,2-TRICHLOROETHANE	U		6
79-01-6	TRICHLOROETHENE	U		6
75-69-4	TRICHLOROFLUOROMETHANE	U		6
96-18-4	1,2,3-TRICHLOROPROPANE	U		6
95-63-6	1,2,4-TRIMETHYLBENZENE	U		6
108-67-8	1,3,5-TRIMETHYLBENZENE	U		6
75-01-4	VINYL CHLORIDE	U		6
95-47-6	O-XYLENE	U		6
108-38-3	M/P-XYLENE	U		6
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		6
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		6
1634-04-4	METHYL TERT-BUTYL ETHER	U		6
78-93-3	2-BUTANONE	U		11
67-64-1	ACETONE	U		11
108-10-1	4-METHYL-2-PENTANONE	U		11
591-78-6	2-HEXANONE	U		11
75-15-0	CARBON DISULFIDE	U		11
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		6
108-05-4	VINYL ACETATE	U		6

2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-4
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2384
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-04
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	U		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

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Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-4
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2384
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-04
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	U		5
99-87-6	P-ISOPROPYLTOLUENE	U		5
75-09-2	METHYLENE CHLORIDE	U		5
91-20-3	NAPHTHALENE	U		5
103-65-1	N-PROPYLBENZENE	U		5
100-42-5	STYRENE	U		5
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		5
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		5
127-18-4	TETRACHLOROETHENE	U		5
108-88-3	TOLUENE	U		5
87-61-6	1,2,3-TRICHLOROBENZENE	U		5
120-82-1	1,2,4-TRICHLOROBENZENE	U		5
71-55-6	1,1,1-TRICHLOROETHANE	U		5
79-00-5	1,1,2-TRICHLOROETHANE	U		5
79-01-6	TRICHLOROETHENE	U		5
75-69-4	TRICHLOROFLUOROMETHANE	U		5
96-18-4	1,2,3-TRICHLOROPROPANE	U		5
95-63-6	1,2,4-TRIMETHYLBENZENE	U		5
108-67-8	1,3,5-TRIMETHYLBENZENE	U		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	U		5
108-38-3	M/P-XYLENE	U		5
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		5
1634-04-4	METHYL TERT-BUTYL ETHER	U		5
78-93-3	2-BUTANONE	U		11
67-64-1	ACETONE	U		11
108-10-1	4-METHYL-2-PENTANONE	U		11
591-78-6	2-HEXANONE	U		11
75-15-0	CARBON DISULFIDE	U		11
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		5
108-05-4	VINYL ACETATE	U		5

2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-10
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2385
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-10
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
71-43-2	BENZENE	U		6
108-86-1	BROMOBENZENE	U		6
74-97-5	BROMOCHLOROMETHANE	U		6
75-27-4	BROMODICHLOROMETHANE	U		6
75-25-2	BROMOFORM	U		6
74-83-9	BROMOMETHANE	U		6
104-51-8	N-BUTYLBENZENE	U		6
135-98-8	SEC-BUTYLBENZENE	U		6
98-06-6	TERT-BUTYLBENZENE	U		6
56-23-5	CARBON TETRACHLORIDE	U		6
108-90-7	CHLOROBENZENE	U		6
124-48-1	DIBROMOCHLOROMETHANE	U		6
74-00-3	CHLOROETHANE	U		6
67-66-3	CHLOROFORM	U		6
74-87-3	CHLOROMETHANE	U		6
95-49-8	2-CHLOROTOLUENE	U		6
106-43-4	4-CHLOROTOLUENE	U		6
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		6
106-93-4	1,2-DIBROMOETHANE	U		6
74-95-3	DIBROMOMETHANE	U		6
95-50-1	1,2-DICHLOROBENZENE	U		6
541-73-1	1,3-DICHLOROBENZENE	U		6
106-46-7	1,4-DICHLOROBENZENE	U		6
75-71-8	DICHLORODIFLUOROMETHANE	U		6
75-34-3	1,1-DICHLOROETHANE	U		6
107-06-2	1,2-DICHLOROETHANE	U		6
75-35-4	1,1-DICHLOROETHENE	U		6
156-59-2	CIS-1,2-DICHLOROETHENE	U		6
156-60-5	TRANS-1,2-DICHLOROETHENE	U		6
78-87-5	1,2-DICHLOROPROPANE	U		6
142-28-9	1,3-DICHLOROPROPANE	U		6
594-20-7	2,2-DICHLOROPROPANE	U		6
563-58-6	1,1-DICHLOROPROPENE	U		6

2

Method 8260 Volatile Organics By GC/MS

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-10
PROJECT: RICHMOND TERRACE
SAMPLE VOL. : 5.0GM
DATA FILE : >D2385
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-10
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/04/98
DIL. FACT : 1.00
ANALYST: SP/MRP

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	U		6
87-68-3	HEXACHLOROBUTADIENE	U		6
98-82-8	ISOPROPYLBENZENE	U		6
99-87-6	P-ISOPROPYLTOLUENE	U		6
75-09-2	METHYLENE CHLORIDE	U		6
91-20-3	NAPHTHALENE	U		6
103-65-1	N-PROPYLBENZENE	U		6
100-42-5	STYRENE	U		6
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		6
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		6
127-18-4	TETRACHLOROETHENE	U		6
108-88-3	TOLUENE	U		6
87-61-6	1,2,3-TRICHLOROBENZENE	U		6
120-82-1	1,2,4-TRICHLOROBENZENE	U		6
71-55-6	1,1,1-TRICHLOROETHANE	U		6
79-00-5	1,1,2-TRICHLOROETHANE	U		6
79-01-6	TRICHLOROETHENE	U		6
75-69-4	TRICHLOROFLUOROMETHANE	U		6
96-18-4	1,2,3-TRICHLOROPROPANE	U		6
95-63-6	1,2,4-TRIMETHYLBENZENE	U		6
108-67-8	1,3,5-TRIMETHYLBENZENE	U		6
75-01-4	VINYL CHLORIDE	U		6
95-47-6	O-XYLENE	U		6
108-38-3	M/P-XYLENE	U		6
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		6
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		6
1634-04-4	METHYL TERT-BUTYL ETHER	U		6
78-93-3	2-BUTANONE	U		11
67-64-1	ACETONE	U		11
108-10-1	4-METHYL-2-PENTANONE	U		11
591-78-6	2-HEXANONE	U		11
75-15-0	CARBON DISULFIDE	U		11
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		6
108-05-4	VINYL ACETATE	U		6

a

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-7-679-2(D2383)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/kg

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
01. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.52	28	89

Qualifier (Q):
B - Compound also present in the blank

Comments :

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-7-679-4(D2384)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/kg

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
01. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.51	27	89

Qualifier (Q):
B - Compound also present in the blank

Comments :

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-7-679-10(D2385)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
01. 76-13-1	Ethane, 1,1,2-trichloro-1,2,	3.52	26	89

Qualifier (Q):
B - Compound also present in the blank

Comments :

ANALYTICAL REPORT

PRIORITY POLLUTANT METALS

CLIENT: T&M ASSOCIATES
CLIENT PROJECT: RICHMOND TERRACE
CLIENT ID: SB-1
REPORT DATE : AUG. 6 1998
PROJECT RECEIVED DATE: 07/30/98

LAB ID: 98-07-0679-001
ANALYST: DR/ED/MEZ
ANALYSIS DATE: 08/03-06/98

PARAMETER	RESULTS (mg/kg)	MDL (mg/kg)
Antimony	<1.0	1.0
Arsenic	3.9	0.8
Beryllium	0.64	0.1
Cadmium	<0.40	0.4
Chromium	33.0	10.0
Copper	34.1	5.0
Lead	67.0	25.0
Mercury	<0.25	0.25
Nickel	27.5	10.0
Selenium	<1.0	1.0
Silver	<5.00	5.0
Thallium	<1.00	1.0
Zinc	137.0	5.0

COMMENTS:
MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.
S = RESULTS BY METHOD OF ADDITION PROCEDURE.
\+ = CORRELATION COEFFICIENT FOR METHOD OF ADDITION IS LESS THAN 0.995 AFTER REPEATED ONCE.

ME200

ANALYTICAL REPORT

PRIORITY POLLUTANT METALS

CLIENT: T&M ASSOCIATES
LAB ID: 98-07-0679-002
CLIENT PROJECT: RICHMOND TERRACE
CLIENT ID: SB-2
ANALYST: DR/ED/MEZ
REPORT DATE : AUG. 6 1998
ANALYSIS DATE: 08/03-06/98
PROJECT RECEIVED DATE: 07/30/98

PARAMETER	RESULTS (mg/kg)	MDL (mg/kg)
Antimony	<1.0	1.0
Arsenic	3.1	0.8
Beryllium	0.53	0.1
Cadmium	0.8	0.4
Chromium	<10.0	10.0
Copper	26.1	5.0
Lead	<25.0	25.0
Mercury	<0.25	0.25
Nickel	21.6	10.0
Selenium	<1.0	1.0
Silver	<5.00	5.0
Thallium	<1.00	1.0
Zinc	121.0	5.0

COMMENTS:
MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.
S = RESULTS BY METHOD OF ADDITION PROCEDURE.
\+ = CORRELATION COEFFICIENT FOR METHOD OF ADDITION IS LESS THAN 0.995 AFTER REPEATED ONCE.

ME200

X

ANALYTICAL REPORT

PRIORITY POLLUTANT METALS

CLIENT: T&M ASSOCIATES
LAB ID: 98-07-0679-004
CLIENT PROJECT: RICHMOND TERRACE
CLIENT ID: SB-4
ANALYST: DR/ED/MEZ
REPORT DATE : AUG. 6 1998
ANALYSIS DATE: 08/03-06/98
PROJECT RECEIVED DATE: 07/30/98

PARAMETER	RESULTS (mg/kg)	MDL (mg/kg)
Antimony	<1.0	1.0
Arsenic	2.5	0.8
Beryllium	0.82	0.1
Cadmium	<0.40	0.4
Chromium	22.3	10.0
Copper	28.7	5.0
Lead	<25.0	25.0
Mercury	<0.25	0.25
Nickel	36.2	10.0
Selenium	<1.0	1.0
Silver	<5.00	5.0
Thallium	<1.00	1.0
Zinc	142.0	5.0

COMMENTS:
MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.
S = RESULTS BY METHOD OF ADDITION PROCEDURE.
+ = CORRELATION COEFFICIENT FOR METHOD OF ADDITION IS LESS THAN 0.995 AFTER REPEATED ONCE.

ME200

ANALYTICAL REPORT

PRIORITY POLLUTANT METALS

CLIENT: T&M ASSOCIATES LAB ID: 98-07-0679-010
CLIENT PROJECT: RICHMOND TERRACE
CLIENT ID: SB-10 ANALYST: DR/ED/MEZ
REPORT DATE : AUG. 6 1998 ANALYSIS DATE: 08/03-06/98
PROJECT RECEIVED DATE: 07/30/98

PARAMETER	RESULTS (mg/kg)	MDL (mg/kg)
Antimony	<1.0	1.0
Arsenic	2.7	0.8
Beryllium	0.99	0.1
Cadmium	<0.40	0.4
Chromium	21.8	10.0
Copper	36.8	5.0
Lead	<25.0	25.0
Mercury	<0.25	0.25
Nickel	43.7	10.0
Selenium	<1.0	1.0
Silver	<5.00	5.0
Thallium	<1.00	1.0
Zinc	155.0	5.0

COMMENTS:
MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.
S = RESULTS BY METHOD OF ADDITION PROCEDURE.
\+ = CORRELATION COEFFICIENT FOR METHOD OF ADDITION IS LESS THAN 0.995 AFTER REPEATED ONCE.

ME200

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-1
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0114
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-1
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
62-75-9	N-NITROSODIMETHYLAMINE	U		370
62-53-3	ANILINE	U		370
111-44-4	BIS (2-CHLOROETHYL) ETHER	U		370
541-73-1	1,3-DICHLOROBENZENE	U		370
106-46-7	1,4-DICHLOROBENZENE	U		370
95-50-1	1,2-DICHLOROBENZENE	U		370
100-51-6	BENZYL ALCOHOL	U		370
108-60-1	2,2'-OXY BIS(1-CHLOROPROPANE)	U		370
67-72-1	HEXACHLOROETHANE	U		370
621-64-7	N-NITROSODIPROPYL AMINE	U		370
98-95-3	NITROBENZENE	U		370
78-59-1	ISOPHORONE	U		370
111-91-1	BIS (2-CHLOROETHOXY) METHANE	U		370
120-82-1	1,2,4-TRICHLOROBENZENE	U		370
91-20-3	NAPHTHALENE	U		370
65-85-0	BENZOIC ACID	U		1800
106-47-8	4-CHLOROANILINE	U		370
87-68-3	HEXACHLOROBUTADIENE	U		370
91-57-6	2-METHYLNAPHTHALENE	U		370
77-47-4	HEXACHLOROCYCLOPENTADIENE	U		370
91-58-7	2-CHLORONAPHTHALENE	U		370
88-74-4	2-NITROANILINE	U		1800
208-96-8	ACENAPHTHYLENE	U		370
131-11-3	DIMETHYL PHTHALATE	U		370
606-20-2	2,6-DINITROTOLUENE	U		370
83-32-9	ACENAPHTHENE	U		370
99-09-2	3-NITROANILINE	U		1800
132-64-9	DIBENZOFURAN	U		370
121-14-2	2,4-DINITROTOLUENE	U		370
86-73-7	FLUORENE	U		370
84-66-2	DIETHYL PHTHALATE	U		370

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QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-1
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0114
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-1
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	U		370
100-01-6	4-NITROANILINE	U		1800
86-30-6	N-NITROSODIPHENYL AMINE	U		370
101-55-3	4-BROMOPHENYL PHENYL ETHER	U		370
118-74-1	HEXACHLOROBENZENE	U		370
85-01-8	PHENANTHRENE	U		370
120-12-7	ANTHRACENE	U		370
86-74-8	CARBAZOLE	U		370
84-74-2	DI-N-BUTYL PHTHALATE	U		370
206-44-0	FLUORANTHENE	U		370
92-87-5	BENZIDINE	U		1800
129-00-0	PYRENE	U		370
85-68-7	BUTYLBENZYL PHTHALATE	U		370
56-55-3	BENZO (A) ANTHRACENE	U		370
91-94-1	3,3'-DICHLOROBENZIDINE	U		1800
218-01-9	CHRYSENE	U		370
117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	U		370
117-84-0	DI-N-OCTYL PHTHALATE	U		370
205-99-2	BENZO (B) FLUORANTHENE	U		370
207-08-9	BENZO (K) FLUORANTHENE	U		370
50-32-8	BENZO (A) PYRENE	U		370
193-39-5	INDENO (1,2,3-CD) PYRENE	U		370
53-70-3	DIBENZO (A,H) ANTHRACENE	U		370
191-24-2	BENZO (GHI) PERYLENE	U		370

PAGE 2 OF 2

2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Acid Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-1
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0114
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-1
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
108-95-2	PHENOL	U		370
88-75-5	2-NITROPHENOL	U		370
105-67-9	2,4-DIMETHYLPHENOL	U		370
95-57-8	2-CHLOROPHENOL	U		370
120-83-2	2,4,-DICHLOROPHENOL	U		370
59-50-7	P-CHLORO-M-CRESOL	U		370
88-06-2	2,4,6-TRICHLOROPHENOL	U		370
51-28-5	2,4,-DINITROPHENOL	U		1800
534-52-1	4,6,-DINITRO-2-METHYLPHENOL	U		1800
100-02-7	4-NITROPHENOL	U		1800
87-86-5	PENTACHLOROPHENOL	U		1800
95-95-4	2,4,5-TRICHLOROPHENOL	U		370
95-48-7	2-METHYLPHENOL	U		370
106-44-5	4-METHYLPHENOL	U		370

PAGE 1 OF 1

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-2
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0115
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-2
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
62-75-9	N-NITROSODIMETHYLAMINE	U		380
62-53-3	ANILINE	U		380
111-44-4	BIS (2-CHLOROETHYL) ETHER	U		380
541-73-1	1,3-DICHLOROBENZENE	U		380
106-46-7	1,4-DICHLOROBENZENE	U		380
95-50-1	1,2-DICHLOROBENZENE	U		380
100-51-6	BENZYL ALCOHOL	U		380
108-60-1	2,2'-OXY BIS(1-CHLOROPROPANE)	U		380
67-72-1	HEXACHLOROETHANE	U		380
621-64-7	N-NITROSODIPROPYL AMINE	U		380
98-95-3	NITROBENZENE	U		380
78-59-1	ISOPHORONE	U		380
111-91-1	BIS (2-CHLOROETHOXY) METHANE	U		380
120-82-1	1,2,4-TRICHLOROBENZENE	U		380
91-20-3	NAPHTHALENE	U		380
65-85-0	BENZOIC ACID	U		1900
106-47-8	4-CHLOROANILINE	U		380
87-68-3	HEXACHLOROBUTADIENE	U		380
91-57-6	2-METHYLNAPHTHALENE	U		380
77-47-4	HEXACHLOROCYCLOPENTADIENE	U		380
91-58-7	2-CHLORONAPHTHALENE	U		380
88-74-4	2-NITROANILINE	U		1900
208-96-8	ACENAPHTHYLENE	U		380
131-11-3	DIMETHYL PHTHALATE	U		380
606-20-2	2,6-DINITROTOLUENE	U		380
83-32-9	ACENAPHTHENE	U		380
99-09-2	3-NITROANILINE	U		1900
132-64-9	DIBENZOFURAN	U		380
121-14-2	2,4-DINITROTOLUENE	U		380
86-73-7	FLUORENE	U		380
84-66-2	DIETHYL PHTHALATE	U		380

0

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-2
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0115
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-2
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	U		380
100-01-6	4-NITROANILINE	U		1900
86-30-6	N-NITROSODIPHENYL AMINE	U		380
101-55-3	4-BROMOPHENYL PHENYL ETHER	U		380
118-74-1	HEXACHLOROBENZENE	U		380
85-01-8	PHENANTHRENE	U		380
120-12-7	ANTHRACENE	U		380
86-74-8	CARBAZOLE	U		380
84-74-2	DI-N-BUTYL PHTHALATE	U		380
206-44-0	FLUORANTHENE	U		380
92-87-5	BENZIDINE	U		1900
129-00-0	PYRENE	U		380
85-68-7	BUTYLBENZYL PHTHALATE	U		380
56-55-3	BENZO (A) ANTHRACENE	U		380
91-94-1	3,3'-DICHLOROBENZIDINE	U		1900
218-01-9	CHRYSENE	U		380
117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	U		380
117-84-0	DI-N-OCTYL PHTHALATE	U		380
205-99-2	BENZO (B) FLUORANTHENE	U		380
207-08-9	BENZO (K) FLUORANTHENE	U		380
50-32-8	BENZO (A) PYRENE	U		380
193-39-5	INDENO (1,2,3-CD) PYRENE	U		380
53-70-3	DIBENZO (A,H) ANTHRACENE	U		380
191-24-2	BENZO (GHI) PERYLENE	U		380

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Acid Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-2
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0115
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-2
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
108-95-2	PHENOL	U		380
88-75-5	2-NITROPHENOL	U		380
105-67-9	2,4-DIMETHYLPHENOL	U		380
95-57-8	2-CHLOROPHENOL	U		380
120-83-2	2,4,-DICHLOROPHENOL	U		380
59-50-7	P-CHLORO-M-CRESOL	U		380
88-06-2	2,4,6-TRICHLOROPHENOL	U		380
51-28-5	2,4,-DINITROPHENOL	U		1900
534-52-1	4,6,-DINITRO-2-METHYLPHENOL	U		1900
100-02-7	4-NITROPHENOL	U		1900
87-86-5	PENTACHLOROPHENOL	U		1900
95-95-4	2,4,5-TRICHLOROPHENOL	U		380
95-48-7	2-METHYLPHENOL	U		380
106-44-5	4-METHYLPHENOL	U		380

PAGE 1 OF 1

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-4
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0116
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-4
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
62-75-9	N-NITROSODIMETHYLAMINE	U		350
62-53-3	ANILINE	U		350
111-44-4	BIS (2-CHLOROETHYL) ETHER	U		350
541-73-1	1,3-DICHLOROBENZENE	U		350
106-46-7	1,4-DICHLOROBENZENE	U		350
95-50-1	1,2-DICHLOROBENZENE	U		350
100-51-6	BENZYL ALCOHOL	U		350
108-60-1	2,2'-OXY BIS(1-CHLOROPROPANE)	U		350
67-72-1	HEXACHLOROETHANE	U		350
621-64-7	N-NITROSODIPROPYL AMINE	U		350
98-95-3	NITROBENZENE	U		350
78-59-1	ISOPHORONE	U		350
111-91-1	BIS (2-CHLOROETHOXY) METHANE	U		350
120-82-1	1,2,4-TRICHLOROBENZENE	U		350
91-20-3	NAPHTHALENE	U		350
65-85-0	BENZOIC ACID	U		1800
106-47-8	4-CHLOROANILINE	U		350
87-68-3	HEXACHLOROBUTADIENE	U		350
91-57-6	2-METHYLNAPHTHALENE	U		350
77-47-4	HEXACHLOROCYCLOPENTADIENE	U		350
91-58-7	2-CHLORONAPHTHALENE	U		350
88-74-4	2-NITROANILINE	U		1800
208-96-8	ACENAPHTHYLENE	U		350
131-11-3	DIMETHYL PHTHALATE	U		350
606-20-2	2,6-DINITROTOLUENE	U		350
83-32-9	ACENAPHTHENE	U		350
99-09-2	3-NITROANILINE	U		1800
132-64-9	DIBENZOFURAN	U		350
121-14-2	2,4-DINITROTOLUENE	U		350
86-73-7	FLUORENE	U		350
84-66-2	DIETHYL PHTHALATE	U		350

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-4
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0116
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-4
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	U		350
100-01-6	4-NITROANILINE	U		1800
86-30-6	N-NITROSODIPHENYL AMINE	U		350
101-55-3	4-BROMOPHENYL PHENYL ETHER	U		350
118-74-1	HEXACHLOROBENZENE	U		350
85-01-8	PHENANTHRENE	U		350
120-12-7	ANTHRACENE	U		350
86-74-8	CARBAZOLE	U		350
84-74-2	DI-N-BUTYL PHTHALATE	U		350
206-44-0	FLUORANTHENE	U		350
92-87-5	BENZIDINE	U		1800
129-00-0	PYRENE	U		350
85-68-7	BUTYLBENZYL PHTHALATE	U		350
56-55-3	BENZO (A) ANTHRACENE	U		350
91-94-1	3,3'-DICHLOROBENZIDINE	U		1800
218-01-9	CHRYSENE	U		350
117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	U		350
117-84-0	DI-N-OCTYL PHTHALATE	U		350
205-99-2	BENZO (B) FLUORANTHENE	U		350
207-08-9	BENZO (K) FLUORANTHENE	U		350
50-32-8	BENZO (A) PYRENE	U		350
193-39-5	INDENO (1,2,3-CD) PYRENE	U		350
53-70-3	DIBENZO (A,H) ANTHRACENE	U		350
191-24-2	BENZO (GHI) PERYLENE	U		350

2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Acid Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-4
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0116
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-4
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
108-95-2	PHENOL	U		350
88-75-5	2-NITROPHENOL	U		350
105-67-9	2,4-DIMETHYLPHENOL	U		350
95-57-8	2-CHLOROPHENOL	U		350
120-83-2	2,4,-DICHLOROPHENOL	U		350
59-50-7	P-CHLORO-M-CRESOL	U		350
88-06-2	2,4,6-TRICHLOROPHENOL	U		350
51-28-5	2,4,-DINITROPHENOL	U		1800
534-52-1	4,6,-DINITRO-2-METHYLPHENOL	U		1800
100-02-7	4-NITROPHENOL	U		1800
87-86-5	PENTACHLOROPHENOL	U		1800
95-95-4	2,4,5-TRICHLOROPHENOL	U		350
95-48-7	2-METHYLPHENOL	U		350
106-44-5	4-METHYLPHENOL	U		350

2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-10
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0117
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-10
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
62-75-9	N-NITROSODIMETHYLAMINE	U		380
62-53-3	ANILINE	U		380
111-44-4	BIS (2-CHLOROETHYL) ETHER	U		380
541-73-1	1,3-DICHLOROBENZENE	U		380
106-46-7	1,4-DICHLOROBENZENE	U		380
95-50-1	1,2-DICHLOROBENZENE	U		380
100-51-6	BENZYL ALCOHOL	U		380
108-60-1	2,2'-OXY BIS(1-CHLOROPROPANE)	U		380
67-72-1	HEXACHLOROETHANE	U		380
621-64-7	N-NITROSODIPROPYL AMINE	U		380
98-95-3	NITROBENZENE	U		380
78-59-1	ISOPHORONE	U		380
111-91-1	BIS (2-CHLOROETHOXY) METHANE	U		380
120-82-1	1,2,4-TRICHLOROBENZENE	U		380
91-20-3	NAPHTHALENE	U		380
65-85-0	BENZOIC ACID	U		1900
106-47-8	4-CHLOROANILINE	U		380
87-68-3	HEXACHLOROBUTADIENE	U		380
91-57-6	2-METHYLNAPHTHALENE	U		380
77-47-4	HEXACHLOROCYCLOPENTADIENE	U		380
91-58-7	2-CHLORONAPHTHALENE	U		380
88-74-4	2-NITROANILINE	U		1900
208-96-8	ACENAPHTHYLENE	U		380
131-11-3	DIMETHYL PHTHALATE	U		380
606-20-2	2,6-DINITROTOLUENE	U		380
83-32-9	ACENAPHTHENE	U		380
99-09-2	3-NITROANILINE	U		1900
132-64-9	DIBENZOFURAN	U		380
121-14-2	2,4-DINITROTOLUENE	U		380
86-73-7	FLUORENE	U		380
84-66-2	DIETHYL PHTHALATE	U		380

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Base/Neutral Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-10
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0117
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-10
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	U		380
100-01-6	4-NITROANILINE	U		1900
86-30-6	N-NITROSODIPHENYL AMINE	U		380
101-55-3	4-BROMOPHENYL PHENYL ETHER	U		380
118-74-1	HEXACHLOROBENZENE	U		380
85-01-8	PHENANTHRENE	U		380
120-12-7	ANTHRACENE	U		380
86-74-8	CARBAZOLE	U		380
84-74-2	DI-N-BUTYL PHTHALATE	U		380
206-44-0	FLUORANTHENE	U		380
92-87-5	BENZIDINE	U		1900
129-00-0	PYRENE	U		380
85-68-7	BUTYLBENZYL PHTHALATE	U		380
56-55-3	BENZO (A) ANTHRACENE	U		380
91-94-1	3,3'-DICHLOROBENZIDINE	U		1900
218-01-9	CHRYSENE	U		380
117-81-7	BIS (2-ETHYLHEXYL) PHTHALATE	U		380
117-84-0	DI-N-OCTYL PHTHALATE	U		380
205-99-2	BENZO (B) FLUORANTHENE	U		380
207-08-9	BENZO (K) FLUORANTHENE	U		380
50-32-8	BENZO (A) PYRENE	U		380
193-39-5	INDENO (1,2,3-CD) PYRENE	U		380
53-70-3	DIBENZO (A,H) ANTHRACENE	U		380
191-24-2	BENZO (GHI) PERYLENE	U		380

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TCL/HSL Acid Extractable Organics - Non-Aqueous Matrix

CLIENT : T&M ASSOCIATES
SAMPLE ID: SB-10
PROJECT : RICHMOND TERRACE
SAMPLE VOL. : 30G
DATA FILE : >B0117
EXTRACT/DATE : 08/04/98
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-07-679-10
DATE SAMPLED: 7-30-98
DATE RECEIVED: 07/30/98
DATE ANALYZED: 08/05/98
DIL. FACT : .03
ANALYST: BP

CAS #	COMPOUND	UG/KG	Q	MDL
108-95-2	PHENOL	U		380
88-75-5	2-NITROPHENOL	U		380
105-67-9	2,4-DIMETHYLPHENOL	U		380
95-57-8	2-CHLOROPHENOL	U		380
120-83-2	2,4,-DICHLOROPHENOL	U		380
59-50-7	P-CHLORO-M-CRESOL	U		380
88-06-2	2,4,6-TRICHLOROPHENOL	U		380
51-28-5	2,4,-DINITROPHENOL	U		1900
534-52-1	4,6,-DINITRO-2-METHYLPHENOL	U		1900
100-02-7	4-NITROPHENOL	U		1900
87-86-5	PENTACHLOROPHENOL	U		1900
95-95-4	2,4,5-TRICHLOROPHENOL	U		380
95-48-7	2-METHYLPHENOL	U		380
106-44-5	4-METHYLPHENOL	U		380

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-07-679-1 (B0114)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
	No Additional Peaks Found			

Qualifier (Q):
B - Compound also present in the blank

Comments :

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-06-679-2(B0115)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
01.	Unknown	34.51	471	

Qualifier (Q):
B - Compound also present in the blank

Comments :

h

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-07-679-4 (B0116)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
	No Additional Peaks Found			

Qualifier (Q):
B - Compound also present in the blank

Comments :
8

TABLE 1 : QUALITATIVE RESULTS

TENTATIVELY IDENTIFIED ORGANIC COMPOUNDS
GC/MS ANALYSIS DATA SOIL FRACTION

LAB SAMPLE NUMBER : 98-07-679-10(B0117)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
	No Additional Peaks Found			

Qualifier (Q):
B - Compound also present in the blank

Comments :

ω

ANAlab Inc., 205 Campus Plaza 1, Edison, NJ, 08837, Tel (732)225-4111 Fax (732)225-4110

GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
PCBs

PROJECT	RICHMOND TERRACE	Matrix	SOIL
Client ID:	SB-1	DATE ANALYZED:	8/5/98
Lab ID	9807679-1 1:5	ANALYST:	JJ
Filename:	C:\TC4\DATA4\Q080427.RAW	DILUTION:	5

CAS #	COMPOUNDS	RESULTS (ug/K	QUALIFIER	MDL (ug/Kg)
12674-11-2	AROCLOR 1016	U		92
1104-28-2	AROCLOR 1221	U		92
11141-16-5	AROCLOR 1232	U		92
53469-21-9	AROCLOR 1242	U		92
12672-29-6	AROCLOR 1248	U		92
11097-69-1	AROCLOR 1254	U		92
11096-82-5	AROCLOR 1260	U		92

MDL = METHOD DETECTION LIMIT — % SOLIDS 91%
U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

5

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GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
PCBs

PROJECT	RICHMOND TERRACE	Matrix	SOIL
Client ID:	SB-2	DATE ANALYZED:	8/5/98
Lab ID	9807679-2 1:2	ANALYST:	JJ
Filename:	C:\TC4\DATA4\Q080428.RAW	DILUTION:	2

CAS #	COMPOUNDS	RESULTS (ug/K	QUALIFIER	MDL (ug/Kg)
12674-11-2	AROCLOR 1016	U		38
1104-28-2	AROCLOR 1221	U		38
11141-16-5	AROCLOR 1232	U		38
53469-21-9	AROCLOR 1242	U		38
12672-29-6	AROCLOR 1248	U		38
11097-69-1	AROCLOR 1254	U		38
11096-82-5	AROCLOR 1260	U		38

MDL = METHOD DETECTION LIMIT — % SOLIDS 88%

U =UNDETECTED BELOW THE MDL

B = PRESENT IN THE ASSOCIATED BLANK

E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW

D = DILUTION

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GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
PCBs

PROJECT	RICHMOND TERRACE	Matrix	SOIL
Client ID:	SB-4	DATE ANALYZED:	8/5/98
Lab ID	9807679-4 1:2	ANALYST:	JJ
Filename:	C:\TC4\DATA4\Q080429.RAW	DILUTION:	2

CAS #	COMPOUNDS	RESULTS (ug/K	QUALIFIER	MDL (ug/Kg)
12674-11-2	AROCLOR 1016	U		35
1104-28-2	AROCLOR 1221	U		35
11141-16-5	AROCLOR 1232	U		35
53469-21-9	AROCLOR 1242	U		35
12672-29-6	AROCLOR 1248	U		35
11097-69-1	AROCLOR 1254	U		35
11096-82-5	AROCLOR 1260	U		35

MDL = METHOD DETECTION LIMIT   % SOLIDS 94%

U =UNDETECTED BELOW THE MDL

B = PRESENT IN THE ASSOCIATED BLANK

E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW

D = DILUTION

ANAlab Inc., 205 Campus Plaza 1, Edison, NJ, 08837, Tel (732)225-4111 Fax (732)225-4110

GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
PCBs

PROJECT	RICHMOND TERRACE	Matrix	SOIL
Client ID:	SB-10	DATE ANALYZED:	8/5/98
Lab ID	9807679-10 1:2	ANALYST:	JJ
Filename:	C:\TC4\DATA4\Q080430.RAW	DILUTION:	2

CAS #	COMPOUNDS	RESULTS (ug/K	QUALIFIER	MDL (ug/Kg)
12674-11-2	AROCLOR 1016	U		38
1104-28-2	AROCLOR 1221	U		38
11141-16-5	AROCLOR 1232	U		38
53469-21-9	AROCLOR 1242	U		38
12672-29-6	AROCLOR 1248	U		38
11097-69-1	AROCLOR 1254	U		38
11096-82-5	AROCLOR 1260	U		38

MDL = METHOD DETECTION LIMIT

% SOLIDS 87%

U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

R

ANALab Inc., 205 Campus Plaza 1, Edison, NJ, 08837, Tel (732)225-4111 Fax (732)225-4110

GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
Pesticides

PROJECT RICHMOND TERRACE
Client ID: SB-1
Lab ID 9807679-1 1:5
Filename: C:\TC4\DATA4\Q080427.RAW

Matrix SOIL
DATE ANALYZED: 8/5/98
ANALYST: JJ
DILUTION: 5

CAS #	COMPOUNDS	RESULTS (ug/Kg)	QUALIFIER	MDL (ug/Kg
319-84-6	alpha-BHC	U		10
319-85-7	gamma-BHC	U		10
58-89-9	HEPTACHLOR	U		10
319-86-8	ALDRIN	U		10
76-44-3	beta-BHC	16		10
309-00-2	delta-BHC	U		10
1024-57-3	HEPTACHLOR	U		10
959-98-8	ENDOSULFAN I	U		10
50-29-3	DDE	U		10
60-57-1	DIELDRIN	U		10
72-20-8	ENDRIN	U		10
33213-65-9	DDD	U		10
72-54-8	ENDOSULFAN II	U		10
7421-93-4	DDT	U		10
1031-07-8	ENDRIN ALDEHYDE	U		10
2303-16-4	METHOXYCHLOR	U		10
76-44-8	ENDOSULFAN SULFATE	U		10
72-43-5	ENDRIN KETONE	U		10
57-74-9	CHLORDANE	U		100
8001-35-2	TOXAPHENE	U		100

MDL = METHOD DETECTION LIMIT

% SOLIDS 91%

U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

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GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
Pesticides

PROJECT RICHMOND TERRACE
Client ID: SB-2
Lab ID 9807679-2 1:2
Filename: C:\TC4\DATA4\Q080428.RAW

Matrix SOIL
DATE ANALYZED: 8/5/98
ANALYST: JJ
DILUTION: 2

CAS #	COMPOUNDS	RESULTS (ug/Kg)	QUALIFIER	MDL (ug/Kg
319-84-6	alpha-BHC	U		4.3
319-85-7	gamma-BHC	U		4.3
58-89-9	HEPTACHLOR	U		4.3
319-86-8	ALDRIN	U		4.3
76-44-3	beta-BHC	U		4.3
309-00-2	delta-BHC	U		4.3
1024-57-3	HEPTACHLOR	U		4.3
959-98-8	ENDOSULFAN I	U		4.3
50-29-3	DDE	U		4.3
60-57-1	DIELDRIN	U		4.3
72-20-8	ENDRIN	U		4.3
33213-65-9	DDD	U		4.3
72-54-8	ENDOSULFAN II	U		4.3
7421-93-4	DDT	U		4.3
1031-07-8	ENDRIN ALDEHYDE	U		4.3
2303-16-4	METHOXYCHLOR	U		4.3
76-44-8	ENDOSULFAN SULFATE	U		4.3
72-43-5	ENDRIN KETONE	U		4.3
57-74-9	CHLORDANE	U		43
8001-35-2	TOXAPHENE	U		43

MDL = METHOD DETECTION LIMIT

% SOLIDS 88%

U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

ANALab Inc., 205 Campus Plaza 1, Edison, NJ, 08837, Tel (732)225-4111 Fax (732)225-4110

GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
Pesticides

PROJECT RICHMOND TERRACE
Client ID: SB-4
Lab ID 9807679-4 1:2
Filename: C:\TC4\DATA4\Q080429.RAW

Matrix SOIL
DATE ANALYZED: 8/5/98
ANALYST: JJ
DILUTION: 2

CAS #	COMPOUNDS	RESULTS (ug/Kg)	QUALIFIER	MDL (ug/Kg
319-84-6	alpha-BHC	U		3.3
319-85-7	gamma-BHC	U		3.3
58-89-9	HEPTACHLOR	U		3.3
319-86-8	ALDRIN	U		3.3
76-44-3	beta-BHC	U		3.3
309-00-2	delta-BHC	U		3.3
1024-57-3	HEPTACHLOR	U		3.3
959-98-8	ENDOSULFAN I	U		3.3
50-29-3	DDE	U		3.3
60-57-1	DIELDRIN	U		3.3
72-20-8	ENDRIN	U		3.3
33213-65-9	DDD	U		3.3
72-54-8	ENDOSULFAN II	U		3.3
7421-93-4	DDT	U		3.3
1031-07-8	ENDRIN ALDEHYDE	U		3.3
2303-16-4	METHOXYCHLOR	U		3.3
76-44-8	ENDOSULFAN SULFATE	U		3.3
72-43-5	ENDRIN KETONE	U		3.3
57-74-9	CHLORDANE	U		33
8001-35-2	TOXAPHENE	U		33

MDL = METHOD DETECTION LIMIT

% SOLIDS [illegible]%

U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

ANALab Inc., 205 Campus Plaza 1, Edison, NJ, 08837, Tel (732)225-4111 Fax (732)225-4110

GC Extractables
PRIMARY DETECTOR:

Tabulated Analytical Report
Pesticides

PROJECT RICHMOND TERRACE
Client ID: SB-10
Lab ID 9807679-10 1:2
Filename: C:\TC4\DATA4\Q080430.RAW

Matrix SOIL
DATE ANALYZED: 8/5/98
ANALYST: JJ
DILUTION: 2

CAS #	COMPOUNDS	RESULTS (ug/Kg)	QUALIFIER	MDL (ug/Kg
319-84-6	alpha-BHC	9.1		4.4
319-85-7	gamma-BHC	U		4.4
58-89-9	HEPTACHLOR	U		4.4
319-86-8	ALDRIN	U		4.4
76-44-3	beta-BHC	U		4.4
309-00-2	delta-BHC	U		4.4
1024-57-3	HEPTACHLOR	U		4.4
959-98-8	ENDOSULFAN I	U		4.4
50-29-3	DDE	U		4.4
60-57-1	DIELDRIN	U		4.4
72-20-8	ENDRIN	U		4.4
33213-65-9	DDD	U		4.4
72-54-8	ENDOSULFAN II	U		4.4
7421-93-4	DDT	U		4.4
1031-07-8	ENDRIN ALDEHYDE	U		4.4
2303-16-4	METHOXYCHLOR	U		4.4
76-44-8	ENDOSULFAN SULFATE	U		4.4
72-43-5	ENDRIN KETONE	U		4.4
57-74-9	CHLORDANE	U		44
8001-35-2	TOXAPHENE	U		44

MDL = METHOD DETECTION LIMIT

% SOLIDS 87%

U =UNDETECTED BELOW THE MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

ANALYTICAL REPORT

TOTAL CYANIDE

CLIENT: T&M ASSOCIATES
CLIENT PROJECT: RICHMOND TERRACE
REPORT DATE: AUG. 6 1998
PROJECT RECEIPT DATE: 07/30/98

PROJECT: 98-07-0679
MATRIX: SOIL
UNITS: Mg/Kg

CLIENT ID	LAB ID	RESULTS	MDL	ANALYSIS DATE	ANALYST
SB-1	001	<1.1	1.1	8/6/98	DM
SB-2	002	<1.14	1.14	8/6/98	DM
SB-4	004	<1.06	1.06	8/6/98	DM
SB-10	010	<1.15	1.15	8/6/98	DM

COMMENTS:
RESULTS ARE REPORTED ON DRY WEIGHT BASIS
MDL = METHOD DETECTION LIMIT
NA = NOT APPLICABLE
< = LESS THAN

wc110

ANALYTICAL REPORT

TOTAL PHENOLS

CLIENT: T&M ASSOCIATES
CLIENT PROJECT: RICHMOND TERRACE
REPORT DATE: AUG. 6 1998
PROJECT RECEIPT DATE: 07/30/98

PROJECT: 98-07-0679
MATRIX: SOIL
UNITS: Mg/Kg

CLIENT ID	LAB ID	RESULTS	MDL	ANALYSIS DATE	ANALYST
SB-1	001	<2.74	2.74	8/6/98	NC
SB-2	002	<2.84	2.84	8/6/98	NC
SB-4	004	<2.66	2.66	8/6/98	NC
SB-10	010	<2.87	2.87	8/6/98	NC

COMMENTS:

RESULTS ARE REPORTED ON DRY WEIGHT BASIS
MDL = METHOD DETECTION LIMIT
NA = NOT APPLICABLE
< = LESS THAN

WC

ANALab INC.
205 Campus Plaza 1, Raritan Center, Edison, New Jersey 08837 (908) 225-4111
ENVIRONMENTAL ANALYTICAL LABORATORY SERVICES FAX (908) 225-4110

CHAIN-OF-CUSTODY RECORD and Work Authorization

LAB SDG NO. (FOR LAB USE ONLY): 9807-679

Company: T&M Associates
Address: 11 Tindall Road
City: Middletown
State: NJ ZIP 07748 Phone 671 6400
Project Manager: John Vandenberg Fax 671-7365
Project name: ~~[illegible]~~ Purchase Order No.
Richmond Terrace

ANALYSIS REQUESTED: 418.1 TPHC; PP+40

PRINT ANALYSIS REQUESTS CLEARLY, LEGIBLY AND COMPLETELY.
Page 1 of 2

	SAMPLE DESCRIPTION	TYPE GRB	TYPE COMP	MATRIX TYPE	DATE SAMPLED	TIME	PRES	NO. CONT	REMARKS
01	SB-1	✓		Soil	7/30/98	15:50	RE	1	Hold on 1-16 oz.
02	SB-2	↓		↓	↓	15:40	↓	↓	PP+40
03	SB-3					15:30			until T&M
04	SB-4					15:20			receives
05	SB-5					13:30			TPHC
06	SB-6					11:05			analysis
07	SB-7					15:05			
08	SB-8					14:15			
09	SB-9					14:00			
10	SB-10					14:40			

FAILURE TO PRINT CLEARLY, LEGIBLY AND COMPLETELY MAY RESULT IN DELAYS. ANY ANALYSIS REQUEST NOT ENTERED COMPLETELY, CLEARLY AND LEGIBLY OR WHICH IS CONFUSING OR AMBIGUOUS MAY RESULT IN DELAYS. SAMPLES CAN NOT BE LOGGED IN AND THE TURNAROUND TIME CLOCK WILL NOT START UNTIL ANY AMBIGUITIES ARE RESOLVED. TO AVOID THIS, PRINT CLEARLY, LEGIBLY AND COMPLETELY.

SAMPLER/SUBMITTER'S STATEMENT: I attest that the proper field sampling procedures were used during the collection of these samples and that the information on this Chain of Custody and the analysis(es) requested are true and correct. Name (print) Daniel Barrett Signature: Daniel Barrett

RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	RELINQUISHED TO LABORATORY BY:	ACCEPTED FOR LAB BY	DATE	TIME
Daniel Barrett	[signature]	7/30/98	16:35			7/30/98	

Turnaround Time (Faxables)
24Hour X for TPHC 5 Day____
48 Hour____ 10 Day____
72 Hour____ 14 Day____

If other than 14 day contact your project manager for authorization number.
Auth No: ____

Laboratory Comments:
CONTINGENCY ANALYSIS
RUSH

Data Deliverables (Standard T.A.T. Hard Copy)
Results only____
Results with QC____
RTD-4____
FTD-2____

If other than standard turnaround time for hard copy, please indicate in client remarks.

Client Remarks:

All Samples Received
Temp 4.4 °C Cool Yes No
Samples Intact Yes No
Properly Preserved Yes No

 White: Lab

Appendix G
Standard Environmental Database Records Search

The EDR-Radius Map
with GeoCheck™

Richmond Terrace Tract
Richmond Terrace
Staten Island, NY 10302

Inquiry Number: 0276845.1r

July 27, 1998

Environmental Data Resources, Inc.
an edr company

The Source
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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APPENDICES

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

RICHMOND TERRACE
STATEN ISLAND, NY 10302

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

NPL:......................... National Priority List
Delisted NPL:................ NPL Deletions
RCRIS-TSD:................... Resource Conservation and Recovery Information System
CERCLIS:..................... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP:.................. Comprehensive Environmental Response, Compensation, and Liability Information System
SWF/LF:...................... Facility Register
AST:......................... Petroleum Bulk Storage (AST)
RAATS:....................... RCRA Administrative Action Tracking System
RCRIS-LQG:................... Resource Conservation and Recovery Information System
HMIRS:....................... Hazardous Materials Information Reporting System
PADS:........................ PCB Activity Database System
FINDS:....................... Facility Index System
TRIS:........................ Toxic Chemical Release Inventory System
NPL Lien:.................... NPL Liens
TSCA:........................ Toxic Substances Control Act
MLTS:........................ Material Licensing Tracking System
CBS UST:..................... Chemical Bulk Storage (CBS) Database
CBS AST:..................... Chemical Bulk Storage (CBS) Database
MOSF UST:.................... Major Oil Storage Facilities Database
MOSF AST:.................... Major Oil Storage Facilities Database
ROD:......................... ROD
CONSENT:..................... Superfund (CERCLA) Consent Decrees
Coal Gas:.................... Former Manufactured gas (Coal Gas) Sites.

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

The subject property was identified in the following government records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
RICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY	NY Spills	N/A

EXECUTIVE SUMMARY

RICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY	ERNS	N/A
DICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY	NY Spills	N/A
RICHMOND TERRACE CLOVE RD RICHMOND TERRACE CLOVE RD STATEN ISLAND, NY	NY Spills	N/A

EXECUTIVE SUMMARY

Surrounding Properties:

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the subject property includes a tolerance of -10 feet. Sites with an elevation equal to or higher than the subject property have been differentiated below from sites with an elevation lower than the subject property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already by listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Conservation's Inactive Hazardous waste Disposal Sites in New York State.

A review of the SHWS list, as provided by EDR, has revealed that there are 7 SHWS sites within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
POINT BUILDERS INCORPORATED	197 TO 199 IST ST / J	1/2 - 1 NNE	14	23
DISCOVERIES INCORPORATED	235 1ST ST W	1/2 - 1 N	15	23
ROUTE 169 SECTIONS 2D & 1E	RTE 169	1/2 - 1 N	16	23
TEXACO USA DIVISION TEXACO INC	1ST ST W	1/2 - 1 N	17	23
RICHIE DALE	***39 AVENUE C***	***1/2 - 1 NE***	***26***	***28***
BEST FOODS	***99 AVE A***	***1/2 - 1 NNE***	***27***	***31***
129 5TH STREET WEST	129 5TH ST W	1/2 - 1 NNE	28	38

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/15/1997 has revealed that there is 1 CORRACTS site within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CASCHEM INC	***35-40 AVE A***	***1/2 - 1 N***	***18***	***23***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Conservation's Spills Information Database.

A review of the LUST list, as provided by EDR, and dated 04/01/1998 has revealed that there are 3 LUST sites within approximately 0.5 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SPANPICO	124 GRANITE AVE	1/4 - 1/2 SW	11	20
42 WRIGHT AVE	42 WRIGHT AVE	1/4 - 1/2 WSW	12	21
85 BLACKFORD AVE	85 BLACKFORD AVE	1/4 - 1/2 SSE	13	22

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database

A review of the UST list, as provided by EDR, and dated 01/31/1998 has revealed that there are 3 UST sites within approximately 0.25 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SCARA-MIX INC	2537 RICHMOND TER	0 - 1/8 .W	B6	11
SIPCO OIL COMPANY	***2541 RICHMOND TER***	***0 - 1/8 -W***	***B7***	***13***
DRURY ENTERPRISES INC	2589 RICHMOND TER	1/8 - 1/4 W	8	17

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 01/01/1998 has revealed that there are 2 RCRIS-SQG sites within approximately 0.25 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
DEVILLE II AUTO COLLISION	***2432 RICHMOND TER***	***0 - 1/8 NW***	***5***	***11***
MAACO AUTO PAINTING	***2550 RICHMOND TER***	***1/8 - 1/4 W***	***9***	***18***

HSWDS: The Hazardous Substance Waste Disposal Site Inventory includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Diposal Sites and non-registry sites which the U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared.

A review of the HSWDS list, as provided by EDR, and dated 09/01/1997 has revealed that there is 1 HSWDS site within approximately 0.5 Miles of the subject property.

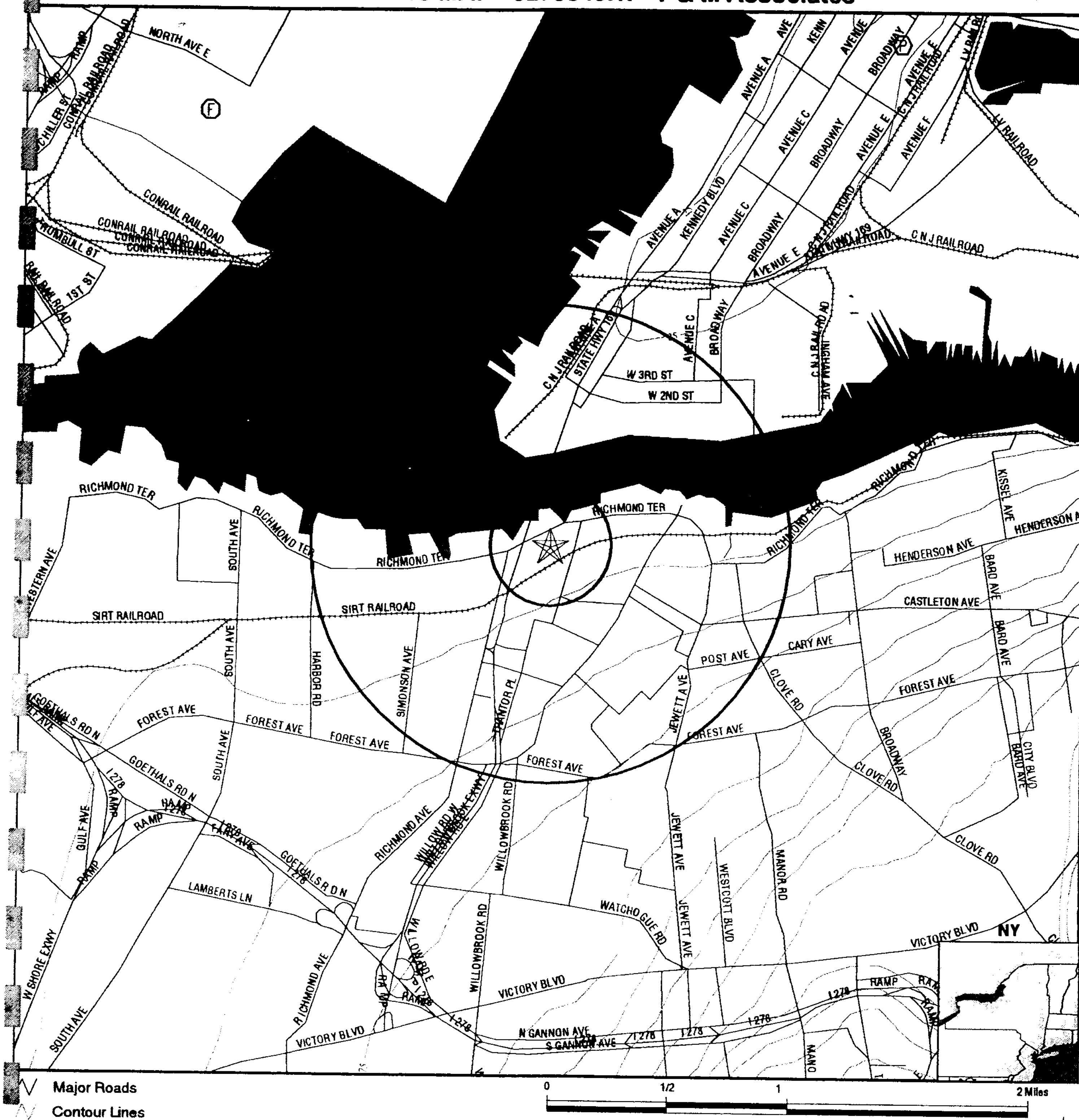
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CHELSEA TERMINAL	2217 RICHMOND TER	1/4 - 1/2 ENE	10	19

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
GSF ENERGY LLC	SWF/LF, NY Spills
FRESH KILLS	LUST, NY Spills
GATX	LUST, NY Spills
GATX TERMINALS, INC	LUST, NY Spills
ST GEORGE FERRY TERMINAL	LUST, NY Spills
IMTT TERMINAL/BAYONNE NJ	LUST
PORT MOBIL	LUST, NY Spills
PORT MOBIL GAS SPILL	LUST, NY Spills
RICHMOND HILL RD	LUST
3245 RICHMOND TERR	LUST, NY Spills
SUNKEN YARD TUG BOAT	LUST, NY Spills
1435	LUST
STAPLETON ANCHORAGE / STA	LUST, NY Spills
IMTT TERMINAL	LUST, NY Spills
AREA OF	NJ Release, NJ Spills

TOPOGRAPHIC MAP - 0276845.1r - T & M Associates



- Major Roads
- Contour Lines
- Waterways
- Airports
- Earthquake epicenter, Richter 5 or greater
- (F) Closest Federal Well in quadrant
- (S) Closest State Well in quadrant
- (P) Closest Public Water Supply Well
- (HD) Closest Hydrogeological Data

TARGET PROPERTY:	Richmond Terrace Tract	CUSTOMER:	T & M Associates
ADDRESS:	Richmond Terrace	CONTACT:	Mr. Mike Francis
CITY/STATE/ZIP:	Staten Island NY 10302	INQUIRY #:	0276845.1r
LAT/LONG:	40.6381 / 74.1421	DATE:	July 27, 1998 7:02 pm

TARGET PROPERTY COORDINATES

Latitude (North):	40.638100 - 40° 38' 17.2"
Longitude (West):	74.142097 - 74° 8' 31.6"
Universal Transverse Mercator:	Zone 18
UTM X (Meters):	2778140.2
UTM Y (Meters):	38685920.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2440074-F2 ELIZABETH, NJ NY

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	Tr
Era:	Mesozoic
System:	Triassic
Series:	Triassic

ROCK STRATIGRAPHIC UNIT†

Category:	Stratified Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles

MAP ID	DISTANCE FROM TP	DIRECTION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported			

General Topographic Gradient at Target Property: General NNW
General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.
Site-Specific Hydrogeological Data*:
Search Radius: 2.0 miles
Status: Not found

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
Northern	>2 Miles	Shale	8 ft.
Western	>2 Miles	Shale	Not Reported

STATE DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP
NO WELLS FOUND	

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).
‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a, Chapter 4, page 78, September 1990.
** EDR AQUIFLOW™ information System of hydrogeologically determined groundwater flow directions at specific locations. See the data pages at the end of this report for a complete description.

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.
NOTE: PWS System location is not always the same as well location.

PWS Name: CAMP LEWIS
41 EAST 25TH ST
BAYONNE, NJ 07002
Location Relative to TP: >2 Miles North
PWS currently has or has had major violation(s): No

AREA RADON INFORMATION

State Radon Information for Zip Code: 10302

Number of sites tested: 2

Average (pCi/L)	Geometric Mean (pCi/L)	Geometric Std Dev.	Maximum (pCi/L)
2.0	1.8	1.6	2.9

EPA Radon Zone for RICHMOND County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

RICHMOND COUNTY, NY

Number of sites tested: 61

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.670 pCi/L	98%	2%	0%
Basement	1.250 pCi/L	84%	15%	2%

OVERVIEW MAP - 0276845.1r - T & M Associates

- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands per National Wetlands Inventory (1994)

0 1/4 1/2 1 Miles

TARGET PROPERTY:	Richmond Terrace Tract	CUSTOMER:	T & M Associates
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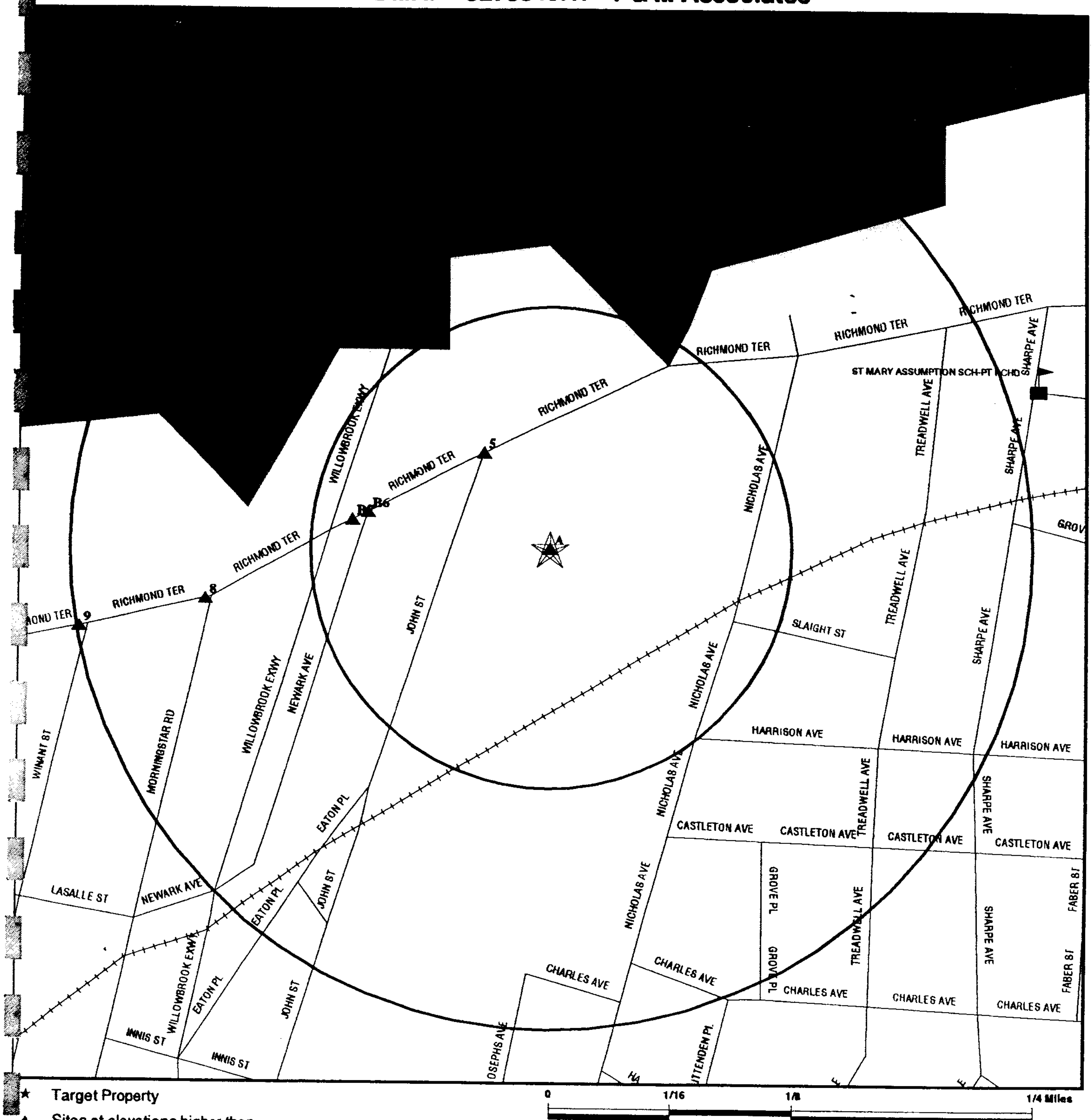
CITY/STATE/ZIP:	Staten Island NY 10302	INQUIRY #:	0276845.1r
LAT/LONG:	40.6381 / 74.1421	DATE:	July 27, 1998 7:01 pm

DETAIL MAP - 0276845.1r - T & M Associates



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

▲ Coal Gasification Sites (if requested)

Sensitive Receptors

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

100-year flood zone

500-year flood zone

TARGET PROPERTY:	Richmond Terrace Tract	CUSTOMER:	T & M Associates
ADDRESS:	Richmond Terrace	CONTACT:	Mr. Mike Francis
CITY/STATE/ZIP:	Staten Island NY 10302	INQUIRY #:	0276845.1r
LAT/LONG:	40.6381 / 74.1421	DATE:	July 27, 1998 7:01 pm

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	7	NR	7
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	1	NR	1
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	3	NR	NR	3
UST		0.250	2	1	NR	NR	NR	3
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	1	1	NR	NR	NR	2
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS	X	TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
NY Spills	X	TP	NR	NR	NR	NR	NR	0
CBS UST		0.250	0	0	NR	NR	NR	0
CBS AST		0.250	0	0	NR	NR	NR	0
MOSF UST		0.500	0	0	0	NR	NR	0
MOSF AST		0.500	0	0	0	NR	NR	0
HSWDS		0.500	0	0	1	NR	NR	1
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	7	NR	7
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	1	NR	1
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	3	NR	NR	3
UST		0.250	2	1	NR	NR	NR	3
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	1	1	NR	NR	NR	2
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS	X	TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
NY Spills	X	TP	NR	NR	NR	NR	NR	0
CBS UST		0.250	0	0	NR	NR	NR	0
CBS AST		0.250	0	0	NR	NR	NR	0
MOSF UST		0.500	0	0	0	NR	NR	0
MOSF AST		0.500	0	0	0	NR	NR	0
HSWDS		0.500	0	0	1	NR	NR	1
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

A3 Target Property | **RICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY** | **NY Spills** | **S102143357 N/A**

SPILLS:

Spill Number: 9706805
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: TANG
Caller Name: MATTHEW ENGLERT
Caller Agency: US COAST GUARD
Caller Phone: (718) 354-4136
Caller Extension: Not reported
Notifier Name: KEVIN TONE
Notifier Agency: REINAUR TRANSPORTATION CO
Notifier Phone: (718) 816-8167
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
SWIS: 64
Spiller: UNKNOWN
Address: Not reported
Not reported
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 09/08/1997
Spill Cause: Unknown
Resource Affected: Surface Water
Water Affected: BODINE CREEK
Spill Source: Unknown
Spill Notifier: Federal Government
PBS Number: Not reported
Spill Date: 09/08/1997 10:35
Reported to Dept: 09/08/1997 12:42
Cleanup Ceased: Not reported
Last Inspection: Not reported
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: False
Spill Record Last Update: 09/10/1997
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 09/08/1997
Date Region Sent Report To Central Office: Not reported
DEC Remark: Not reported
Caller Remarks: 300'X200' SHEEN IN WATER. US COAST GUARD ON SCENE. INVESTIGATION CONTINUING. WILL CLEAN UP IF NECESSARY.

This is the most recent NY SPILLS record for this site.
The NY SPILLS database contains 5 additional records for this site.
Please contact your EDR Account Executive for more information.

A2 Target Property | **RICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY** | **ERNS** | **97407859 N/A**

A1 Target Property | **DICHMOND TERRACE RICHMOND TERRACE STATEN ISLAND, NY** | **NY Spills** | **S102143697 N/A**

SPILLS:

Spill Number: 9212079
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: TIBBE

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

DICHMOND TERRACE (Continued) S102143697

Caller Name: P.O. CHRIS MAWHINNEY
Caller Agency: USCG
Caller Phone: (212) 668-7920
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
SWIS: 64
Spiller: Not reported
Address Not reported
Not reported
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 01/22/1993
Spill Cause: Unknown
Resource Affected: Surface Water
Water Affected: KILL VAN KULL
Spill Source: Unknown
Spill Notifier: Federal Government
PBS Number: Not reported
Spill Date: 01/22/1993 13:30
Reported to Dept: 01/22/1993 14:07
Cleanup Ceased: 01/22/1993
Last Inspection: Not reported
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: False
Spill Record Last Update: 01/29/1993
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 01/29/1993
Date Region Sent Report To Central Office: Not reported
DEC Remark: 10/10/95: This is additional information about material spilled from the translation of the old spill file: UNK LT FUEL OIL
Caller Remarks: SHEEN DISCOVERED-NO TEAM OUT NO MARINE POLICE CHECKED IT OUT NO SOURCE DISAPATING WITH WEATHER

A4
Target Property

RICHMOND TERRACE CLOVE RD
RICHMOND TERRACE CLOVE RD
STATEN ISLAND, NY

NY Spills **S102148050** **N/A**

SPILLS:
Spill Number: 9400137
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: TOMASELLO
Caller Name: PO RHODES
Caller Agency: USCG
Caller Phone: (212) 668-7920
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
SWIS: 64
Spiller: Not reported
Address Not reported
Not reported
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 04/04/1994
Spill Cause: Unknown
Resource Affected: Surface Water
Water Affected: Not reported
Spill Source: Unknown
Spill Notifier: Federal Government
PBS Number: Not reported
Spill Date: 04/04/1994 16:25
Reported to Dept: 04/04/1994 17:35
Cleanup Ceased: 04/04/1994
Last Inspection: Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	RICHMOND TERRACE CLOVE RD (Continued)		**S102148050**

Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: False
Spill Record Last Update: 04/20/1994
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 04/19/1994
Date Region Sent Report To Central Office: Not reported
DEC Remark: Not reported
Caller Remarks: OIL FOUND IN CREEK. CO DISPATCTING TEAM TO INVESTIGATE. WANT CALL BACK.

---

5 **NW** **< 1/8** **Higher**	**DEVILLE II AUTO COLLISION** **2432 RICHMOND TER** **STATEN ISLAND, NY 10303**	**RCRIS-SQG** **FINDS**	**1000458180** **NYD986935393**

RCRIS:
Owner: CHARLES FAZIO
(212) 555-1212

Contact: CHARLES FAZIO
(718) 816-8929

Record Date: 01/07/91

Classification: Small Quantity Generator

Used Oil Recyc: No

Violation Status: No violations found

B6 **West** **< 1/8** **Higher**	**SCARA-MIX INC** **2537 RICHMOND TER** **STATEN ISLAND, NY 10303**	**UST**	**U001836243** **N/A**

SCARA-MIX INC (Continued) U001836243

PBS UST:

PBS Number:	2-317683	CBS Number:	Not reported
SWIS ID:	6401	Telephone:	(718) 442-7357
Operator:	SCARA-MIX INC		
Contact:	Not reported		
Emergency Contact:	SAL BARATO, (718) 442-7357		
Facility Type:	MANUFACTURING		
Total Tanks:	2	Old PBS Num:	Not reported
Owner:	SCARA-MIX INC 2537 RICHMOND TERRACE STATEN ISLAND, NY 10303 (718) 442-7357		
Owner Type:	Corporate/Commercial	Owner Mark:	Not reported
Owner Subtype:	Not reported		
Mailing Address:	SCARA-MIX INC 2537 RICHMOND TERRACE NY 10303 (718) 442-7357 ATTN: PETER MAURO		
Facility Status:	Active	Total Capacity:	Not reported
Certification:	Not reported	Expiration:	Not reported
Tank Number:	001	Capacity (gals):	4000
Tank Location:	UNDERGROUND		
Tank ID:	Not reported	Install Date:	08/79
Product Stored:	LEADED GASOLINE	Tank Type:	Not reported
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	08/89
Date Closed:	Not reported	Test Method:	Not reported
Region:	2		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SCARA-MIX INC (Continued) U001836243

PBS Number:	2-317683	CBS Number:	Not reported
SWIS ID:	6401	Telephone:	(718) 442-7357
Operator:	SCARA-MIX INC		
Contact:	Not reported		
Emergency Contact:	SAL BARATO, (718) 442-7357		
Facility Type:	MANUFACTURING		
Total Tanks:	2	Old PBS Num:	Not reported
Owner:	SCARA-MIX INC 2537 RICHMOND TERRACE STATEN ISLAND, NY 10303 (718) 442-7357		
Owner Type:	Corporate/Commercial	Owner Mark:	Not reported
Owner Subtype:	Not reported		
Mailing Address:	SCARA-MIX INC 2537 RICHMOND TERRACE NY 10303 (718) 442-7357 ATTN: PETER MAURO		
Facility Status:	Active	Total Capacity:	Not reported
Certification:	Not reported	Expiration:	Not reported
Tank Number:	002	Capacity (gals):	4000
Tank Location:	UNDERGROUND		
Tank ID:	Not reported	Install Date:	08/79
Product Stored:	DIESEL	Tank Type:	Not reported
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	08/89
Date Closed:	Not reported	Test Method:	Not reported
Region:	2		

B7 **West** **< 1/8** **Higher**	**SIPCO OIL COMPANY** **2541 RICHMOND TER** **STATEN ISLAND, NY 10303**	**UST** **AST**	**U003074610** **N/A**

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SIPCO OIL COMPANY (Continued) U003074610

PBS UST:

PBS Number:	2-218723	CBS Number:	Not reported
SWIS ID:	6401	Telephone:	(718) 448-3750
Operator:	ORTEP OF STATEN ISLAND INC		
Contact:	Not reported		
Emergency Contact:	WILLIAM VALLELY, (718) 448-3750		
Facility Type:	Not reported		
Total Tanks:	1	Old PBS Num:	Not reported
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Owner Type:	Not reported	Owner Mark:	Not reported
Owner Subtype:	Not reported		
Mailing Address:	SIPCO OIL CO. 2541 RICHMOND TERRACE NY 10303 (718) 448-3750 ATTN: WILLIAM VALLELY		
Facility Status:	Active	Total Capacity:	Not reported
Certification:	Not reported	Expiration:	Not reported
Tank Number:	001	Capacity (gals):	1100
Tank Location:	UNDERGROUND		
Tank ID:	Not reported	Install Date:	00/00
Product Stored:	DIESEL	Tank Type:	Not reported
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	Not reported
Date Closed:	Not reported	Test Method:	Not reported
Region:	2		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SIPCO OIL COMPANY (Continued) U003074610

PBS AST:

PBS Number:	2-218723	Telephone:	(718) 448-3750
Facility Status:	Active		
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Tank ID:	5	Capacity (Gal):	00/88
Tank Status:	Temporarily Out Of Service		
Tank Location:	Not reported		
Product Stored:	Not reported	Tank Type:	Concrete
Install Date:	1	Tank Internal:	EPOXY LINER
Tank External:	Not reported		
Tank Containment:	Not reported		
Pipe Location:	Not reported	Pipe Type:	Not reported
Pipe Internal:	Not reported		
Pipe External:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Loading Rack
Date Tested:	2	Next Test Date:	Not reported
Date Closed:	N.T.R	Test Method:	Not reported
Updated:	X	Deleted:	Not reported

PBS Number:	2-218723	Telephone:	(718) 448-3750
Facility Status:	Active		
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Tank ID:	5	Capacity (Gal):	00/88
Tank Status:	Temporarily Out Of Service		
Tank Location:	Not reported		
Product Stored:	Not reported	Tank Type:	Concrete
Install Date:	1	Tank Internal:	EPOXY LINER
Tank External:	Not reported		
Tank Containment:	Not reported		
Pipe Location:	Not reported	Pipe Type:	Not reported
Pipe Internal:	Not reported		
Pipe External:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Loading Rack
Date Tested:	2	Next Test Date:	Not reported
Date Closed:	N.T.R	Test Method:	Not reported
Updated:	X	Deleted:	Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SIPCO OIL COMPANY (Continued) U003074610

PBS Number:	2-218723	Telephone:	(718) 448-3750
Facility Status:	Active		
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Tank ID:	5	Capacity (Gal):	00/88
Tank Status:	Temporarily Out Of Service		
Tank Location:	Not reported		
Product Stored:	Not reported	Tank Type:	Concrete
Install Date:	1	Tank Internal:	EPOXY LINER
Tank External:	Not reported		
Tank Containment:	Not reported		
Pipe Location:	Not reported	Pipe Type:	Not reported
Pipe Internal:	Not reported		
Pipe External:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Loading Rack
Date Tested:	2	Next Test Date:	Not reported
Date Closed:	N.T.R	Test Method:	Not reported
Updated:	X	Deleted:	Not reported

PBS Number:	2-218723	Telephone:	(718) 448-3750
Facility Status:	Active		
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Tank ID:	5	Capacity (Gal):	00/88
Tank Status:	Temporarily Out Of Service		
Tank Location:	Not reported		
Product Stored:	Not reported	Tank Type:	Concrete
Install Date:	1	Tank Internal:	EPOXY LINER
Tank External:	Not reported		
Tank Containment:	Not reported		
Pipe Location:	Not reported	Pipe Type:	Not reported
Pipe Internal:	Not reported		
Pipe External:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Loading Rack
Date Tested:	2	Next Test Date:	Not reported
Date Closed:	N.T.R	Test Method:	Not reported
Updated:	X	Deleted:	Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	SIPCO OIL COMPANY (Continued)		U003074610

PBS Number:	2-218723	Telephone:	(718) 448-3750
Facility Status:	Active		
Owner:	2541 RICHMOND TERRACE CO 1804 MURRAY DRIVE WALL TOWNSHIP, NJ 07719 (201) 681-0933		
Tank ID:	5	Capacity (Gal):	00/88
Tank Status:	Temporarily Out Of Service		
Tank Location:	Not reported		
Product Stored:	Not reported	Tank Type:	Concrete
Install Date:	1	Tank Internal:	EPOXY LINER
Tank External:	Not reported		
Tank Containment:	Not reported		
Pipe Location:	Not reported	Pipe Type:	Not reported
Pipe Internal:	Not reported		
Pipe External:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Loading Rack
Date Tested:	2	Next Test Date:	Not reported
Date Closed:	N.T.R	Test Method:	Not reported
Updated:	X	Deleted:	Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
8 West 1/8-1/4 Higher	DRURY ENTERPRISES INC 2589 RICHMOND TER STATEN ISLAND, NY 10303	UST	U001835541 N/A

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

DRURY ENTERPRISES INC (Continued) U001835541

PBS UST:

PBS Number:	2-283975	CBS Number:	Not reported
SWIS ID:	6401	Telephone:	(718) 447-3410
Operator:	DRURY ENTERPRISES INC		
Contact:	Not reported		
Emergency Contact:	J DRURY, (718) 447-3410		
Facility Type:	Not reported		
Total Tanks:	1	Old PBS Num:	Not reported
Owner:	DRURY ENTERPRISES INC 2581 RICHMOND TERR STATEN ISLAND, NY 10303 (718) 447-3410		
Owner Type:	Corporate/Commercial	Owner Mark:	Not reported
Owner Subtype:	Not reported		
Mailing Address:	DRURY ENTERPRISES INC 2581 RICHMOND TERR NY 10303 (718) 447-3410 Not Reported		
Facility Status:	Active	Total Capacity:	Not reported
Certification:	Not reported	Expiration:	Not reported
Tank Number:	001	Capacity (gals):	15000
Tank Location:	UNDERGROUND		
Tank ID:	Not reported	Install Date:	00/00
Product Stored:	NOS 1,2, OR 4 FUEL OIL	Tank Type:	Not reported
Tank Internal:	Not reported	Pipe Internal:	Not reported
Pipe Location:	Not reported	Pipe Type:	Not reported
Tank External:	Not reported		
Pipe External:	Not reported		
Second Containment:	Not reported		
Leak Detection:	Not reported		
Overfill Prot:	Not reported	Dispenser:	Not reported
Date Tested:	Not reported	Next Test Date:	12/87
Date Closed:	Not reported	Test Method:	Not reported
Region:	2		

---

9 **West** **1/8-1/4** **Higher**	**MAACO AUTO PAINTING** **2550 RICHMOND TER** **STATEN ISLAND, NY 10303**	**RCRIS-SQG** **FINDS**	**1000278024** **NYD980775621**

RCRIS:

Owner:	JOHN SHULTZ (718) 816-5151
Contact:	JOHN SHULTZ (718) 816-5151
Record Date:	01/18/94
Classification:	Small Quantity Generator

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

MAACO AUTO PAINTING (Continued) 1000278024

Used Oil Recyc: No

Violation Status: No violations found

---

10 ENE 1/4-1/2 Higher	**CHELSEA TERMINAL** **2217 RICHMOND TER** **STATEN ISLAND, NY 10314**	**HSWDS**	**S102872860** **N/A**

NY HSWDS:

Facility ID:	HS2020	EPA ID:	NYD980528384
Facility Status:	None		
Owner Type:	Puplic		
Owner:	P		
Owner Address	2217 RICHMOND TERRACE Staten Island, NY 10314		
Owner Phone:	(718)273-2400		
Operator Type:	Puplic		
Operator:	SAME		
Operator Address	Unknown Not reported		
Operator Phone:	Unknown		
Registry:	Not on NYS Registry of Inactive Haz Waste Disposal Sites		
Registry Site ID:	None	RCRA Permitted:	Unknown
Site Code:	1	Mailing:	Not reported
Quadrange:	Unknown	Lat/Long:	40 35'53'N / 74 11'40"W
Acres:	5.00	Cost per Acre:	0
Investment Cost:	125000	Estimated Cost:	6200000
Future Est. cost:	6325000		
Operator Date:	1965	Close Date:	Unknown
Completed:	Unknown	Active:	Unknown
Substance:	isopropanol-anhydrous, strontium-acetate, epichlorohydrin, aluminum sulfate, strontium-hydroxide(anhydrous), xylenes, toluene, ethyl benzene, carbon tetrachloride, chloroform, mercury, lead, cadmium, acetone		
Site Description:	Previously owned by Positive Chemical Co., and inactive due to criminal action pending against previous operators of facility. Currently stores lumber and metal pipe for construction co.		

Volatile Organic Compounds Disposed:	Yes
Semi Volatile Organic Compounds Disposed:	No
PCB's Disposed:	No
Pesticides Disposed:	No
Metals Disposed:	Yes
Asbestos Disposed:	No
Analytical Info Exists for Air:	Air
Analytical Info Exists for Ground:	Groundwater
Analytical Info Exists for Surface:	Surface Water
Analytical Info Exists for Sediments:	Sediment
Analytical Info Exists for Surface Soil:	Not reported
Analytical Info Exists for Substance:	Subsurface Soil
Analytical Info Exists for Waste:	Not reported
Analytical Info Exists for Leachate:	Not reported
Analytical Info Exists for EP Toxicity:	Not reported
Analytical Info Exists for TCLP:	Not reported
Site Poses Threat to Environment/Public Health:	E/P
Internal Ranking of Site:	75
Surface Water Contamination:	Yes
Surface Water Body Class:	Unknown
Groundwater Contamination:	Unknown

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

CHELSEA TERMINAL (Continued) **S102872860**

Groundwater Classification:	Unknown
Drinking Water Contamination:	No
Drinking Water Supply is Active:	Unknown
Any Known Fish or Wildlife:	No
Hazardous Exposure:	Unknown
Site Has Controlled Acess:	No
Ambient Air Contamination:	Unknown
Direct Contact:	Unknown
EPA Hazardous Ranking System Score:	Unknown

Agencies
USEPA

Air	Not reported
Building	Not reported
Drink	Not reported
Eptox	Not reported
Fish	Not reported
Ground	Not reported
Ground	Not reported
Hazardous Threat	Not reported
Leachate	Not reported

Preparer
JULIE WELCH

Reason	Not reported
Sediment	Not reported
Soil	Not reported
Surface	Not reported
Status	Not reported
Surface Soil	Not reported
Surface	Not reported
Waste	Not reported

---

11 **SPANPICO** **LUST** **S102232653**
SW **124 GRANITE AVE** **N/A**
1/4-1/2 **STATEN ISLAND, NY**
Higher

LUST:

Spill Number:	9511645	Region of Spill:	2
Facility Contact:	PETER BARONE	Facility Tele:	(718) 987-3363
Investigator:	TIBBE	SWIS:	64
Caller Name:	MARK BUFFKIN	Caller Agency:	NDE ENVIRONMENTAL
Caller Phone:	(800) 964-7311	Caller Extension:	Not reported
Notifier Name:	KEN GELOK	Notifier Agency:	NDE
Notifier Phone:	(800) 964-7311	Notifier Extension:	Not reported
Spiller Contact:	PETER BARONE	Spiller Phone:	(718) 987-3363
Spiller:	SPANPICO		
Address	124 GRANITE AVE STATEN ISLAND, NY		
Spill Class:	Known release that creates potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.		
Spill Closed Dt:	Not reported		
Spill Cause:	Tank Test Failure	Resource Affected:	On Land
Water Affected:	Not reported	Spill Source:	Other Commercial/Industrial
Spill Notifier:	Tank Tester	PBS Number:	Not reported
Spill Date:	12/14/1995 16:30	Reported to Dept:	12/14/1995 17:31
Cleanup Ceased:	Not reported		
Last Inspection:	Not reported		
Cleanup Meets Standard:	False		
Recommended Penalty:	No Penalty		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

SPANPICO (Continued) **S102232653**

Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: True
Spill Record Last Update: 01/04/1996
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 12/14/1995
Date Region Sent Summary to Central Office: Not reported
PBS Number: Not reported
Tank Number: Not reported
Test Method: UNKNOWN
Leak Rate: 0.00
Capacity (Gal): 550
Gross Leak/Fail: F
Material: DIESEL
Material Class: Petroleum
Unknwn Quantity: True
Unk Qt Recovered: False
Quantity Spilled: 0
Quant Recovered: 0
Quantity Units: Gallons
DEC Remarks: 1
Caller Remarks: test method NDE 1000 - excavation will be done and the tank will be retested

---

12 **WSW** **1/4-1/2** **Higher**	**42 WRIGHT AVE** **42 WRIGHT AVE** **STATEN ISLAND, NY**	**LUST**	**S102233207** **N/A**

LUST:
Spill Number: 9508570
Region of Spill: 2
Facility Contact: STATEN ISLAND FD
Facility Tele: (718) 494-4261
Investigator: ZHITOMIRSKY
SWIS: 64
Caller Name: OPER 168
Caller Agency: STATEN ISLAND FIRE
Caller Phone: (718) 494-4261
Caller Extension: Not reported
Notifier Name: NYC FD
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: JOE RAGUSO (RESIDENCE)
Address 42 WRIGHT AVE
RICHMOND, NY
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 10/16/1995
Spill Cause: Tank Failure
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Private Dwelling
Spill Notifier: Fire Department
PBS Number: Not reported
Spill Date: 10/12/1995 21:22
Reported to Dept: 10/12/1995 22:26
Cleanup Ceased: 10/16/1995
Last Inspection: Not reported
Cleanup Meets Standard: False
Recommended Penalty: No Penalty
Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: False
Spill Record Last Update: 11/08/1995
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 10/12/1995
Date Region Sent Summary to Central Office: Not reported
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Leak Rate: Not reported
Capacity (Gal): Not reported
Gross Leak/Fail: Not reported

Map ID
Direction
Distance
Elevation | Site | Database(s) | EDR ID Number
EPA ID Number

42 WRIGHT AVE (Continued) **S102233207**

Material: #2 FUEL OIL
Material Class: Petroleum
Unknwn Quantity: True
Unk Qt Recovered: False
Quantity Spilled: 0
Quant Recovered: 0
Quantity Units: Gallons
DEC Remarks: Not reported
Caller Remarks: FD ON SCENE ATEMPTING TO RECTIFY PROBLEM

13
SSE
1/4-1/2
Higher

85 BLACKFORD AVE
85 BLACKFORD AVE
STATEN ISLAND, NY

LUST **S102672047**
N/A

LUST:
Spill Number: 9211042
Region of Spill: 2
Facility Contact: Not reported
Facility Tele: Not reported
Investigator: CAMMISA
SWIS: 64
Caller Name: BILL VALLEY
Caller Agency: SIPCO OIL CO.
Caller Phone: (718) 448-3750
Caller Extension: Not reported
Notifier Name: Not reported
Notifier Agency: Not reported
Notifier Phone: Not reported
Notifier Extension: Not reported
Spiller Contact: Not reported
Spiller Phone: Not reported
Spiller: Not reported
Address Not reported
Not reported
Spill Class: Known release with minimal potential for fire or hazard. DEC Response. Willing Responsible Party. Corrective action taken.
Spill Closed Dt: 12/23/1992
Spill Cause: Tank Overfill
Resource Affected: On Land
Water Affected: Not reported
Spill Source: Private Dwelling
Spill Notifier: Other
PBS Number: Not reported
Spill Date: 12/17/1992 16:00
Reported to Dept: 12/23/1992 12:55
Cleanup Ceased: 12/23/1992
Last Inspection: Not reported
Cleanup Meets Standard: True
Recommended Penalty: No Penalty
Spiller Cleanup Date: Not reported
Enforcement Date: Not reported
Investigation Complete: Not reported
UST Involvement: False
Spill Record Last Update: Not reported
Corrective Action Plan Submitted: Not reported
Date Spill Entered In Computer Data File: 12/24/1992
Date Region Sent Summary to Central Office: Not reported
PBS Number: Not reported
Tank Number: Not reported
Test Method: Not reported
Leak Rate: Not reported
Capacity (Gal): Not reported
Gross Leak/Fail: Not reported
Material: #2 FUEL OIL
Material Class: Petroleum
Unknwn Quantity: False
Unk Qt Recovered: False
Quantity Spilled: 3
Quant Recovered: 0
Quantity Units: Gallons
DEC Remarks: Not reported
Caller Remarks: BOTH OIL CO RESPONDED WITH SPEEDI-DRI CLEAN UP IS ALREADY DONE OWNER DIDN'T NOTIFY US ON TIME

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
14 NNE 1/2-1 Higher	**POINT BUILDERS INCORPORATED** 197 TO 199 IST ST / J F KENNEDY BLVD BAYONNE CITY, NJ	SHWS	S102875415 N/A

SHWS:
Facility ID: NJL800297681 — Case ID: 9704032309
Case Status: ACTIVE — Status Date: 07/15/1997
Facilty Status: OPEN
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
15 North 1/2-1 Higher	**DISCOVERIES INCORPORATED** 235 1ST ST W BAYONNE CITY, NJ	SHWS	S103030390 N/A

SHWS:
Facility ID: NJL000038836 — Case ID: 910313SP02
Case Status: ACTIVE — Status Date: 08/24/1993
Facilty Status: OPEN
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
16 North 1/2-1 Higher	**ROUTE 169 SECTIONS 2D & 1E** RTE 169 BAYONNE CITY, NJ	SHWS	S101208069 N/A

SHWS:
Facility ID: NJD982719882 — Case ID: NJD9827198
Case Status: ACTIVE — Status Date: 04/01/1992
Facilty Status: OPEN
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
17 North 1/2-1 Higher	**TEXACO USA DIVISION TEXACO INCORPORATED** 1ST ST W BAYONNE CITY, NJ	SHWS	S101208071 N/A

SHWS:
Facility ID: NJD067505958 — Case ID: E85108
Case Status: ACTIVE — Status Date: 03/30/1995
Facilty Status: OPEN
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
18 North 1/2-1 Higher	**CASCHEM INC** 35-40 AVE A BAYONNE, NJ 07002	FINDS RCRIS-LQG TRIS RCRIS-TSD CORRACTS CERC-NFRAP	1000170153 NJD067520890

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported — Federal Facility: Not a Federal Facility
Ownership Status: Other — NPL Status: Not on the NPL
EPA Notes: Not reported
CERCLIS-NFRAP Assessment History:
Assessment: DISCOVERY — Completed: 01-JUN-81
Assessment: PRELIMINARY ASSESSMENT — Completed: 29-SEP-87

CASCHEM INC (Continued) 1000170153

CERCLIS-NFRAP Alias Name(s):
CASHEM
NL INDUSTRIES BAYONNE PLANT
NL INDUSTRIES INC

CORRACTS Data:
Prioritization: Low
Status: RCRA Facility Assessment Completed, Determination of Need for a RCRA Facility Investigation

RCRIS:
Owner: N L INDUSTRIES INC
(212) 399-9400

Contact: ERICK KASNER
(201) 858-7900

Record Date: 08/18/80

Classification: Large Quantity Generator, TSDF, Hazardous Waste Transporter

BIENNIAL REPORTS:
Last Biennial Reporting Year: 1995

Waste	Quantity (Lbs)	Waste	Quantity (Lbs)
D001	259322.57	D002	2780.00
D003	6618.72	D005	95.00
D007	370.00	D008	25.00
D009	493.72	D018	950.00
D035	8800.00	F002	5200.00
F003	235623.85	F005	6200.00
P030	10.00	U012	15.00
U019	275.00	U056	275.00
U103	20.00	U113	275.00
U117	10.00	U122	15.00
U125	275.00	U147	40.00
U188	15.00	U190	90.00
U223	15.00		

Used Oil Recyc: No

TSDF Activities: Not reported

Violation Status: Violations exist, high priority violator

There are 4 compliance/violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection (CEI)	TSD-Other Requirements	09/06/90
Compliance Evaluation Inspection (CEI)	TSD-Other Requirements	11/17/89
Compliance Schedule Evaluation (CSE)	TSD-Other Requirements	
Compliance Evaluation Inspection (CEI)	TSD-Other Requirements	

FINDS:
Other Pertinent Environmental Activity Identified at Site:
- Facility has an active water discharge permit (under PCS)
- Facility is monitored or permitted for air emissions under the Clean Air Act (under AFS/AIRS)
- Civil judicial and administrative enforcement case against facility (under DOCKET)

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
19 **North** **1/2-1** **Higher**	**CASCHEM, INC.** **40 AVENUE A** **BAYONNE, NJ 07002**	**Maj Facilities**	**S101899293** **N/A**

NJ MAJOR FACILITIES:

Facility ID:	90100006000
CAS Number:	107211
Hazardous Substance:	266000
Hazardous Substance Name:	ETHYLENE GLYCOL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	3000

Facility ID:	90100006000
CAS Number:	101688
Hazardous Substance:	266000
Hazardous Substance Name:	METHYLENEBIS(PHENYLISOCYANATE)
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	18500

Facility ID:	90100006000
CAS Number:	103231
Hazardous Substance:	266000
Hazardous Substance Name:	BIS(2-ETHYLHEXYL) ADIPATE
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	57500

Facility ID:	90100006000
CAS Number:	67561
Hazardous Substance:	266000
Hazardous Substance Name:	METHANOL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	38500

Facility ID:	90100006000
CAS Number:	********
Hazardous Substance:	266000
Hazardous Substance Name:	BUTANOL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	27000

Facility ID:	90100006000
CAS Number:	71363
Hazardous Substance:	266000
Hazardous Substance Name:	N-BUTYL ALCOHOL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	25000

Map ID
Direction
Distance
Elevation | Site | Database(s) | EDR ID Number
EPA ID Number

CASCHEM, INC. (Continued) S101899293

Facility ID:	90100006000
CAS Number:	108247
Hazardous Substance:	266000
Hazardous Substance Name:	ACETIC ANHYDRIDE
Haz Substance Stored Underground:	0
Haz Substance Stored In Other Places:	82000
Maximum Amount Storred:	25000

Facility ID:	90100006000
CAS Number:	64197
Hazardous Substance:	266000
Hazardous Substance Name:	ACETIC ACID
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	10600

Facility ID:	90100006000
CAS Number:	********
Hazardous Substance:	266000
Hazardous Substance Name:	MINERAL OIL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	13500

Facility ID:	90100006000
CAS Number:	68476302
Hazardous Substance:	266000
Hazardous Substance Name:	#2 FUEL OIL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	22100

Facility ID:	90100006000
CAS Number:	7664939
Hazardous Substance:	266000
Hazardous Substance Name:	SULFURIC ACID
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	6300

Facility ID:	90100006000
CAS Number:	1310732
Hazardous Substance:	266000
Hazardous Substance Name:	SODIUM HYDROXIDE
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	82000
Maximum Amount Storred:	12300

Facility ID:	90100006000
CAS Number:	********
Hazardous Substance:	266000
Hazardous Substance Name:	VARIOUS DRUMS AND TOTES OF HAZ. SUBST.
Haz Substance Stored Underground:	0
Haz Substance Stored In Other Places:	82000
Maximum Amount Storred:	82000

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

C20
NE
1/2-1
Same

EXXON - BAYONNE LUBRICANTS PLANT
1 AVENUE J
BAYONNE, NJ 07002

Maj Facilities **S102958757**
N/A

NJ MAJOR FACILITIES:

Facility ID:	90100579000
CAS Number:	********
Hazardous Substance:	43044056
Hazardous Substance Name:	WASTE OIL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	907000
Maximum Amount Storred:	354354

C21
NE
1/2-1
Same

EXXON - BAYONNE LUBRICANTS PLANT
1 AVENUE J
BAYONNE, NJ 07002

Maj Facilities **S102958756**
N/A

NJ MAJOR FACILITIES:

Facility ID:	90100579000
CAS Number:	********
Hazardous Substance:	43044056
Hazardous Substance Name:	FINISHED LUBE OIL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	907000
Maximum Amount Storred:	4018440

C22
NE
1/2-1
Same

EXXON - BAYONNE LUBRICANTS PLANT
1 AVENUE J
BAYONNE, NJ 07002

Maj Facilities **S102958760**
N/A

NJ MAJOR FACILITIES:

Facility ID:	90100579000
CAS Number:	********
Hazardous Substance:	43044056
Hazardous Substance Name:	MOTOR OIL
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	907000
Maximum Amount Storred:	816000

C23
NE
1/2-1
Same

EXXON - BAYONNE LUBRICANTS PLANT
1 AVENUE J
BAYONNE, NJ 07002

Maj Facilities **S102958759**
N/A

NJ MAJOR FACILITIES:

Facility ID:	90100579000
CAS Number:	********
Hazardous Substance:	43044056
Hazardous Substance Name:	PETROLEUM ADDITIVES
Haz Substance Stored Underground:	0
Haz Substance Stored in Other Places:	907000
Maximum Amount Storred:	62000

MAP FINDINGS

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
C24 **NE** **1/2-1** **Same**	**EXXON - BAYONNE LUBRICANTS PLANT** **1 AVENUE J** **BAYONNE, NJ 07002**	**Maj Facilities**	**S102958755** **N/A**

NJ MAJOR FACILITIES:

Facility ID: 90100579000
CAS Number: ********
Hazardous Substance: 43044056
Hazardous Substance Name: LUBE OIL BASESTOCK
Haz Substance Stored Underground: 0
Haz Substance Stored in Other Places: 907000
Maximum Amount Storred: 18877960

C25 **NE** **1/2-1** **Same**	**EXXON - BAYONNE LUBRICANTS PLANT** **1 AVENUE J** **BAYONNE, NJ 07002**	**Maj Facilities**	**S102958758** **N/A**

NJ MAJOR FACILITIES:

Facility ID: 90100579000
CAS Number: ********
Hazardous Substance: 43044056
Hazardous Substance Name: SKIMMED OIL
Haz Substance Stored Underground: 0
Haz Substance Stored in Other Places: 907000
Maximum Amount Storred: 168000

26 **NE** **1/2-1** **Higher**	**RICHIE DALE** **39 AVENUE C** **BAYONNE, NJ 07002**	**UST** **NJ Release** **NJ Spills** **SHWS**	**U000364356** **N/A**

SHWS:

Facility ID: NJD003918679
Case Status: ACTIVE
Facilty Status: OPEN
Case ID: 0155234
Status Date: 11/09/1995
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

NJ Release:

Facility ID: 20180
Date Received: 11/30/1993
Location: Facility
Caller: ELIZABETH NOFFKE
Address: Not reported
Not reported
Caller Telephone: 201-437-6500
Facility Phone: 201-437-6500
Date of Incident: 11/30/1993
Substance(s): GASOLINE
Substance Type: Liquid
A310 Letter: Yes
Hazrds Material: Yes
COMU: 0901
Amnt Released: UNKNOWN
Release Type: Terminated
Injuries: No
Public Exposure: No
Police at Scene: No
Contamination of: Land
Incident Description: L.U.S.T.

Case Number: 93-11-30-1452-00
Operator: JULIE1
Nature of Incident: Facility
Title: BELL ENVIRO
Facility Type: Commercial
Time of Incident: 10:00
Substance Identity: Known
TCPA Chemical: No
CAS Number: Not reported
Ref. Code: 101
Release VE: Not reported
Contained: Yes
Facility Evacuation: No
Public Evacuation: No
Firemen at Scene: No
Receiving Water: NONE

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

RICHIE DALE (Continued) U000364356

Wind Direction/Speed: Not reported
Assistance Requested: No
Responsible PartyKnown
RP Company: RICHIE DALE
RP Contact: FRED MALONE
RP Title: MNGR
RP Address: 39 AVE C
BAYONNE, NJ
RP County: HUDSON
RP Phone: 201-437-6500
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
NJ Spill Date: Not reported
Local MunicipalityBAYONNE CITY
Municipality Title: OPR 127
Municipal Tele: 201-858-6005
Municipal Date: 11/30/1993
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
other_date: Not reported
Incident Name: Not reported
Referred To: DRPSR
Incident Region: BFO-SA
Incident Phone: Faxed,Mailed
Incident Date: 11/30/1993
Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported
Status at Spill: 2/3000 GAL UST REMOVED. SOIL CONTAMINATION FOUND. CLEAN UP BEING DONE
Comments: Not reported

NJ Spill:
Facility ID: 20180
Case Number: 93-11-30-1452-00
Date Received: 11/30/1993
Operator: JULIE1
Location: Facility
Nature of Incident: Facility
Caller: ELIZABETH NOFFKE
Title: BELL ENVIRO
Address: Not reported
Not reported
Caller Telephone: 201-437-6500
Facility Phone: 201-437-6500
Facility Type: Commercial
Date of Incident: 11/30/1993
Time of Incident: 10:00
Substance(s): GASOLINE
Substance Type: Liquid
Substance Identity: Known
A310 Letter: Yes
TCPA Chemical: No
Hazrds Material: Yes
CAS Number: Not reported
COMU: 0901
Ref. Code: 101
Amnt Released: UNKNOWN
Release VE: Not reported
Release Type: Terminated
Contained: Yes
Injuries: No
Facility Evacuation: No
Public Exposure: No
Public Evacuation: No
Police at Scene: No
Firemen at Scene: No
Contamination of: Land
Receiving Water: NONE
Incident Description: L.U.S.T.
Wind Direction/Speed: Not reported
Assistance Requested: No
Responsible PartyKnown
RP Company: RICHIE DALE
RP Contact: FRED MALONE
RP Title: MNGR
RP Address: 39 AVE C
BAYONNE, NJ
RP County: HUDSON
RP Phone: 201-437-6500
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
NJ Spill Date: Not reported
Local MunicipalityBAYONNE CITY
Municipality Title: OPR 127

RICHIE DALE (Continued) **U000364356**

Municipal Tele:	201-858-6005	Municipal Date:	11/30/1993
Other Name:	Not reported	Other Title:	Not reported
Other Phone:	Not reported	other_date:	Not reported
Incident Name:	Not reported	Referred To:	DRPSR
Incident Region:	BFO-SA	Incident Phone:	Faxed,Mailed
Incident Date:	11/30/1993		

Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported
Status at Spill: 2/3000 GAL UST REMOVED. SOIL CONTAMINATION FOUND. CLEAN UP BEING DONE
Comments: Not reported

UST:

Facility ID:	0155234	Facility status:	Inactive
Install Date:	01/01/1971	Facility Type	B. COMMERCIAL/INDUSTRIAL
Unique Tank ID:	1	Owner Tank ID:	E004
CAS Number:	Not reported	Tank Capacity:	1000 Gallons
Tank Contents:	H. HOME HEATING OIL (NO. 2)		
Construction:	A. BARE STEEL		
Operator:	Not reported Not reported Not reported		
Operator Tele:	Not reported		
Owner:	RICHIE DALE 39 AVENUE C BOX 8 ATTN BRIAN D ARCHIBALD BAYONNE, NJ 07002		

Facility ID:	0155234	Facility status:	Inactive
Install Date:	01/01/1967	Facility Type	B. COMMERCIAL/INDUSTRIAL
Unique Tank ID:	2	Owner Tank ID:	0001
CAS Number:	Not reported	Tank Capacity:	3000 Gallons
Tank Contents:	J. HEATING OIL (NO. 4)		
Construction:	A. BARE STEEL		
Operator:	Not reported Not reported Not reported		
Operator Tele:	Not reported		
Owner:	RICHIE DALE 39 AVENUE C BOX 8 ATTN BRIAN D ARCHIBALD BAYONNE, NJ 07002		

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

RICHIE DALE (Continued) **U000364356**

Facility ID:	0155234	Facility status:	Inactive
Install Date:	01/01/1967	Facility Type	B. COMMERCIAL/INDUSTRIAL
Unique Tank ID:	3	Owner Tank ID:	0002
CAS Number:	Not reported	Tank Capacity:	3000 Gallons
Tank Contents:	B. UNLEADED GASOLINE		
Construction:	A. BARE STEEL		
Operator:	Not reported Not reported Not reported		
Operator Tele:	Not reported		
Owner:	RICHIE DALE 39 AVENUE C BOX 8 ATTN BRIAN D ARCHIBALD BAYONNE, NJ 07002		

Facility ID:	0155234	Facility status:	Inactive
Install Date:	01/01/1967	Facility Type	B. COMMERCIAL/INDUSTRIAL
Unique Tank ID:	4	Owner Tank ID:	0003
CAS Number:	Not reported	Tank Capacity:	3000 Gallons
Tank Contents:	B. UNLEADED GASOLINE		
Construction:	A. BARE STEEL		
Operator:	Not reported Not reported Not reported		
Operator Tele:	Not reported		
Owner:	RICHIE DALE 39 AVENUE C BOX 8 ATTN BRIAN D ARCHIBALD BAYONNE, NJ 07002		

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27 **NNE** **1/2-1** **Higher**	**BEST FOODS** **99 AVE A** **BAYONNE, NJ 07002**	**FINDS** **RCRIS-LQG** **TSCA** **CERC-NFRAP** **NJ Release** **NJ Spills** **SHWS**	**1000392028** **NJD001343862**

CERCLIS-NFRAP Classification Data:

Site Incident Category:	Not reported	Federal Facility:	Not a Federal Facility
Ownership Status:	Other	NPL Status:	Not on the NPL
EPA Notes:	Not reported		

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed:	01-JUN-81
Assessment:	PRELIMINARY ASSESSMENT	Completed:	01-AUG-84
Assessment:	SITE INSPECTION	Completed:	30-AUG-88

CERCLIS-NFRAP Alias Name(s):
BAYONNE TRAILER SITE (NJD980769970)

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

BEST FOODS (Continued) 1000392028

RCRIS:

Owner: BEST FOODS,CPCINT'L,INC.
(212) 555-1212

Contact: WINSTON SHEK
(201) 339-6800

Record Date: 08/18/80

Classification: Large Quantity Generator

Used Oil Recyc: No

Violation Status: Violations exist

There are 1 compliance/violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Schedule Evaluation (CSE)	Generator-All Requirements	03/16/94
	Generator-All Requirements	03/16/94

FINDS:

Other Pertinent Environmental Activity Identified at Site:
- Facility has an active water discharge permit (under PCS)
- Facility is monitored or permitted for air emissions under the Clean Air Act (under AFS/AIRS)

SHWS:

Facility ID: NJD001343862 — Case ID: 9405121902
Case Status: ACTIVE — Status Date: 06/03/1994
Facilty Status: OPEN
CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

NJ Release:

Facility ID:	15161	Case Number:	94-8-22-1154-15
Date Received:	08/22/1994	Operator:	JULIE1
Location:	Facility	Nature of Incident:	Citizen
Caller:	ANONYMOUS	Title:	CITIZEN
Address:	Not reported NJ		
Caller Telephone:	Not reported		
Facility Phone:	Not reported	Facility Type:	Commercial
Date of Incident:	08/22/1994	Time of Incident:	ONGO
Substance(s):	MERCURY,IODINE CARBON TETRACHLORIDE		
Substance Type:	Liquid	Substance Identity:	Suspected
A310 Letter:	Yes	TCPA Chemical:	No
Hazrds Material:	Yes	CAS Number:	56235
COMU:	0901	Ref. Code:	101
Amnt Released:	UNKNOWN	Release VE:	Not reported
Release Type:	Intermittent	Contained:	No
Injuries:	No	Facility Evacuation:	No
Public Exposure:	Yes	Public Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Incident Description:	Illegal Dumping		
Wind Direction/Speed:	Not reported		
Assistance Requested:	Yes		
Responsible Party:	Known	RP Company:	BEST FOODS
RP Contact:	Not reported	RP Title:	Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

BEST FOODS (Continued) 1000392028

RP Address: 99 AVE A
BAYONNE, NJ
RP County: HUDSON
RP Phone: UNK
NJ Spill Name: Not reported
NJ Spill Title: Not reported
NJ Spill Phone: Not reported
NJ Spill Date: Not reported
Local Municipality: BAYONNE CITY
Municipality Title: OPR 11
Municipal Tele: 201-858-6005
Municipal Date: 08/22/1994
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
other_date: Not reported
Incident Name: Not reported
Referred To: DRPSR
Incident Region: BFO-CAS
Incident Phone: Faxed,Mailed
Incident Date: 08/22/1994
Date A310 Letter Printed: 08/22/1994
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported
Status at Spill: ASSORTED HAZ-WASTE MATERIALS BEING DUMPED IN BACK OF PLANT.NO CLEAN UP
Comments: Not reported

Facility ID: 3984
Case Number: 95-3-21-1009-01
Date Received: 03/21/1995
Operator: SELL
Location: Facility
Nature of Incident: Municipal
Caller: DISP 4
Title: BAYONNE FD
Address: Not reported
Not reported
Caller Telephone: 201-858-6900
Facility Phone: 201-339-6800
Facility Type: Commercial
Date of Incident: 03/21/1995
Time of Incident: 10:03
Substance(s): NITRIC ACID
Substance Type: Liquid
Substance Identity: Known
A310 Letter: No
TCPA Chemical: Yes
Hazrds Material: Yes
CAS Number: 7697372
COMU: 0901
Ref. Code: 001
Amnt Released: UNK
Release VE: Not reported
Release Type: Terminated
Contained: Unknown
Injuries: Unknown
Facility Evacuation: Yes
Public Exposure: No
Public Evacuation: No
Police at Scene: Yes
Firemen at Scene: Yes
Contamination of: Land
Receiving Water: Not reported
Incident Description: Spill
Wind Direction/Speed: Not reported
Assistance Requested: Unknown
Responsible Party: Known
RP Company: BEST FOODS
RP Contact: UNK
RP Title: Not reported
RP Address: 99 AVE A
BAYONNE, NJ
RP County: HUDSON
RP Phone: 201-339-6800
NJ Spill Name: NJSP
NJ Spill Title: TPR ORAM
NJ Spill Phone: 609-882-2000
NJ Spill Date: 03/21/1995
Local Municipality: Not reported
Municipality Title: Not reported
Municipal Tele: Not reported
Municipal Date: Not reported
Other Name: Not reported
Other Title: Not reported
Other Phone: Not reported
other_date: Not reported
Incident Name: GARY ALLEN
Referred To: DRPSR

BEST FOODS (Continued) 1000392028

Incident Region:	ER1	Incident Phone:	Office
Incident Date:	03/21/1995		

Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported
Status at Spill: SPILL INSIDE FACIL,FACIL HAS BEEN EVACUATED,NO OTHER INFO AT THIS TIME.
Comments: Not reported

Facility ID:	3998	Case Number:	95-3-21-1150-12
Date Received:	03/21/1995	Operator:	SELL
Location:	Facility	Nature of Incident:	Facility
Caller:	GLENN BOLLES	Title:	BEST FOODS
Address:	Not reported Not reported		
Caller Telephone:	201-339-6800		
Facility Phone:	201-339-6800	Facility Type:	Industrial
Date of Incident:	03/21/1995	Time of Incident:	10:00
Substance(s):	NITRIC ACID		
Substance Type:	Liquid	Substance Identity:	Known
A310 Letter:	No	TCPA Chemical:	Yes
Hazrds Material:	Yes	CAS Number:	7697372
COMU:	0901	Ref. Code:	001
Amnt Released:	3 GAL	Release VE:	Estimate
Release Type:	Terminated	Contained:	Yes
Injuries:	No	Facility Evacuation:	Yes
Public Exposure:	No	Public Evacuation:	No
Police at Scene:	Yes	Firemen at Scene:	Yes
Contamination of:	Land	Receiving Water:	Not reported
Incident Description:	Spill		
Wind Direction/Speed:	Not reported		
Assistance Requested:	No		
Responsible Party:	Known	RP Company:	BEST FOODS
RP Contact:	GLENN BOLLES	RP Title:	ENV ENG
RP Address:	99 AVE BAYONNE, NJ		
RP County:	HUDSON	RP Phone:	201-339-6800
NJ Spill Name:	NJSP	NJ Spill Title:	FAX
NJ Spill Phone:	Not reported	NJ Spill Date:	03/21/1995
Local Municipality:	BAYONNE CITY	Municipality Title:	TD#3984
Municipal Tele:	201-858-6005	Municipal Date:	03/21/1995
Other Name:	Not reported	Other Title:	Not reported
Other Phone:	Not reported	other_date:	Not reported
Incident Name:	BRUCE DOYLE	Referred To:	DRPSR
Incident Region:	ER1	Incident Phone:	Office
Incident Date:	03/21/1995		

Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported

BEST FOODS (Continued) 1000392028

Status at Spill: WORKERS MOVED CABINET CONTAINING ACID CAUSING SPILL,8 PEOPLE EVACUATED FROM AREA,KENS MARINE DOING CLEANUP,DEP RES 11 ON SCENE.
Comments: Not reported

Facility ID:	6673	Case Number:	97-5-23-1023-33
Date Received:	05/23/1997	Operator:	DAVE
Location:	Other	Nature of Incident:	Facility
Caller:	JOE KOSTURSKI	Title:	COASTAL OIL
Address:	AVE A BAYONNE, NJ		
Caller Telephone:	201-437-5513		
Facility Phone:	Not reported	Facility Type:	Industrial
Date of Incident:	05/23/1997	Time of Incident:	10:12
Substance(s):	Not reported		
Substance Type:	Known	Substance Identity:	Not reported
A310 Letter:	No	TCPA Chemical:	No
Hazrds Material:	Yes	CAS Number:	Not reported
COMU:	0901	Ref. Code:	001
Amnt Released:	UNK	Release VE:	Not reported
Release Type:	Continuous	Contained:	No
Injuries:	No	Facility Evacuation:	No
Public Exposure:	No	Public Evacuation:	No
Police at Scene:	No	Firemen at Scene:	Yes
Contamination of:	Water	Receiving Water:	NEWARK BAY
Incident Description:	Spill		
Wind Direction/Speed:	Not reported		
Assistance Requested:	No		
Responsible Party:	Known	RP Company:	COASTAL OIL
RP Contact:	JOE KOSTURSKI	RP Title:	Not reported
RP Address:	Not reported Not reported		
RP County:	Not reported	RP Phone:	201-437-5513
NJ Spill Name:	OEM	NJ Spill Title:	SGT PETERS
NJ Spill Phone:	609-882-2000	NJ Spill Date:	05/23/1997
Local Municipality:	BAYONNE CITY	Municipality Title:	SEE TD #6663
Municipal Tele:	201-858-6005	Municipal Date:	05/23/1997
Other Name:	Not reported	Other Title:	Not reported
Other Phone:	Not reported	other_date:	Not reported
Incident Name:	C GIBBONS	Referred To:	DRPSR
Incident Region:	ER1	Incident Phone:	Office
Incident Date:	05/23/1997		

Date A310 Letter Printed:	05/23/1997
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	05/23/1997
Local Authority Notification Date 1:	Not reported
Local Authority Notification Date 2:	Not reported
Local Authority Notification Date 3:	Not reported

Status at Spill: POSSIBLE LEAK FROM PIPELINE NEAR BEST FOODS. PIPELINE IN PROCESS OF BEING SHUT DOWN
Comments: SEE CASE #97-5-23-0903-54

NJ Spill:

Facility ID:	15161	Case Number:	94-8-22-1154-15
Date Received:	08/22/1994	Operator:	JULIE1
Location:	Facility	Nature of Incident:	Citizen
Caller:	ANONYMOUS	Title:	CITIZEN
Address:	Not reported		

BEST FOODS (Continued) 1000392028

	NJ		
Caller Telephone:	Not reported		
Facility Phone:	Not reported	Facility Type:	Commercial
Date of Incident:	08/22/1994	Time of Incident:	ONGO
Substance(s):	MERCURY,IODINE CARBON TETRACHLORIDE		
Substance Type:	Liquid	Substance Identity:	Suspected
A310 Letter:	Yes	TCPA Chemical:	No
Hazrds Material:	Yes	CAS Number:	56235
COMU:	0901	Ref. Code:	101
Amnt Released:	UNKNOWN	Release VE:	Not reported
Release Type:	Intermittent	Contained:	No
Injuries:	No	Facility Evacuation:	No
Public Exposure:	Yes	Public Evacuation:	No
Police at Scene:	No	Firemen at Scene:	No
Contamination of:	Land	Receiving Water:	NONE
Incident Description:	Illegal Dumping		
Wind Direction/Speed:	Not reported		
Assistance Requested:	Yes		
Responsible Party	Known	RP Company:	BEST FOODS
RP Contact:	Not reported	RP Title:	Not reported
RP Address:	99 AVE A BAYONNE, NJ		
RP County:	HUDSON	RP Phone:	UNK
NJ Spill Name:	Not reported	NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported	NJ Spill Date:	Not reported
Local Municipality	BAYONNE CITY	Municipality Title:	OPR 11
Municipal Tele:	201-858-6005	Municipal Date:	08/22/1994
Other Name:	Not reported	Other Title:	Not reported
Other Phone:	Not reported	other_date:	Not reported
Incident Name:	Not reported	Referred To:	DRPSR
Incident Region:	BFO-CAS	Incident Phone:	Faxed,Mailed
Incident Date:	08/22/1994		
Date A310 Letter Printed:	08/22/1994		
Date Local Authority Was Notified:	Not reported		
Date Update:	Not reported		
Date Report Faxed to Local Authority:	Not reported		
Local Authority Notification Date 1:	Not reported		
Local Authority Notification Date 2:	Not reported		
Local Authority Notification Date 3:	Not reported		
Status at Spill:	ASSORTED HAZ-WASTE MATERIALS BEING DUMPED IN BACK OF PLANT.NO CLEAN UP		
Comments:	Not reported		

Facility ID:	3984	Case Number:	95-3-21-1009-01
Date Received:	03/21/1995	Operator:	SELL
Location:	Facility	Nature of Incident:	Municipal
Caller:	DISP 4	Title:	BAYONNE FD
Address:	Not reported Not reported		
Caller Telephone:	201-858-6900		
Facility Phone:	201-339-6800	Facility Type:	Commercial
Date of Incident:	03/21/1995	Time of Incident:	10:03
Substance(s):	NITRIC ACID		
Substance Type:	Liquid	Substance Identity:	Known
A310 Letter:	No	TCPA Chemical:	Yes
Hazrds Material:	Yes	CAS Number:	7697372
COMU:	0901	Ref. Code:	001

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

BEST FOODS (Continued) 1000392028

Amnt Released: UNK
Release Type: Terminated
Injuries: Unknown
Public Exposure: No
Police at Scene: Yes
Contamination of: Land
Incident Description: Spill
Wind Direction/Speed: Not reported
Assistance Requested: Unknown
Responsible PartyKnown
RP Contact: UNK
RP Address: 99 AVE A
BAYONNE, NJ
RP County: HUDSON
NJ Spill Name: NJSP
NJ Spill Phone: 609-882-2000
Local Municipality:Not reported
Municipal Tele: Not reported
Other Name: Not reported
Other Phone: Not reported
Incident Name: GARY ALLEN
Incident Region: ER1
Incident Date: 03/21/1995

Release VE: Not reported
Contained: Unknown
Facility Evacuation:Yes
Public Evacuation: No
Firemen at Scene: Yes
Receiving Water: Not reported
RP Company: BEST FOODS
RP Title: Not reported
RP Phone: 201-339-6800
NJ Spill Title: TPR ORAM
NJ Spill Date: 03/21/1995
Municipality Title: Not reported
Municipal Date: Not reported
Other Title: Not reported
other_date: Not reported
Referred To: DRPSR
Incident Phone: Office

Date A310 Letter Printed: Not reported
Date Local Authority Was Notified: Not reported
Date Update: Not reported
Date Report Faxed to Local Authority: Not reported
Local Authority Notification Date 1: Not reported
Local Authority Notification Date 2: Not reported
Local Authority Notification Date 3: Not reported
Status at Spill: SPILL INSIDE FACIL,FACIL HAS BEEN EVACUATED,NO OTHER INFO AT THIS TIME.
Comments: Not reported

Facility ID: 3998
Date Received: 03/21/1995
Location: Facility
Caller: GLENN BOLLES
Address: Not reported
Not reported
Caller Telephone: 201-339-6800
Facility Phone: 201-339-6800
Date of Incident: 03/21/1995
Substance(s): NITRIC ACID
Substance Type: Liquid
A310 Letter: No
Hazrds Material: Yes
COMU: 0901
Amnt Released: 3 GAL
Release Type: Terminated
Injuries: No
Public Exposure: No
Police at Scene: Yes
Contamination of: Land
Incident Description: Spill
Wind Direction/Speed: Not reported
Assistance Requested: No

Case Number: 95-3-21-1150-12
Operator: SELL
Nature of Incident: Facility
Title: BEST FOODS
Facility Type: Industrial
Time of Incident: 10:00
Substance Identity: Known
TCPA Chemical: Yes
CAS Number: 7697372
Ref. Code: 001
Release VE: Estimate
Contained: Yes
Facility Evacuation:Yes
Public Evacuation: No
Firemen at Scene: Yes
Receiving Water: Not reported

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

BEST FOODS (Continued) **1000392028**

Responsible PartyKnown		RP Company:	BEST FOODS
RP Contact:	GLENN BOLLES	RP Title:	ENV ENG
RP Address:	99 AVE BAYONNE, NJ		
RP County:	HUDSON	RP Phone:	201-339-6800
NJ Spill Name:	NJSP	NJ Spill Title:	FAX
NJ Spill Phone:	Not reported	NJ Spill Date:	03/21/1995
Local Municipality	BAYONNE CITY	Municipality Title:	TD#3984
Municipal Tele:	201-858-6005	Municipal Date:	03/21/1995
Other Name:	Not reported	Other Title:	Not reported
Other Phone:	Not reported	other_date:	Not reported
Incident Name:	BRUCE DOYLE	Referred To:	DRPSR
Incident Region:	ER1	Incident Phone:	Office
Incident Date:	03/21/1995		

Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date 1:	Not reported
Local Authority Notification Date 2:	Not reported
Local Authority Notification Date 3:	Not reported

Status at Spill: WORKERS MOVED CABINET CONTAINING ACID CAUSING SPILL,8 PEOPLE EVACUATED FROM AREA,KENS MARINE DOING CLEANUP,DEP RES 11 ON SCENE.

Comments: Not reported

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28 **NNE** **1/2-1** **Higher**	**129 5TH STREET WEST** **129 5TH ST W** **BAYONNE CITY, NJ**	**SHWS**	**S103030374** **N/A**

SHWS:

Facility ID:	NJL840000434	Case ID:	930141
Case Status:	PENDING	Status Date:	01/14/1993
Facilty Status:	OPEN		

CEADER: Not reported (Classification Exeption Area Declaration of Environment Restriction Number)

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
STATEN ISLAND	S102143006	FRESH KILLS	FRESH KILLS		LUST, NY Spills	8503876
STATEN ISLAND	S102663513	GSF ENERGY LLC	FRESHKILLS LANDFILL		SWF/LF, NY Spills	43F21
STATEN ISLAND	S102143522	GATX	GATX		LUST, NY Spills	9210202
STATEN ISLAND	S102148371	GATX TERMINALS, INC	GATX TERMINALS, INC.		LUST, NY Spills	9403663
STATEN ISLAND	S102240020	ST GEORGE FERRY TERMINAL	ST GEORGE FERRY TERMINAL		LUST, NY Spills	9211300
STATEN ISLAND	S100494035	IMTT TERMINAL/BAYONNE NJ	IMTT TERMINAL/BAYONNE NJ		LUST	9207117
STATEN ISLAND	S100668043	PORT MOBIL	PORT MOBIL		LUST, NY Spills	8605000
STATEN ISLAND	S102144004	PORT MOBIL GAS SPILL	PORT MOBIL		LUST, NY Spills	860201
STATEN ISLAND	S102673054	RICHMOND HILL RD	PUMPING STATION		LUST	9510050
STATEN ISLAND	S102239119	3245 RICHMOND TERR	RICHMOND TERR		LUST, NY Spills	9514627
STATEN ISLAND	S102488065	AREA OF	RICHMOND TERRACE		NJ Release, NJ Spills	
STATEN ISLAND	S102240459	SUNKEN YARD TUG BOAT	RICHMOND TERRACE		LUST, NY Spills	9604845
STATEN ISLAND	S103038517	1435	RICHMOND TERR		LUST	9713526
STATEN ISLAND	S100143449	STAPLETON ANCHORAGE / STA	STAPLETON ANCHORAGE		LUST, NY Spills	8607030
STATEN ISLAND	S102240400	IMTT TERMINAL	UNKNOWN		LUST, NY Spills	9604483

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Northern Quadrant)

BASIC WELL DATA

Site ID:	403951074101101	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1965	County:	Union
Altitude:	5.00 ft.	State:	New Jersey
Well Depth:	500.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	8.00 ft.	Prim. Use of Site:	Unused
Date Measured:	12161965	Prim. Use of Water:	Unused

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Mesozoic-Triassic-Upper
Principal Lithology of Unit:	Shale
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Western Quadrant)

BASIC WELL DATA

Site ID:	403848074112601	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1965	County:	Union
Altitude:	15.00 ft.	State:	New Jersey
Well Depth:	467.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Industrial

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Mesozoic-Triassic-Upper
Principal Lithology of Unit:	Shale
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:	NJ0901200	PWS Status:	Active	Distance from TP:	>2 Miles
Date Initiated:	June / 1977	Date Deactivated:	Not Reported	Dir relative to TP:	North
PWS Name:	CAMP LEWIS 41 EAST 25TH ST BAYONNE, NJ 07002				

Addressee / Facility: Not Reported

Facility Latitude:	40 40 06	Facility Longitude:	074 06 52
City Served:	Not Reported		
Treatment Class:	Untreated	Population Served:	501 - 1,000 Persons

PWS currently has or has had major violation(s): No

EPA Waste Codes Addendum

Code	Description
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D003	A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
D005	BARIUM
D007	CHROMIUM
D008	LEAD
D009	MERCURY
D018	BENZENE
D035	METHYL ETHYL KETONE
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE,

Code	Description
	CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
P030	CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED
U012	ANILINE (I,T)
U012	BENZENAMINE (I,T)
U019	BENZENE (I,T)
U056	BENZENE, HEXAHYDRO- (I)
U056	CYCLOHEXANE (I)
U103	DIMETHYL SULFATE
U103	SULFURIC ACID, DIMETHYL ESTER
U113	ETHYL ACRYLATE (I)
U113	2-PROPENOIC ACID, ETHYL ESTER (I)
U117	ETHANE, 1,1'-OXYBIS-(I)
U117	ETHYL ETHER (I)
U122	FORMALDEHYDE
U125	2-FURANCARBOXALDEHYDE (I)
U125	FURFURAL (I)
U147	2,5-FURANDIONE
U147	MALEIC ANHYDRIDE
U188	PHENOL
U190	1,3-ISOBENZOFURANDIONE
U190	PHTHALIC ANHYDRIDE
U223	BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T)
U223	TOLUENE DIISOCYANATE (R,T)

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA/NTIS
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 06/15/98 — Date of Data Arrival at EDR: 07/08/98
Date Made Active at EDR: 07/20/98 — Elapsed ASTM days: 12
Database Release Frequency: Quarterly — Date of Last EDR Contact: 06/23/98

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/30/98 — Date of Data Arrival at EDR: 07/14/98
Date Made Active at EDR: 07/20/98 — Elapsed ASTM days: 6
Database Release Frequency: Quarterly — Date of Last EDR Contact: 07/10/98

NPL: National Priority List
Source: EPA
Telephone: 703-603-8852
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 03/06/98 — Date of Data Arrival at EDR: 06/09/98
Date Made Active at EDR: 07/09/98 — Elapsed ASTM days: 30
Database Release Frequency: Semi-Annually — Date of Last EDR Contact: 07/02/98

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 01/01/98 — Date of Data Arrival at EDR: 02/17/98
Date Made Active at EDR: 04/13/98 — Elapsed ASTM days: 55
Database Release Frequency: Semi-Annually — Date of Last EDR Contact: 06/05/98

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/15/97 — Date of Data Arrival at EDR: 01/05/98
Date Made Active at EDR: 02/02/98 — Elapsed ASTM days: 28
Database Release Frequency: Semi-Annually — Date of Last EDR Contact: 05/06/98

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/95 — Date of Last EDR Contact: 06/22/98
Database Release Frequency: Biennially — Date of Next Scheduled EDR Contact: 09/21/98

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies — Date of Last EDR Contact: Varies
Database Release Frequency: Varies — Date of Next Scheduled EDR Contact: N/A

FINDS: Facility Index System
Source: EPA/NTIS
Telephone: 703-908-2493
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/01/97 — Date of Last EDR Contact: 07/20/98
Database Release Frequency: Quarterly — Date of Next Scheduled EDR Contact: 09/21/98

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/96 — Date of Last EDR Contact: 07/22/98
Database Release Frequency: Annually — Date of Next Scheduled EDR Contact: 10/26/98

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/30/98 — Date of Last EDR Contact: 07/13/98
Database Release Frequency: Quarterly — Date of Next Scheduled EDR Contact: 10/12/98

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91 — Date of Last EDR Contact: 05/26/98
Database Release Frequency: No Update Planned — Date of Next Scheduled EDR Contact: 08/24/98

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 06/05/98
Date of Next Scheduled EDR Contact: 08/17/98

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 06/15/98
Date of Next Scheduled EDR Contact: 09/14/98

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 05/22/98
Date of Next Scheduled EDR Contact: 08/31/98

TRIS: Toxic Chemical Release Inventory System
Source: EPA/NTIS
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 06/11/98
Date of Next Scheduled EDR Contact: 09/28/98

TSCA: Toxic Substances Control Act
Source: EPA/NTIS
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. USEPA has no current plan to update and/or re-issue this database.

Date of Government Version: 12/31/94
Database Release Frequency: Annually
Date of Last EDR Contact: 07/22/98
Date of Next Scheduled EDR Contact: 10/26/98

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF NEW YORK ASTM RECORDS:

LUST: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-457-2462
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/01/98
Date Made Active at EDR: 07/15/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/15/98
Elapsed ASTM days: 30
Date of Last EDR Contact: 05/04/98

SHWS: Inactive Hazardous Waste Disposal Sites in New York State
Source: Department of Environmental Conservation
Telephone: 518-457-0747
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/01/97
Date Made Active at EDR: 04/13/98
Database Release Frequency: Annually
Date of Data Arrival at EDR: 03/13/98
Elapsed ASTM days: 31
Date of Last EDR Contact: 07/06/98

LF: Facility Register
Source: Department of Environmental Conservation
Telephone: 518-457-2051
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/31/97
Date Made Active at EDR: 04/28/98
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 03/26/98
Elapsed ASTM days: 33
Date of Last EDR Contact: 05/12/98

UST: Petroleum Bulk Storage (PBS) Database
Source: Department of Environmental Conservation
Telephone: 518-457-4351
Facilities that have petroleum storage capacities in excess of 1,100 gallons and less than 400,000 gallons.

Date of Government Version: 01/31/98
Date Made Active at EDR: 05/28/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 04/13/98
Elapsed ASTM days: 45
Date of Last EDR Contact: 05/04/98

CBS UST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 04/01/98
Date Made Active at EDR: 07/20/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/18/98
Elapsed ASTM days: 32
Date of Last EDR Contact: 05/04/98

MOSF UST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 04/01/98
Date Made Active at EDR: 07/20/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/18/98
Elapsed ASTM days: 32
Date of Last EDR Contact: 05/04/98

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF NEW YORK NON-ASTM RECORDS:

AST: Petroleum Bulk Storage (AST)
Source: Department of Environmental Conservation
Telephone: 518-457-4351
Registered Aboveground Storage Tanks.

Date of Government Version: 01/31/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 05/04/98
Date of Next Scheduled EDR Contact: 08/03/98

CBS AST: Chemical Bulk Storage Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that store regulated hazardous substances in aboveground tanks with capacities of 185 gallons or greater, and/or in underground tanks of any size.

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 05/04/98
Date of Next Scheduled EDR Contact: 08/03/98

MOSF AST: Major Oil Storage Facilities Database
Source: NYSDEC
Telephone: 518-457-4351
Facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 05/04/98
Date of Next Scheduled EDR Contact: 08/03/98

HSWDS: Hazardous Substance Waste Disposal Site Inventory
Source: Department of Environmental Conservation
Telephone: 518-457-0639
The list includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Diposal Sites and non-registry sites which U.S. EPA Preliminary Assessment (PA) reports or Site Investigation (SI) reports were prepared.

Date of Government Version: 09/01/97
Database Release Frequency: N/A
Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

SPILLS: Spills Information Database
Source: Department of Environmental Conservation
Telephone: 518-457-2462
Data collected on spills reported to NYSDEC as required by one or more of the following: Article 12 of the Navigation Law, 6 NYCRR Section 613.8 (from PBS regs), or 6 NYCRR Section 595.2 (from CBS regs). It includes spills active as of April 1, 1986, as well as spills occurring since this date.

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 05/04/98
Date of Next Scheduled EDR Contact: 08/03/98

NEW YORK COUNTY RECORDS

CORTLAND COUNTY:

Cortland County UST Listing (AST)
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 03/24/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

Cortland County UST Listing (UST)
Source: Cortland County Health Department
Telephone: 607-753-5035

Date of Government Version: 03/24/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

NASSAU COUNTY:

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 01/15/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 07/06/98
Date of Next Scheduled EDR Contact: 10/05/98

Registered Tank Database
Source: Nassau County Health Department
Telephone: 516-571-3314

Date of Government Version: 01/15/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 07/06/98
Date of Next Scheduled EDR Contact: 10/05/98

ROCKLAND COUNTY:

Petroleum Bulk Storage Database (AST)
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

Petroleum Bulk Storage Database (UST)
Source: Rockland County Health Department
Telephone: 914-364-2605

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

SUFFOLK COUNTY:

Underground Storage Tank Database (AST)
Source: Suffolk County Department of Health Services
Telephone: 516-854-2521

Date of Government Version: 03/01/98
Database Release Frequency: Annually

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

Underground Storage Tank Database (UST)
Source: Suffolk County Department of Health Services
Telephone: 516-854-2521

Date of Government Version: 03/01/98
Database Release Frequency: Annually

Date of Last EDR Contact: 06/08/98
Date of Next Scheduled EDR Contact: 09/07/98

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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DELISTED NPL: NPL Deletions
Source: EPA
Telephone: 703-603-8769
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/06/98
Date Made Active at EDR: 07/09/98
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/09/98
Elapsed ASTM days: 30
Date of Last EDR Contact: 07/02/98

NFRAP: No Further Remedial Action Planned
Source: EPA/NTIS
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 06/15/98
Date Made Active at EDR: 07/20/98
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 07/08/98
Elapsed ASTM days: 12
Date of Last EDR Contact: 06/23/98

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1996 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

New York Public Water Wells
Source: New York Department of Health
Telephone: 518-458-6731

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SITE INVESTIGATION REPORT & SUPPLEMENTAL SITE INVESTIGATION/CORRECTIVE ACTION WORKPLAN

NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
STATEN ISLAND COMMUNITY DISTRICT NO. 1
CEQR NO.: 99 DCP 012R

Submitted to:

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment - Site Assessment Unit
59-17 Junction Boulevard
Flushing, New York 11373-5108

Prepared for:

NATALIE LYN, L.L.C.
48 Liberty Avenue
New Rochelle, New York 10805

Prepared by:

WHITESTONE ASSOCIATES, INC.
786 Mountain Boulevard, Suite 200
Watchung, New Jersey 07069

Whitestone Project #WJ03-5920
December 2003

ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

WHITESTONE ASSOCIATES, INC.

December 8, 2003

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NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment
Site Assessment Unit
59-17 Junction Boulevard
Flushing, New York 11373-5108

Attention: Mr. John Wuthenow
Director of Site Assessment Unit

Regarding: **SITE INVESTIGATION REPORT & SUPPLEMENTAL SITE INVESTIGATION/CORRECTIVE ACTION WORKPLAN**
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
STATEN ISLAND COMMUNITY DISTRICT NO. 1
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Wuthenow:

Whitestone Associates, Inc. is pleased to submit for your review the attached *Site Investigation Report and Supplemental Site Investigation/Corrective Action Workplan* for the above-referenced site.

Please contact us at (908) 668-7777 with any questions or comments regarding the enclosed report.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

TKU/vr L:\WhitestoneOffice\2003\035920\5920sir-ssicaw12-03.wpd
Attachments
copy: Daniel L. Cole, P.G., NYCDEP-OEPA
Getz Obstfeld, Natalie Lyn, L.L.C.
Matthew Lonuzzi, Natalie Lyn, L.L.C.
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SITE INVESTIGATION REPORT & SUPPLEMENTAL SITE INVESTIGATION/CORRECTIVE ACTION WORKPLAN
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

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SECTION 1.0
Executive Summary

Whitestone Associates, Inc. (Whitestone) was retained by Natalie Lyn, L.L.C. to conduct site investigation activities at the proposed residential redevelopment site encompassing Block 1116, Lots 40, 75 and 105 and Block 1121, Lot 101 in Staten Island, Richmond County, New York (hereinafter referred to as the "site" or the "subject property").

Whitestone understands that the proposed redevelopment will include construction of approximately 100 multi-story, single-family houses and associated roadways and utilities. The New York City Department of Environmental Protection (NYCDEP) has required further site investigations including supplemental media sampling and analyses, and completion of ground penetrating radar (GPR), electromagnetic induction (EM) and radiological surveys in order to confirm that underground storage tanks (USTs), contaminant conditions and/or hazardous constituents requiring further remedial or corrective action do not exist prior to allowing the proposed residential redevelopment effort to commence. Whitestone's site investigation and environmental characterization efforts and proposed workplans detailed herein are based on a January 28, 2003 correspondence from Angela Licata of NYCDEP, the February 4, 2003 *Restrictive Declaration* for the subject property, an April 2, 2003 site meeting with NYCDEP representatives, Whitestone's April 16, 2003 *Site Investigation Workplan* (SIW), an April 29, 2003 correspondence from John Wuthenow of NYCDEP and an October 17, 2003 correspondence from Tobias Lickerman of the City of New York Department of Health and Mental Hygiene (DOHMH).

Phase I and limited Phase II Environmental Site Assessments (ESAs) were completed at the site in July 1998 by T&M Associates, Inc. (T&M). The results of these investigatory efforts previously were submitted to NYCDEP and are summarized as follows:

- T&M did not document areas of environmental concern (AOCs) or recognized environmental conditions (RECs).
- The subsurface investigation completed by T&M in 1998 identified nickel and zinc in select soil samples exceeding NYSDEC Recommended Soil Cleanup Objectives and Eastern USA Background Levels. These exceedances are representative of naturally occurring site background levels.

Supplemental site investigations implemented by Whitestone in May 2003 in accordance with the April 16, 2002 SIW included the following:

- conducting GPR and EM surveys in accessible portions of the northern portion of the site;
- conducting additional subsurface sampling through the excavation of eight test pits to evaluate soil and groundwater conditions; and

- preparing this SIR.

The results of these current site investigations are summarized below:

- The GPR and EM surveys detected three approximately 36 square foot magnetic anomalies at the northern portion of the site. Test pit investigations of the magnetic anomalies identified scrap metal debris suspected to have been buried during previous site grading activities.

- Select semi-volatile organic (SVO) constituents exceeding applicable NYSDEC Recommended Soil Cleanup Objectives were detected in soil sample 5920-TP3.

- Select PP Metals exceeding NYSDEC Recommended Soil Cleanup Objectives were encountered in each of the soil samples submitted for analyses. However, further evaluation of the analytical data indicates that several of these PP Metal concentrations are consistent with and generally conform to typical Eastern USA Background Levels with the exception of nickel and zinc. The detected nickel and zinc concentrations, however, are in the same order of magnitude as the Eastern USA Background Levels and appear representative of naturally occurring site background levels.

The site investigations along with findings, corresponding conclusions, recommendations and proposed workplans for supplemental site investigation and corrective action are discussed in detail in the sections that follow.

The radiation survey is scheduled to be completed during December 2003 with results presented to NYCDEP and DOHMH in the first quarter of 2004.

SECTION 2.0
Introduction

2.1 SITE LOCATION/DESCRIPTION

2.1.1 Location

The subject property is situated at the intersection of Richmond Terrace and Nicholas Avenue in Staten Island, Richmond County, New York. The site, designated as Block 1116, Lots 40, 75 and 105 and Block 1121, Lot 101, is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial and residential area of Staten Island, New York. The site location and existing conditions are depicted on Figures 1 and 2.

2.1.2 Existing Structures/Improvements & Current Site Use

The property currently is vacant and vegetated. No on-site activities or operations were observed during Whitestone's site investigation activities.

2.1.3 Utilities

The subject site currently is undeveloped, however, subsurface municipal water and sewer and natural gas lines are located beneath Richmond Terrace and Nicholas Avenue to the north and east of the site, respectively. In addition, overhead electric lines are located to the north of the subject property along Richmond Terrace.

2.1.4 Past Uses of the Property

The site reportedly housed a former linseed oil bulk storage and distribution facility at the northern portion of the site and a bulk sand and gravel storage and distribution facility at the southern portion of the site until the mid-twentieth century. These former site operations reportedly date back to at least the 1930's. In addition, operations associated with the shipment of uranium one to former Manhattan Engineer District (MED) sites reportedly may have been conducted on or adjacent to the western portion of the subject property between 1939 and 1942.

2.1.5 Uses of Adjoining Properties

The subject property is bordered by light industrial properties beyond Richmond Terrace to the north; residential properties beyond Nicholas Avenue the east; residential properties and John Street to the west; and Staten Island Rapid Transit Lines to the south.

2.2 PHYSICAL SETTING

2.2.1 Topography/Geology

The subject site is generally flat-lying with an average elevation of 19 feet above mean sea level (msl). The property is located in a region of the Piedmont Physiographic Province of New Jersey known as the Newark Basin. The Newark Basin contains rocks of the Newark Super Group which is a stratigraphic series of Triassic to Jurassic age sedimentary rocks containing intrusive sills and dikes as wells as extrusive volcanics. The Super Group rocks generally dip slightly to the north and form a northward thickening wedge that may have a composite thickness of greater than 33,000 feet. The primary formation beneath the site is believed to be the Stockton Formation which includes pale reddish brown conglomerates and mudstone.

The site also contains glacial deposits associated with a Wisconsinan Glacier which reached its most southerly advance approximately 20,000 years ago. The glacial deposits generally overlay the weathered rock.

Materials encountered during Whitestone's site investigation included organic surficial material to a depth of 0.5 feet below ground surface (fbgs). Native material encountered immediately below the surficial material in each of the test pits consisted of reddish brown silt and clay.

2.2.2 Surface Water/Wetlands

During the April 2, 2003 site visit, an area of ponded water was observed at the southeastern portion of the subject site. This area of intermittent ponded water does not constitute a surface water body or wetlands area and is the result of stormwater accumulation and previous site regrading activities. In addition, the subject site is not identified on the New York State Department of Environmental Conservation (NYSDEC) *New York State Article 24 Freshwater Wetland Map* dated September 1, 1987 or the United States Fish and Wildlife Service *National Wetlands Inventory* dated 1999. In addition, NYSDEC does not regulate wetland areas less than 12 acres. Accordingly, the approximately 9.5 acre subject site does not contain regulated wetland areas.

2.2.3 Groundwater

Groundwater was encountered in test pits TP-1 and TP-2 conducted at the northern portions of the site at a depth of 11 fbgs. Groundwater was not encountered in test pits advanced to 12 fbgs at remaining portions of the property.

2.3 PREVIOUS SITE INVESTIGATIONS AND REMEDIAL ACTIVITIES

Phase I and limited Phase II ESAs were completed at the site in July 1998 by T&M. The results of the investigatory activities previously were submitted to NYCDEP and are summarized as follows:

- T&M did not document on-site AOCs or RECs.

- The subsurface investigation completed by T&M in 1998 identified nickel and zinc in select soil samples exceeding NYSDEC Recommended Soil Cleanup Objectives and Eastern USA Background Levels. These exceedances are representative of naturally occurring site background levels.

2.4 CURRENT SCOPE OF WORK

The current activities which were undertaken by Whitestone in May 2003 as a follow-up to T&M's previous investigations include:

- conducting GPR and EM surveys in accessible portions of the northern portion of the site;

- conducting additional subsurface sampling through the excavation of eight test pits to evaluate soil and groundwater conditions; and

- preparing this SIR.

SECTION 3.0
Supplemental Site Investigation

3.1 GPR & EM SURVEYS

Whitestone utilized cart-mounted GPR and EM units contracted from Enviroprobe Service, Inc. to complete GPR and EM survey activities on May 14, 2003. The primary goal of the GPR and EM surveys was to attempt to confirm or refute the presence of suspected USTs and/or other subsurface structures and utilities at the northern portion of the subject site as discussed and agreed upon during the April 2, 2003 site meeting with NYCDEP.

The GPR and EM surveys detected three approximately 36 square foot magnetic anomalies at the northern portion of the site. The three magnetic anomalies were investigated further during test pit activities also conducted on May 14, 2003. Scrap metal debris was encountered at approximately two fbgs to three fbgs in these anomalous areas. The scrap metal is suspected to have been buried during previous site grading activities. The locations of the anomalies are shown on Figures 2 and 3.

3.2 ENVIRONMENTAL SITE CHARACTERIZATION

Whitestone utilized a rubber-tire backhoe contracted from Brett Landscaping to install eight test pits (TP-1 through TP-8) throughout the subject site on May 14, 2003. Test pits were located in areas discussed with and agreed to by NYCDEP representatives during an April 2, 2003 site visit and as identified in Whitestone's April 16, 2003 SIW. Soil and groundwater samples were obtained from test pit locations for field screening and/or confirmatory analyses at Integrated Analytical Laboratories, L.L.C. (IAL), an off-site New York State Department of Health (NYSDOH) certified laboratory (#11402).

Soil samples were logged visually and screened with a photoionization detector (PID) for the potential presence of VO contamination. As previously discussed with and agreed to by NYCDEP, one soil sample was collected from each test pit from the one-foot interval directly underlying the finish floor elevation of the proposed structure for that area (four fbgs to five fbgs). Test pit locations are shown on Figure 2, and test pit logs are provided in Appendix 2.

Soil samples were analyzed for VO via USEPA Method 8260, SVO via USEPA Method 8270, polychlorinated biphenyls (PCBs) via USEPA Method 8082, pesticides via Method 8081, and priority pollutant metals (PP Metals) via USEPA Method 6020 as requested by NYCDEP. Soil and groundwater sampling results are summarized in Tables 1 and 2 and the laboratory reports are provided in Appendix 1.

As listed in Table 2, 2,6-dinitrotoluene was detected at a concentration exceeding NYSDEC's Recommended Soil Cleanup Objective of 1.0 part per million (ppm) in soil sample 5920-TP3. This test pit is located at the southern portion of the site in an area previously utilized as a sand and gravel storage and distribution facility. The minimal exceedance of 2,6-dinitrotoluene appears to be indicative of a localized "hot spot" caused by historic site operations as visual or olfactory evidence of contamination or elevated PID readings were not observed in the test pit.

Select PP Metals exceeding NYSDEC Recommended Soil Cleanup Objectives were encountered in each of the soil samples submitted for analyses. However, further evaluation of the analytical data indicates that several of these PP Metal concentrations are consistent with and generally conform to typical Eastern USA Background Levels with the exception of nickel and zinc. The detected nickel and zinc concentrations, however, are on the same order of magnitude as the Eastern USA Background Levels and appear representative of naturally occurring site background levels.

VO, PCB, and pesticide constituents were not detected at concentrations exceeding laboratory method detection limits (MDLs) in the soil samples submitted for laboratory analyses.

Visual or olfactory evidence of suspected contamination or elevated PID readings were not observed during test pit excavation activities. Accordingly, groundwater samples were not required to be collected as agreed to with NYCDEP and outlined in Whitestone's April 16, 2003 SIW.

3.3 SUMMARY OF SITE INVESTIGATIONS & CONCLUSIONS

Whitestone's site investigations were conducted at the proposed residential redevelopment site in Staten Island, Richmond County, New York as a follow-up to initial subsurface investigations conducted by T&M in 1998 and subsequent discussions with NYCDEP. The current activities included GPR and EM surveys and excavation of eight test pits to facilitate the collection of soil and/or groundwater samples. Based on previous and current investigations, the key conclusions pertaining to the subject property are as follows:

- The GPR and EM surveys did not document the presence of suspected abandoned USTs at the northern portion of the site. Accordingly, no further actions are required to address this AOC.

- Nickel and zinc concentrations detected above NYSDEC Recommended Soil Cleanup Objective and Eastern USA Background Levels during T&M's and Whitestone's site investigation activities are representative of site background levels. As allowed by NYSDEC, a background concentration for these constituents has been established across the site based on the conformity of the conditions detected by Whitestone and T&M. Accordingly, no further corrective actions are required to address the detected metals concentrations.

- A single detection of 2,6-dinitrotoluene was detected in test pit TP-3 at a concentration of 2.59 ppm which slightly exceeds NYSDEC's Recommended Soil Cleanup Objective of 1.0 ppm. Proposed corrective actions to address this elevated contaminant concentration are outlined in Section 5.1.

SECTION 4.0
Supplemental Site Investigation Workplan

4.1 PROPOSED RADIOLOGICAL EVALUATION

Upon review of Whitestone's April 2003 SIW by DOHMH, NYSDEC was requested to conduct a site visit and radiological survey at the subject property. NYSDEC's partial radiological survey conducted at the site on July 29, 2003 in conjunction with DOHMH did not document radiation readings exceeding naturally occurring levels. Subsequent to these site activities, DOHMH issued an October 17, 2003 letter regarding radiological evaluations required by the Department at the subject site. As outlined in DOHMH's letter, a *Final Status Survey* is required of the entire site in accordance with the United States Environmental Protection Agency (USEPA) *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM).

In an effort to satisfy the requirements of DOHMH, Natalie Lyn, L.L.C. has retained Integrated Environmental Management, Inc. (IEM) of Knoxville, Tennessee to conduct the radiological survey and associated reporting necessary to obtain an unrestricted use determination for the subject site. IEM's December 1, 2003 *Survey/Sampling Plan for the Nicholas Avenue Rezoning* outlining the proposed scope of work and reporting to conduct the radiological evaluation is included as Appendix 4. Proposed radiological survey activities will be conducted in accordance with applicable sections of IEM's *Radiation Safety Procedures*.

4.2 PROPOSED RADIOLOGICAL EVALUATION SCHEDULE

The activities in Section 4.1 will be completed in accordance with the following schedule:

Task	Completion Date
Radiological Survey Field Activities	Week of December 8, 2003
Submission of *Final Status Survey* to DOHMH and NYCDEP	February 2004

SECTION 5.0
Corrective Action Workplan

5.1 PROPOSED CORRECTIVE ACTIONS

The proposed tasks which will be implemented to address the documented environmental concerns are as follows:

- The localized soil "hot-spot" documented to contain 2,6-dinitrotoluene marginally exceeding NYSDEC Recommended Soil Cleanup Objectives in test pit TP-3 will be excavated and disposed off site as a regulated, nonhazardous waste at a fully permitted facility. Post-excavation soil sampling and analyses for SVO will be conducted in this area to confirm that soil cleanup objectives have been achieved.

These proposed activities will be implemented upon NYCDEP approval and in accordance with a site specific *Health and Safety Plan* (HASP). Upon completion of the proposed corrective actions, a *Corrective Action Report* (CAR) will be compiled, and, if appropriate, an amendment to the CAW will be submitted for NYCDEP review.

5.2 PROPOSED CORRECTIVE ACTION SCHEDULE

The activities proposed in Section 5.1 will be completed in accordance with the following schedule:

Task	Completion Date
Contaminated Soil Excavation, Off-Site Disposal, and Post-Excavation Soil Sampling & Analyses	January 2004
Submission of CAR to NYCDEP	February 2004

WHITESTONE ASSOCIATES, INC.

TABLES
Soil and Groundwater Sampling & Analysis Data Summaries

TABLE 1
SOIL & GROUNDWATER SAMPLING SUMMARY
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

Test Pit Number	Sample Interval (fbgs)	Total Depth (fbgs)	Depth to GW (fbgs)	Maximum PID Reading (ppm)
5920 - TP1	4.0 to 5.0	12.0	11.0	0.0
5920 - TP2	4.0 to 5.0	12.0	11.0	0.0
5920 - TP3	4.0 to 5.0	12.0	NE	0.0
5920 - TP4	4.0 to 5.0	12.0	NE	0.0
5920 - TP5	4.0 to 5.0	12.0	NE	0.0
5920 - TP6	4.0 to 5.0	12.0	NE	0.0
5920 - TP7	4.0 to 5.0	7.0	NE	0.0
5920 - TP8	4.0 to 5.0	12.0	NE	0.0

NOTES:

PID Photoionization Detector
GW Groundwater
fbgs feet below ground surface
ppm parts per million
NE Not Encountered

TABLE 2 SOIL SAMPLING & ANALYSIS DATA SUMMARY Nicholas Avenue Rezoning Staten Island, Richmond County, New York						
Sample Number	**Analytical Parameters**	**VO Constituents Detected Above MDLs (ppm)**	**SVO Constituents Detected Above MDLs (ppm)**	**PCBs Detected Above MDLs (ppm)**	**Pesticides Detected Above MDLs (ppm)**	**PP Metals Detected Above MDLs (ppm)**
5920-TP1	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 3.87 **beryllium = 1.12** **chromium = 22.6** copper = 21.1 lead = 16.8 **nickel = 27.9*** thallium = 0.177 **zinc = 58.9***
5920-TP2	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 2.40 **beryllium = 0.929** **chromium = 23.6** copper = 18.8 lead = 11.9 **nickel = 28.0*** thallium = 0.211 **zinc = 64.1***
5920-TP3	VO, SVO, PCBs, Pesticides, PP Metals	ND	dimethylphthalate = 0.931 **2,6-dinitrotoluene = 2.59**	ND	ND	arsenic = 4.36 **beryllium = 1.01** **chromium = 25.5** **copper = 25.8** lead = 21.2 mercury = 0.021 **nickel = 28.1*** thallium = 0.200 **zinc = 74.2***

TABLE 2 (continued) SOIL SAMPLING & ANALYSIS DATA SUMMARY Nicholas Avenue Rezoning Staten Island, Richmond County, New York						
Sample Number	**Analytical Parameters**	**VO Constituents Detected Above MDLs (ppm)**	**SVO Constituents Detected Above MDLs (ppm)**	**PCBs Detected Above MDLs (ppm)**	**Pesticides Detected Above MDLs (ppm)**	**PP Metals Detected Above MDLs (ppm)**
5920-TP4	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 2.70 **beryllium = 1.27** **chromium = 25.9** **copper = 27.8** lead = 13.2 **nickel = 35.0*** thallium = 0.223 **zinc = 74.6***
5920-TP5	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 2.17 **beryllium = 0.861** **chromium = 21.0** copper = 19.7 lead = 10.5 **nickel = 26.2*** thallium = 0.191 **zinc = 58.3***
5920-TP6	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 3.15 **beryllium = 1.02** **chromium = 24.0** copper = 21.2 lead = 11.7 **nickel = 28.0*** thallium = 0.218 **zinc = 64.6***

TABLE 2 (continued)
SOIL SAMPLING & ANALYSIS DATA SUMMARY
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

Sample Number	Analytical Parameters	VO Constituents Detected Above MDLs (ppm)	SVO Constituents Detected Above MDLs (ppm)	PCBs Detected Above MDLs (ppm)	Pesticides Detected Above MDLs (ppm)	PP Metals Detected Above MDLs (ppm)
5920-TP7	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 2.67 **beryllium = 1.03** **chromium = 23.2** copper = 20.8 lead = 11.9 **nickel = 26.5*** thallium = 0.206 **zinc = 63.1***
5920-TP8	VO, SVO, PCBs, Pesticides, PP Metals	ND	ND	ND	ND	arsenic = 2.87 **beryllium = 1.14** **chromium = 25.7** copper = 20.3 lead = 12.5 **nickel = 28.5*** thallium = 0.226 **zinc = 68.6***

NOTES:

BOLD*	Exceeds TAGM 4046 Recommended Soil Cleanup Objective and Eastern USA Background Level (for PP Metals)
BOLD	Exceeds TAGM 4046 Recommended Soil Cleanup Objective
VO	Volatile Organics
SVO	Semi-Volatile Organics
PCBs	Polychlorinated Biphenyls
PP Metals	Priority Pollutant Metals
ppm	parts per million
MDLs	Laboratory Method Detection Limits
ND	Not Detected above MDLs

TABLE 3 T&M ASSOCIATES SOIL SAMPLING & ANALYSIS DATA SUMMARY Nicholas Avenue Rezoning Staten Island, Richmond County, New York (July 1998)									
Sample Number	**Analytical Parameters**	**TPHC Detected Above MDLs (ppm)**	**VO Constituents Detected Above MDLs (ppm)**	**SVO Constituents Detected Above MDLs (ppm)**	**PCBs Detected Above MDLs (ppm)**	**Pesticides Detected Above MDLs (ppm)**	**PP Metals Detected Above MDLs (ppm)**	**Cyanide Detected Above MDLs (ppm)**	**Phenols Detected Above MDLs (ppm)**
SB-1	TPHC, VO, SVO, PCBs, Pesticides, PP Metals, Cyanide, Phenols	TPHC = 33.3	ND	ND	ND	beta-BHC = 0.016	arsenic = 3.9 **beryllium = 0.64** **chromium = 33.0** **copper = 34.1** lead = 67.0 **nickel = 27.5*** **zinc = 137.0***	ND	ND
SB-2	TPHC, VO, SVO, PCBs, Pesticides, PP Metals, Cyanide, Phenols	ND	ND	ND	ND	ND	arsenic = 3.1 **beryllium = 0.53** cadmium = 0.8 **copper = 26.1** **nickel = 21.6** **zinc = 121.0***	ND	ND
SB-3	TPHC	ND	NA	NA	NA	NA	NA	NA	NA
SB-4	TPHC, VO, SVO, PCBs, Pesticides, PP Metals, Cyanide, Phenols	ND	ND	ND	ND	ND	arsenic = 2.5 **beryllium = 0.82** **chromium = 22.3** **copper = 28.7** **nickel = 36.2*** **zinc = 142.0***	ND	ND
SB-5	TPHC	ND	NA	NA	NA	NA	NA	NA	NA
SB-6	TPHC	ND	NA	NA	NA	NA	NA	NA	NA
SB-7	TPHC	ND	NA	NA	NA	NA	NA	NA	NA
SB-8	TPHC	ND	NA	NA	NA	NA	NA	NA	NA
SB-9	TPHC	ND	NA	NA	NA	NA	NA	NA	NA

TABLE 3 (continued)
T&M ASSOCIATES SOIL SAMPLING & ANALYSIS DATA SUMMARY
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York
(July 1998)

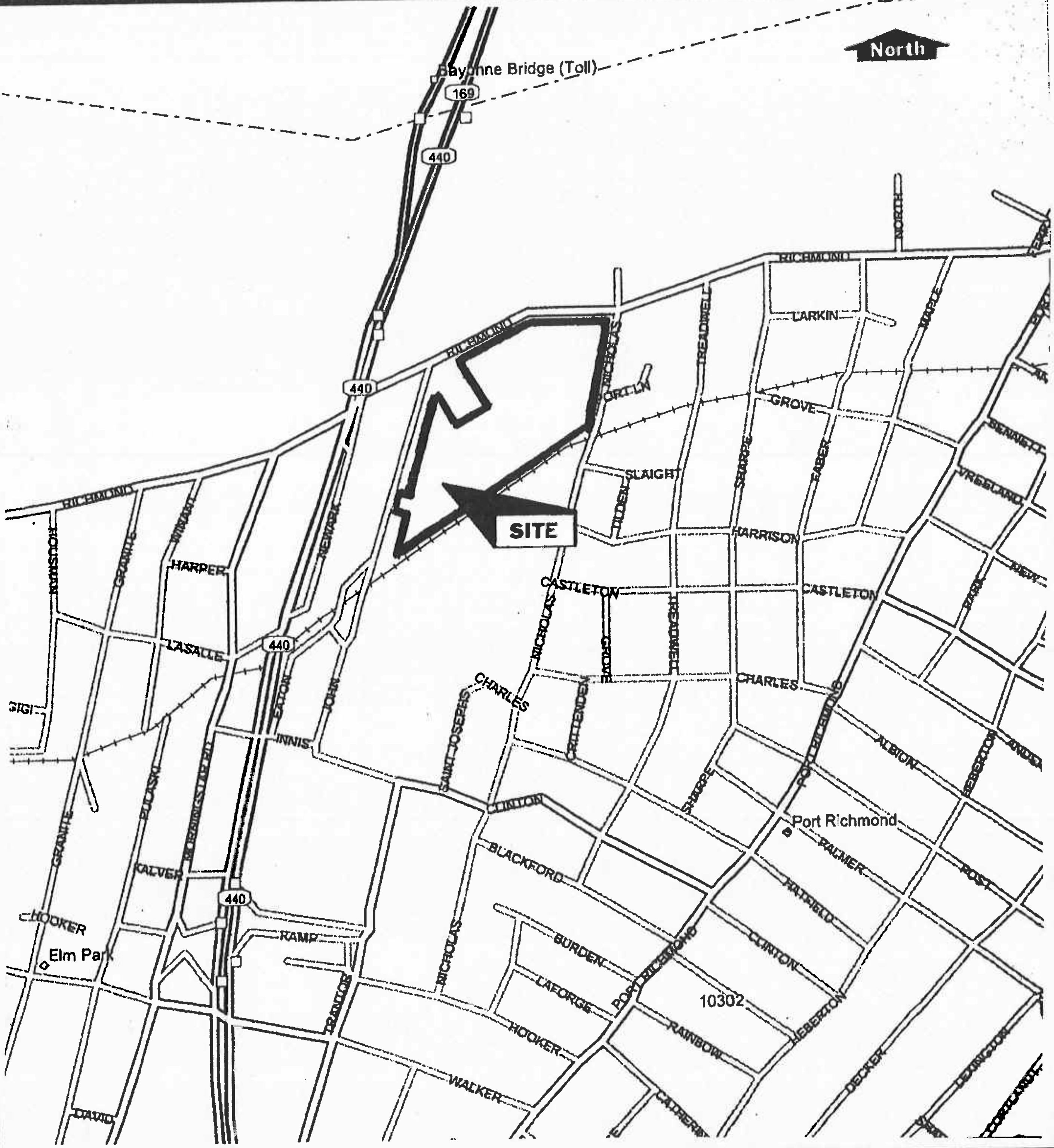
Sample Number	Analytical Parameters	TPHC Detected Above MDLs (ppm)	VO Constituents Detected Above MDLs (ppm)	SVO Constituents Detected Above MDLs (ppm)	PCBs Detected Above MDLs (ppm)	Pesticides Detected Above MDLs (ppm)	PP Metals Detected Above MDLs (ppm)	Cyanide Detected Above MDLs (ppm)	Phenols Detected Above MDLs (ppm)
SB-10	TPHC, VO, SVO, PCBs, Pesticides, PP Metals, Cyanide, Phenols	ND	ND	ND	ND	alpha-BHC = 0.0091	arsenic = 2.7 **beryllium = 0.99** **chromium = 21.8** **copper = 36.8** **nickel = 43.7*** **zinc = 155.0***	ND	ND

NOTES:

BOLD*	Exceeds TAGM 4046 Recommended Soil Cleanup Objective and Eastern USA Background Level (for PP Metals)
BOLD	Exceeds TAGM 4046 Recommended Soil Cleanup Objective
TPHC	Total Petroleum Hydrocarbons
VO	Volatile Organics
SVO	Semi-Volatile Organics
PCBs	Polychlorinated Biphenyls
PP Metals	Priority Pollutant Metals
ppm	parts per million
MDLs	Laboratory Method Detection Limits
ND	Not Detected above MDLs

WHITESTONE
ASSOCIATES, INC.

FIGURE 1
Site Location Map



TITLE:	Site Location Map	WHITESTONE ASSOCIATES, INC. 786 MOUNTAIN BOULEVARD, SUITE 200 WATCHUNG, NEW JERSEY 07069 908.668.7777 ✦ 908.754.5936 FAX
CLIENT:	NATALIE LYN, L.L.C.	

PROJECT:	PROJECT #:	BY:	PROJ. MGR.	DATE:	SCALE:	FIGURE:
Nicholas Avenue Rezoning Block 1116, Lots 40, 75 & 105 Block 1121, Lot 101 Staten Island, Richmond County, New York	WJ03-5920	DeLorme	TKU	12/8/03	1" = 1,778'	1

WHITESTONE
ASSOCIATES, INC.

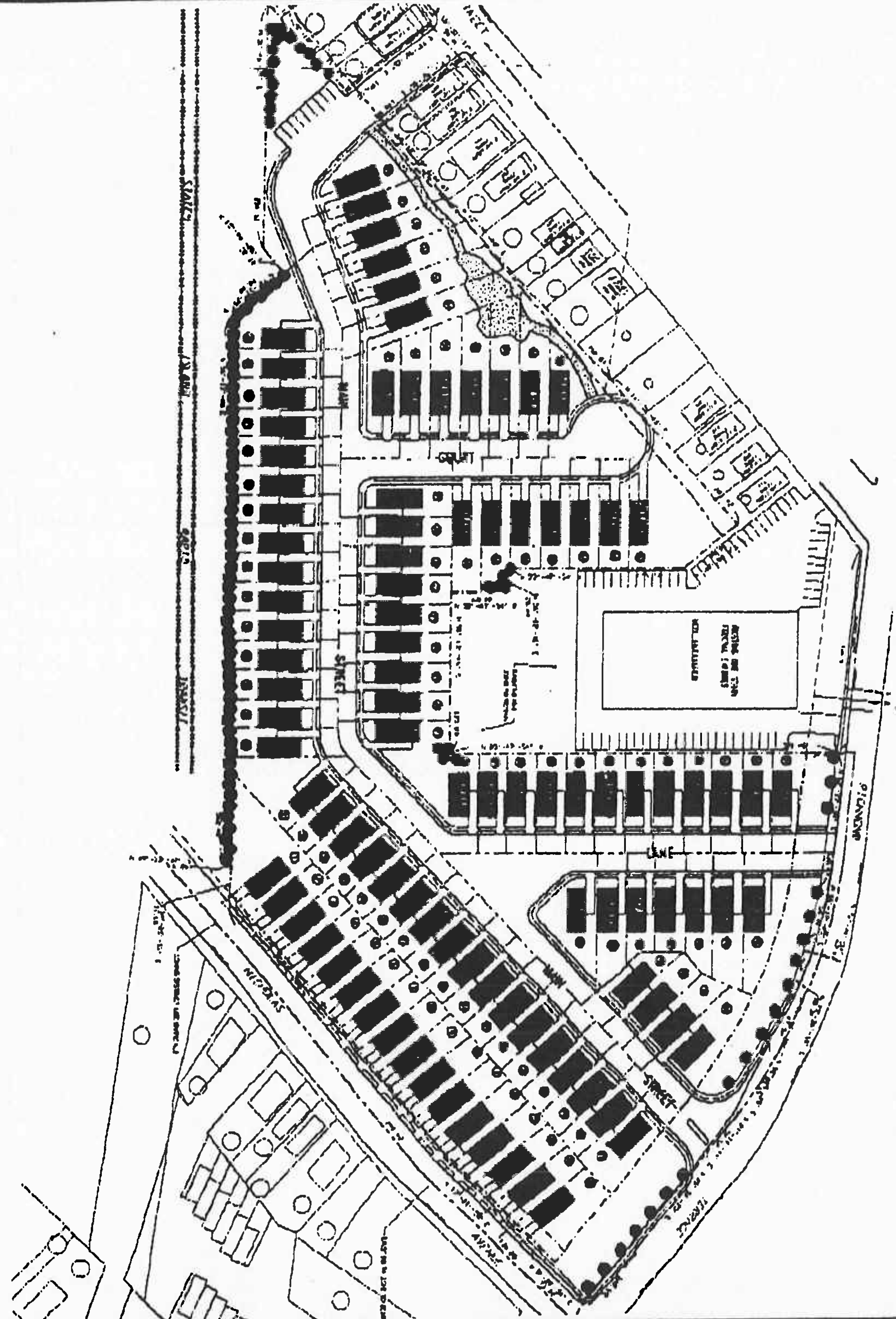
FIGURE 2
Site Investigation Plan

WHITESTONE
ASSOCIATES, INC.

FIGURE 3
EM Survey Plan

WHITESTONE ASSOCIATES, INC.

FIGURE 4
Proposed Redevelopment Plan



TITLE: **Proposed Redevelopment Plan**			**WHITESTONE ASSOCIATES, INC.** 786 MOUNTAIN BOULEVARD, SUITE 200 WATCHUNG, NEW JERSEY 07069 908.668.7777 ✦ 908.754.5936 FAX			
CLIENT: NATALIE LYN, L.L.C.						
PROJECT: Nicholas Avenue Rezoning Block 1116, Lots 40, 75 & 105 Block 1121, Lot 101 Staten Island, Richmond County, New York	PROJECT #: WJ03-5920	BY: NA	PROJ. MGR. TKU	DATE: 12/8/03	SCALE: NTS	FIGURE: 4

WHITESTONE
ASSOCIATES, INC.

APPENDIX 1
Laboratory Analytical Data

Integrated Analytical Laboratories LLC

ANALYTICAL DATA REPORT

Whitestone Associates Inc.
786 Mountain Blvd.
Watchung, NJ 07069

Project Name: **WJ03-5920**
IAL Case Number: **E03-04174**

These data have been reviewed and accepted by:

Michael H. Leftin, Ph.D.
Laboratory Director

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

Sample Summary

Case No. E03-04174

Project Name WJ03-5920

Customer Whitestone Associates Inc.

Received On 5/15/2003@16:00

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	# of Cont.
04174-001	5920-TP1	n/a	5/14/2003@11:00	Soil	2
04174-002	5920-TP2	n/a	5/14/2003@11:30	Soil	2
04174-003	5920-TP3	n/a	5/14/2003@12:00	Soil	2
04174-004	5920-TP4	n/a	5/14/2003@12:30	Soil	2
04174-005	5920-TP5	n/a	5/14/2003@13:00	Soil	2
04174-006	5920-TP6	n/a	5/14/2003@13:30	Soil	2
04174-007	5920-TP7	n/a	5/14/2003@14:00	Soil	2
04174-008	5920-TP8	n/a	5/14/2003@14:30	Soil	2

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES, LLC.

TABLE OF CONTENTS

* Methodology is included in the IAL Project Information Page

INTEGRATED ANALYTICAL LABORATORIES, LLC.

MATRIX QUALIFIERS

A - Indicates the sample is an Aqueous matrix.

O - Indicates the sample is an Oil matrix.

S - Indicates the sample is a Soil, Sludge or Sediment matrix.

X - Indicates the sample is an Other matrix as indicated by Client Chain of Custody.

DATA QUALIFIERS

B - Indicates the analyte was found in the Blank and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of the analyte.

C - Common Laboratory Contaminant.

D - The compound was reported from the Diluted analysis.

D.F. - Dilution Factor.

E - Estimated concentration, reported results are outside the calibrated range of the instrument.

J - Indicates an estimated value. The compound was detected at a value below the method detection limit but greater than zero. For GC/MS procedures, the mass spectral data meets the criteria required to identify the target compound.

MDL - Method Detection Limit.

MI - Indicates compound concentration could not be determined due to Matrix Interferences.

NA - Not Applicable.

ND - Indicates the compound was analyzed for but Not Detected at the MDL.

REPORT QUALIFIERS

All solid sample analyses are reported on a dry weight basis.

All solid sample values are corrected for original sample size and percent solids.

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-5920
Lab Case No.: E03-04174

Lab ID:	04174-001			04174-002			04174-003			04174-004		
Client ID:	5920-TP1			5920-TP2			5920-TP3			5920-TP4		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	5/14/03			5/14/03			5/14/03			5/14/03		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
TOTAL VO's:	ND		0.00585	ND		0.0057	ND		0.0057	ND		0.00615
Semivolatiles - BNA (mg/Kg-ppm)												
Dimethylphthalate	ND		0.107	ND		0.104	0.931		0.108	ND		0.118
2,6-Dinitrotoluene	ND		0.107	ND		0.104	2.59		0.108	ND		0.118
TOTAL BNA'S:	ND			ND			3.52			ND		
PCB's (mg/Kg-ppm)	ND		0.019	ND		0.016	ND		0.017	ND		0.017
Pesticides (mg/Kg-ppm)	ND		0.00469	ND		0.00399	ND		0.00429	ND		0.00431
Metals (mg/Kg-ppm)												
Antimony	ND		1.17	ND		1.13	ND		1.14	ND		1.24
Arsenic	3.87		1.17	2.40		1.13	4.36		1.14	2.70		1.24
Beryllium	1.12		0.587	0.929		0.563	1.01		0.568	1.27		0.620
Cadmium	ND		0.294	ND		0.282	ND		0.284	ND		0.310
Chromium	22.6		2.35	23.6		2.25	25.5		2.27	25.9		2.48
Copper	21.1		2.35	18.8		2.25	25.8		2.27	27.8		2.48
Lead	16.8		0.587	11.9		0.563	21.2		0.568	13.2		0.620
Mercury	ND		0.014	ND		0.014	0.021		0.014	ND		0.015
Nickel	27.9		1.17	28.0		1.13	28.1		1.14	35.0		1.24
Selenium	ND		2.35	ND		2.25	ND		2.27	ND		2.48
Silver	ND		0.587	ND		0.563	ND		0.568	ND		0.620
Thallium	0.177		0.117	0.211		0.113	0.200		0.114	0.223		0.124
Zinc	58.9		2.35	64.1		2.25	74.2		2.27	74.6		2.48

ND = Analyzed for but Not Detected at the MDL

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-5920
Lab Case No.: E03-04174

Lab ID:	04174-005			04174-006			04174-007			04174-008		
Client ID:	5920-TP5			5920-TP6			5920-TP7			5920-TP8		
Matrix:	Soil			Soil			Soil			Soil		
Sampled Date	5/14/03			5/14/03			5/14/03			5/14/03		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (mg/Kg-ppm)												
TOTAL VO's:	ND		0.00585	ND		0.00595	ND		0.0058	ND		0.0062
Semivolatiles - BNA (mg/Kg-ppm)												
TOTAL BNA'S:	ND		0.110	ND		0.109	ND		0.106	ND		0.115
PCB's (mg/Kg-ppm)	ND		0.016	ND		0.018	ND		0.018	ND		0.019
Pesticides (mg/Kg-ppm)	ND		0.00399	ND		0.00458	ND		0.0045	ND		0.00469
Metals (mg/Kg-ppm)												
Antimony	ND		1.17	ND		1.19	ND		1.17	ND		1.23
Arsenic	2.17		1.17	3.15		1.19	2.67		1.17	2.87		1.23
Beryllium	0.861		0.583	1.02		0.593	1.03		0.585	1.14		0.613
Cadmium	ND		0.291	ND		0.296	ND		0.292	ND		0.306
Chromium	21.0		2.33	24.0		2.37	23.2		2.34	25.7		2.45
Copper	19.7		2.33	21.2		2.37	20.8		2.34	20.3		2.45
Lead	10.5		0.583	11.7		0.593	11.9		0.585	12.5		0.613
Mercury	ND		0.015	ND		0.015	ND		0.014	ND		0.016
Nickel	26.2		1.17	28.0		1.19	26.5		1.17	28.5		1.23
Selenium	ND		2.33	ND		2.37	ND		2.34	ND		2.45
Silver	ND		0.583	ND		0.593	ND		0.585	ND		0.613
Thallium	0.191		0.117	0.218		0.119	0.206		0.117	0.226		0.123
Zinc	58.3		2.33	64.6		2.37	63.1		2.34	68.6		2.45

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4205.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.8

Compound	Concentration	Q	MDL
Chloromethane	ND		0.00585
Vinyl Chloride	ND		0.00585
Bromomethane	ND		0.00585
Chloroethane	ND		0.00585
Trichlorofluoromethane	ND		0.00585
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.00585
Methylene Chloride	ND		0.00585
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.00585
1,1-Dichloroethane	ND		0.00585
Chloroform	ND		0.00585
1,1,1-Trichloroethane	ND		0.00585
Carbon Tetrachloride	ND		0.00585
1,2-Dichloroethane(EDC)	ND		0.00585
Benzene	ND		0.00585
Trichloroethene	ND		0.00585
1,2-Dichloropropane	ND		0.00585
Bromodichloromethane	ND		0.00585
2-Chloroethylvinyl Ether	ND		0.00585
cis-1,3-Dichloropropene	ND		0.00585
Toluene	ND		0.00585
trans-1,3-Dichloropropene	ND		0.00585
1,1,2-Trichloroethane	ND		0.00585
Tetrachloroethene	ND		0.00585
Dibromochloromethane	ND		0.00585
Chlorobenzene	ND		0.00585
Ethylbenzene	ND		0.00585
Total Xylenes	ND		0.00585
Bromoform	ND		0.00585
1,1,2,2-Tetrachloroethane	ND		0.00585
1,3-Dichlorobenzene	ND		0.00585
1,4-Dichlorobenzene	ND		0.00585
1,2-Dichlorobenzene	ND		0.00585

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4206.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.6

Compound	Concentration	Q	MDL
Chloromethane	ND		0.0057
Vinyl Chloride	ND		0.0057
Bromomethane	ND		0.0057
Chloroethane	ND		0.0057
Trichlorofluoromethane	ND		0.0057
Acrolein	ND		0.011
1,1-Dichloroethene	ND		0.0057
Methylene Chloride	ND		0.0057
Acrylonitrile	ND		0.011
trans-1,2-Dichloroethene	ND		0.0057
1,1-Dichloroethane	ND		0.0057
Chloroform	ND		0.0057
1,1,1-Trichloroethane	ND		0.0057
Carbon Tetrachloride	ND		0.0057
1,2-Dichloroethane(EDC)	ND		0.0057
Benzene	ND		0.0057
Trichloroethene	ND		0.0057
1,2-Dichloropropane	ND		0.0057
Bromodichloromethane	ND		0.0057
2-Chloroethylvinyl Ether	ND		0.0057
cis-1,3-Dichloropropene	ND		0.0057
Toluene	ND		0.0057
trans-1,3-Dichloropropene	ND		0.0057
1,1,2-Trichloroethane	ND		0.0057
Tetrachloroethene	ND		0.0057
Dibromochloromethane	ND		0.0057
Chlorobenzene	ND		0.0057
Ethylbenzene	ND		0.0057
Total Xylenes	ND		0.0057
Bromoform	ND		0.0057
1,1,2,2-Tetrachloroethane	ND		0.0057
1,3-Dichlorobenzene	ND		0.0057
1,4-Dichlorobenzene	ND		0.0057
1,2-Dichlorobenzene	ND		0.0057

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4207.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.2

Compound	Concentration	Q	MDL
Chloromethane	ND		0.0057
Vinyl Chloride	ND		0.0057
Bromomethane	ND		0.0057
Chloroethane	ND		0.0057
Trichlorofluoromethane	ND		0.0057
Acrolein	ND		0.011
1,1-Dichloroethene	ND		0.0057
Methylene Chloride	ND		0.0057
Acrylonitrile	ND		0.011
trans-1,2-Dichloroethene	ND		0.0057
1,1-Dichloroethane	ND		0.0057
Chloroform	ND		0.0057
1,1,1-Trichloroethane	ND		0.0057
Carbon Tetrachloride	ND		0.0057
1,2-Dichloroethane(EDC)	ND		0.0057
Benzene	ND		0.0057
Trichloroethene	ND		0.0057
1,2-Dichloropropane	ND		0.0057
Bromodichloromethane	ND		0.0057
2-Chloroethylvinyl Ether	ND		0.0057
cis-1,3-Dichloropropene	ND		0.0057
Toluene	ND		0.0057
trans-1,3-Dichloropropene	ND		0.0057
1,1,2-Trichloroethane	ND		0.0057
Tetrachloroethene	ND		0.0057
Dibromochloromethane	ND		0.0057
Chlorobenzene	ND		0.0057
Ethylbenzene	ND		0.0057
Total Xylenes	ND		0.0057
Bromoform	ND		0.0057
1,1,2,2-Tetrachloroethane	ND		0.0057
1,3-Dichlorobenzene	ND		0.0057
1,4-Dichlorobenzene	ND		0.0057
1,2-Dichlorobenzene	ND		0.0057

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4208.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.0

Compound	Concentration	Q	MDL
Chloromethane	ND		0.00615
Vinyl Chloride	ND		0.00615
Bromomethane	ND		0.00615
Chloroethane	ND		0.00615
Trichlorofluoromethane	ND		0.00615
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.00615
Methylene Chloride	ND		0.00615
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.00615
1,1-Dichloroethane	ND		0.00615
Chloroform	ND		0.00615
1,1,1-Trichloroethane	ND		0.00615
Carbon Tetrachloride	ND		0.00615
1,2-Dichloroethane(EDC)	ND		0.00615
Benzene	ND		0.00615
Trichloroethene	ND		0.00615
1,2-Dichloropropane	ND		0.00615
Bromodichloromethane	ND		0.00615
2-Chloroethylvinyl Ether	ND		0.00615
cis-1,3-Dichloropropene	ND		0.00615
Toluene	ND		0.00615
trans-1,3-Dichloropropene	ND		0.00615
1,1,2-Trichloroethane	ND		0.00615
Tetrachloroethene	ND		0.00615
Dibromochloromethane	ND		0.00615
Chlorobenzene	ND		0.00615
Ethylbenzene	ND		0.00615
Total Xylenes	ND		0.00615
Bromoform	ND		0.00615
1,1,2,2-Tetrachloroethane	ND		0.00615
1,3-Dichlorobenzene	ND		0.00615
1,4-Dichlorobenzene	ND		0.00615
1,2-Dichlorobenzene	ND		0.00615

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4209.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.5

Compound	Concentration	Q	MDL
Chloromethane	ND		0.00585
Vinyl Chloride	ND		0.00585
Bromomethane	ND		0.00585
Chloroethane	ND		0.00585
Trichlorofluoromethane	ND		0.00585
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.00585
Methylene Chloride	ND		0.00585
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.00585
1,1-Dichloroethane	ND		0.00585
Chloroform	ND		0.00585
1,1,1-Trichloroethane	ND		0.00585
Carbon Tetrachloride	ND		0.00585
1,2-Dichloroethane(EDC)	ND		0.00585
Benzene	ND		0.00585
Trichloroethene	ND		0.00585
1,2-Dichloropropane	ND		0.00585
Bromodichloromethane	ND		0.00585
2-Chloroethylvinyl Ether	ND		0.00585
cis-1,3-Dichloropropene	ND		0.00585
Toluene	ND		0.00585
trans-1,3-Dichloropropene	ND		0.00585
1,1,2-Trichloroethane	ND		0.00585
Tetrachloroethene	ND		0.00585
Dibromochloromethane	ND		0.00585
Chlorobenzene	ND		0.00585
Ethylbenzene	ND		0.00585
Total Xylenes	ND		0.00585
Bromoform	ND		0.00585
1,1,2,2-Tetrachloroethane	ND		0.00585
1,3-Dichlorobenzene	ND		0.00585
1,4-Dichlorobenzene	ND		0.00585
1,2-Dichlorobenzene	ND		0.00585

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4210.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 15.9

Compound	Concentration	Q	MDL
Chloromethane	ND		0.00595
Vinyl Chloride	ND		0.00595
Bromomethane	ND		0.00595
Chloroethane	ND		0.00595
Trichlorofluoromethane	ND		0.00595
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.00595
Methylene Chloride	ND		0.00595
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.00595
1,1-Dichloroethane	ND		0.00595
Chloroform	ND		0.00595
1,1,1-Trichloroethane	ND		0.00595
Carbon Tetrachloride	ND		0.00595
1,2-Dichloroethane(EDC)	ND		0.00595
Benzene	ND		0.00595
Trichloroethene	ND		0.00595
1,2-Dichloropropane	ND		0.00595
Bromodichloromethane	ND		0.00595
2-Chloroethylvinyl Ether	ND		0.00595
cis-1,3-Dichloropropene	ND		0.00595
Toluene	ND		0.00595
trans-1,3-Dichloropropene	ND		0.00595
1,1,2-Trichloroethane	ND		0.00595
Tetrachloroethene	ND		0.00595
Dibromochloromethane	ND		0.00595
Chlorobenzene	ND		0.00595
Ethylbenzene	ND		0.00595
Total Xylenes	ND		0.00595
Bromoform	ND		0.00595
1,1,2,2-Tetrachloroethane	ND		0.00595
1,3-Dichlorobenzene	ND		0.00595
1,4-Dichlorobenzene	ND		0.00595
1,2-Dichlorobenzene	ND		0.00595

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4211.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 13.6

Compound	Concentration	Q	MDL
Chloromethane	ND		0.0058
Vinyl Chloride	ND		0.0058
Bromomethane	ND		0.0058
Chloroethane	ND		0.0058
Trichlorofluoromethane	ND		0.0058
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.0058
Methylene Chloride	ND		0.0058
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.0058
1,1-Dichloroethane	ND		0.0058
Chloroform	ND		0.0058
1,1,1-Trichloroethane	ND		0.0058
Carbon Tetrachloride	ND		0.0058
1,2-Dichloroethane(EDC)	ND		0.0058
Benzene	ND		0.0058
Trichloroethene	ND		0.0058
1,2-Dichloropropane	ND		0.0058
Bromodichloromethane	ND		0.0058
2-Chloroethylvinyl Ether	ND		0.0058
cis-1,3-Dichloropropene	ND		0.0058
Toluene	ND		0.0058
trans-1,3-Dichloropropene	ND		0.0058
1,1,2-Trichloroethane	ND		0.0058
Tetrachloroethene	ND		0.0058
Dibromochloromethane	ND		0.0058
Chlorobenzene	ND		0.0058
Ethylbenzene	ND		0.0058
Total Xylenes	ND		0.0058
Bromoform	ND		0.0058
1,1,2,2-Tetrachloroethane	ND		0.0058
1,3-Dichlorobenzene	ND		0.0058
1,4-Dichlorobenzene	ND		0.0058
1,2-Dichlorobenzene	ND		0.0058

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/2003
Date Analyzed: 05/19/2003
Data file: I4212.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.3

Compound	Concentration	Q	MDL
Chloromethane	ND		0.0062
Vinyl Chloride	ND		0.0062
Bromomethane	ND		0.0062
Chloroethane	ND		0.0062
Trichlorofluoromethane	ND		0.0062
Acrolein	ND		0.012
1,1-Dichloroethene	ND		0.0062
Methylene Chloride	ND		0.0062
Acrylonitrile	ND		0.012
trans-1,2-Dichloroethene	ND		0.0062
1,1-Dichloroethane	ND		0.0062
Chloroform	ND		0.0062
1,1,1-Trichloroethane	ND		0.0062
Carbon Tetrachloride	ND		0.0062
1,2-Dichloroethane(EDC)	ND		0.0062
Benzene	ND		0.0062
Trichloroethene	ND		0.0062
1,2-Dichloropropane	ND		0.0062
Bromodichloromethane	ND		0.0062
2-Chloroethylvinyl Ether	ND		0.0062
cis-1,3-Dichloropropene	ND		0.0062
Toluene	ND		0.0062
trans-1,3-Dichloropropene	ND		0.0062
1,1,2-Trichloroethane	ND		0.0062
Tetrachloroethene	ND		0.0062
Dibromochloromethane	ND		0.0062
Chlorobenzene	ND		0.0062
Ethylbenzene	ND		0.0062
Total Xylenes	ND		0.0062
Bromoform	ND		0.0062
1,1,2,2-Tetrachloroethane	ND		0.0062
1,3-Dichlorobenzene	ND		0.0062
1,4-Dichlorobenzene	ND		0.0062
1,2-Dichlorobenzene	ND		0.0062

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0565.D

GC/MS Column: DB-5
Sample wt/vol: 10.93g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.8

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.107
Phenol	ND		0.107
Aniline	ND		0.107
bis(2-Chloroethyl)ether	ND		0.107
2-Chlorophenol	ND		0.107
1,3-Dichlorobenzene	ND		0.107
1,4-Dichlorobenzene	ND		0.107
Benzyl alcohol	ND		0.107
1,2-Dichlorobenzene	ND		0.107
2-Methylphenol	ND		0.107
bis(2-chloroisopropyl)ether	ND		0.107
4-Methylphenol	ND		0.107
N-Nitroso-di-n-propylamine	ND		0.107
Hexachloroethane	ND		0.107
Nitrobenzene	ND		0.107
Isophorone	ND		0.107
2-Nitrophenol	ND		0.107
2,4-Dimethylphenol	ND		0.107
bis(2-Chloroethoxy)methane	ND		0.107
Benzoic acid	ND		0.107
2,4-Dichlorophenol	ND		0.107
1,2,4-Trichlorobenzene	ND		0.107
Naphthalene	ND		0.107
4-Chloroaniline	ND		0.107
Hexachlorobutadiene	ND		0.107
4-Chloro-3-methylphenol	ND		0.107
2-Methylnaphthalene	ND		0.107
Hexachlorocyclopentadiene	ND		0.107
2,4,6-Trichlorophenol	ND		0.107
2,4,5-Trichlorophenol	ND		0.107
2-Chloronaphthalene	ND		0.107
2-Nitroaniline	ND		0.107
Dimethylphthalate	ND		0.107

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0565.D

GC/MS Column: DB-5
Sample wt/vol: 10.93g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.8

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.107
Acenaphthylene	ND		0.107
3-Nitroaniline	ND		0.107
Acenaphthene	ND		0.107
2,4-Dinitrophenol	ND		0.107
4-Nitrophenol	ND		0.107
2,4-Dinitrotoluene	ND		0.107
Dibenzofuran	ND		0.107
Diethylphthalate	ND		0.107
Fluorene	ND		0.107
4-Chlorophenyl-phenylether	ND		0.107
4-Nitroaniline	ND		0.107
4,6-Dinitro-2-methylphenol	ND		0.107
N-Nitrosodiphenylamine	ND		0.107
1,2-Diphenylhydrazine/Azobenzene	ND		0.107
4-Bromophenyl-phenylether	ND		0.107
Hexachlorobenzene	ND		0.107
Pentachlorophenol	ND		0.107
Phenanthrene	ND		0.107
Anthracene	ND		0.107
Carbazole	ND		0.107
Di-n-butylphthalate	ND		0.107
Fluoranthene	ND		0.107
Benzidine	ND		0.107
Pyrene	ND		0.107
3,3'-Dimethylbenzidine	ND		0.107
Butylbenzylphthalate	ND		0.107
3,3'-Dichlorobenzidine	ND		0.107
Benzo[a]anthracene	ND		0.107
Chrysene	ND		0.107
bis(2-Ethylhexyl)phthalate	ND		0.107
Di-n-octylphthalate	ND		0.107
Benzo[b]fluoranthene	ND		0.107
Benzo[k]fluoranthene	ND		0.107
Benzo[a]pyrene	ND		0.107
Indeno[1,2,3-cd]pyrene	ND		0.107
Dibenz[a,h]anthracene	ND		0.107
Benzo[g,h,i]perylene	ND		0.107

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0566.D

GC/MS Column: DB-5
Sample wt/vol: 10.97g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.6

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.104
Phenol	ND		0.104
Aniline	ND		0.104
bis(2-Chloroethyl)ether	ND		0.104
2-Chlorophenol	ND		0.104
1,3-Dichlorobenzene	ND		0.104
1,4-Dichlorobenzene	ND		0.104
Benzyl alcohol	ND		0.104
1,2-Dichlorobenzene	ND		0.104
2-Methylphenol	ND		0.104
bis(2-chloroisopropyl)ether	ND		0.104
4-Methylphenol	ND		0.104
N-Nitroso-di-n-propylamine	ND		0.104
Hexachloroethane	ND		0.104
Nitrobenzene	ND		0.104
Isophorone	ND		0.104
2-Nitrophenol	ND		0.104
2,4-Dimethylphenol	ND		0.104
bis(2-Chloroethoxy)methane	ND		0.104
Benzoic acid	ND		0.104
2,4-Dichlorophenol	ND		0.104
1,2,4-Trichlorobenzene	ND		0.104
Naphthalene	ND		0.104
4-Chloroaniline	ND		0.104
Hexachlorobutadiene	ND		0.104
4-Chloro-3-methylphenol	ND		0.104
2-Methylnaphthalene	ND		0.104
Hexachlorocyclopentadiene	ND		0.104
2,4,6-Trichlorophenol	ND		0.104
2,4,5-Trichlorophenol	ND		0.104
2-Chloronaphthalene	ND		0.104
2-Nitroaniline	ND		0.104
Dimethylphthalate	ND		0.104

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0566.D

GC/MS Column: DB-5
Sample wt/vol: 10.97g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.6

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.104
Acenaphthylene	ND		0.104
3-Nitroaniline	ND		0.104
Acenaphthene	ND		0.104
2,4-Dinitrophenol	ND		0.104
4-Nitrophenol	ND		0.104
2,4-Dinitrotoluene	ND		0.104
Dibenzofuran	ND		0.104
Diethylphthalate	ND		0.104
Fluorene	ND		0.104
4-Chlorophenyl-phenylether	ND		0.104
4-Nitroaniline	ND		0.104
4,6-Dinitro-2-methylphenol	ND		0.104
N-Nitrosodiphenylamine	ND		0.104
1,2-Diphenylhydrazine/Azobenzene	ND		0.104
4-Bromophenyl-phenylether	ND		0.104
Hexachlorobenzene	ND		0.104
Pentachlorophenol	ND		0.104
Phenanthrene	ND		0.104
Anthracene	ND		0.104
Carbazole	ND		0.104
Di-n-butylphthalate	ND		0.104
Fluoranthene	ND		0.104
Benzidine	ND		0.104
Pyrene	ND		0.104
3,3'-Dimethylbenzidine	ND		0.104
Butylbenzylphthalate	ND		0.104
3,3'-Dichlorobenzidine	ND		0.104
Benzo[a]anthracene	ND		0.104
Chrysene	ND		0.104
bis(2-Ethylhexyl)phthalate	ND		0.104
Di-n-octylphthalate	ND		0.104
Benzo[b]fluoranthene	ND		0.104
Benzo[k]fluoranthene	ND		0.104
Benzo[a]pyrene	ND		0.104
Indeno[1,2,3-cd]pyrene	ND		0.104
Dibenz[a,h]anthracene	ND		0.104
Benzo[g,h,i]perylene	ND		0.104

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0567.D

GC/MS Column: DB-5
Sample wt/vol: 10.59g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.2

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.108
Phenol	ND		0.108
Aniline	ND		0.108
bis(2-Chloroethyl)ether	ND		0.108
2-Chlorophenol	ND		0.108
1,3-Dichlorobenzene	ND		0.108
1,4-Dichlorobenzene	ND		0.108
Benzyl alcohol	ND		0.108
1,2-Dichlorobenzene	ND		0.108
2-Methylphenol	ND		0.108
bis(2-chloroisopropyl)ether	ND		0.108
4-Methylphenol	ND		0.108
N-Nitroso-di-n-propylamine	ND		0.108
Hexachloroethane	ND		0.108
Nitrobenzene	ND		0.108
Isophorone	ND		0.108
2-Nitrophenol	ND		0.108
2,4-Dimethylphenol	ND		0.108
bis(2-Chloroethoxy)methane	ND		0.108
Benzoic acid	ND		0.108
2,4-Dichlorophenol	ND		0.108
1,2,4-Trichlorobenzene	ND		0.108
Naphthalene	ND		0.108
4-Chloroaniline	ND		0.108
Hexachlorobutadiene	ND		0.108
4-Chloro-3-methylphenol	ND		0.108
2-Methylnaphthalene	ND		0.108
Hexachlorocyclopentadiene	ND		0.108
2,4,6-Trichlorophenol	ND		0.108
2,4,5-Trichlorophenol	ND		0.108
2-Chloronaphthalene	ND		0.108
2-Nitroaniline	ND		0.108
Dimethylphthalate	0.931		0.108

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0567.D

GC/MS Column: DB-5
Sample wt/vol: 10.59g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.2

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	2.59		0.108
Acenaphthylene	ND		0.108
3-Nitroaniline	ND		0.108
Acenaphthene	ND		0.108
2,4-Dinitrophenol	ND		0.108
4-Nitrophenol	ND		0.108
2,4-Dinitrotoluene	ND		0.108
Dibenzofuran	ND		0.108
Diethylphthalate	ND		0.108
Fluorene	ND		0.108
4-Chlorophenyl-phenylether	ND		0.108
4-Nitroaniline	ND		0.108
4,6-Dinitro-2-methylphenol	ND		0.108
N-Nitrosodiphenylamine	ND		0.108
1,2-Diphenylhydrazine/Azobenzene	ND		0.108
4-Bromophenyl-phenylether	ND		0.108
Hexachlorobenzene	ND		0.108
Pentachlorophenol	ND		0.108
Phenanthrene	ND		0.108
Anthracene	ND		0.108
Carbazole	ND		0.108
Di-n-butylphthalate	ND		0.108
Fluoranthene	ND		0.108
Benzidine	ND		0.108
Pyrene	ND		0.108
3,3'-Dimethylbenzidine	ND		0.108
Butylbenzylphthalate	ND		0.108
3,3'-Dichlorobenzidine	ND		0.108
Benzo[a]anthracene	ND		0.108
Chrysene	ND		0.108
bis(2-Ethylhexyl)phthalate	ND		0.108
Di-n-octylphthalate	ND		0.108
Benzo[b]fluoranthene	ND		0.108
Benzo[k]fluoranthene	ND		0.108
Benzo[a]pyrene	ND		0.108
Indeno[1,2,3-cd]pyrene	ND		0.108
Dibenz[a,h]anthracene	ND		0.108
Benzo[g,h,i]perylene	ND		0.108

Total Target Compounds: 3.52

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0568.D

GC/MS Column: DB-5
Sample wt/vol: 10.49g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.0

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.118
Phenol	ND		0.118
Aniline	ND		0.118
bis(2-Chloroethyl)ether	ND		0.118
2-Chlorophenol	ND		0.118
1,3-Dichlorobenzene	ND		0.118
1,4-Dichlorobenzene	ND		0.118
Benzyl alcohol	ND		0.118
1,2-Dichlorobenzene	ND		0.118
2-Methylphenol	ND		0.118
bis(2-chloroisopropyl)ether	ND		0.118
4-Methylphenol	ND		0.118
N-Nitroso-di-n-propylamine	ND		0.118
Hexachloroethane	ND		0.118
Nitrobenzene	ND		0.118
Isophorone	ND		0.118
2-Nitrophenol	ND		0.118
2,4-Dimethylphenol	ND		0.118
bis(2-Chloroethoxy)methane	ND		0.118
Benzoic acid	ND		0.118
2,4-Dichlorophenol	ND		0.118
1,2,4-Trichlorobenzene	ND		0.118
Naphthalene	ND		0.118
4-Chloroaniline	ND		0.118
Hexachlorobutadiene	ND		0.118
4-Chloro-3-methylphenol	ND		0.118
2-Methylnaphthalene	ND		0.118
Hexachlorocyclopentadiene	ND		0.118
2,4,6-Trichlorophenol	ND		0.118
2,4,5-Trichlorophenol	ND		0.118
2-Chloronaphthalene	ND		0.118
2-Nitroaniline	ND		0.118
Dimethylphthalate	ND		0.118

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0568.D

GC/MS Column: DB-5
Sample wt/vol: 10.49g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.0

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.118
Acenaphthylene	ND		0.118
3-Nitroaniline	ND		0.118
Acenaphthene	ND		0.118
2,4-Dinitrophenol	ND		0.118
4-Nitrophenol	ND		0.118
2,4-Dinitrotoluene	ND		0.118
Dibenzofuran	ND		0.118
Diethylphthalate	ND		0.118
Fluorene	ND		0.118
4-Chlorophenyl-phenylether	ND		0.118
4-Nitroaniline	ND		0.118
4,6-Dinitro-2-methylphenol	ND		0.118
N-Nitrosodiphenylamine	ND		0.118
1,2-Diphenylhydrazine/Azobenzene	ND		0.118
4-Bromophenyl-phenylether	ND		0.118
Hexachlorobenzene	ND		0.118
Pentachlorophenol	ND		0.118
Phenanthrene	ND		0.118
Anthracene	ND		0.118
Carbazole	ND		0.118
Di-n-butylphthalate	ND		0.118
Fluoranthene	ND		0.118
Benzidine	ND		0.118
Pyrene	ND		0.118
3,3'-Dimethylbenzidine	ND		0.118
Butylbenzylphthalate	ND		0.118
3,3'-Dichlorobenzidine	ND		0.118
Benzo[a]anthracene	ND		0.118
Chrysene	ND		0.118
bis(2-Ethylhexyl)phthalate	ND		0.118
Di-n-octylphthalate	ND		0.118
Benzo[b]fluoranthene	ND		0.118
Benzo[k]fluoranthene	ND		0.118
Benzo[a]pyrene	ND		0.118
Indeno[1,2,3-cd]pyrene	ND		0.118
Dibenz[a,h]anthracene	ND		0.118
Benzo[g,h,i]perylene	ND		0.118

Total Target Compounds: 0

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0569.D

GC/MS Column: DB-5
Sample wt/vol: 10.66g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.5

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.110
Phenol	ND		0.110
Aniline	ND		0.110
bis(2-Chloroethyl)ether	ND		0.110
2-Chlorophenol	ND		0.110
1,3-Dichlorobenzene	ND		0.110
1,4-Dichlorobenzene	ND		0.110
Benzyl alcohol	ND		0.110
1,2-Dichlorobenzene	ND		0.110
2-Methylphenol	ND		0.110
bis(2-chloroisopropyl)ether	ND		0.110
4-Methylphenol	ND		0.110
N-Nitroso-di-n-propylamine	ND		0.110
Hexachloroethane	ND		0.110
Nitrobenzene	ND		0.110
Isophorone	ND		0.110
2-Nitrophenol	ND		0.110
2,4-Dimethylphenol	ND		0.110
bis(2-Chloroethoxy)methane	ND		0.110
Benzoic acid	ND		0.110
2,4-Dichlorophenol	ND		0.110
1,2,4-Trichlorobenzene	ND		0.110
Naphthalene	ND		0.110
4-Chloroaniline	ND		0.110
Hexachlorobutadiene	ND		0.110
4-Chloro-3-methylphenol	ND		0.110
2-Methylnaphthalene	ND		0.110
Hexachlorocyclopentadiene	ND		0.110
2,4,6-Trichlorophenol	ND		0.110
2,4,5-Trichlorophenol	ND		0.110
2-Chloronaphthalene	ND		0.110
2-Nitroaniline	ND		0.110
Dimethylphthalate	ND		0.110

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0569.D

GC/MS Column: DB-5
Sample wt/vol: 10.66g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.5

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.110
Acenaphthylene	ND		0.110
3-Nitroaniline	ND		0.110
Acenaphthene	ND		0.110
2,4-Dinitrophenol	ND		0.110
4-Nitrophenol	ND		0.110
2,4-Dinitrotoluene	ND		0.110
Dibenzofuran	ND		0.110
Diethylphthalate	ND		0.110
Fluorene	ND		0.110
4-Chlorophenyl-phenylether	ND		0.110
4-Nitroaniline	ND		0.110
4,6-Dinitro-2-methylphenol	ND		0.110
N-Nitrosodiphenylamine	ND		0.110
1,2-Diphenylhydrazine/Azobenzene	ND		0.110
4-Bromophenyl-phenylether	ND		0.110
Hexachlorobenzene	ND		0.110
Pentachlorophenol	ND		0.110
Phenanthrene	ND		0.110
Anthracene	ND		0.110
Carbazole	ND		0.110
Di-n-butylphthalate	ND		0.110
Fluoranthene	ND		0.110
Benzidine	ND		0.110
Pyrene	ND		0.110
3,3'-Dimethylbenzidine	ND		0.110
Butylbenzylphthalate	ND		0.110
3,3'-Dichlorobenzidine	ND		0.110
Benzo[a]anthracene	ND		0.110
Chrysene	ND		0.110
bis(2-Ethylhexyl)phthalate	ND		0.110
Di-n-octylphthalate	ND		0.110
Benzo[b]fluoranthene	ND		0.110
Benzo[k]fluoranthene	ND		0.110
Benzo[a]pyrene	ND		0.110
Indeno[1,2,3-cd]pyrene	ND		0.110
Dibenz[a,h]anthracene	ND		0.110
Benzo[g,h,i]perylene	ND		0.110

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0570.D

GC/MS Column: DB-5
Sample wt/vol: 10.90g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 15.9

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.109
Phenol	ND		0.109
Aniline	ND		0.109
bis(2-Chloroethyl)ether	ND		0.109
2-Chlorophenol	ND		0.109
1,3-Dichlorobenzene	ND		0.109
1,4-Dichlorobenzene	ND		0.109
Benzyl alcohol	ND		0.109
1,2-Dichlorobenzene	ND		0.109
2-Methylphenol	ND		0.109
bis(2-chloroisopropyl)ether	ND		0.109
4-Methylphenol	ND		0.109
N-Nitroso-di-n-propylamine	ND		0.109
Hexachloroethane	ND		0.109
Nitrobenzene	ND		0.109
Isophorone	ND		0.109
2-Nitrophenol	ND		0.109
2,4-Dimethylphenol	ND		0.109
bis(2-Chloroethoxy)methane	ND		0.109
Benzoic acid	ND		0.109
2,4-Dichlorophenol	ND		0.109
1,2,4-Trichlorobenzene	ND		0.109
Naphthalene	ND		0.109
4-Chloroaniline	ND		0.109
Hexachlorobutadiene	ND		0.109
4-Chloro-3-methylphenol	ND		0.109
2-Methylnaphthalene	ND		0.109
Hexachlorocyclopentadiene	ND		0.109
2,4,6-Trichlorophenol	ND		0.109
2,4,5-Trichlorophenol	ND		0.109
2-Chloronaphthalene	ND		0.109
2-Nitroaniline	ND		0.109
Dimethylphthalate	ND		0.109

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0570.D

GC/MS Column: DB-5
Sample wt/vol: 10.90g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 15.9

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.109
Acenaphthylene	ND		0.109
3-Nitroaniline	ND		0.109
Acenaphthene	ND		0.109
2,4-Dinitrophenol	ND		0.109
4-Nitrophenol	ND		0.109
2,4-Dinitrotoluene	ND		0.109
Dibenzofuran	ND		0.109
Diethylphthalate	ND		0.109
Fluorene	ND		0.109
4-Chlorophenyl-phenylether	ND		0.109
4-Nitroaniline	ND		0.109
4,6-Dinitro-2-methylphenol	ND		0.109
N-Nitrosodiphenylamine	ND		0.109
1,2-Diphenylhydrazine/Azobenzene	ND		0.109
4-Bromophenyl-phenylether	ND		0.109
Hexachlorobenzene	ND		0.109
Pentachlorophenol	ND		0.109
Phenanthrene	ND		0.109
Anthracene	ND		0.109
Carbazole	ND		0.109
Di-n-butylphthalate	ND		0.109
Fluoranthene	ND		0.109
Benzidine	ND		0.109
Pyrene	ND		0.109
3,3'-Dimethylbenzidine	ND		0.109
Butylbenzylphthalate	ND		0.109
3,3'-Dichlorobenzidine	ND		0.109
Benzo[a]anthracene	ND		0.109
Chrysene	ND		0.109
bis(2-Ethylhexyl)phthalate	ND		0.109
Di-n-octylphthalate	ND		0.109
Benzo[b]fluoranthene	ND		0.109
Benzo[k]fluoranthene	ND		0.109
Benzo[a]pyrene	ND		0.109
Indeno[1,2,3-cd]pyrene	ND		0.109
Dibenz[a,h]anthracene	ND		0.109
Benzo[g,h,i]perylene	ND		0.109

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0571.D

GC/MS Column: DB-5
Sample wt/vol: 10.89g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 13.6

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.106
Phenol	ND		0.106
Aniline	ND		0.106
bis(2-Chloroethyl)ether	ND		0.106
2-Chlorophenol	ND		0.106
1,3-Dichlorobenzene	ND		0.106
1,4-Dichlorobenzene	ND		0.106
Benzyl alcohol	ND		0.106
1,2-Dichlorobenzene	ND		0.106
2-Methylphenol	ND		0.106
bis(2-chloroisopropyl)ether	ND		0.106
4-Methylphenol	ND		0.106
N-Nitroso-di-n-propylamine	ND		0.106
Hexachloroethane	ND		0.106
Nitrobenzene	ND		0.106
Isophorone	ND		0.106
2-Nitrophenol	ND		0.106
2,4-Dimethylphenol	ND		0.106
bis(2-Chloroethoxy)methane	ND		0.106
Benzoic acid	ND		0.106
2,4-Dichlorophenol	ND		0.106
1,2,4-Trichlorobenzene	ND		0.106
Naphthalene	ND		0.106
4-Chloroaniline	ND		0.106
Hexachlorobutadiene	ND		0.106
4-Chloro-3-methylphenol	ND		0.106
2-Methylnaphthalene	ND		0.106
Hexachlorocyclopentadiene	ND		0.106
2,4,6-Trichlorophenol	ND		0.106
2,4,5-Trichlorophenol	ND		0.106
2-Chloronaphthalene	ND		0.106
2-Nitroaniline	ND		0.106
Dimethylphthalate	ND		0.106

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0571.D

GC/MS Column: DB-5
Sample wt/vol: 10.89g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 13.6

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.106
Acenaphthylene	ND		0.106
3-Nitroaniline	ND		0.106
Acenaphthene	ND		0.106
2,4-Dinitrophenol	ND		0.106
4-Nitrophenol	ND		0.106
2,4-Dinitrotoluene	ND		0.106
Dibenzofuran	ND		0.106
Diethylphthalate	ND		0.106
Fluorene	ND		0.106
4-Chlorophenyl-phenylether	ND		0.106
4-Nitroaniline	ND		0.106
4,6-Dinitro-2-methylphenol	ND		0.106
N-Nitrosodiphenylamine	ND		0.106
1,2-Diphenylhydrazine/Azobenzene	ND		0.106
4-Bromophenyl-phenylether	ND		0.106
Hexachlorobenzene	ND		0.106
Pentachlorophenol	ND		0.106
Phenanthrene	ND		0.106
Anthracene	ND		0.106
Carbazole	ND		0.106
Di-n-butylphthalate	ND		0.106
Fluoranthene	ND		0.106
Benzidine	ND		0.106
Pyrene	ND		0.106
3,3'-Dimethylbenzidine	ND		0.106
Butylbenzylphthalate	ND		0.106
3,3'-Dichlorobenzidine	ND		0.106
Benzo[a]anthracene	ND		0.106
Chrysene	ND		0.106
bis(2-Ethylhexyl)phthalate	ND		0.106
Di-n-octylphthalate	ND		0.106
Benzo[b]fluoranthene	ND		0.106
Benzo[k]fluoranthene	ND		0.106
Benzo[a]pyrene	ND		0.106
Indeno[1,2,3-cd]pyrene	ND		0.106
Dibenz[a,h]anthracene	ND		0.106
Benzo[g,h,i]perylene	ND		0.106

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0572.D

GC/MS Column: DB-5
Sample wt/vol: 10.78g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.3

Compound	Concentration	Q	MDL
N-Nitrosodimethylamine	ND		0.115
Phenol	ND		0.115
Aniline	ND		0.115
bis(2-Chloroethyl)ether	ND		0.115
2-Chlorophenol	ND		0.115
1,3-Dichlorobenzene	ND		0.115
1,4-Dichlorobenzene	ND		0.115
Benzyl alcohol	ND		0.115
1,2-Dichlorobenzene	ND		0.115
2-Methylphenol	ND		0.115
bis(2-chloroisopropyl)ether	ND		0.115
4-Methylphenol	ND		0.115
N-Nitroso-di-n-propylamine	ND		0.115
Hexachloroethane	ND		0.115
Nitrobenzene	ND		0.115
Isophorone	ND		0.115
2-Nitrophenol	ND		0.115
2,4-Dimethylphenol	ND		0.115
bis(2-Chloroethoxy)methane	ND		0.115
Benzoic acid	ND		0.115
2,4-Dichlorophenol	ND		0.115
1,2,4-Trichlorobenzene	ND		0.115
Naphthalene	ND		0.115
4-Chloroaniline	ND		0.115
Hexachlorobutadiene	ND		0.115
4-Chloro-3-methylphenol	ND		0.115
2-Methylnaphthalene	ND		0.115
Hexachlorocyclopentadiene	ND		0.115
2,4,6-Trichlorophenol	ND		0.115
2,4,5-Trichlorophenol	ND		0.115
2-Chloronaphthalene	ND		0.115
2-Nitroaniline	ND		0.115
Dimethylphthalate	ND		0.115

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: B0572.D

GC/MS Column: DB-5
Sample wt/vol: 10.78g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.3

Compound	Concentration	Q	MDL
2,6-Dinitrotoluene	ND		0.115
Acenaphthylene	ND		0.115
3-Nitroaniline	ND		0.115
Acenaphthene	ND		0.115
2,4-Dinitrophenol	ND		0.115
4-Nitrophenol	ND		0.115
2,4-Dinitrotoluene	ND		0.115
Dibenzofuran	ND		0.115
Diethylphthalate	ND		0.115
Fluorene	ND		0.115
4-Chlorophenyl-phenylether	ND		0.115
4-Nitroaniline	ND		0.115
4,6-Dinitro-2-methylphenol	ND		0.115
N-Nitrosodiphenylamine	ND		0.115
1,2-Diphenylhydrazine/Azobenzene	ND		0.115
4-Bromophenyl-phenylether	ND		0.115
Hexachlorobenzene	ND		0.115
Pentachlorophenol	ND		0.115
Phenanthrene	ND		0.115
Anthracene	ND		0.115
Carbazole	ND		0.115
Di-n-butylphthalate	ND		0.115
Fluoranthene	ND		0.115
Benzidine	ND		0.115
Pyrene	ND		0.115
3,3'-Dimethylbenzidine	ND		0.115
Butylbenzylphthalate	ND		0.115
3,3'-Dichlorobenzidine	ND		0.115
Benzo[a]anthracene	ND		0.115
Chrysene	ND		0.115
bis(2-Ethylhexyl)phthalate	ND		0.115
Di-n-octylphthalate	ND		0.115
Benzo[b]fluoranthene	ND		0.115
Benzo[k]fluoranthene	ND		0.115
Benzo[a]pyrene	ND		0.115
Indeno[1,2,3-cd]pyrene	ND		0.115
Dibenz[a,h]anthracene	ND		0.115
Benzo[g,h,i]perylene	ND		0.115

Total Target Compounds: 0

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1798.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.01g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.8

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.019
Aroclor-1221	ND		0.019
Aroclor-1232	ND		0.019
Aroclor-1242	ND		0.019
Aroclor-1248	ND		0.019
Aroclor-1254	ND		0.019
Aroclor-1260	ND		0.019

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1799.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.73g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.6

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.016
Aroclor-1221	ND		0.016
Aroclor-1232	ND		0.016
Aroclor-1242	ND		0.016
Aroclor-1248	ND		0.016
Aroclor-1254	ND		0.016
Aroclor-1260	ND		0.016

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1800.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.31g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.2

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.017
Aroclor-1221	ND		0.017
Aroclor-1232	ND		0.017
Aroclor-1242	ND		0.017
Aroclor-1248	ND		0.017
Aroclor-1254	ND		0.017
Aroclor-1260	ND		0.017

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1801.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.73g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.0

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.017
Aroclor-1221	ND		0.017
Aroclor-1232	ND		0.017
Aroclor-1242	ND		0.017
Aroclor-1248	ND		0.017
Aroclor-1254	ND		0.017
Aroclor-1260	ND		0.017

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1802.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.87g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.5

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.016
Aroclor-1221	ND		0.016
Aroclor-1232	ND		0.016
Aroclor-1242	ND		0.016
Aroclor-1248	ND		0.016
Aroclor-1254	ND		0.016
Aroclor-1260	ND		0.016

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1803.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.19g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 15.9

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.018
Aroclor-1221	ND		0.018
Aroclor-1232	ND		0.018
Aroclor-1242	ND		0.018
Aroclor-1248	ND		0.018
Aroclor-1254	ND		0.018
Aroclor-1260	ND		0.018

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1804.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.14g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 13.6

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.018
Aroclor-1221	ND		0.018
Aroclor-1232	ND		0.018
Aroclor-1242	ND		0.018
Aroclor-1248	ND		0.018
Aroclor-1254	ND		0.018
Aroclor-1260	ND		0.018

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/19/2003
Data file: R1805.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.28g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.3

Compound	Concentration	Q	MDL
Aroclor-1016	ND		0.019
Aroclor-1221	ND		0.019
Aroclor-1232	ND		0.019
Aroclor-1242	ND		0.019
Aroclor-1248	ND		0.019
Aroclor-1254	ND		0.019
Aroclor-1260	ND		0.019

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6350.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.01g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.8

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00469
beta-BHC	ND		0.00469
gamma-BHC	ND		0.00469
delta-BHC	ND		0.00469
Heptachlor	ND		0.00469
Aldrin	ND		0.00469
Heptachlor epoxide	ND		0.00469
Endosulfan I	ND		0.00469
4,4'-DDE	ND		0.00469
Dieldrin	ND		0.00469
Endrin	ND		0.00469
Endosulfan II	ND		0.00469
4,4'-DDD	ND		0.00469
Endrin aldehyde	ND		0.00469
Endosulfan sulfate	ND		0.00469
4,4'-DDT	ND		0.00469
Chlordane	ND		0.023
Toxaphene	ND		0.023

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6351.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.73g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.6

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00399
beta-BHC	ND		0.00399
gamma-BHC	ND		0.00399
delta-BHC	ND		0.00399
Heptachlor	ND		0.00399
Aldrin	ND		0.00399
Heptachlor epoxide	ND		0.00399
Endosulfan I	ND		0.00399
4,4'-DDE	ND		0.00399
Dieldrin	ND		0.00399
Endrin	ND		0.00399
Endosulfan II	ND		0.00399
4,4'-DDD	ND		0.00399
Endrin aldehyde	ND		0.00399
Endosulfan sulfate	ND		0.00399
4,4'-DDT	ND		0.00399
Chlordane	ND		0.020
Toxaphene	ND		0.020

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6352.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.31g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 12.2

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00429
beta-BHC	ND		0.00429
gamma-BHC	ND		0.00429
delta-BHC	ND		0.00429
Heptachlor	ND		0.00429
Aldrin	ND		0.00429
Heptachlor epoxide	ND		0.00429
Endosulfan I	ND		0.00429
4,4'-DDE	ND		0.00429
Dieldrin	ND		0.00429
Endrin	ND		0.00429
Endosulfan II	ND		0.00429
4,4'-DDD	ND		0.00429
Endrin aldehyde	ND		0.00429
Endosulfan sulfate	ND		0.00429
4,4'-DDT	ND		0.00429
Chlordane	ND		0.022
Toxaphene	ND		0.022

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6353.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.73g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.0

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00431
beta-BHC	ND		0.00431
gamma-BHC	ND		0.00431
delta-BHC	ND		0.00431
Heptachlor	ND		0.00431
Aldrin	ND		0.00431
Heptachlor epoxide	ND		0.00431
Endosulfan I	ND		0.00431
4,4'-DDE	ND		0.00431
Dieldrin	ND		0.00431
Endrin	ND		0.00431
Endosulfan II	ND		0.00431
4,4'-DDD	ND		0.00431
Endrin aldehyde	ND		0.00431
Endosulfan sulfate	ND		0.00431
4,4'-DDT	ND		0.00431
Chlordane	ND		0.022
Toxaphene	ND		0.022

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6354.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.87g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 14.5

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00399
beta-BHC	ND		0.00399
gamma-BHC	ND		0.00399
delta-BHC	ND		0.00399
Heptachlor	ND		0.00399
Aldrin	ND		0.00399
Heptachlor epoxide	ND		0.00399
Endosulfan I	ND		0.00399
4,4'-DDE	ND		0.00399
Dieldrin	ND		0.00399
Endrin	ND		0.00399
Endosulfan II	ND		0.00399
4,4'-DDD	ND		0.00399
Endrin aldehyde	ND		0.00399
Endosulfan sulfate	ND		0.00399
4,4'-DDT	ND		0.00399
Chlordane	ND		0.020
Toxaphene	ND		0.020

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6355.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.19g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 15.9

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00458
beta-BHC	ND		0.00458
gamma-BHC	ND		0.00458
delta-BHC	ND		0.00458
Heptachlor	ND		0.00458
Aldrin	ND		0.00458
Heptachlor epoxide	ND		0.00458
Endosulfan I	ND		0.00458
4,4'-DDE	ND		0.00458
Dieldrin	ND		0.00458
Endrin	ND		0.00458
Endosulfan II	ND		0.00458
4,4'-DDD	ND		0.00458
Endrin aldehyde	ND		0.00458
Endosulfan sulfate	ND		0.00458
4,4'-DDT	ND		0.00458
Chlordane	ND		0.023
Toxaphene	ND		0.023

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6356.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.14g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 13.6

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.0045
beta-BHC	ND		0.0045
gamma-BHC	ND		0.0045
delta-BHC	ND		0.0045
Heptachlor	ND		0.0045
Aldrin	ND		0.0045
Heptachlor epoxide	ND		0.0045
Endosulfan I	ND		0.0045
4,4'-DDE	ND		0.0045
Dieldrin	ND		0.0045
Endrin	ND		0.0045
Endosulfan II	ND		0.0045
4,4'-DDD	ND		0.0045
Endrin aldehyde	ND		0.0045
Endosulfan sulfate	ND		0.0045
4,4'-DDT	ND		0.0045
Chlordane	ND		0.023
Toxaphene	ND		0.023

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Client/Project: WHITESTONE/WJ03-59

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/2003
Date Extracted: 05/16/2003
Date Analyzed: 05/16/2003
Data file: P6357.D

GC Column: DB-5/DB1701P
Sample wt/vol: 5.28g
Matrix-Units: Soil-mg/Kg (ppm)
Dilution Factor: 1
% Moisture: 19.3

Compound	Concentration	Q	MDL
alpha-BHC	ND		0.00469
beta-BHC	ND		0.00469
gamma-BHC	ND		0.00469
delta-BHC	ND		0.00469
Heptachlor	ND		0.00469
Aldrin	ND		0.00469
Heptachlor epoxide	ND		0.00469
Endosulfan I	ND		0.00469
4,4'-DDE	ND		0.00469
Dieldrin	ND		0.00469
Endrin	ND		0.00469
Endosulfan II	ND		0.00469
4,4'-DDD	ND		0.00469
Endrin aldehyde	ND		0.00469
Endosulfan sulfate	ND		0.00469
4,4'-DDT	ND		0.00469
Chlordane	ND		0.023
Toxaphene	ND		0.023

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-001
Client ID: 5920-TP1
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 14.8
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.17	05/20/03	6020
Arsenic	3.87		1	1.17	05/20/03	6020
Beryllium	1.12		1	0.587	05/20/03	6020
Cadmium	ND		1	0.294	05/20/03	6020
Chromium	22.6		1	2.35	05/20/03	6020
Copper	21.1		1	2.35	05/20/03	6020
Lead	16.8		1	0.587	05/20/03	6020
Mercury	ND		1	0.014	05/19/03	7471 A
Nickel	27.9		1	1.17	05/20/03	6020
Selenium	ND		1	2.35	05/20/03	6020
Silver	ND		1	0.587	05/20/03	6020
Thallium	0.177		1	0.117	05/20/03	6020
Zinc	58.9		1	2.35	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-002
Client ID: 5920-TP2
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 12.6
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.13	05/20/03	6020
Arsenic	2.40		1	1.13	05/20/03	6020
Beryllium	0.929		1	0.563	05/20/03	6020
Cadmium	ND		1	0.282	05/20/03	6020
Chromium	23.6		1	2.25	05/20/03	6020
Copper	18.8		1	2.25	05/20/03	6020
Lead	11.9		1	0.563	05/20/03	6020
Mercury	ND		1	0.014	05/19/03	7471 A
Nickel	28.0		1	1.13	05/20/03	6020
Selenium	ND		1	2.25	05/20/03	6020
Silver	ND		1	0.563	05/20/03	6020
Thallium	0.211		1	0.113	05/20/03	6020
Zinc	64.1		1	2.25	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-003
Client ID: 5920-TP3
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 12.2
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.14	05/20/03	6020
Arsenic	4.36		1	1.14	05/20/03	6020
Beryllium	1.01		1	0.568	05/20/03	6020
Cadmium	ND		1	0.284	05/20/03	6020
Chromium	25.5		1	2.27	05/20/03	6020
Copper	25.8		1	2.27	05/20/03	6020
Lead	21.2		1	0.568	05/20/03	6020
Mercury	0.021		1	0.014	05/19/03	7471 A
Nickel	28.1		1	1.14	05/20/03	6020
Selenium	ND		1	2.27	05/20/03	6020
Silver	ND		1	0.568	05/20/03	6020
Thallium	0.200		1	0.114	05/20/03	6020
Zinc	74.2		1	2.27	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-004
Client ID: 5920-TP4
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 19.0
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.24	05/20/03	6020
Arsenic	2.70		1	1.24	05/20/03	6020
Beryllium	1.27		1	0.620	05/20/03	6020
Cadmium	ND		1	0.310	05/20/03	6020
Chromium	25.9		1	2.48	05/20/03	6020
Copper	27.8		1	2.48	05/20/03	6020
Lead	13.2		1	0.620	05/20/03	6020
Mercury	ND		1	0.015	05/19/03	7471 A
Nickel	35.0		1	1.24	05/20/03	6020
Selenium	ND		1	2.48	05/20/03	6020
Silver	ND		1	0.620	05/20/03	6020
Thallium	0.223		1	0.124	05/20/03	6020
Zinc	74.6		1	2.48	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-005
Client ID: 5920-TP5
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 14.5
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.17	05/20/03	6020
Arsenic	2.17		1	1.17	05/20/03	6020
Beryllium	0.861		1	0.583	05/20/03	6020
Cadmium	ND		1	0.291	05/20/03	6020
Chromium	21.0		1	2.33	05/20/03	6020
Copper	19.7		1	2.33	05/20/03	6020
Lead	10.5		1	0.583	05/20/03	6020
Mercury	ND		1	0.015	05/19/03	7471 A
Nickel	26.2		1	1.17	05/20/03	6020
Selenium	ND		1	2.33	05/20/03	6020
Silver	ND		1	0.583	05/20/03	6020
Thallium	0.191		1	0.117	05/20/03	6020
Zinc	58.3		1	2.33	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-006
Client ID: 5920-TP6
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 15.9
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.19	05/20/03	6020
Arsenic	3.15		1	1.19	05/20/03	6020
Beryllium	1.02		1	0.593	05/20/03	6020
Cadmium	ND		1	0.296	05/20/03	6020
Chromium	24.0		1	2.37	05/20/03	6020
Copper	21.2		1	2.37	05/20/03	6020
Lead	11.7		1	0.593	05/20/03	6020
Mercury	ND		1	0.015	05/19/03	7471 A
Nickel	28.0		1	1.19	05/20/03	6020
Selenium	ND		1	2.37	05/20/03	6020
Silver	ND		1	0.593	05/20/03	6020
Thallium	0.218		1	0.119	05/20/03	6020
Zinc	64.6		1	2.37	05/20/03	6020

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-007
Client ID: 5920-TP7
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 13.6
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.17	05/20/03	6020
Arsenic	2.67		1	1.17	05/20/03	6020
Beryllium	1.03		1	0.585	05/20/03	6020
Cadmium	ND		1	0.292	05/20/03	6020
Chromium	23.2		1	2.34	05/20/03	6020
Copper	20.8		1	2.34	05/20/03	6020
Lead	11.9		1	0.585	05/20/03	6020
Mercury	ND		1	0.014	05/19/03	7471 A
Nickel	26.5		1	1.17	05/20/03	6020
Selenium	ND		1	2.34	05/20/03	6020
Silver	ND		1	0.585	05/20/03	6020
Thallium	0.206		1	0.117	05/20/03	6020
Zinc	63.1		1	2.34	05/20/03	6020

METALS

Client/Project: WHITESTONE/WJ03-5920

Lab ID: 04174-008
Client ID: 5920-TP8
Date Received: 05/15/03 16:00
Matrix-Units: Soil-mg/Kg
% Moisture: 19.3
Batch #: 152

Compound	Result	Q	DF	MDL	Date Analyzed	Method
Antimony	ND		1	1.23	05/20/03	6020
Arsenic	2.87		1	1.23	05/20/03	6020
Beryllium	1.14		1	0.613	05/20/03	6020
Cadmium	ND		1	0.306	05/20/03	6020
Chromium	25.7		1	2.45	05/20/03	6020
Copper	20.3		1	2.45	05/20/03	6020
Lead	12.5		1	0.613	05/20/03	6020
Mercury	ND		1	0.016	05/19/03	7471 A
Nickel	28.5		1	1.23	05/20/03	6020
Selenium	ND		1	2.45	05/20/03	6020
Silver	ND		1	0.613	05/20/03	6020
Thallium	0.226		1	0.123	05/20/03	6020
Zinc	68.6		1	2.45	05/20/03	6020

Phone # (973) 361-4252
Fax # (973) 989-5288

INTEGRATED ANALYTICAL LABORATORIES
CHAIN OF CUSTODY

273 Franklin Rd
Randolph, NJ 07869

Company: Whitestone Associates	Fax to:
	Fax #:
Address: 786 Mountain Blvd	EMail to:
Suite 200	Report to:
Watchung NJ 07069	Address:
Telephone #: 908-668-7777	
Fax #: 908-754-5936	Invoice to:
Project Name: WJ03 5920	Address:
Project Manager: Chris Seib	
Reference ID#: PO#:	

Turnaround Time

Conditional / TPHC: 24 hr* 48 hr 72 hr 1 wk NA Other:

Verbal/Fax: 24 hr* 48 hr* 72 hr 1 wk* 2 wk Other:

Hard Copy: 72 hr* 1 wk* 2 wk* 3 wk Other:

*Prior to sample arrival, Lab notification is required.

Report Format

Results Only
Reduced
Regulatory
SRP Disk**: dbf or wk1

Special Requirements:

**Circle format required

ANALYTICAL PARAMETERS / PRESERVATIVES

Preservatives: 1. HCL 2. NaOH 3. HNO_3 4. H_2SO_4 5. MeOH 6. Other

COOLER TEMP. 4 °C

SAMPLE MATRIX: W - Waste, SL - Sludge, A - Aqueous, O - Oil, X - Other, S - Soil, GW - Groundwater, SOL - Solid

SAMPLE INFORMATION

Sample ID	Sample Depth (in Feet)	Sampling Date	Time	am	pm	Matrix	# of Containers	Lab ID	VO	SVO	PCB	Pesticides	PP Metals						Comments/Area of Concern
5920-TP1		5/14/03	11:00			S	2	1	X	X	X	X	X						
5920-TP2			11:30					2											
5920-TP3			12:00					3											
5920-TP4			12:30					4											
5920-TP5			1300					5											
5920-TP6			13:30					6											
5920-TP7			14:00					7											
5920-TP8			14:30					8											

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Concentrations Expected: LOW MED HIGH

Known Hazard: yes no
Describe:

CUSTODY LOG

Signature/Company	Date	Time	Signature/ Company
Relinquished by: [signature]	5-15-03	1440	Received by: [signature] Barber
Relinquished by: [signature] Barber	5-15-03	1600	Received by: [signature] (IAL)
Relinquished by:			Received by:
Relinquished by:			Received by:
Relinquished by:			Received by:

Comments:

Lab Case # 4174

PAGE: OF

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

REV 3/03

PROJECT INFORMATION

** RUSH **

E 0 3 - 0 4 1 7 4

Case No. E03-04174 **Project** WJ03-5920

Customer	Whitestone Associates Inc.	P.O. #	
Contact	Chris Seib	Received	5/15/2003 16:00
EMail	cseib@whitestoneassoc.com ☑ EMail EDDs	Verbal Due	5/22/2003
Phone	(908) 668-7777 Fax 1(908) 754-5936	Report Due	6/6/2003

Report To

786 Mountain Blvd.
Watchung, NJ 07069

Attn: Chris Seib

Bill To

786 Mountain Blvd.
Watchung, NJ 07069

Attn: Chris Seib

Report Format **Standard**

Additional Info ☐ State Form ☐ Field Sampling ☐ Conditional VOA

Lab ID	Client Sample ID	Depth Top / Bottom	Sampling Time	Matrix	Unit	# of Containers
04174-001	5920-TP1	n/a	5/14/2003@11:00	Soil	mg/Kg	2
04174-002	5920-TP2	n/a	5/14/2003@11:30	Soil	mg/Kg	2
04174-003	5920-TP3	n/a	5/14/2003@12:00	Soil	mg/Kg	2
04174-004	5920-TP4	n/a	5/14/2003@12:30	Soil	mg/Kg	2
04174-005	5920-TP5	n/a	5/14/2003@13:00	Soil	mg/Kg	2
04174-006	5920-TP6	n/a	5/14/2003@13:30	Soil	mg/Kg	2
04174-007	5920-TP7	n/a	5/14/2003@14:00	Soil	mg/Kg	2
04174-008	5920-TP8	n/a	5/14/2003@14:30	Soil	mg/Kg	2

Sample #	Tests	Status	QA Method
001	PP VOA	Run	8260B
"	BNA	P	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	PP Metals - High	Run	6020/7471A
002	PP VOA	Run	8260B
"	BNA	P	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	PP Metals - High	Run	6020/7471A
003	PP VOA	Run	8260B
"	BNA	P	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	PP Metals - High	Run	6020/7471A
004	PP VOA	Run	8260B
"	BNA	P	8270C
"	PCB	Run	8082
"	Pesticides	Run	8081A
"	PP Metals - High	Run	6020/7471A
005	PP VOA	Run	8260B
"	BNA	P	8270C

PROJECT INFORMATION

** RUSH **

E03-04174

Case No. E03-04174 **Project** WJ03-5920

Sample #	Tests	Status	QA Method
''	PCB	Run	8082
''	Pesticides	Run	8081A
''	PP Metals - High	Run	6020/7471A
006	PP VOA	Run	8260B
''	BNA	P	8270C
''	PCB	Run	8082
''	Pesticides	Run	8081A
''	PP Metals - High	Run	6020/7471A
007	PP VOA	Run	8260B
''	BNA	P	8270C
''	PCB	Run	8082
''	Pesticides	Run	8081A
''	PP Metals - High	Run	6020/7471A
008	PP VOA	Run	8260B
''	BNA	P	8270C
''	PCB	Run	8082
''	Pesticides	Run	8081A
''	PP Metals - High	Run	6020/7471A

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E03** 4174 CLIENT: ~~WSI~~ WAI

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

CHAIN OF CUSTODY: COMPLETE / INCOMPLETE Comments:

Sample Bottles Intact:	✓	Comments: ~~4174-7 Recd (2) VOA vials only~~
Sample Labels Intact/ Correct:	✓	
Sufficient Sample Volume:	✓	
Correct bottles/ preservative:	✓	
Samples received in holding time/ prep time:	✓	
Headspace/ bubbles in voa samples:	✗	
Samples to be subcontracted:	N/A	

Preserved Sample pH checked: N/A
(Excluding voa samples)

KEY
✓ = YES
✗ = NO
(✓) = N/A

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL DATE 5/15/07

CORRECTIVE ACTION REQUIRED: **YES** (SEE BELOW) **NO**

CLIENT NOTIFIED: YES Date/ Time: NO

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL DATE

REV 10/00

LABORATORY CUSTODY CHRONICLE

Case No. E03-04174

Client Whitestone Associates Inc.

Project WJ03-5920

			Preparation Date / Time	Analyst	Analysis Date / Time	Analyst
Department: Volatiles						
PP VOA	04174-001	Soil	n/a	n/a	5/20/03	Donnie
"	-002	Soil	n/a	n/a	5/20/03	Donnie
"	-003	Soil	n/a	n/a	5/20/03	Donnie
"	-004	Soil	n/a	n/a	5/20/03	Donnie
"	-005	Soil	n/a	n/a	5/20/03	Donnie
"	-006	Soil	n/a	n/a	5/20/03	Donnie
"	-007	Soil	n/a	n/a	5/20/03	Donnie
"	-008	Soil	n/a	n/a	5/20/03	Donnie
Department: Semivolatiles						
BNA	04174-001	Soil	5/16/03	Dan	5/19/03	JC
"	-002	Soil	5/16/03	Dan	5/19/03	JC
"	-003	Soil	5/16/03	Dan	5/19/03	JC
"	-004	Soil	5/16/03	Dan	5/19/03	JC
"	-005	Soil	5/16/03	Dan	5/19/03	JC
"	-006	Soil	5/16/03	Dan	5/19/03	JC
"	-007	Soil	5/16/03	Dan	5/19/03	JC
"	-008	Soil	5/16/03	Dan	5/19/03	JC
Department: GC						
PCB	04174-001	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-002	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-003	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-004	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-005	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-006	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-007	Soil	5/16/03	Eleanor	5/20/03	Margaret
"	-008	Soil	5/16/03	Eleanor	5/20/03	Margaret
Pesticides	04174-001	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-002	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-003	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-004	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-005	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-006	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-007	Soil	5/16/03	Eleanor	5/16/03	Yuru
"	-008	Soil	5/16/03	Eleanor	5/16/03	Yuru

LABORATORY CUSTODY CHRONICLE

Case No. E03-04174

Client Whitestone Associates Inc.

Project WJ03-5920

			Preparation Date / Time	Analyst	Analysis Date / Time	Analyst
Department: Metals						
PP Metals - High	04174-001	Soil	5/19/03	Lisa	5/20/03	Helge
"	-002	Soil	5/19/03	Lisa	5/20/03	Helge
"	-003	Soil	5/19/03	Lisa	5/20/03	Helge
"	-004	Soil	5/19/03	Lisa	5/20/03	Helge
"	-005	Soil	5/19/03	Lisa	5/20/03	Helge
"	-006	Soil	5/19/03	Lisa	5/20/03	Helge
"	-007	Soil	5/19/03	Lisa	5/20/03	Helge
"	-008	Soil	5/19/03	Lisa	5/20/03	Helge

Review and Approval: M Watrous 5/23/03

WHITESTONE ASSOCIATES, INC.

APPENDIX 2
Test Pit Logs

RECORD OF SUBSURFACE EXPLORATION

WHITESTONE ASSOCIATES, INC.

Test Pit No.: TP-1

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	11.0
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	11.0
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-1 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-2

(Page 1 of 1)

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	**11.0**
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	**11.0**
		Machine:	**Backhoe**	24 Hours:	**NA**

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
12.0		Test Pit TP-2 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-3

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-3 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

RECORD OF SUBSURFACE EXPLORATION

WHITESTONE ASSOCIATES, INC.

Test Pit No.: TP-4

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-4 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-5

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-5 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-6

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-6 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-7

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**7.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
			0.0		
5.0			0.0		5.0
		Test Pit TP-7 Terminated at a Depth of 7.0 Feet Below Ground Surface			
10.0					10.0
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-8

Project:	**Nicholas Avenue Rezoning Site**	WAI Project No.:	**WJ03-5920**
Location:	**Staten Island, NY**	Client:	**Natalie Lyn, L.L.C.**

Surface Elevation:	**Not Surveyed**	Date Started:	**05/14/03**	**Water Depths / Elevations (feet / feet-msl)**	
Termination Depth:	**12.0 feet bgs**	Date Completed:	**05/14/03**		
Drilling Method:	**Test Pit Excavation**	Logged By:	**J. Chiappetta**	While Drilling:	NE
Test Method:	**Visual Observation**	Contractor:	**Brett Landscaping**	At Completion:	NE
		Machine:	**Backhoe**	24 Hours:	NA

Depth (feet)	Strata	DESCRIPTION OF MATERIALS (Classification)	PID Readings (ppm)	Rec. (in.)	Depth (feet)
0.0		Black Organic Material			0.0
		Reddish Brown Silt and Clay	0.0		
			0.0		
5.0					5.0
			0.0		
			0.0		
10.0					10.0
		Test Pit TP-8 Terminated at a Depth of 12.0 Feet Below Ground Surface			
15.0					15.0
20.0					20.0
25.0					25.0

NOTES: NE = Not Encountered, NA = Not Applicable

WHITESTONE
ASSOCIATES, INC.

APPENDIX 3
Site Photographs

WJ03-5920

PHOTO #1

VIEW OF TEST PIT EXCAVATION PROFILE WITH GROUNDWATER.

PHOTO #2

VIEW OF TEST PIT EXCAVATION PROFILE WITHOUT GROUNDWATER.

WJ03-5920

PHOTO #3

VIEW OF METALLIC DEBRIS DETECTED DURING EM SURVEY.

PHOTO #4

VIEW OF GPR/EM SURVEY AREA. VIEW TO THE WEST.

WHITESTONE
ASSOCIATES, INC.

APPENDIX 4
Radiological Survey/ Sample Plan

Survey/Sampling Plan for the Nicholas Avenue Rezoning

Natalie Lyn, LLC

Report No. 2003016/G-1270

IEM

Integrated Environmental Management, Inc.

Survey/Sampling Plan for the Nicholas Avenue Rezoning

Submitted to:

Natalie Lyn, LLC
48 Liberty Avenue
New Rochelle, New York 10805
(914) 235-7865

by:

Integrated Environmental Management, Inc.
6711 Kingston Pike, Ste. 103
Knoxville, Tennessee 37919
(865) 588-9180

Report No. 2003016/G-1270
December 1, 2003

Authored by

R. Alan Duff, Vice President IEM

IEM

TABLE OF CONTENTS

INTRODUCTION

A property located on Nicholas Avenue in Staten Island, New York has been designated for residential redevelopment. The development is being performed by Natalie Lyn, LLC of New Rochelle, New York with the assistance of Whitestone Associates, Inc. of Watchung, New Jersey. The subject property is located at the intersection of Richmond Terrace and Nicholas Avenue at the base of the Bayonne Bridge and is designated as Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101. It is an irregularly shaped parcel occupying approximately 9.5 acres withing a mixed industrial, commercial, and residential area of Staten Island. Figure 1 shows the location of this property.

The property to be developed is located adjacent to a property that was previously used as a warehouse area from 1939 through 1942 for radioactive ores shipped to various Manhattan Engineer District (MED) sites for storage and processing. The radiological character of the property to be developed has never been fully completed and is required to be determined prior to the development of the property.

On July 10, 1980 at the request of the Department of Energy, a preliminary radiological survey of the adjacent property was performed by members of the Health and Safety Research Division of Oak Ridge National Laboratory (ORNL). Their report for that survey described the site as being divided into three parcels with the main focus of their survey conducted on what was called Parcel 1, which is north of the property to be developed.[1] The area to be developed, which was identified as Parcel 2 in the ORNL report, was only surveyed around its perimeter due to overgrowth of vegetation in the area. The results of the perimeter survey showed no radioactivity detectable above background levels.

The purpose of this effort is to determine if the area in question contains residual uranium above the applicable release criteria. This plan details the conduct of the survey and sampling effort; the intent of the survey is to follow the guidance provided by the U.S. Nuclear Regulatory Commission (USNRC) and the Multi Agency Radiation Survey and Site Investigation Manual (MARSSIM), based on the area of concern being a Class 3 MARSSIM area.[2] Included herein is a brief description of the contaminants of concern and the applicable release criteria, a summary of the survey and sampling methodology, and the reporting of the results obtained.

---

1 U.S. Department of Energy, "Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond, New York", Oak Ridge National Laboratory, October 1980.

2 U.S. Nuclear Regulatory Commission, "Multi-Agency Radiation Survey and Site Investigation Manual", NUREG-1575, Revision 1, August 2000.

SITE INFORMATION

Contaminants of Concern

The radioactive materials stored at the warehouse site were high-grade Belgian congo uranium ore. Previous studies of the radionuclide content of the materials typically found at the site are indicative of a natural distribution of the radioactive progeny of this series radionuclide. Therefore, the contaminants of concern for this final status survey include uranium-238 (^{238}U) plus radioactive progeny. It is assumed that the progeny are in equilibrium.

Release Criteria

No site specific release criteria exist for this site. The USNRC published the final rule on radiological criteria for license termination in 1997 where the USNRC required that facilities that previously used radioactive materials in licensed activities perform sufficient decontamination and radiation measurements to verify that exposures to the maximum exposed members of the public be less than 25 millirem per year.[3] Supplemental information was published by the USNRC in 1999 to provide screening values for surface soil that satisfy the license termination rule.[4] The USNRC completed a radiation dose assessment using the computer code, DandD. They used conservative assumptions for the physical and chemical features at the site to establish a surface soil concentration that would correspond to an annual dose of less than 25 millirem per year.[5] The screening values were derived based on the selection of the 90th percentile of the output radiation dose distribution for each radioisotope. For a radionuclide with its decay progeny present in equilibrium, like natural uranium, the screening value is reported for the parent isotope but takes into account the contribution of the radiation dose from the complete chain of progeny in equilibrium with the parent radionuclide.

The screening values were reported for specific isotopes, including natural uranium, present in the surface soil (e.g. 15-30 centimeters from the surface). The screening value was reported to correspond to the degree of soil contamination deemed in compliance with the unrestricted use dose limit specified in the USNRC regulations, that is, less than 25 millirem per year.[6] The screening values corresponded to the derived concentration guideline levels (DCGL) described in the MARSSIM guidance. The screening value for natural uranium and progeny above background is less than 0.5 picocuries per gram (pCi/gram) of soil. The screening value for ^{238}U is less than

---

[3] US Nuclear Regulatory Commission, Radiological Criteria for License Termination, Federal Register, Volume 62, page 39058, July 21, 1997.

[4] US Nuclear Regulatory Commission, Supplemental Information on the Implementation of the Final Rule on the Radiological Criteria for License Termination, Federal Register, Volume 64, page 68395, December 7, 1999.

[5] The assumptions were conservative such that the soil concentrations would likely result in a radiation exposure significantly less than 25 millirem per year.

[6] U.S. Nuclear Regulatory Commission, Radiological Criteria for Unrestricted Use, Title 10, Code of Federal Regulations, Part 20.1402.

14 pCi/gram and for ^{226}Ra less than 0.7 pCi/gram. IEM proposes to use these screening values as a basis to review the radiation survey measurements and results of the radiochemistry analysis for discrete soil samples.

A review of the detection limits of the radiation survey instruments indicates that the presence of natural uranium at a concentration equal to the screening value cannot be detected. Consequently, the walk-over survey by itself is not sufficient to verify that the site satisfies the release criteria. The walk over survey does however identify areas where contamination may exist that exceeds the release criteria; the detection of elevated radiation levels may require additional measurements and sampling outside of the scope of this plan. For the walk-over survey, an action level has been established for the radiation detectors; a reading of greater than two (2) times the background levels will be noted by the surveyor. The detector reading will be taken at a distance of two (2) cm from the soil surface. To ensure that the characterization effort is comprehensive, however, any location that exhibits an exposure rate that can be distinguished from background will be subject to further investigation.

SURVEY METHODOLOGY

Project Organization

The field work for this effort will performed under the direction of Mr. Alan Duff, R.R.P.T., an employee of Integrated Environmental Management, Inc. (IEM). During performance of the survey/sampling, Mr. Duff will responsible for directing the work of other support staff, performing survey activities, interfacing with the property developers, and assisting in the compilation of the characterization report.

Technical oversight for the project will the responsibility of Ms. Carol Berger, C.H.P. an employee of IEM. Ms. Berger will assist in the review of the quality of data collected and the final report. Mr Bill Thomas, CHP, CIH, also an IEM employee, reviewed and approved all project plans

The field team will be comprised of technicians who are qualified as health physics technicians pursuant to IEM Radiation Safety Procedure No. RSP-006, "Training and Qualification of Radiation Protection Personnel". Mr. Duff will serve a dual role as both health physics technician and field manager.

Appendix A contains a summary of the qualifications of key project personnel.

Radiation Safety Procedures

Health and safety provisions will be established to permit the survey and sampling activities to be conducted without adverse impacts on worker health and safety. These provisions will comply with all applicable portions of IEM's Radiation Safety Procedures. The topics applicable include work area entry, control of work, training, emergency procedures, ALARA, and non-radiological hazards.

Detection Limits

To ensure that walkover surveys are sufficiently sensitive, the minimum detectible concentration (MDC) was calculated in accordance with Section 6.7.2.1 of MARSSIM (Scanning for Beta and Gamma Emitters - Scan MDCs for Land Areas).[7]

The minimum detectible count rate (MDCR) for a surveyor using a two-inch by two-inch sodium iodide detector was calculated. For a surveyor scanning at a speed of 1.0 foot/second with a background of 5,000 cpm, the MDCR was determined to be 690 counts per minute, assuming an index of sensitivity of 1.38 (consistent with a false positive proportion of 0.6 and a true positive proportion of 0.95) and a surveyor efficiency (p) of 0.5:

$$MDCR_{surveyor} = \frac{1.38 * \sqrt{5{,}000\ cpm * \frac{m}{60s} * 0.417\ s} * \frac{60s}{m}}{\sqrt{0.5}}$$

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7 Ibid, NUREG 1575.

Converting the MDCR to an exposure rate using the detection sensitivity in Table 1, the surveyor is thus capable of achieving a scan MDC of 0.8 μR/hour above background.

Survey Protocol

Instrumentation used to acquire measurement data shall be appropriate for the type of radiation expected, of sufficient sensitivity and accuracy to detect the radioactive materials found at the site, and of sufficient quantity to support the activities. Each instrument will be labeled with a unique identifier (e.g., serial number of detector and rate meter) to enable traceability between instrument and survey records. Table 1 contains a listing of each instrument type, its anticipated use during performance of the survey, and its nominal background response, detection efficiency and detection sensitivity.

The walk-over survey will be conducted by walking over 100% of the surface to be monitored and moving the detector in a serpentine pattern with the detector in close proximity to the ground (i.e., less than two centimeters from the soil surface). When the health physics technician detects elevated activity in a particular location, he will pause and obtain a count rate in that area. Any area exhibiting residual radioactivity that is distinguishable from background will be identified with a flag, and be subject to further investigation.

The walkover survey and soil sample collection will be performed pursuant to the guidance contained in MARSSIM. The effort will include a walkover survey of all land area as well as collection of an appropriate number of soil samples as described in the following subsections.

Exposure rate measurements will be conducted at a height of one (1) meter above the ground surface. Measurements will be made at grid points and/or those locations of elevated radiation identified during scanning.

Preparation for Surveys

As necessary, equipment and materials which restrict surface access will be relocated. Heavy ground cover will be removed and areas of standing water drained unless drainage is either not feasible or illegal (e.g., wetland area, facility controlled by water discharge permit), or unless the water is part of the area to be surveyed.

A grid system will be established as part of this survey effort. This reference system will be recorded on survey maps and provided in the final report. The grid system shall be established to facilitate systematic reproducible selections of measuring/sampling locations, provide a mechanism for referencing a measurement/sample back at a specific location so that the same survey point can be relocated, and assist in the detection of discrete contamination areas (i.e., "hot spots").

The grid shall consist of a system of intersecting lines, referenced to a fixed site location or bench mark. The grid lines will be arranged in a perpendicular pattern, dividing the survey location into squares or blocks of equal area. Grids will be marked by wooden or metal stakes that are driven into the surface at grid line intersections. Where surface coverings prevent installation of stakes, the grid intersection may be marked by painting. For sites where the grid duration is expected to be short, flags on metal stakes, beanbags or other appropriate markers may be used. For the purposes of this effort, a grid system with grid dimensions of 50 meters will be used. Where possible, grid locations will be left in place to facilitate resampling and/or confirmatory surveys.

Data Conversion
Ambient gamma exposure rates from the walk-over survey will be converted to units of net exposure rate by the following methodology:

$$R_{net} = (R_{gross} - BKG_{ave}) \times CF$$

where R_{net} = the net measured exposure rate (cpm), R_{gross} = the gross measured exposure rate (μR/hr or cpm), BKG_{ave} = the mean background exposure rate applicable to the survey (μR/hr or cpm), and CF = an optional conversion factor to convert count rate instrument readings into units of "μR/hr" if instrument read-outs were in "counts per minute".

Sampling Objectives
To ensure that an adequate number of samples are collected, the procedure specified in Section 5.5.2.2 of MARSSIM was utilized. The derived concentration guideline level (DCGL) was selected to be 0.5 pCi/g for natural uranium, consistent with the release criteria discussed in Section 2 of this Plan. The lower bound of the gray region (LBGR) was selected to be the larger of the mean of ten background measurements shown in Table 3 for Uranium-238. Using these values, a relative shift of 3.25 was calculated.

From Table 5 of MARSSIM, a relative shift of three (3) and a conservative selection of confidence levels ($\alpha = 0.05$, $\beta = 0.05$) results in the need for ten (10) samples in order to make an adequate comparison of data. Ten data points will also be collected for the background data set for the site. Thus a minimum of 10 samples will be required from the survey area.

Sampling Protocol
The selection of the sampling locations will be designed to ensure even coverage over the entire area of interest at the site. The location strategy utilizes a stratified systematic unaligned sampling protocol.[8] This protocol will be implemented as follows:

- As with the walkover surveys, a reference system will be established using a grid system laid over the area. A total of fifteen reference squares will established in this manner.

- Each sample location will be selected at random within 10 reference squares.

- One kilogram (approximate) of soil will be collected to a depth of six inches (15 cm).

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[8] Toohey R.E., Brown W., and Stebbings J.H., "Random Geographic Sampling with UTM Coordinates," Argonne National Laboratory, 1987.

A total of 10 soil samples will obtained in this manner from the site. These will be forwarded to a commercial analytical laboratory for radiological analysis by the methodology of gamma spectroscopy.[9] The radionuclide concentrations will be reported in units of "picocuries per gram". The locations of the soil samples from the survey area and the background soil sample locations will be shown on maps and provided in the final report.

[9] Pursuant to MARSSIM, only 10 samples from the affected area and 10 samples from background locations are required in order to compare survey results to release criteria.

Project Documentation

Documentation/Project Report

All records pertinent to this procedure shall be maintained pursuant to IEM RSP-004, "Radiation Protection Records".[10] Land area survey reports shall contain, at a minimum:

- A description of the purpose of the survey;
- A listing of the surveyor(s) and their qualifications;
- A description of the survey methodology;
- A complete and unambiguous record of the radiological status of the land area;
- Sufficient information and data to enable an independent re-creation and evaluation of survey activities and results at some future date;
- Copies of all Radiological Survey Forms, instrument check sheets, and calculation forms as required in RSP-008, "Instrumentation" and RSP-018, "Surveillance".
- The survey report should be self-contained, with minimal information incorporated by reference.
- The survey report outline should be equivalent to that shown below.

SURVEY REPORT OUTLINE

1. Purpose/Scope
2. Facility History
3. Facility Description
4. Requirements and Criteria
5. Survey Methodology
    a. Responsibilities and Qualifications
    b. Survey Design
    c. Equipment
    d. Measurement Description
        i. Ambient Gamma Surveys

[10] Integrated Environmental Management, Inc., "Radiation Protection Records", IEM RSP-004, February 21, 2000.

ii. Contact Gamma Surveys
iii. Sampling
iv. Sample Analysis

e. Laboratory Measurement Description
f. Records

6. Survey Results
   a. Ambient Gamma Surveys
   b. Contact Gamma Surveys
   c. Material Sampling and Analysis
7. Quality Assurance
8. Comparison with Requirements and Criteria

1 TABLES

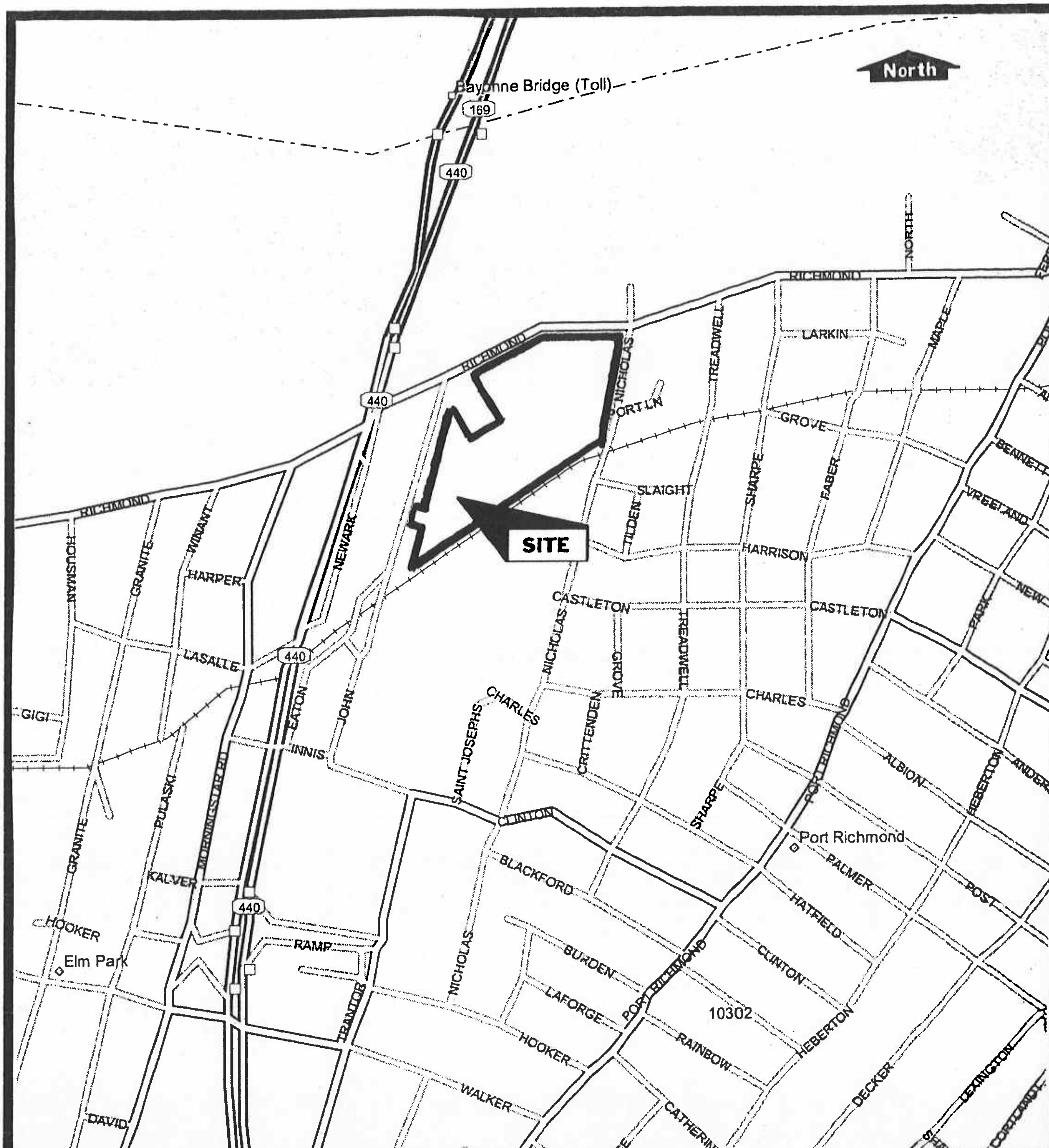
Table 1 - Survey Instrumentation

INSTRUMENT MODEL	DETECTOR	USE	NOMINAL BACKGROUND	DETECTION EFFICIENCY	DETECTION SENSITIVITY
Bicron Microrem	Internal (Sodium Iodide)	Walkover gamma survey	3-8 urRem/hr	N/A	N/A
Ludlum Model 2224 scaler/ratemeter	Ludlum Model 43-89	Contamination survey	200-300 cpm beta 2-3 cpm alpha	10-16%	N/A
Ludlum Model 2241 scaler/ratemeter	Ludlum Model 44-10 (2X2 Sodium Iodide)	Walkover gamma survey	5000-8000 cpm	N/A	900 cpm/uR/hr

1

FIGURES

1 Figure 1 - Site Location Map



TITLE:	**Site Location Map**					
CLIENT:	NATALIE LYN, L.L.C.					
PROJECT: Nicholas Avenue Rezoning Block 1116, Lots 40, 75, &105 Block 1121, Lot 101 Staten Island, Richmond County, New York	PROJECT #:	BY: DeLorme	PROJ. MGR.	DATE: 3/25/03	SCALE: NTS	FIGURE: 1

1

APPENDICES

1

Appendix A - Personnel Qualifications

R. Alan Duff- Site Manager and Health Physics Technician

Professional Qualifications

Mr. Duff has over 24 years of experience in nuclear and hazardous materials project management, design support, surveillance, operational health physics, training, and decommissioning activities. He has prepared numerous plans, procedures, and license documents for U. S. Department of Energy facilities, U. S. Department of Defense facilities, U. S. Nuclear Regulatory Commission licensees, and commercial client facilities that are regulated by agreement states. Mr. Duff is well versed in the area of civilian and government radioactive and mixed waste transport and disposal requirements. He is registered by the National Registry of Radiation Protection Technologists (NRRPT).

Education

Confined Space Entry Training, 1998
CNSI Advanced Radioactive Material Transportation and Disposal Class, 1989 and 1993
IT Corporation Project Management Course (40 hours), 1992.
40-Hour OSHA HAZWOPER (29 CFR 1910.120) Training, 1987.
Eight-hour Supervisor Training, 1990
Eight-hour OSHA Annual Refresher (29 CFR 1910.120), 2001.
Canberra Multichannel Analyzer Operations Class, 1988.
Operational Water Chemistry and Radiological Controls, U.S. Navy, 1982
Engineering Laboratory Technician School, U.S. Navy, 1980.
Nuclear Power Training Unit (prototype), U.S. Navy, 1980.
Naval Nuclear Power School, U.S. Navy, 1978.

Registrations/Certifications

Registered Radiation Protection Technologist (RRPT), National Registry of Radiation Protection Technologists

Experience and Background

2002 - Present
Vice President of Nuclear Services, Integrated Environmental Management, Inc., Knoxville, Tennessee - As the director of IEM's Nuclear Services Division, which operates as a compliment to our consulting capability by providing all of the support services and on-site project management for major client initiatives, Mr. Duff is responsible for turn-key decontamination and decomissioning of nuclear facilities - including the preparation of all planning documentation, characterization surveys and sampling - facilty and equipment decontamination, final status survey performance,waste packaging/transport/disposal coordination, routine facility surveillance services, emergency response, leak testing of sealed sources, instrument rental, employee monitoring services for internal and/or external exposures, training, and a host of other applied health physics operations.) Mr. Duff also

serves as the Radiation Safety Officer (RSO) for IEM operations under Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

1995 - 2002 Program/Project Manager, Integrated Environmental Management, Inc., Knoxville, Tennessee - Provides high-quality project management and remediation services to commercial and government clients. As a member of the client's response team, works with clients to: Develop scopes-of-work and bid packages for specialty subcontractors handling highly focused assignments; identify those subcontractors who will provide the greatest value to the client; manage teams of specialty subcontractors to ensure that the client's goals and expectations (technical, regulatory, and financial) are met from the beginning until project completion; provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process; provide site remediation/decommissioning services for radioactive and hazardous materials; advise and train clients on waste transportation and disposal issues; and develop project specific plans and procedures to conduct on site activities.

1994 - 1995 Senior Environmental Specialist, AWK Consulting Engineers, Inc., Pittsburgh, Pennsylvania While assigned to the Oak Ridge, Tennessee office, was responsible for performing technical and administrative duties required to satisfy customer needs on site characterization and pre-remedial design support projects and for all aspects of D&D projects. Responsible for preparing project plans, project work plans, task specific Health & Safety Plans, and budgets/schedules for these projects. Also responsible for identifying and implementing decommissioning and decontamination methods for these projects.

1987 - 1994 Project Manager, Health Physics Supervisor, Nuclear/Mixed Waste Engineering Services, IT Corporation, Knoxville, Tennessee. Provided project management and health physics support services for nuclear and mixed waste projects throughout the United States.

1978 - 1987 Engineering Laboratory Technician (ELT), Leading Petty Officer, Radiological Controls Shift Supervisor, United States Navy Supervised a division of 40 personnel, provided support for nuclear powered submarines, and performed over 250 error-free shipments of radioactive materials. Served as Leading ELT and Engine Room Supervisor on the USS Grayling, SSN 646.

Professional Society Memberships

Health Physics Society (Plenary Member)

American Nuclear Society

Conference of Radiation Control Program Directors (Advisor to the Radioactive Waste Management Committee E-5 and to the D&D Committee E-24)

Awards

Navy Achievement Medal for conducting the first Trident Class submarine ion exchange resin discharge and solidification.

IT Corporation Project Management Associate

Example Project Descriptions

- Project Manager for health physics field activities during characterization of several oil production sites contaminated with Naturally-Occurring Radioactive Materials (NORM) for multiple clients in support of litigation defense.

- Project Manager for the radiological characterization (MARSSIM surveys) of a facility that manufactured thorium fluoride for use as an optical surfacing product. Conducted radiation and contamination surveys and obtained analytical samples of building materials. Returned to the facility to conduct surveys in support of property ownership transfer. Supervised radiological remediation of facility including floor and wall contamination, underground tank removal, drain line removal, roof decontamination, and equipment demolition including ventilation systems, fume hoods, and scrubber systems. Responsible for coordination for treatment and disposal of radioactive and mixed wastes generated during the project and conducted final status surveys at the facility upon completion of work.

- Project Manager for the decommissioning of an oven contaminated with mercury and thorium (mixed waste). Arranged for subcontractors to conduct decontamination and disposal activities, prepared project plans, supervised all field activities, and conducted all radiological surveys during the decommissioning. Responsible for coordination for treatment and disposal of mixed and hazardous wastes generated during the project. Later conducted removal of a central vacuum system that was contaminated with mercury and thorium at the same facility.

- Conducted audit of a client's radiation protection program including tour of the site, interviews with employees to verify radiological and respirator training, review of shipping, waste disposal, sealed source, training, and survey records. Also conducted leak tests of client's radioactive sealed sources.

- Project Manager for escalated decommissioning a State-licensed site that manufactured, tested, and distributed gauging devices in anticipation of the sale of the company and the possibility of its moving its operations to another location. Responsible for preparation of work plans, negotiations with regulatory agencies, decontamination of indoor and outdoor areas, performance and documentation of a final status survey, shipment of waste, and project-specific health and safety.

- Project Manager and health physicist for the remediation of a building foundation drainage system and the processing of over 100,000 gallons of water contaminated with cobalt-60 up to levels of one (1) μCi per liter for a commercial client. Responsible for coordination of a water processing subcontractor, an excavation subcontractor, and off-site analytical laboratory activities. Also interfaced with on-site U. S. Nuclear Regulatory Commission, U. S. Environmental Protection Agency, and a variety of state and local agencies.

- Technical writer for the development of a logic flow diagram for identifying radioactive and mixed wastes at the U. S. Department of Energy's Portsmouth (Ohio) Gaseous Diffusion Plant.

- Technical writer for the Fernald Remedial Investigation/Feasibility Study (RI/FS). Provided technical guidance to engineering staff, generated reports on radioactive and mixed waste packaging, transport, and disposal.

- Site Manager for the characterization survey of an EPA Superfund site three story warehouse that had been used in the past as a lantern mantle manufacturing facility and had been contaminated with thorium. Assisted in the development of project plans and final reports, supervised a crew of Health Physics technicians performing characterization surveys, interfaced with the facility owner and EPA personnel while on site.

- Project Manager for the decommissioning and decontamination of three facilities at Sandia National Laboratory contaminated with radioactive and mixed waste. Responsible for the coordination of resources for the development of project plans, development of Project Work Plan, and maintaining project budget and schedule commitments.

- Health Physics Supervisor for a transuranic (TRU) waste repackaging project. Supervised the characterization, repackaging and shipment of 130 containers of high-activity americium-241 and plutonium-238 hot cell waste. The waste was packaged to meet the WIPP waste acceptance criteria and was transported (highway route controlled quantity) to the Idaho National Engineering Laboratory (INEL) for storage.

- Project Manager for the excavation and disposal of radium waste cells for the Corps of Engineers at Bergstrom Air Force Base in Austin, TX. Developed all project plans, supervised field efforts, and coordinated waste transport and disposal activities.

- Project Manager for the decontamination and final release survey of a 70,000 ft^2 facility that manufactured cesium-137 level gauges. Decontamination efforts involved overhead areas, work area concrete floors, and removal of soil under the floor slab. Facility was released from their license following a verification survey by the state radiological licensing agency. Developed state approved decommissioning plan and final status survey report.

- Project Manager for the packaging and disposal of 55,000 Curies of cobalt-60 teletherapy sources. Sources were loaded into cask liners in the facility hot cell and loaded into Type B casks for shipment for disposal. Also supported the packaging and disposal of several low level waste drums and HEPA filters that required the use of shielded Type A and B shipping containers.

- Project Manager for the decommissioning and decontamination of IT's Oak Ridge Mixed Waste Analytical Laboratory. Developed the decommissioning and decontamination plan that was approved by the State of Tennessee. Also supervised the field crew during final surveys of facility.

- Project Manager for the decommissioning and decontamination of a magnesium-thorium waterfall grinding booth at Tinker Air Force Base in Oklahoma. Responsible for the development of project plans, schedule and budget management, and disposal of radioactive and mixed wastes.

- Project Manager for the decommissioning of a commercial facility which had previously processed ores containing uranium and thorium. Generated the decommissioning plan submitted to and approved by the U. S. Nuclear Regulatory Commission, and was responsible for schedule, budget, and on site activities.

- Project Manager for the removal of a 22 MeV particle accelerator from a major university medical center. Developed State-approved decommissioning and decontamination plans, arranged for waste disposal and transfer of the accelerator to a university in Beijing, China, and was responsible for budget, schedule and all on site activities.

- Project Manager for the decommissioning and decontamination of two radioactive source manufacturing laboratories at Chevron Research and Technology. The laboratories housed a neutron generator and were contaminated with tritium, carbon-14, cesium-134, and cobalt-60. Negotiated plan approvals with the State agency, and was responsible for budget, schedule, and all on site activities including waste transport and disposal.

- Project Manager for the routine quarterly surveillance and special radiological projects at a metallurgical facility licensed by the NRC. Conducted radiation, contamination, and airborne radioactivity surveys as well as personnel bioassay and dosimetry program and environmental monitoring program each quarter. Provided health physics coverage for non-routine activities such as baghouse and stack testing, heats of specialty materials, final release surveys of an excavated road area, storage yard, and a warehouse formerly used for storage of radioactive materials, and recovery of radioactively contaminated equipment improperly released from site. Responsible for the generation of quarterly surveillance reports.

- Project Manager for the development of a conceptual decommissioning plan for a maintenance facility located in South Carolina. The plan was generated to provide support for the facility's decommissioning funding plan.

- Health and Safety Manager/Project Manager at the U. S. Department of Energy's Fernald site thorium silo and bins decommissioning and decontamination project. Developed the project-specific health and safety plan, and interfaced with the client on health physics and health/safety issues. This project received safety and quality awards from the client.

- Health Physics Supervisor responsible for the sampling of underground storage tanks with radioactive and mixed wastes at Brookhaven National Laboratory.

- Health and Safety Manager for the U. S. Department of Energy's Fernald Plant K-65 Silo sampling project. Developed the health/safety and sampling plans. The silos contained up to 0.5 μCi of Radium-226 per gram and were the largest single source of radon gas in the U.S.

- D&D Technical Manager for the decommissioning of the U. S. Department of Energy's LEHR facility at the University of California at Davis. Developed project decommissioning and decontamination plans and field procedures.

- Health Physics Supervisor for the excavation of waste materials which included mixtures of uranium and explosives.

- Proposal Coordinator for over 50 business proposals for nuclear decommissioning and decontamination projects including job walk downs, cost estimation, scheduling, and technical content of proposals.

- While in the US Navy, acted as radioactive materials shipper for the Trident Submarine Refit Facility. Performed over 250 error-free shipments of radioactive materials including Type B quantity radiography source shipments and radioactive waste shipments to the naval shipyard.

Carol D. Berger- Project Oversight

Professional Qualifications

Ms. Berger has over 25 years experience in nuclear and radiological activities with emphasis in strategic planning, radiation dosimetry, instrumentation, and applied health physics. As a co-founder of **IEM**, Inc., Ms. Berger is actively involved in performance of radiological dose assessments, regulatory interactions, site decommissioning, program evaluations, program development, pathway analyses, risk assessments, dosimetry evaluations, assessment and control of sources of non-ionizing radiations, waste management programs, environmental monitoring programs, and detection and quantification of low-levels of radioactivity.

Education

M.S., Health Physics, San Diego State University, San Diego, California; 1979
M.S., Radiation Physics, San Diego State University, San Diego, California; 1977
B.S., Physics/Chemistry, San Diego State University, San Diego, California; 1972

Certifications

Certified Health Physicist (Comprehensive), American Board of Health Physics, 1983 (Re-certified: 1987, 1991, 1995, 1999)

Experience and Background

1994 - Present

President, Integrated Environmental Management, Inc., Gaithersburg, Maryland.
Provides high-quality strategic environmental management services to commercial and government clients. As a member of the client's response team, works with clients to promote an understanding of what is required to achieve and/or maintain compliance in the eyes of all pertinent regulatory agencies, individually or jointly; develop an overall strategy for achieving compliance and reduce liabilities in a technically-sound, legally-defensible, and fiscally-conservative business manner; recommend specific solutions that are compatible with the client's operating philosophy; and provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process.

1989 - 1994

Senior Technical Consultant, IT Corporation/Nuclear Sciences, Washington, D.C.
Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Instrumentation; Emergency Response and Preparedness; Site Decommissioning; Radioactive Waste Management; Radiation Risk Assessment; Training; Licensing and Regulatory Negotiations; and Non-ionizing Radiation

1986 - 1989 *Senior Health Physicist, IT Radiological Sciences Laboratory, Knoxville, Tennessee* - Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Applied Health Physics; Instrumentation; Radioactive Waste Management; Training; and Non-ionizing Radiation.

1983 - 1986 *Radiation Dosimetry Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for internal and external dose assessment and programs for ORNL employees, visitors and contractors. Experience included Internal and External Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Site Characterizations; Personnel Management; and Training.

1978 - 1983 *Internal Dose Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee*. Responsible for development of the ORNL Whole Body Counter Facility for detection and quantification of the actinides in-vivo. Experience included: Internal Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Special Studies; Personnel Management; and Training.

1978 - 1986 *Adjunct Faculty, Oak Ridge Associated Universities, Oak Ridge, Tennessee.* Professional training courses and general classes in the following health physics and radiation protection areas: Internal Dose Assessment; In-vivo Monitoring and Bioassay Methodologies; Instrumentation, and Applied Health Physics.

1979 - 1980 *Health Physics and Dosimetry Task Group Member, President's Commission on the Accident at Three Mile Island, Washington, D.C.* Tasks included: Internal Dose Assessment from Whole Body Counting Results; Estimates of Source Term from in-plant Monitoring Systems; Atmospheric Dispersion Modeling and Population Dose Assessment; and Development of Health Physics Sequence of Events.

Professional Society Membership

American Academy of Health Physics (President, 1995; Executive Committee, 1995-1997; Chair of Strategic Planning Committee, 1997; Professional Standards and Ethics Committee, 2001-2003)
Health Physics Society (Plenary Member; Publications Committee, 1999-2001; Chair of the Affilliates Committee, 2002-2004)
Baltimore-Washington Chapter, Health Physics Society (Treasurer, 1993-1994, Board of Directors, 1998-2000)
American Bar Association (Natural Resources, Energy, and Environmental Law)
Environmental Law Institute

Publications

Over 30 professional publications; over 40 oral presentations; over 100 technical reports; over 25 training courses taught.

Other Appointments/Awards

East Tennessee Chapter - Health Physics Society (President, 1986; President-Elect, 1985; Secretary, 1981-1982)

San Diego Chapter - Health Physics Society (Charter member)

American Board of Health Physics, Comprehensive Panel of Examiners, (1989-1993)

ASTM Task Group E-10.04.27 "Transuranic Wound Analysis"; (1986 to 1000)

ANSI Standards Committee (ANSI N13.41) on Multiple Badging; 1986 to 1996 (Chairman, PlanCo-59 Working Group, 1990 to 1996)

ANSI Standards Committee (ANSI N13.39) on Internal Dosimetry Programs (1994 to 2001)

Sigma Xi - Scientific Research Society

National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 46-10, "Assessment of Occupational Exposures from Internal Emitters" (1989-present)

Purdue University, Health Sciences Advisory Council for the School of Health Sciences (1995-1998)

DOE/IAEA Whole Body Counter Intercalibration Committee (1980-1986)

Consultant to Knoxville Academy of Medicine, Mass Casualty Simulation (1984-1985)

Consultant to the National Cancer Institute to Evaluate Devices and Techniques to Determine Previous Radiation Exposure under Public Law 98-54 (Award for participation presented by Oak Ridge Associated Universities in April, 1988.)

Steering Committee Member, U. S. Department of Energy Task Group on the Education of Future Health Physicists (1989-1991)

Technical reviewer and referee for Health Physics, Nuclear Technology, and Radiation Protection Management

IT Corporation Distinguished Technical Associate - June, 1992.

Billy R. Thomas- Plan Review/Approval

Professional Qualifications

Mr. Thomas has over 25 years of senior-level experience in radiological and industrial hygiene activities with emphasis on systems to minimize personnel exposures to radioactive and hazardous materials, compliance with federal and state regulations, site and facility audits. Mr. Thomas has developed and implemented comprehensive programs for radiation and chemical protection programs. Mr. Thomas is actively involved in all aspects of health and safety including regulatory compliance, site decommissioning, program evaluation, applied health physics, occupational safety, training and project management.

Education

M.S., Environmental Health, University of Oklahoma, 1981
B.S., Health Physics, Oklahoma State University, 1976

Certifications

Certified Health Physicist (Comprehensive Practice), American Board of Health Physics, 1988. Recertified: 1992, 1996 and 2000.

Certified Industrial Hygienist (Comprehensive Practice), American Board of Industrial Hygiene, 1984. Recertified : 1990 and 1996.

OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Training. Initial training 1987 and updated each year.

Lead Abatement Training for Supervisors, University of Cincinnati. 1996.

Asbestos Abatement Supervisor Course, Asbestos Consulting and Training Systems, 1997.

Experience and Background

2002-Present *Vice President, Consulting Division, Integrated Environmental Management, Inc. Findlay, Ohio.* As the director of the company's consulting division, Mr. Thomas is responsible for selecting and coordinating the services of senior-level consultants in the areas of radiation safety and industrial hygiene. In addition, he maintains and ensures all members of the division maintain a track record of technical excellence, cost and schedule control, and innovation in solving environmental and health/safety problems for both government and commercial clients.

1999-2002 *Senior Health Physicist, Integrated Environmental Management, Inc. Findlay, Ohio.* Provides high-quality radiation protection services to commercial and government clients. As a member of the client's response team, works with clients to promote an understanding of what is required to achieve and/or maintain compliance in the eyes of all pertinent regulatory agencies, individually or jointly; develop and overall strategy for achieving compliance and reduce liabilities in a technically-sound, legally defensible, and fiscally-conservative business manner; recommend specific solutions that are compatible with the client's operating philosophy; and provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process.

Mr. Thomas served as a consultant to several commercial clients, including: a phosphate fertilizer manufacturer demolished a fertilizer processing facility where naturally occurring radioactive materials were precipitated during the manufacturing process. Mr. Thomas conducted field studies to characterize the radioisotopes present and the extent of materials and soil that were impacted. Mr. Thomas developed a dose assessment for disposal in conventional landfill facilities and demonstrated that the potential exposures were acceptable The assessment was reviewed by the state of Missouri and accepted. The materials, approximately 1500 cubic yards of impacted materials, were authorized for disposal by the State Solid Waste Department.

A vanadium ore processing company requested authorization to close their slag piles and terminate their source material license. Mr. Thomas developed the decommissioning plan for the slag piles and evaluated the potential exposures to radioactive materials via a variety of pathways for exposure.

A commercial client, licensed by the Nuclear Regulatory Commission, required an evaluation of their internal dosimetry program. Mr. Thomas prepared a procedure to measure both internal and external exposure. The procedure satisfied the recommendations established by the NCRP and ANSI as well as requirements established by the USNRC.

A commercial client required a plan to survey, remediate and ultimately release the building surfaces for unrestricted use. Mr. Thomas established the release criteria using and developed a procedure to complete the radiation survey. The procedure was consistent with the requirements established by the USNRC and NUREG 1575, MARSSIM.

1993-1999 *Director of Health and Safety, The IT Group, Findlay, Ohio.* Originally joined OHM Remediation Services in 1993. The IT Group purchased OHM in 1998. Duties including conducting site and facility health and safety audits, determination of personal protective equipment and respiratory protection equipment, supervising the development and implementation of site specific health and safety plans, and providing industrial hygiene training and services. He had direct accountability for health and safety compliance, including regulatory compliance with federal, state and local agencies. He implemented a comprehensive health and safety program for demolition and remediation activities by the Midwest region, which accumulated 2.3 million man-hours from March, 1994 to July, 1997 without a single lost time injury.

Safety and Health Manager, Kansas City PRAC II, Kansas City District. Duties on this HTRW contract included the development of safety and health plans as well as procedures to be implemented at each of the KC PRAC projects. Developed SSHP for specific KC PRAC projects including, Ottawa, Illinois, Galena, Kansas, Mead Nebraska, and Fort Riley, Kansas. Mr. Thomas provided specific support on the KC PRAC projects including:

Project CIH, Project CHP, Ottawa Radiation Sites, Ottawa, Illinois September 1994 – August 1997. Developed the site specific health and safety plan and radiation protection plan to excavate soil contained radioactive radium generated by a luminous processing company. This project involved the excavation of radioactive contamination from nearby residences and selected sites in the city. Worked with State of Illinois and the EPA to implement an effective contamination control program, including air sampling and personnel monitoring for radium. Provided radiation worker training for the work crew and directed the on-site health physics and industrial hygiene program for the initial phases of the project. Conducted site inspections and project audits on a periodic basis.

Project CIH, Nebraska Ordnance Plant, Mead Nebraska, October 1996 - November 1997. Developed site specific safety and health plan for the excavation and treating soil contaminated with nitroaromatics, TNT, RDX and tetryl. Concentrations of these contaminates exceeded 10% (wt/wt) in some locations. Treatment was completed using an on-site rotary kiln incinerator. The SHERP included procedures to safely handle shock sensitive materials. No incidents occurred during the excavation and treatment phases of the project.

Project CIH, Fort Riley Army Base, Fort Riley, Kansas, April, 1996 – December, 1996. Developed site specific safety and health plan to excavate and treat soil contaminated with fuel oil. A thermal desorber was erected at the Army base and used to treat the soil. The soil was excavated near base housing associated with an abandoned fuel oil used to supply heating oil to the homes.

Safety and Health Manager, USACE, Omaha District Rapid Response II. Duties on this HTRW contract included the development of program procedures and policies to work on multiple USACE projects. Developed SSHP for specific Rapid projects, including work at Joliet, Illinois, Ames, Iowa and Des Moines, Iowa. Mr. Thomas conducted site inspections and provided technical support for the implementation of the site safety and health program for RR/IR task orders. Mr. Thomas provided support on each Rapid project, including:

Project CIH; Joliet Army Ammunition Plant (JAAP), Joliet, Illinois, June 1996 – October 1996. Managed the development of the site-specific health and safety plan for the excavation and disposal of approximately 3,000 cubic yards of polychlorinated biphenyl (PCB)-contaminated soil. Modified safety plan to include unexploded ordnance (UXO) potential and unknown site conditions.

Project CIH, Project CHP; Ames Laboratory Chemical Disposal Site, Ames, Iowa. July 1994 – November 1994. Developed the site specific health and safety plan for the excavation and disposal of approximately 1,000 cubic yards of radioactive uranium wastes and contaminated soils. Developed the radiation protection program to be implemented by project employees to reduce exposures to ionizing radiation to as low as reasonable achievable. Contaminated materials were packaged and shipped for disposal in Clive, Utah.

Safety and Health Manager, USACE, TERC Number 1. Duties on this contract included the development of SSHP for work at Ellsworth AFB in Rapid City SD and KI Sawyer AFB in Michigan. Mr. Thomas provided support for some of the TERC projects including:

Project CIH, Ellsworth AFB, OU2 and OU7, Rapid City South Dakota. November 1996 – September 1997. Developed the site specific health and safety plan to excavate radioactive materials from disposal trenches at OU2 and OU 7. Developed radiation protection plan as well as the release criteria to be implemented to document that the site was free of contamination. Worked with the USAF Radiation Safety Committee to establish protocols to identify plutonium in soil and verify that debris was handled correctly.

Project CIH, Ellsworth AFB, Rapid City South Dakota March 1996 – September 1997. Developed the site specific health and safety plan for work at OU 1 and OU4 to remediate the JP4 plume using a soil vapor extraction system. Participated in the design and construction of the SVE system in Building 6908. Conducted three site audits during the course of the project including the start up of the equipment in Building 6908 and the installation of the collection lines and piping.

Project CIH, Tarracorp Industries, Granite City, Illinois April, 1993 – May, 1997. USACE Omaha PRAC II. Developed the site specific safety and health plan for this project to excavate and treat lead-contaminated soil from smelter emissions. Treatment was completed by stabilizing the soil using a pugmill. This process delists the soils to a "special waste" classification, resulting in key cost savings in disposal. To date, over 300 residential sites have been remediated, and over 100,000 tons of soil have been processed. Excavation, transportation, and disposal of wastes containing battery chips have also taken place. Developed the elements of the air monitoring program. The air monitoring program was sufficient to evaluate the personnel exposures to airborne lead dust, as well as the fugitive emission from the exclusion zone. Performed periodic site visits to review results of the air sampling program and confirm that exposures were acceptable.

Health and Safety Manager, Department of Energy, Weldon Spring Site Remedial Action Program (WSSRAP), April 1993 – July, 1995. OHM was contracted to excavate contaminated construction debris from the WSSRAP quarry. Materials in the quarry were accumulated from a munitions manufacturing facility at Weldon Spring, as well as the demolition of buildings from the Mallinckrodt site used during the Manhattan project. Personnel exposures to uranium and thorium were documented, as well as nitroaromatics and asbestos. Mr. Thomas completed site inspections to evaluate the effectiveness of the health and safety plan and review the results of employee exposure monitoring.

Health and Safety Manager during the demolition of selected manufacturing buildings at the WSSRAP. The demolition projects involved the controlled demolition of nine buildings. Employees encountered radioactive uranium as well as asbestos containing materials and cadmium based paints. Mr. Thomas evaluated the construction safety program as well as industrial hygiene program during the demolition tasks.

Health and Safety Manager during the remediation of facilities at the Piketon Gaseous Diffusion Plant in Portsmouth, Ohio. OHM was contracted to remediate a chromic acid tank, including the removal of the lead liner in Building X700. OHM also demolished the incinerator in Building X705A. Mr. Thomas prepared the health and safety plan to document the methods necessary to reduce employee exposure to hazardous materials, both chemical and radiation exposures. OHM employees encountered Ahot@ environments in Building X700 where chromic acid and uranium were present.

Health and Safety Manager during the remediation of mixed waste that was buried in several burial pits at the Ames Laboratory in Ames, Iowa. Mr. Thomas participated in the planning and execution of the project, including presentations at the public hearings that were provided by the DOE to the public. The waste in the burial pits contained a variety of hazardous materials, including radioactive uranium, thorium, and asbestos as well as volatile organics including methyl ethyl ketone and trichloroethylene. Mr. Thomas prepared the health and safety plan for the project which described the industrial hygiene practice, the construction safety requirements, and the elements of the health physics program. Mr. Thomas evaluated the controls that were implemented and verified that employee exposures were reduced to as low as reasonably achievable.

1990 - 1993 *Health and Safety Manager, IT Corporation, St. Louis, Missouri.*

Provided direction day-to-day for laboratory operations in the areas of health physics, industrial hygiene, hazardous waste management, and laboratory safety. Served as the Radiation Safety Officer for the USNRC Broad Scope license for the use of by-product and source material at the laboratory .

Collateral assignment as Department Manager of a radiochemistry laboratory to analyze samples from a variety of commercial and government facilities, including facilities operated by the DOE. Services were provided to a variety of DOE facilities including

Fernald, Idaho National Energy Laboratory, Lawrence Livermore National Laboratory, Nevada Test Site, Oak Ridge National Laboratory, Paducah Gaseous Diffusion Plant, Rocky Flats, WSSRAP, and the Y12 Production Facility. Supervised the analysis of various environmental media to be analyzed for specific radioactive isotopes including uranium, plutonium, thorium, and radium. Other analyses were performed for fission products and gross methods including alpha and beta analysis. Served as the RSO for the broad-scope license issued to the laboratory by the NRC.

Performed waste management assessment for four different DOE facilities. Principal investigator for hazardous and mixed waste policies, procedures and practices. Recommended program changes and upgrades. Worked at the following facilities, including: Portsmouth Gaseous Diffusion Plant, Piketon, Ohio; K25 Gaseous Diffusion Plant, Oak Ridge, Tennessee; Paducah Gaseous Diffusion Plant, Paducah, Kentucky; and Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Served as project manager for the Industrial Hygiene department at Los Alamos National Laboratory (HSE-5). Responsibilities included reviewing and making recommendations for several of the programs being implemented by HSE-5for the National Laboratory. These programs included asbestos controls, carcinogen control, sampling strategies and hazardous waste site characterization. Mr. Thomas also developed a sampling strategy to evaluate personnel exposures to hazardous materials. Mr. Thomas evaluated the asbestos management program at Los Alamos Laboratory. He reviewed the work performed by the IH department, including project oversight and air monitoring. He inspected work sites established by contractors including Pan American Services to assess compliance with LANL procedures and OSHA regulations.

Served as project manager to prepare mixed waste and radiative waste management plans and programs for waste generated during the remedial investigation at the Nevada Test Site. The programs required coordination between the Remedial Investigation contractor, the DOE Operations Area office and the facility receiving the waste for disposal.

1988 - 1990 *Director of Corporate Health and Safety, Burlington Environmental,* Columbia, Illinois. Responsible for designing and implementing health and safety programs to limit exposures to hazardous chemicals and radioactive material during sampling and remediation activities. Developed procedures and conducted training classes for field service personnel to correctly use personal protective equipment and perform air monitoring to evaluate personnel exposures.

Mr. Thomas also served on several audit teams to review the health physics programs at DOE site, including Rocky Flats, Los Alamos and the Nevada Test Site. The criteria for the audits were based on the DOE Technical Safety Appraisal objectives. Mr.

Thomas worked with the program personnel to correct deficiencies and measure the effectiveness of the programs.

Member of Technical Advisory Group for Martin-Marietta Energy Systems. The Advisory Group provided oversight of the Federal Facility Agreement regarding the operation of the Low Level Radioactive Waste Tank Systems implemented for Oak Ridge National Laboratory. Made recommendations to implement standard industry practices for the purposes of reducing personnel exposures to hazardous and radioactive materials. Reviewed the elements of the industrial hygiene relating to the engineering controls and administrative controls implemented to reduce exposures to hazardous materials. Evaluated the effectiveness of the health physics programs for the purposes of reducing personnel exposures to radiation to as low as reasonably achievable.

Mr. Thomas reviewed the industrial hygiene and health physics programs being implemented at each facility. Used the Technical Safety Appraisal guidelines developed by DOE to critique the effectiveness of the programs begin implemented. Worked with each respective program managers, responsible for the H&S program, to develop an action plan to upgrade the program and track the progress of the changes.

Member of the Management Advisory Team for Martin Marietta Energy Systems Gaseous Diffusion Plants. The Advisory team reviewed the effectiveness of the Health and safety programs being implemented including the health physics and industrial hygiene programs. The Advisory Group was responsible for reviewing each of the health and safety programs and making recommendations for areas of improvement.

1983 - 1988 *Senior Health Physicist, IT Corporation, Oak Ridge, Tennessee.* Provided health physics and industrial hygiene consulting to government and commercial clients. Served as the project manager for several remedial decontamination projects involving hazardous and radioactive materials. His experience included:

Project CIH, Fernald Feed Materials Production Center, US Department of Energy Cincinnati, Ohio. May, 1987 – June, 1988. Performed health-and-safety review of engineering improvements at DOE uranium metals production facility. Improvements included new ventilation systems, radioactive materials handling systems, and decontamination of the facility. Recommended health physics and industrial hygiene controls to minimize worker's exposure, and updated air monitoring programs for both workplace exposures and effluent sampling.

Task Manager, Fernald Feed Materials Production Center, US Department of Energy Cincinnati, Ohio. August, 1985 – June, 1986. Mr. Thomas developed and implemented the collection and analysis of radiation measurement to assess the concentration of uranium in the soil surrounding the manufacturing facility. This work was performed as part of the site wide Remedial Investigation/ Feasibility study.

Health Physics Supervisor, Joliet, Illinois, Commonwealth Edison, September, 1984 – December, 1985. Provided support for the chemical cleaning of the primary cooling system at Dresden Nuclear Power Station, Unit 1. Mr. Thomas was responsible for assessment of engineering controls to reduce personnel exposures to radiation. The techniques were successful to remove more than 750 curies of cobalt-60 and other activation corrosion products. Personnel exposures were less than 7 man-Rems for the total project.

1976-1983 — *Senior Research Industrial Hygienist, Dow Chemical, Midland, Michigan and Tulsa, Oklahoma.* Provided health and safety support for employees in manufacturing facilities, including plastic and other intermediate chemical production. Assigned as lead health physicist for decontamination projects at several nuclear power plants. From 1977 to 1980, Mr. Thomas served as the radiation safety officer for a NRC broad scope license to authorize the use of mixed fission products and special nuclear material used in manufacturing and research applications at Dow Chemical. The program included a TRIGA reactor, two small accelerators, sealed radioactive sources and tracers for a variety of research programs. Mr. Thomas directed all elements of the health physics program including training, standard operating procedures, exposure assessment and documentation. Mr. Thomas later (1981 - 1983) served as the radiation safety officer for the field services division where sealed sources and mixed fission products were used in treatment systems. This assignment had responsibilities in 22 states for approximately 3,000 employees. Mr. Thomas directed the use of radioactive materials licenses in 16 different states and a NRC license for the use of these radioactive materials.

Professional Society Membership

Health Physics Society (Plenary member)

American Academy of Health Physics

American Industrial Hygiene Association

American Academy of Industrial Hygiene

Bibliography

Mr. Thomas has authored/coauthored a number of papers and technical reports. In addition, he has developed/presented training courses in the field of health physics, industrial hygiene and safety.

Other Appointments/Awards

Ohio Radiation Advisory Council. Appointed by Governor Taft in 2002.

Ohio Utility Radiological Safety Board, Citizen's Advisory Council. Elected Chair in 2001 and 2002.

Director of the State of Ohio Low Level Radioactive Waste Facility Development Authority Board. Appointment by the Speaker of the Ohio State Legislature in 1997.

Chairman's Award for Safety Excellence, OHM Remediation Services, 1996, 1997

Senior Technical Associate, International Technology Corporation, 1991.

Member of the People to People Ambassador Delegation visiting the People's Republic of China, 1987. Invited speaker to review health physics practices.

This report was prepared under the direction of
Natalie Lyn, LLC

by

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SUPPLEMENTAL SITE INVESTIGATION/ CORRECTIVE ACTION REPORT AND SUPPLEMENTAL CORRECTIVE ACTION WORKPLAN

NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R

Submitted to:

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment - Site Assessment Unit
59-17 Junction Boulevard
Flushing, New York 11373-5108

Prepared for:

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Prepared by:

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Whitestone Project #WJ03-5920
August 2005

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August 17, 2005

via Federal Express

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment
Site Assessment Unit
59-17 Junction Boulevard
Flushing, New York 11373-5108

Attention: Mr. John Wuthenow
Director of Site Assessment Unit

**Regarding: SUPPLEMENTAL SITE INVESTIGATION/CORRECTIVE ACTION REPORT AND SUPPLEMENTAL CORRECTIVE ACTION WORKPLAN
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920**

Dear Mr. Wuthenow:

Whitestone Associates, Inc. is pleased to submit for your review the attached *Supplemental Site Investigation/Corrective Action Report and Supplemental Corrective Action Workplan* for the above-referenced site.

Please contact us at (908) 668-7777 with any questions or comments regarding the enclosed report.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

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Enclosure
copy: Daniel L. Cole, P.G., NYCDEP-OEPA
Getz Obstfeld, Natalie Lyn, L.L.C.
Matthew Lonuzzi, Natalie Lyn, L.L.C.
Louis A. Perfetto, Esq., Stadtmauer Bailkin, L.L.P.

SUPPLEMENTAL SITE INVESTIGATION/ CORRECTIVE ACTION REPORT AND SUPPLEMENTAL CORRECTIVE ACTION WORKPLAN
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

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SUPPLEMENTAL SITE INVESTIGATION/ CORRECTIVE ACTION REPORT AND SUPPLEMENTAL CORRECTIVE ACTION WORKPLAN
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

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SECTION 1.0
Executive Summary

Whitestone Associates, Inc. (Whitestone) was retained by Natalie Lyn, L.L.C. to conduct supplemental site investigation and corrective action activities at the proposed residential redevelopment site encompassing Block 1116, Lots 40, 75 and 105 and Block 1121, Lot 101 in Staten Island, Richmond County, New York (hereinafter referred to as the "site" or the "subject property").

Whitestone understands that the proposed redevelopment will include the construction of approximately 100 multi-story, single-family houses and associated roadways and utilities. The New York City Department of Environmental Protection (NYCDEP) previously required site investigations including supplemental media sampling and analyses, and completion of ground penetrating radar (GPR), electromagnetic induction (EM) and radiological surveys in order to confirm that underground storage tanks (USTs), contaminant conditions and/or hazardous constituents requiring further remedial or corrective action did exist prior to allowing the proposed residential redevelopment effort to commence.

Whitestone's supplemental site investigation and corrective action efforts and proposed workplans detailed herein are based on January 30, 2004 and March 31, 2004 correspondences from NYCDEP, the February 4, 2003 *Restrictive Declaration* for the subject property, Whitestone's December 8, 2003 *Site Investigation Report and Supplemental Site Investigation/Corrective Action Workplan*, and Whitestone's March 16, 2004 *Supplement to the Site Investigation/Corrective Action Workplan.*

Phase I and limited Phase II Environmental Site Assessments (ESAs) were completed at the site in July 1998 by T&M Associates, Inc. (T&M). The results of these investigatory efforts previously were submitted to NYCDEP and are summarized as follows:

- T&M did not document areas of environmental concern (AOCs) or recognized environmental conditions (RECs).

- The subsurface investigation completed by T&M in 1998 identified nickel and zinc concentrations in select soil samples exceeding New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives and Eastern USA Background Levels. These exceedances are representative of naturally occurring site background levels.

Supplemental site investigations implemented by Whitestone in May 2003 identified the following conditions which previously were reported to NYCDEP:

- The GPR and EM surveys detected three approximately 36 square foot magnetic anomalies at the northern portion of the site. Test pit investigations of the magnetic anomalies identified scrap metal debris suspected to have been buried during previous site grading activities.

- Select semi-volatile organic (SVO) constituent concentrations exceeding applicable NYSDEC Recommended Soil Cleanup Objectives were detected in soil sample 5920-TP3.

- Select metals concentrations exceeding NYSDEC Recommended Soil Cleanup Objectives were encountered in each of the soil samples submitted for analyses. However, further evaluation of the analytical data indicates that several of these metals concentrations are consistent with and generally conform to typical Eastern USA Background Levels with the exception of nickel and zinc. The detected nickel and zinc concentrations, however, are in the same order of magnitude as the Eastern USA Background Levels and appear representative of naturally occurring site background levels.

Radiological surveys were conducted at the site by Whitestone and Integrated Environmental Management, Inc. (IEM) as requested by NYCDEP and the New York City Department of Health and Mental Hygiene (DOHMH). As outlined in a May 31, 2005 DOHMH correspondence, the surveys conducted in December 2003 and February 2005 did not document radiological contamination in excess of unrestricted use screening values established in 64 Federal Register No. 68395.

To address the environmental conditions discussed above, Whitestone conducted the following corrective actions:

- The localized soil "hot-spot" documented to contain select SVO concentrations marginally exceeding NYSDEC Recommended Soil Cleanup Objectives in test pit TP-3 was excavated and disposed off site as a regulated, nonhazardous waste at a fully permitted facility. Post-excavation soil sampling and analyses did not document SVO contaminant concentrations exceeding NYSDEC Recommended Soil Cleanup Objectives.

Recommendations and a proposed workplan for supplemental corrective actions to address the metals concentrations detected at the site are discussed in detail in the sections that follow.

SECTION 2.0
Introduction

2.1 SITE LOCATION/DESCRIPTION

2.1.1 Location

The subject property is situated at the southwestern corner of the intersection of Richmond Terrace and Nicholas Avenue in Staten Island, Richmond County, New York. The site, designated as Block 1116, Lots 40, 75 and 105 and Block 1121, Lot 101, is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial and residential area of Staten Island, New York. The site location and existing conditions are depicted on Figures 1 and 2.

2.1.2 Existing Structures/Improvements & Current Site Use

The property currently is vacant and vegetated. No on-site activities or operations were observed during Whitestone's site investigation and corrective action activities.

2.1.3 Utilities

The subject site currently is undeveloped, however, subsurface municipal water and sewer and natural gas lines are located beneath Richmond Terrace and Nicholas Avenue to the north and east of the site, respectively. In addition, overhead electric lines are located to the north of the subject property along Richmond Terrace.

2.1.4 Past Uses of the Property

The site reportedly housed a former linseed oil bulk storage and distribution facility at the northern portion of the site and a bulk sand and gravel storage and distribution facility at the southern portion of the site until the mid-twentieth century. These former site operations reportedly date back to at least the 1930's. In addition, operations associated with the shipment of uranium ore to former Manhattan Engineer District (MED) sites reportedly may have been conducted on or adjacent to the western portion of the subject property between 1939 and 1942.

2.1.5 Uses of Adjoining Properties

The subject property is bordered by light industrial properties beyond Richmond Terrace to the north; residential properties beyond Nicholas Avenue the east; residential properties and John Street to the west; and Staten Island Rapid Transit lines to the south.

2.2 PHYSICAL SETTING

2.2.1 Topography/Geology

The subject site is generally flat-lying with an average elevation of 19 feet above mean sea level (msl). The property is located in a region of the Piedmont Physiographic Province of New Jersey known as the Newark Basin. The Newark Basin contains rocks of the Newark Super Group which is a stratigraphic series of Triassic to Jurassic age sedimentary rocks containing intrusive sills and dikes as wells as extrusive volcanics. The Super Group rocks generally dip slightly to the north and form a northward thickening wedge that may have a composite thickness of greater than 33,000 feet. The primary formation beneath the site is believed to be the Stockton Formation which includes pale reddish brown conglomerates and mudstone.

The site also contains glacial deposits associated with a Wisconsinan Glacier which reached its most southerly advance approximately 20,000 years ago. The glacial deposits generally overlay the weathered rock.

Materials encountered during Whitestone's site investigations and corrective actions included organic surficial material to depths of 0.5 feet below ground surface (fbgs). Native material encountered immediately below the surficial material in each of the test pits and the "hot-spot" excavation consisted of reddish-brown silt and clay.

2.2.2 Surface Water/Wetlands

During the April 2, 2003 site visit, an area of ponded water was observed at the southeastern portion of the subject site. This area of intermittent ponded water does not constitute a surface water body or wetlands area and is the result of stormwater accumulation and previous site regrading activities. In addition, the subject site is not identified on the NYSDEC *New York State Article 24 Freshwater Wetland Map* dated September 1, 1987 or the United States Fish and Wildlife Service *National Wetlands Inventory* dated 1999. In addition, NYSDEC does not regulate wetland areas less than 12 acres. Accordingly, the approximately 9.5 acre subject site does not contain regulated wetland areas.

2.2.3 Groundwater

Groundwater was encountered in test pits TP-1 and TP-2 conducted at the northern portions of the site during the May 2003 site investigation at a depth of 11 fbgs. Groundwater was not encountered in test pits advanced to 12 fbgs at remaining portions of the property and groundwater was not encountered in the "hot-spot" excavation.

2.3 PREVIOUS SITE INVESTIGATIONS AND REMEDIAL ACTIVITIES

Phase I and limited Phase II ESAs were completed at the site in July 1998 by T&M. The results of the investigatory activities are summarized as follows:

- T&M did not document on-site AOCs or RECs.

- The subsurface investigation completed by T&M in 1998 identified nickel and zinc concentrations in select soil samples exceeding NYSDEC Recommended Soil Cleanup Objectives and Eastern USA Background Levels. These exceedances are representative of naturally occurring site background levels.

Supplemental site investigations implemented by Whitestone in May 2003 identified the following conditions:

- The GPR and EM surveys detected three approximately 36 square foot magnetic anomalies at the northern portion of the site. Test pit investigations of the magnetic anomalies identified scrap metal debris suspected to have been buried during previous site grading activities.

- Select SVO concentrations exceeding applicable NYSDEC Recommended Soil Cleanup Objectives were detected in soil sample 5920-TP3.

- Metals concentrations exceeding NYSDEC Recommended Soil Cleanup Objectives were encountered in each of the soil samples submitted for analyses. However, further evaluation of the analytical data indicates that several of these metals concentrations are consistent with and generally conform to typical Eastern USA Background Levels with the exception of nickel and zinc. The detected nickel and zinc concentrations, however, are in the same order of magnitude as the Eastern USA Background Levels and appear representative of naturally occurring site background levels.

2.4 CURRENT SCOPE OF WORK

To address the environmental conditions and regulatory concerns at the site, Whitestone conducted the following site investigations and corrective actions:

- The localized soil "hot-spot" documented to contain SVO concentrations marginally exceeding NYSDEC Recommended Soil Cleanup Objectives in test pit TP-3 was excavated and disposed off site as a regulated, nonhazardous waste at a fully permitted facility. Post-excavation soil sampling and analyses for SVO did not document contaminant concentrations exceeding NYSDEC Recommended Soil Cleanup Objectives.

- Radiological surveys were conducted at the site by Whitestone and IEM as requested by NYCDEP and the DOHMH. As outlined in the May 31, 2005 DOHMH correspondence, the surveys conducted in December 2003 and February 2005 did not document radiological contamination in excess of unrestricted use screening values established in 64 Federal Register No. 68395.

SECTION 3.0
Supplemental Site Investigation

3.1 RADIOLOGICAL EVALUATION

Based on the suspected shipment of uranium ore on or in the vicinity of the subject property, NYCDEP requested a radiological survey be conducted at the subject site. Upon NYCDEP's and DOHMH's review of Whitestone's April 16, 2003 *Site Investigation Workplan* (SIW) for conducting a radiological evaluation, DOHMH requested that NYSDEC conduct a site visit and radiological survey at the subject property. NYSDEC's partial radiological survey conducted at the site on July 29, 2003 in conjunction with DOHMH did not document radiation readings exceeding naturally occurring levels. Subsequent to these site activities, DOHMH issued an October 17, 2003 letter regarding the radiological evaluations required by the Department at the subject site. As outlined in DOHMH's letter, a *Final Status Survey* was required of the entire site in accordance with the United States Environmental Protection Agency (USEPA) *Multi-Agency Radiation Survey and Site Investigation Manual* (MARSSIM).

In an effort to satisfy the requirements of DOHMH, Natalie Lyn, L.L.C. retained IEM of Knoxville, Tennessee to conduct the radiological survey and associated reporting necessary to obtain an unrestricted use determination for the subject site. Whitestone and IEM conducted radiological surveys at the subject property in December 2003 and February 2005. The results of these surveys previously were reported to NYSDEC, NYCDEP and DOHMH. As outlined in the May 31, 2005 DOHMH correspondence, the surveys did not document radiological contamination in excess of unrestricted use screening values established in 64 Federal Register No. 68395. Accordingly, no further investigation or remediation is required in association with previously suspected radiological contamination at the subject property. The May 13, 2005 DOHMH correspondence is attached as Appendix 3.

SECTION 4.0
Corrective Actions

4.1 CONTAMINATED SOIL "HOT-SPOT" REMEDIATION

The tasks that were implemented to address the environmental impacts in test pit TP-3 are as follows:

1. The soil "hot-spot" documented in the vicinity of test pit TP-3 was excavated utilizing a rubber-tired backhoe provided by the site owner.

2. Excavation sidewalls and soils removed from the excavations were screened with a photoionization detector (PID) for evidence of contamination. Petroleum odors, soil staining, and elevated PID readings were not encountered in the excavation.

3. Post-excavation soil samples 5920-HS1 through 5920-HS5 were collected from the base and sidewalls of the excavation on March 3, 2005 to confirm that soil cleanup objectives were achieved.

4. Contaminated soil removed from the excavation was directly loaded into disposal vehicles, and subsequently transported for off-site recycling/treatment at Clean Earth of Carteret, Inc. in Carteret, New Jersey. Manifests are provided in Appendix 2.

These corrective actions were implemented in accordance with Whitestone's June 17, 2004 *Site-Specific Health and Safety Plan for Corrective Actions and Management of On-Site Soils* (HASP).

4.2 REMOVAL OF IMPACTED SOIL

The removal of the contaminated soil resulted in an excavation measuring approximately 12 feet long by 12 feet wide by seven feet deep. The impacted soils were directly loaded into disposal vehicles for off-site recycling/treatment.

4.3 TRANSPORTATION AND OFF-SITE DISPOSAL/RECYCLING

As documented in Appendix 2, the following wastes were transported for off-site disposal/recycling.

- 22.02 tons of nonhazardous, contaminated soil were transported to Clean Earth of Carteret, Inc. in Carteret, New Jersey for off-site recycling/treatment.

4.4 SITE RESTORATION

Following soil excavation and sample collection activities, the excavation was backfilled with clean fill material.

4.5 SAMPLING METHODOLOGY

Soil sampling activities were completed in the vicinity of test pit TP-3 on March 3, 2005. One basal (5920-HS5) and four sidewall (5920-HS1 through 5920-HS4) soil samples were collected and transported under proper chain-of-custody to Integrated Analytical Laboratories, L.L.C. (IAL) for laboratory analyses including SVO by Method 8270. Soil sample locations are shown on Figure 2.

Groundwater was not encountered in the excavation or within two feet of the base of the excavation.

4.6 SAMPLING AND ANALYSIS SUMMARY

Laboratory analytical data did not document SVO constituents at concentrations exceeding laboratory method detection limits (MDLs) or NYSDEC Recommended Soil Cleanup Objectives in post-excavation soil samples 5920-HS1 through 5920-HS5. Accordingly, no further corrective actions are proposed to address the contaminant conditions previously detected in test pit TP-3.

The sampling and laboratory results are summarized in Tables 1 and 2 with the formal analytical data provided in Appendix 1.

SECTION 5.0
Corrective Action Workplan

The following corrective actions are proposed to address the metals concentrations detected at the subject property.

5.1 PROPOSED SITE CAPPING

As previously stated in Whitestone's March 16, 2005 *Supplement to the Site Investigation/Corrective Action Workplan*, NYCDEP's requirement for two feet of clean material in landscaped is excessive. The remaining concentrations of select metals exceeding NYSDEC Recommended Soil Cleanup Objectives are within Eastern USA Background Levels and/or are representative of natural background conditions as the concentrations detected by Whitestone and T&M generally are within the same order of magnitude. The metals also have been detected at concentrations which do not represent an impact to human health in the event of direct exposure. Accordingly, Whitestone requests approval from NYCDEP that landscaped and grass-covered areas be capped with six inches of topsoil and/or vegetative cover and not two feet of clean soil. The remainder of the site will be capped with building slabs and roadways.

WHITESTONE ASSOCIATES, INC.

TABLES
Soil and Groundwater Sampling and Analysis Data Summaries

ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

TABLE 1
SOIL AND GROUNDWATER SAMPLING SUMMARY
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

Sample Number	Sample Interval (fbgs)	Total Depth (fbgs)	Depth to GW (fbgs)	Maximum PID Reading (ppm)
5920-S1	4.0 to 5.0	7.0	NE	0.0
5920-HS2	4.0 to 5.0	7.0	NE	0.0
5920-HS3	4.0 to 5.0	7.0	NE	0.0
5920-HS4	4.0 to 5.0	7.0	NE	0.0
5920-HS5	7.0 to 8.0	7.0	NE	0.0

NOTES:

PID Photoionization Detector
GW Groundwater
fbgs feet below ground surface
ppm parts per million
NE Not Encountered

TABLE 2
SOIL SAMPLING AND ANALYSIS DATA SUMMARY
Nicholas Avenue Rezoning
Staten Island, Richmond County, New York

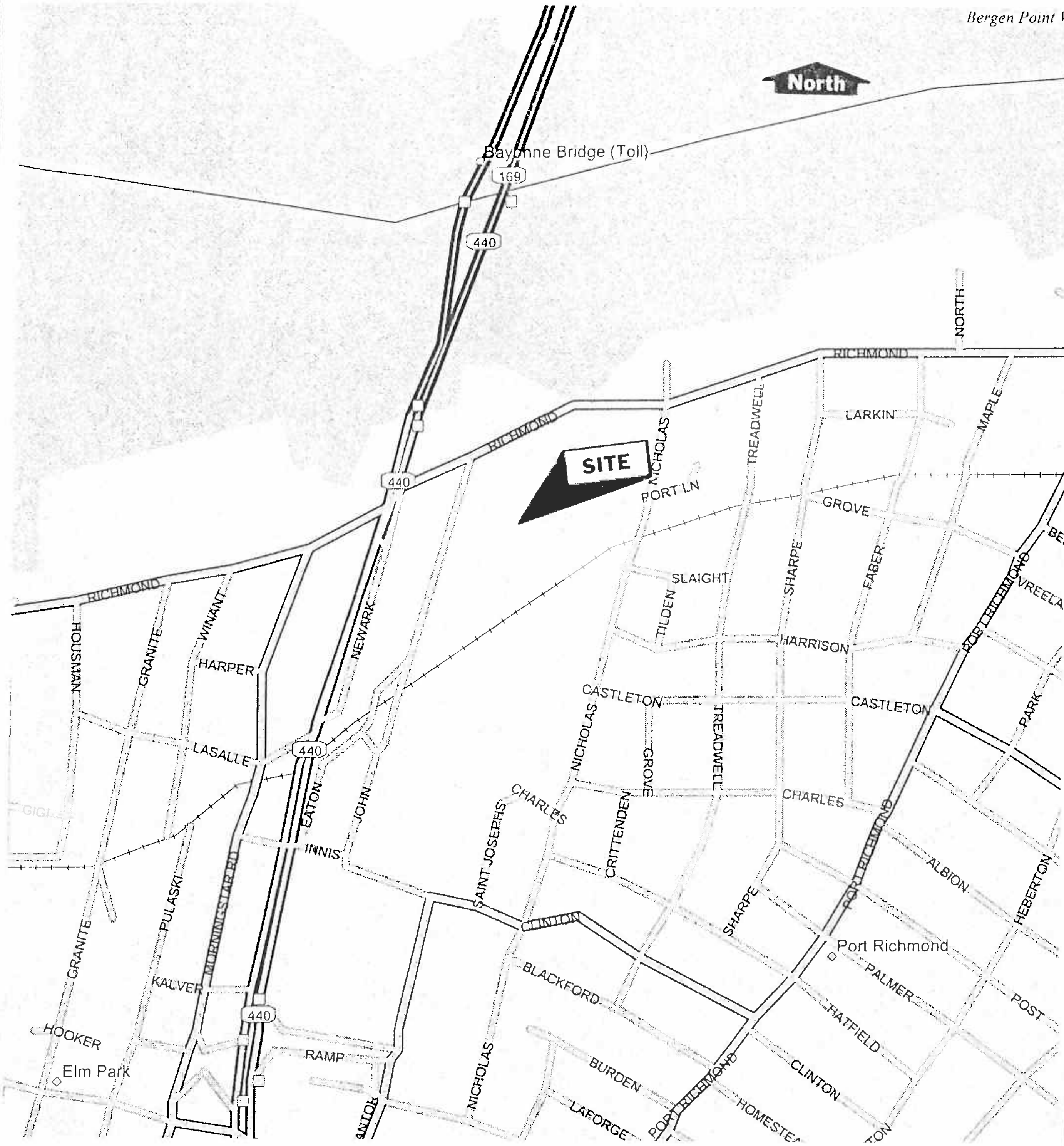
Sample Number	Analytical Parameters	SVO Constituents Detected Above MDLs (ppm)
5920-HS1	SVO	ND
5920-HS2	SVO	ND
5920-HS3	SVO	ND
5920-HS4	SVO	ND
5920-HS5	SVO	ND

NOTES:

SVO	Semi-Volatile Organics
ppm	parts per million
MDLs	Laboratory Method Detection Limits
ND	Not Detected exceeding MDLs

WHITESTONE
ASSOCIATES, INC.

FIGURE 1
Site Location Map



TITLE:	Site Location Map					
CLIENT:	NATALIE LYN, L.L.C.					
PROJECT:	SUPPLEMENTAL SI/CAR & SUPPLEMENTAL CAW Nicholas Avenue Rezoning Borough of Staten Island, Richmond County, New York					
PROJECT #:	BY:	PROJ. MGR.	DATE:	SCALE:	FIGURE:	
WJ03-5920	DeLorme	CS	08/12/05	1"=750ft.	1	

WHITESTONE ASSOCIATES, INC.
786 MOUNTAIN BOULEVARD, SUITE 200
WATCHUNG, NEW JERSEY 07069
908.668.7777 ✦ 908.754.5936 FAX

WHITESTONE ASSOCIATES, INC.

FIGURE 2
Sample Location Plan

WHITESTONE ASSOCIATES, INC.

FIGURE 3
Proposed Redevelopment Plan

WHITESTONE
ASSOCIATES, INC.

APPENDIX 1
Laboratory Analytical Data

SUMMARY REPORT
Client: Whitestone Associates Inc.
Project: WJ03-5920
Lab Case No.: E05-02047

Lab ID:	02047-001	02047-002	02047-003	02047-004
Client ID:	5920 HS-1	5920 HS-2	5920 HS-3	5920 HS-4
Matrix:	Soil	Soil	Soil	Soil
Sampled Date	3/3/05	3/3/05	3/3/05	3/3/05
PARAMETER(Units)	Conc Q MDL	Conc Q MDL	Conc Q MDL	Conc Q MDL
Semivolatiles - BNA (mg/Kg-ppm)				
TOTAL BNA'S:	ND	ND	ND	ND

Lab ID:	02047-005
Client ID:	5920 HS-5
Matrix:	Soil
Sampled Date	3/3/05
PARAMETER(Units)	Conc Q MDL
Semivolatiles - BNA (mg/Kg-ppm)	
TOTAL BNA'S:	ND

ND = Analyzed for but Not Detected at the MDL

WHITESTONE ASSOCIATES, INC.

APPENDIX 2
Disposal Documentation

5920

From: 3/1/05
To: 3/4/05
Approval# 250195
Generator NATALIE LYN LLC
Origin RICHMOND TERRACE & NICHOLAS AVE
STATEN ISLAND, NY

#Loads 1
TOTAL 22.02

Date	Ticket#	Approval #	Truck#	Loc.	Manifest#s.	Net Tons
3/3/05	56562	250195	TSD 11	B9	6767	22.02

5920

CLEAN EARTH OF CARTERET, INC
24 Middlesex Avenue
Carteret, NJ 07008
(732)-541-8909
INCOMING LOAD TICKET

Date 3/3/05
Time 3:07 PM
Ticket# 56562

Approval # 250195

Type of Material	Gross	Tare	Net Tons	#Drums
NON SPECIFIC SOURCE	70,700	26,650	22.02	

WM ID# 3 TOM DURANTE

Signature

Bill of Lading#
Manifest# 6767
St. Manifest#

Trans. ID# 145
Transporter TOP SOIL DEPOT INC.
Trans. Addr. 190 POMPTON PLAINS CROSSROADS
WAYNE, NJ 07470

DE-SW Permit#

Driver AID

Truck # TSD 11

Customer ALLIED ENVIRONMENTAL GROUP, INC
Generator NATALIE LYN LLC
Generator Site RICHMOND TERRACE & NICHOLAS AVE
STATEN ISLAND, NY

Contact 1 STU BERRY 800-969-DIRT
Contact 2 ALLAN PARKER

NOTES 1:

NOTES 2:

THANK YOU

The TOP SOIL DEPOT
BULK MATERIAL HANDLERS
973-835-9434
Retail/Wholesale

190 POMPTON PLAINS CROSS ROAD, WAYNE, NEW JERSEY 07470
Fax: 973-835-3928 • www.topsoildepot.com
** A New Jersey Corporation **

Log Number 6767

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name N. ______ Shipping Location ______

Address ______ Address ______

Phone No. ______ Phone No. ______

Approval Number	Description of Material	Codes		Net Weight (Tons)
250195			Gross Weight	
			Tare Weight	
			Net Weight	

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to applicable regulations.

Generator Authorized Agent Name ______ Signature ______ Shipment Date ______

TRANSPORTER

Transporter Name T.S.D. Driver Name (Print) ______

Address 190 Pompton Plains Cross Road Vehicle License No./State ______

Wayne, N.J. 07470 Truck Number ______

State Permit # NJ561

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature ______ Shipment Date ______

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature ______ Delivery Date ______

DESTINATION

Site Name ______ Phone No. ______

Address ______ State Permit # ______

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent ______ Signature ______ Receipt Date ______

CONTRACTOR

WHITESTONE
ASSOCIATES, INC.

APPENDIX 3
DOHMH Letter

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Michael R. Bloomberg
Mayor

Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

May 31, 2005

Angela Licata
Assistant Commissioner
Office of Environmental Planning and Assessment
NYC Department of Environmental Protection
59-17 Junction Blvd., 11th Floor
Flushing, NY 11373

Re: NICHOLAS AVENUE REZONING
BLOCK 116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Ms. Licata:

The above referenced property was surveyed for potential radiological contamination by Whitestone Associates (Whitestone) of Watchung, NJ, in conjunction with Integrated Environmental Management, Inc. (IEM) of Knoxville, TN & Gaithersburg, MD. Contamination reportedly resulted from activities associated with a uranium ore storage warehouse dating back to the Manhattan Project era. Principal contaminants of concern were stated to be "uranium-238 (U-238) plus progeny in equilibrium".

An initial Report of measurement results was issued by Whitestone/IEM. The Department of Health and Mental Hygiene/Office of Radiological Health presented comments on the initial report. Whitestone/IEM in turn issued follow-up Reports and correspondences in response to DOHMH/ORH comments.

Title 10 Code of Federal Regulations, Part §20.1402, stipulates a Total Effective Dose Limit of 25 mrem per year above background to the average member of the critical group as radiological criteria for unrestricted use. Volume 64 Federal Register No. 68395, December 7, 1999, presents soil surface contamination levels (screening values) which would be deemed to be in compliance with the 25 mrem per year dose limit above background stated in 10 CFR Part §20.1402.

Upon review, DOHMH/ORH concludes that submitted Whitestone/IEM Reports and responses to DOHMH/ORH comments, taken together, reasonably demonstrate that contamination levels in excess of background present on the above referenced property are not in excess of screening values stated in 64 Federal Register No. 68395.

Very truly yours,

(original signed and mailed by)

Tobias A. Lickerman
Chief of Radioactive Materials Division

cc: John Wuthenow, NYCDEP
Daniel Cole, DEP

Office of Radiological Health
2 Lafayette Street, 11th Floor CN-60
New York, N.Y. 10013
Office: (212) 676-1550 Fax: (212) 676-1548

WHITESTONE ASSOCIATES, INC.
ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

786 MOUNTAIN BOULEVARD
SUITE 200
WATCHUNG, NJ 07069
908.668.7777
FAX 908.754.5936
www.whitestoneassoc.com

September 14, 2004

via Federal Express

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Bureau of Environmental Sciences and Engineering
Office of Radiological Health
2 Lafayette Street, 11th Floor, CN 60
New York, New York 10007

Attention: Tobias Lickerman
Supervisor

Regarding: **RESPONSE TO JULY 28, 2004 LETTER**
MARSSIM RADIOLOGICAL SURVEY
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R/04 DEP 118 R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Lickerman:

Whitestone Associates, Inc. (Whitestone) and Integrated Environmental Management, Inc. (IEM) have prepared the attached correspondence to address the concerns outlined in the July 28, 2004 received on August 14, 2004) letter (copy attached) from the City of New York Department of Health and Mental Hygiene (DOHMH) regarding IEM's April 23, 2004 report entitled *Radiological Status of the Nicholas Avenue Rezoning Site*.

The concerns outlined in the Department's July 28, 2004 letter are discussed on a point-by-point basis with appropriate backing documentation in the attached September 9, 2004 correspondence from IEM.

As previously indicated in the April 23, 2004 report and clarified in the attached correspondence, radiological contamination was not detected at the site at concentrations distinguishable from natural background levels or at concentrations which would impact human health. Accordingly, Whitestone, on behalf of Natalie Lyn, L.L.C. continues to request that DOHMH issue an unrestricted use determination for the subject property in association with radiological concerns.

Whitestone, IEM, and Natalie Lyn, L.L.C. appreciate your attention to these matters. Please do not hesitate to contact us at (908) 668-7777 with any questions.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

CS/vr/bly L:\WhitestoneOffice\2003\035920\DOHMHRespLtr9-04.wpd
Enclosure
Copy: Louise Cohen, M.P.H., DOHMH
Richard Borri, DOHMH
John Wuthenow, NYCDEP
Darryl Cabbagestalk, NYCDEP
Barbara Youngberg, NYSDEC
Getz Obstfeld, Natalie Lyn, L.L.C.
Matthew Lonuzzi, Natalie Lyn, L.L.C.
Richard Bowers, Esq., Stadtmauer Bailkin, L.L.P.

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Michael R. Bloomberg
Mayor
Thomas R. Frieden, M.D., M.P.H.
Commissioner

nyc.gov/health

(212) 676-1570 tel
(212) 676-1548 fax

RECEIVED
AUG 14 2004
By

July 28, 2004

Thomas K. Uzzo, P.E.A
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Regarding : Report No. 2003016/G-1272 April 23, 2004
Radiological Status of the Nicholas Avenue Rezoning Site
Submitted to Natalie Lyn, LLC, 48 Liberty Avenue, New Rochelle, NY 10805
By Integrated Environmental Management, Inc., 6711 Kingston Pike, Suite 103, Knoxville, Tennessee 37919

Dear Mr. Uzzo:

The NYC Department of Health and Mental Hygiene, Office of Radiological Health, has reviewed the above referenced Report, and presents the following comments.

1. In Section 1, "Introduction", Page 1, a map showing location of former ore warehouse area in relation to the Nicholas Avenue site would be helpful.

2. Site surface conditions must be noted, especially those conditions that could significantly shield gamma radiation (concrete, asphalt, gravel…).

3. Section 2.1, "Contaminants of Concern", Page 2, states that the "contaminants of concern for the Nicholas Avenue site are …Uranium-238 (U-238) plus progeny in equilibrium." In Section 2.2, "Release Criteria" Page 2, it is stated that "… published …screening values for surface soil that satisfy license termination rule (appear in) "US Nuclear Regulatory Commission, … Federal Register, Volume 64, page 68395, December 7, 1999." The screening value invoked in this Report and referenced to FR 64 page 68395 is 14 pCi/gram of U-238. The Federal Register, however, states a screening value of 0.50 pCi/gram of U-238 with decay progeny in equilibrium. The Federal Register screening value of 14 pCi/gram is for U-238 alone, without decay progeny. The proper screening value to use is in fact 0.50 pCi/gram of U-238 to account for presence of decay progeny in equilibrium.

4. Although the "contaminants of concern for the Nicholas Avenue site are ...Uranium-238 (U-238) plus progeny in equilibrium", this Report nowhere presents experimentally measured levels of uranium-238. Nor does this Report provide any calculation of uranium-238 levels derived from reported experimentally measured values. Therefore, no determination can be made from this Report regarding the U-238 concentrations at the Nicholas Avenue site.

5. In Section 3.6, Page 5, "Sampling Protocol" (and elsewhere) it is stated that "soil samples...were collected with a trowel to a depth of zero (0) to six (6) inches." Was concentration of contamination in soil at all dependent on depth? If so, and soil was mixed, the measured concentration would be lower than that in the region of highest contamination within the 6-inch profile. If the analyzed material was extracted from one given section of the six-inch sample, how is it assured that other sections within the six-inch sample were not more contaminated than the analyzed section? How was possible stratification of contamination within 6-inch profile dealt with?

6. Please indicate what consideration was given to the possibility of dumping, grading or placement of fill on this land since contamination was first introduced on this site, presumably in the World War II era.

7. Section 3.6, "Sampling Protocol", Page 5, states that "All soil samples ...were analyzed ...for the presence of radium-226 and radium-228 daughter progeny." Were they analyzed for the presence of radium-226 and radium-228? If not, please indicate why not.

8. If samples were not analyzed for the presence of radium, were the radium levels calculated from measured quantities? No such derivation is presented.

9. Since radium-226 is a U-238 decay daughter whose quantitative presence is not shown in this Report, and the screening value used for U-238 in this Report is 14 pCi/gram of U-238, which does not take into account the presence of U-238 decay daughters, the dose contribution of radium-226, as well as that of all other U-238 decay daughters, is ignored in this Report.

10. All other isotopes shown in this Report which are not U-235 decay daughters are not shown as contributing to the site dose.

11. Section 4.1 "Walk-over Survey Results", Page 7, states that "...no areas on the property exceeded the screening level of twice background." Please indicate in what reference this screening value appears.

12. In Section 4.1, the areas of elevated count rates (10,000 to 12,000 count per minute) in grids A-1 and B-2 are a potential concern because no effort has been made to explain the cause. Additional subsurface investigation and sampling is warranted in the areas of elevated count rates grids A-1 and B-2 to determine if any subsurface contamination exists at the site. This is also true of grid C-1 where sample results measured still higher than for grids A-1 and B-2.

13. In a proximate site on the north side of Richmond Terrace, depth-dependant radioactive soil contamination actually peaked at depths of over 1 foot. Why were no borings made to this depth, even in locations of highest contamination? Additional soil boring information could also aid in the determination if filling or earthmoving activities have taken place at the site. The determination is very important because even small amounts of radium in subsurface soil could cause elevated radon problems once structures are built on contaminated subsurface soil.

14. Section 3.6 "Sampling Protocol", Page 5, states that samples were sealed and held for 30 days to allow full ingrowth (i.e. equilibrium) to be reached between Ra-226 and Ra-228 and their respective progeny. What equilibrium was reached in the 30 days from collection to counting that was not reached in the decades during which contamination was on Nicholas Avenue site?

15. If sample handling and storage affected equilibrium concentrations, then measured laboratory sample isotopic concentrations would differ from isotopic concentrations on site, moisture content aside. What are the quantitative differences between site concentrations and laboratory concentrations of site samples?

16. Numerous detections above USNRC interim screening values are detected in both background and environmental samples. Screening values are values of concentrations above background, below which release of an area may be considered. This then raises the question - If sufficiently high concentrations are called "background", any high levels will be within screening values of background. Are "background" concentrations on the Nicholas Avenue property typical of natural levels in the N.Y. Metropolitan area on lands which, with a reasonably high degree of confidence, are not near any artificially introduced radioactive material?

17. Table 7.2 "Summary of Analytical Results", Page 14, shows "pCi/g net" for six isotopes in ten samples s01 through s10. How are net values determined? A sufficiently specific relationship needs to be described so that for any isotope for any sample, one can go to a given Certificate or Certificate(s) of Analysis and arrive at a number in Table 7.2, if that is where numbers come from. If pCi/g net in Table 7.2 are not derivable from Certificates of Analysis, please describe how they are determined.

18. Table 7.2 "Summary of Analytical Results" presents sample results for Cs-137; Tl-208 & U-238. These isotopes appear nowhere in Certificates of Analysis. Please indicate how these summarized values were measured or derived.

19. Laboratory analytical data (Certificate of Analysis, page 1 of 2) is missing for soil sample 121203-02.

20. In Table 7.2 "Summary of Analytical Results", what is the meaning of the "minus signs" in front of certain values.

21. What is the meaning of the "minus signs" in front of certain values in the Results column on the Certificates of Analysis?

22. Various lines in the Certificates of Analysis are qualified with the symbol "U" which is defined to mean "Indicates the target analyte was analyzed but not detected above the detection limit." What is the significance of the Result in such cases? Does any other entry or blank field in a line which contains the qualifier "U" have a significance different from an entry or blank field in a line which contains no qualifier "U"?

23. What is the Minimum Detectable Concentration, by isotope, for laboratory analyses presented in the Certificates of Analysis in this Report?

Please do not hesitate to contact us if there are any further questions on these comments.

Very truly yours,

Tobias A. Lickerman

Tobias A. Lickerman
Chief of Radioactive Materials Division
Office of Radiological Health

cc: John Wuthenow, NYCDEP
Barbara Youngberg, NYSDEC

IEM
Integrated Environmental Management, Inc.

8 Brookes Avenue, Suite 205
Gaithersburg, MD 20877
Phone: (240) 631-8990
Fax: (240) 631-8991
www.IEM-Inc.com

RECEIVED
SEP 13 2004
By

September 9, 2004

Mr. Getz Obstfeld, President
Natalie Lyn, LLC
48 Liberty Avenue
New Rochelle, NY 10805

Re: City of New York Request for Information (RFI)

Dear Mr. Obstfeld:

Integrated Environmental Management, Inc. (**IEM**) is in receipt of the July 28, 2004 letter to Whitestone Associates, Inc. (Whitestone) from Tobias A. Lickerman of the New York Office of Radiological Health (NYC-ORH). That letter requested additional information in regard to Report No. 2003016.G-1272, prepared for **IEM** on behalf of Natalie Lyn, LLC.

The purpose of this letter is to provide you with the requested information. Attached is a re-statement of each issue raised by the NYC-ORH, **IEM**'s response to that issue, and a recommended follow-up action. Please feel free to forward this letter directly to the NYC-ORH, or paraphrase it as you see fit. However, do not hesitate to call me if you or the have any questions or if we can provide you with additional information.

Sincerely,

R. Alan Duff, R.R.P.T.,
Vice President, Nuclear Services

cc: C. D. Berger
File 2004014.01

RESPONSE TO NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE, OFFICE OF RADIOLOGICAL HEALTH ON REPORT NO. 2003016/G-1272

NYC-ORH Comment No. 1: In Section 1, "Introduction", Page 1, a map showing location of former ore warehouse area in relation to the Nicholas Avenue site would be helpful.

Response: Concur

Recommended Action: A Site Plan showing the location of the former ore warehouse area in relation to the subject property has been included as Attachment A. The location of the former ore warehouse area is based on information obtained from the October 1980 *Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond, New York* prepared by the Oak Ridge National Laboratory.

NYC-ORH Comment No. 2: Site surface conditions must be noted, especially those conditions that could significantly shield gamma radiation (concrete, asphalt, gravel . . .).

Response: Concur

Recommended Action: A Site Plan documenting surface conditions at the subject site at the time of IEM's radiological survey is included as Attachment A. As noted on the Site Plan, no concrete, asphalt, or gravel areas were located at the subject property during the survey. The majority of the subject site at that time consisted of overgrown, vegetated and wooded areas and areas of exposed soil. Minor isolated areas of ponded water were present in grids C-2 and D-4, and an approximately 15 feet diameter pile of concrete debris was present in grid B-2.

NYC-ORH Comment No. 3: Section 2.1, "Contaminants of Concern", Page 2, states that the "contaminants of concern for the Nicholas venue site are ... Uranium-238 (U-238) plus progeny in equilibrium." In Section 2.2, "Release Criteria" Page 2, it is stated that "...published ... screening values or surface soil that satisfy license termination rule (appear in) "US Nuclear Regulatory Commission, ... Federal Register, Volume 64, page 68395, December 7, 1999." The screening value invoked in this Report and referenced to FR 64 page 68395 is 14 pCi/gram of U-238. The Federal Register, however, states a screening value of 0.50 pCi/gram of U-238 with decay progeny in equilibrium. The Federal Register screening value of 14 pCi/gram is for U-238 alone, without decay progeny. The proper screening value to use is in fact 0.50 pCi/gram of U-238 to account for the presence of decay progeny in equilibrium.

Response: The screening values shown in the referenced Federal Register notice (64 FR 68395-68396) were derived using the USNRC's "DandD" code (version 1). This computer model is not well-suited to development of screening values for series radionuclides like uranium and its progeny. This is partly due to the fact that the selection of default input parameters is constant for all radionuclides in the series, even though they would be different if each radionuclide were processed independently. Therefore, **IEM** elected to compare U-238 results only, not U-238 plus progeny, to the U-238 only screening value that appeared in Table 3 of the Federal Register notice. This approach is further justified in that, as stated in footnote 3 of Report No. 2003016/G-1272, the screening values were never meant to be used as a demonstration of compliance with the USNRC's license termination rule, meaning soil samples that exceed the screening concentration do not necessarily indicate that the site does not meet the agency's dose criterion; it simply means that site-specific concentration guidelines must be developed instead.

Recommended Action: None required. However, further information on this issue is presented in our response to NYC-ORH Comment No. 9, below.

NYC-ORH Comment No. 4: Although the "contaminates of concern for the Nicholas Avenue site are ... Uranium-238 (U-238) plus progeny in equilibrium", this Report nowhere presents experimentally measured levels of uranium-238. Nor does this report provide any calculation of uranium-238 levels derived from reported experimentally measured values. Therefore, no determination can be made from this Report regarding the U-238 concentrations at the Nicholas Avenue site.

Response: It is not clear what the reviewer is referring to by "experimental levels" in this comment. Samples of soil were indeed collected from the site and analyzed for U-238 and for any other gamma-emitting radionuclides therein. As shown in Section 4.1 and Table 7.2 of Report No. 2003016/G-1272, measured U-238 concentrations on the property are not readily distinguishable from the measured background concentrations.

Recommended Action: None required.

NYC-ORH Comment No. 5: In Section 3.6, Page 5, "Sampling Protocol" (and elsewhere) it is stated that "soil samples . . . were collected with a trowel to a depth of zero (0) to six (6) inches." Was concentration of contamination in soil at all dependent on depth? If so, and soil was mixed, the measured concentration would be lower than that in the region of highest contamination within the 6-inch profile. If the analyzed material was extracted from one given section of the six-inch sample, how is it assured that other sections within the six-inch sample were not more contaminated than the analyzed section? How was possible stratification of contamination within 6-inch profile dealt with?

Response: The process of assessing the potential for residual soil contamination at the site included a combination of walk-over survey measurements and confirmatory soil sampling. The procedures followed for both steps were consistent with multi-agency recommendations for radiological characterization of sites.[1] Because there was no evidence of prior earthmoving or construction on the property, the primary focus of the IEM effort was residual radioactivity in surface soils, defined as "soil taken from the first 15 centimeters of surface soil to support surveys performed to demonstrate compliance with 40 CFR 192".[2] Striations of radioactivity within that soil layer were not taken into account during the development of the USNRC's screening criteria(64 FR 68395-68396), and do not result in dosimetric ramifications that are any different than a homogeneous mixture within the six-inch layer. Because the walk-over survey was sensitive enough to detect the presence of significant U-238 at depths greater than six inches, and because there is no evidence of prior soil disturbance of significance on the property, only surface soil sampling was necessary as a means of confirming the findings of the walk-over survey.

Recommended Action: None required.

NYC-ORH Comment No. 6: Please indicate what consideration was given to the possibility of dumping, grading or placement of fill on this land since contamination was first introduced on this site, presumably in the World War II era.

Response: No historical indications of dumping, grading or placement of fill at the subject site have been observed based on test pits previously conducted at the subject property by Whitestone during site investigation activities on May 14, 2003. Whitestone's test pit excavations revealed black organic topsoil to depths of 0.5 feet below ground surface (fbgs). Beneath the topsoil layer, reddish-brown native silt and clay was encountered to depths of 12 fbgs. In addition, the *Preliminary Radiological Survey Report of the Former Staten Island Warehouse Site (Archer-Daniels Midland Company) at Port Richmond, New York* prepared by Oak Ridge National Laboratory indicates that the western portion of the subject property had been a vacant lot with the exception of a former two car garage. Based on historical sources reviewed by Whitestone, the northern portion of the subject property reportedly housed a former linseed oil bulk storage and distribution facility, and the southern portion of the site housed a bulk sand and gravel storage and distribution facility until the mid 20th century. Accordingly, no indications of former dumping, grading or fill placement have been observed or documented at the subject property, and former site operations are not suspected to have led to the radiological contamination of the site.

Recommended Action: None required.

---

[1] U. S. Nuclear Regulatory Commission, U. S. Environmental Protection Agency, U. S. Department of Energy and U. S. Department of Defense, "Multi-Agency Radiation Survey and Site Investigatino Manual (MARSSIM)", NUREG-1575, Rev. 1, August, 2000.

[2] MARSSIM, pg. GL-22.

NYC-ORH Comment No. 7: Section 3.6, "Sampling Protocol", Page 5, states that "All soil samples ... were analyzed ... for the presence of radium-226 and radium-228 daughter progeny." Were they analyzed for the presence of radium-226 and radium-228? If not, please indicate why not.

Response: The progeny of Ra-226 and Ra-228 emit gamma rays. Therefore, gamma spectroscopy was used to assess the amounts of these progeny present in the samples. The parents of the series are not readily detectable by this methodology; Ra-226 emits only a low-energy gamma ray with an energy that cannot be discerned from that of naturally-present U-235, and Ra-228 emits only beta particles. However, the analytical methodology called for each sample to be prepared, sealed into a container, and then held until all of the radium progeny were in equilibrium with the parent. Once secular equilibrium was reached, the decay rate of the short-lived progeny becomes equal to the decay rate of the long-lived parent, thus the concentration of the parent can be inferred from the concentration of the progeny.[3]

Recommended Action: None required.

NYC-ORH Comment No. 8: If samples were not analyzed for the presence of radium, were the radium levels calculated from measured quantities? No such derivation is presented.

Response: As described in our response to NYC-ORH Comment No. 7, the Ra-228 and Ra-226 concentrations in each of the samples can indeed be derived from the analytical results. The isotope Actinium-228 is a short-lived progeny of Ra-228, thus the Ac-228 concentration in each sample is equal to the Ra-228 concentration. Likewise, Bismuth-214 is a short-lived daughter of Ra-226, thus the Bi-214 concentration in each sample is equal to its Ra-226 concentration.

Recommended Action: None required.

NYC-ORH Comment No. 9: Since radium-226 is a U-238 decay daughter whose quantitative presence is not shown in this Report, and the screening value used for U-238 in this Report is 14 pCi/gram of U-238, which does not take into account the presence of U-238 decay daughters, the dose contribution of radium-226, as well as that of all other U-238 decay daughters, is ignored in this Report.

Response: The purpose of this characterization effort was to identify and quantify the presence of residual uranium that may have been associated with a former ore storage location in the immediate proximity of the Nicholas Avenue site. However, it is possible to assess whether the site meets the screening level for a mixture of radionuclides (i.e., U-238,

[3] Cember, H., *Introduction to Health Physics*, Pergamon Press, Oxford, England, 1969, pg. 99-100.

Ra-228 and Ra-226, which are the isotopes of primary dosimetric significance in the series) by demonstrating that the following sum of fractions rule is met:[4]

$$\frac{[U\text{-}238]}{SSSV_{U\text{-}238}} + \frac{[Ra\text{-}226]}{SSSV_{Ra\text{-}226}} + \frac{[Ra\text{-}228]}{SSSV_{Ra\text{-}228}} < 1$$

Using the mean measured soil concentrations for U-238, Ac-228 (for Ra-228) and Bi-214 (for Ra-226) from Table 7.2 of Report No. 2003016.G-1272 and the USNRC's screening values for each of those isotopes, the following results:[5]

$$\frac{0.07\ \frac{pCi}{g}}{14\ \frac{pCi}{g}} + \frac{0.09\ \frac{pCi}{g}}{0.7\ \frac{pCi}{g}} + \frac{0.24\ \frac{pCi}{g}}{0.7\ \frac{pCi}{g}} = 0.48 < 1$$

Because the sum of fractions is less than one, the soil concentrations at the Nicholas Avenue site would meet the USNRC's license termination criterion.

Recommended Action: None required.

NYC-ORH Comment No. 10: All other isotopes shown in this Report which are not U-235 decay daughters are not shown as contributing to the site dose.

Response: See Response to NYC-ORH Comment No. 9

Recommended Action: None required.

NYC-ORH Comment No. 11: Section 4.1 "Walk-over Survey Results", Page 7, states that "...no areas on the property exceeded the screening level of twice background." Please indicate in what reference this screening value appears.

Response: As described in Section 3.4 of Report No. 2003016.G-1272, stationary count rates obtained during the walk-over survey needed to be reasonably distinguishable from background count rates in order to subject a particular measurement location to further study. Because the survey instruments used for the walk-over survey were held in close proximity to the ground surface (i.e., well-within the range of particulate radiation emissions from the soil), and because the detector volumes were large enough to ensure excellent counting sensitivity for photon and particulate radiations emanating from the soil, the variance in count

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[4] 64 FR 68395, ¶5.

[5] Table 3 of 64 FR 68395-68396 does not give a screening value for Ra-228. A reasonable substitute is the value for Th-228 plus progeny, which includes Ra-228. However, to ensure an element of conservatism in this analysis, the screening value for Ra-226 was used.

rates obtained across any unimpacted land area can easily be a factor of more than two (2) . Therefore, the following criterion was given in Section 2.2 of the Report: "For the walk-over survey, an action level of twice the ambient background was used to identify those locations that would require further investigation (i.e., sampling)."

Recommended Action: None required.

NYC-ORH Comment No. 12: In Section 4.1, the areas of elevated count rates (10,000 to 12,000 count per minute) in grids A-1 and B-2 are a potential concern because no effort has been made to explain the cause. Additional subsurface investigation and sampling is warranted in the areas of elevated count rates grids A-1 and B-2 to determine if any subsurface contamination exists at the site. This is also true of grid C-1 where sample results measured still higher than for grids A-1 and B-2.

Response: As stated in our response to NYC-ORH Comment No. 6, there is no evidence of surface disturbance on the property, therefore, sub-surface deposition of radioactivity associated with the former ore warehousing operation was ruled out. Furthermore, it is important to reiterate that the measured count rates in grid square A-1 and B-2, while appearing to be "elevated", are still not reasonably distinguishable from background. Nonetheless, we did subject them to confirmatory sampling. Survey and sampling results from grid C-1 were less than the results of grids A-1 and B-2.

Recommended Action: None required.

NYC-ORH Comment No. 13: In a proximate site on the north side of Richmond Terrace, depth-dependent radioactive soil contamination actually peaked at depths of over 1 foot. Why were no borings made to this depth, even in locations of highest contamination? Additional soil boring information could also aid in the determination if filling or earthmoving activities have taken place at the site. The determination is very important because even small amounts of radium in subsurface soil could cause elevated radon problems once structures are built on contaminated subsurface soil.

Response: IEM has no knowledge of this site or any characterization data that may have been acquired at the site. Thus we are unable to provide a response to this comment.

Recommended Action: None required.

NYC-ORH Comment No. 14: Section 3.6 "Sampling Protocol", Page 5, states that samples were sealed and held for 30 days to allow full ingrowth (i.e., equilibrium) to be reached between Ra-226 and Ra-228 and their respective progeny. What equilibrium was reached in the 30-days from collection to counting that was not reached in the decades during which contamination was on Nicholas Avenue site?

Response: In order to compare the counting results from the Nicholas Avenue samples to the NIST-traceable standards used by the commercial analytical laboratory, each sample was dried and ground to the same consistency as the standards. This process drives off the radon being emanated from the radium in the samples. As described in our response to NYC-ORH Comment No. 7, in order to infer the concentration of radium in each sample by assessing the concentration of the progeny, it is critical to ensure the progeny and the parents are in secular equilibrium. Because the half-life of Rn-222 is approximately three days, it takes somewhat less than 10 half-lives for its ingrowth from its Ra-226 parent to reach secular equilibrium. Therefore, holding the prepared samples for 30 days ensures new ingrowth of Rn-222 and its short-lived progeny, thus permitting a valid assessment of Ra-226 concentrations.

Recommended Action: None required.

NYC-ORH Comment No. 15: If sample handling and storage affected equilibrium concentrations, then measured laboratory sample isotopic concentrations would differ from isotopic concentrations on site, moisture content aside. What are the quantitative differences between site concentrations and laboratory concentrations of site samples?

Response: As described in our response to NYC-ORH Comment No. 14, the sample handing did not perturb the radium concentrations in the samples; only the concentration of the gaseous radon daughters. Once the progeny were brought back into equilibrium with the parent, and if one presumes that the progeny/parent relationship at the Nicholas Avenue site is similar, there would be no quantitative differences between the site concentrations (where radon and its daughters are trapped) and the measured laboratory concentrations.

Recommended Action: None required.

NYC-ORH Comment No. 16: Numerous detections above USNRC screening values are detected in both background and environmental samples. Screening values are values of concentration above background, below which release of an area may be considered. This then raises the question if sufficiently high concentrations are called "background" any high levels will be within screening values of background. Are "background" concentrations on the Nicholas Avenue property typical of natural levels in the NY Metropolitan area on lands which, with a reasonably high degree of confidence, are not near any artificially introduced radioactive material?

Response: As described in Section 4.1 of Report No. 2003016.G-1272, background exposure and count rates for the walk-over survey instrumentation were acquired at a location approximately 30 feet south of the of the rail overpass on Nicholas Avenue.[6] The measured background exposure and count rates at the site are actually somewhat lower than

[6] This location was deemed sufficiently far away from the former ore warehousing operation to be unimpacted. Soil samples collected from this same location bear this out.

those considered average for the continental U. S. (i.e., eight to 15 microR per hour or approximately 14,000 to 26,000 counts per minute).[7,8]

Recommended Action: None required.

NYC-ORH Comment No. 17: Table 7.2 "Summary of Analytical Results", Page 14 shows "pCi/g net" for six isotopes in ten samples s01 through s10. How are net values determined? A sufficiently specific relationship needs to be described so that for any isotope for any sample, one can go to a given Certificate or Certificate(s) of Analysis and arrive at a number in Table 7.2, if that is where numbers come from. If pCi/g net in Table 7.2 are not derivable from Certificates of Analysis, please describe how they are determined.

Response: Table 7.2 is indeed only a summary of the "net" analytical results, meaning they have been corrected for background and for the moisture content of each sample. Attachment A is a direct print-out of the spreadsheet used to perform the calculations. The top block of numbers is a listing of the background concentrations taken from the Certificates of analysis, but corrected for moisture content as follows:

$$C_{corrected} = C_{measured} \times (1 - \%moisture)$$

where $C_{measured}$ = the radionuclide concentration taken directly from the Certificate of Analysis, and %moisture = the moisture content reported on that Certificate. For example, the Ac-228 concentration measured in Sample No. BKG-1 was 0.98 picocuries per gram (pCi/g), and that sample was comprised of 35.9% moisture. Therefore, the moisture-corrected concentration for BKG-1 is:

$$C_{corrected} = 0.98 \times (1 - 0.359) = 0.63 \ \frac{pCi}{g}$$

The second block of data on Attachment A contains moisture-corrected concentrations for samples from the survey area. They are calculated exactly the same as the background samples shown in the first spreadsheet block. The third block is equivalent to Table 7.2 of the report. These data are simply the moisture-corrected concentrations in the survey area samples with the applicable background subtracted. For example, The mean Ac-228 concentration in the background data set (BKG-1 through BKG-10) is 0.71 pCi/g. The moisture-corrected Ac-228 concentration in sample number s01 is 0.86. The "net" Ac-228 concentration in that sample is simply 0.86 minus 0.71, or 0.15 pCi/g. Similar calculations are performed for the remaining radionuclides for samples s02 through s10.

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[7] National Council on Radiation Protection and Measurements, NCRP Publication 94, "Exposure of the Population of the United States and Canada from Natural Background Radiation", December 30, 1987, Table 5.3.

[8] MARSSIM, Table 6.7.

Recommended Action: None required.

NYC-ORH Comment No. 18: Table 7.2 "Summary of Analytical Results" presents sample result for Cs-137; Tl-208 & U-238. These isotopes appear nowhere in Certificates of Analysis. Please indicate how these summarized values were measured or derived.

Response: The commercial analytical laboratory that performed the gamma spectroscopy on these samples provided approval Certificates to us on January 12, 2004. Attachment B contains a copy of the approval Certificate for sample number BKG-1 (Bkgd-1). When IEM reviewed the approval copy, we saw that the laboratory neglected to provide the moisture content of the samples. In addition, and contrary to the specifications that we included with our purchase order, they provided results for a broad spectrum of gamma-emitting isotopes (e.g., fission products, activation products, etc.) that have no relevance to the Nicholas Avenue site. Therefore, we asked the laboratory to revise the Certificates prior to their final issue so that they *include* the moisture content of each sample and *exclude* reporting of irrelevant radionuclides. Attachment C contains the final Certificate. However, **IEM** began drafting Report No. 2003016.G-1272 immediately after receipt of the approval copies and before receipt of the final copies, and inadvertently included Cesium-137 (a fallout-related radionuclide), Potassium-40 (a primordial radionuclide), and Thallium-208 (a low yield progeny of the Thorium-232 decay series, presuming that these would appear in the final Certificates. They did not, but we left the results in Table 7.2 nonetheless.

Recommended Action: Table 7.2 should be modified as follows to exclude the listings for Cs-137, K-40 and Tl-208 since the Certificates of Analysis contained in Appendix 8.3 of Report No. 2003016.G-1272 are silent on the presence of these radionuclides:

Table 7.2 - Summary of Analytical Results

Sample No.	Ac-228 (pCi/g net)	Bi-214 (pCi/g net)	U-238 (pCi/g net)
s01	0.15	0.17	-0.17
s02	0.14	0.04	0.65
s03	0.24	0.10	-0.20
s04	0.52	0.18	0.88
s05	0.11	0.05	0.43
s06	0.07	0.02	-0.11
s07	0.25	-0.00	-0.54
s08	0.35	0.14	-0.08
s09	0.27	0.09	0.22
s10	0.34	0.13	-0.38
Average	*0.24*	*0.09*	*0.07*
SD	*0.13*	*0.06*	*0.44*

NYC-ORH Comment No. 19: Laboratory analytical data (Certificate of Analysis, page 1 of 2) is missing for soil sample 121203-02.

Response: Concur.

Recommended Action: Attachment D contains the entire Certificate for this sample.

NYC-ORH Comment No. 20: In table 7.2 "Summary of Analytical Results", what is the meaning of the "minus signs" in front of certain values.

Response: The analytical method used for these samples is, in essence, counting photons emitted from the radioactivity in the sample. However, photons are ubiquitous in the natural environment from the cosmos, from the construction materials in the counting room, from the detector shield, and from the detector components themselves. Therefore, part of the laboratory process is to assess the applicable background count rate for the detector system on a daily basis, then subtract that value from counts performed during that day. However, nuclear counting is a statistical process, meaning multiple counts of a single sample will give multiple results that surround a single mean value. Thus it is not unreasonable, particularly when the photon emission rate from a given sample is not distinguishable from background, to end up with a negative number when the background count rate is subtracted from the sample count rate. As can be seen from the detection levels listed on the Certificates of Analysis for each isotope, there is no statistical significance to the "negative values".

Recommended Action: None required.

NYC-ORH Comment No. 21: What is the meaning of the "minus signs" in front of certain values in the Results column on the Certificates of Analysis?

Response: See our response to NYC-ORH comment No. 20.

Recommended Action: None required.

NYC-ORH Comment No. 22: Various lines in the Certificates of Analysis are qualified with the symbol "U" which is defined to mean "Indicates the target analyte was analyzed but not detected above the detection limit." What is the significance of the Results in such case? Does any other entry or blank field in a line which contains the qualifier "U" have a significance different from an entry or blank field in a line which contains no qualifier "U"?

Response: There is no statistical significance to the result since the quantified value is less than the detection level for that count. For example, the Certificate of Analysis contained in Attachment D gives a Lead-210 result of 1.06 pCi/g. However, the detection level for that count (DL) is 11.1 pCi/g. Therefore, the result cannot be statistically discerned from background, meaning it cannot be positively detected above the detection limit to a reasonable degree of scientific certainty (95% confidence).

Recommended Action: None required.

NYC-ORH Comment No. 23: What is the Minimum Detectable Concentration, by isotope, for laboratory analyses presented in the Certificates of Analysis in this Report?

Response: The Certificates of Analysis list the result, by isotope, for each sample analyzed. These are in the column labeled "Result". The unmarked column to the right of the "Results" column is the error associated with the result. The column to the right of that, marked "DL" contains the detection level (or minimum detectable concentration) for that analysis.

Recommended Action: None required.

ATTACHMENT A

ATTACHMENT B

picocuries per gram (background area)

Sample No.	Ac-228	B-214	Cs-137	K-40	Tl-208	U-238	%Moist
BKG-1	0.63	0.39	0.66	6.47	0.21	0.64	0.359
BKG-2	1.22	0.97	0.18	11.65	0.44	1.60	0.0969
BKG-3	0.41	0.41	0.10	4.41	0.18	0.51	0.287
BKG-4	0.55	0.43	0.16	6.68	0.22	0.59	0.275
BKG-5	0.60	0.49	0.06	11.26	0.22	1.28	0.229
BKG-6	0.68	0.57	0.13	9.66	0.22	0.55	0.245
BKG-7	0.71	0.56	0.25	9.21	0.25	1.68	0.17
BKG-8	0.48	0.36	0.17	7.04	0.17	0.48	0.236
BKG-9	0.89	0.66	0.05	15.18	0.33	1.50	0.166
BKG-10	0.92	0.67	0.06	12.30	0.33	1.63	0.201
Average	0.71	0.55	0.18	9.39	0.26	1.04	0.23
SD	0.23	0.17	0.17	3.11	0.08	0.50	0.07
Range-L	0.48	0.38	0.01	6.27	0.18	0.54	0.16
Range-U	0.94	0.72	0.35	12.50	0.34	1.55	0.30

picocuries per gram (survey area)

s01	0.86	0.72	0.01	11.00	0.29	0.87	0.16
s02	0.85	0.59	0.00	10.98	0.24	1.69	0.258
s03	0.95	0.65	0.01	14.61	0.28	0.85	0.193
s04	1.22	0.73	0.00	19.38	0.34	1.93	0.086
s05	0.82	0.60	0.00	12.36	0.25	1.47	0.192
s06	0.78	0.57	0.03	11.64	0.29	0.94	0.29
s07	0.96	0.54	0.01	14.69	0.32	0.50	0.197
s08	1.06	0.69	0.00	17.90	0.36	0.96	0.131
s09	0.98	0.64	0.01	15.61	0.29	1.27	0.227
s10	1.05	0.68	0.00	17.03	0.33	0.66	0.157
Average	0.95	0.64	0.01	14.52	0.30	1.11	0.19
SD	0.13	0.06	0.01	2.83	0.04	0.44	0.06

picocuries per gram (net)

	Ac-228	Bi-214	Cs-137	K-40	Tl-208	U-238
s01	0.15	0.17	-0.17	1.62	0.03	-0.17
s02	0.14	0.04	-0.18	1.59	-0.02	0.65
s03	0.24	0.10	-0.17	5.22	0.03	-0.20
s04	0.52	0.18	-0.18	9.99	0.08	0.88
s05	0.11	0.05	-0.18	2.98	-0.00	0.43
s06	0.07	0.02	-0.15	2.26	0.03	-0.11
s07	0.25	-0.00	-0.18	5.31	0.06	-0.54
s08	0.35	0.14	-0.18	8.51	0.10	-0.08
s09	0.27	0.09	-0.17	6.23	0.03	0.22
s10	0.34	0.13	-0.18	7.64	0.08	-0.38
Average	0.24	0.09	-0.17	5.13	0.04	0.07
SD	0.13	0.06	0.01	2.83	0.04	0.44

ATTACHMENT C

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : IEM, Inc.
Address : 6711 Kingston Pike
Suite 103
Knoxville, Tennessee 37919
Contact: Alan Duff
Project: **Routine Analysis**

Report Date: January 26, 2004

Client Sample ID: Bkgd-1
Sample ID: 103728001
Matrix: Soil
Collect Date: 12-DEC-03 10:23
Receive Date: 15-DEC-03
Collector: Client

Project: IEMI00100
Client ID: IEMI001

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		35.9				percent		MJM1	01/22/04	1114	305250	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Uranium + Progeny												
Actinium-228		0.982	+/-0.246	0.164	0.800	pCi/g		SRB	01/07/04	0955	298468	2
Bismuth-212		0.660	+/-0.317	0.401	0.500	pCi/g						
Bismuth-214		0.603	+/-0.141	0.0829	0.200	pCi/g						
Lead-210		5.13	+/-4.25	4.55	4.00	pCi/g						
Lead-211	U	-0.102	+/-0.762	1.24	2.00	pCi/g						
Lead-212		1.10	+/-0.119	0.0697	0.100	pCi/g						
Lead-214		0.813	+/-0.133	0.083	0.100	pCi/g						
Potassium-40		10.1	+/-1.21	0.448	1.00	pCi/g						
Protactinium-231	U	-0.238	+/-1.12	1.84	5.00	pCi/g						
Protactinium-234	U	0.0259	+/-0.208	0.370	1.00	pCi/g						
Protactinium-234m	U	0.332	+/-3.18	5.63	10.0	pCi/g						
Radium-223	U	0.451	+/-0.535	0.916	2.00	pCi/g						
Radon-219	U	-0.0792	+/-0.345	0.557	2.00	pCi/g						
Thorium-227	U	-0.0668	+/-0.284	0.465	1.00	pCi/g						
Thorium-228	U	1.49	+/-1.95	3.05	5.00	pCi/g						
Thorium-234	U	0.992	+/-1.06	1.47	2.00	pCi/g						
Uranium-235	U	0.147	+/-0.166	0.252	0.500	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXG1	12/16/03	1551	298008

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3550	
2	EML HASL 300, 4.5.2.3	

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : IEM, Inc.
Address : 6711 Kingston Pike
Suite 103
Knoxville, Tennessee 37919
Contact: Alan Duff
Project: **Routine Analysis**

Report Date: January 26, 2004

Client Sample ID: Bkgd-1
Sample ID: 103728001

Project: IEM100100
Client ID: IEM1001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Amy Jamison.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : IEM, Inc.
Address : 6711 Kingston Pike
Suite 103
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Contact: Alan Duff
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Report Date: January 12, 2004

Client Sample ID: Bkgd-1
Sample ID: 103728001
Matrix: Soil
Collect Date: 12-DEC-03 10:23
Receive Date: 15-DEC-03
Collector: Client

Project: IEMI00100
Client ID: IEMI001

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (RA226 INGROWTH)												
Actinium-228		0.982	+/-0.246	0.164	0.800	pCi/g		SRB	01/07/04	0955	298468	1
Americium-241	U	0.078	+/-0.109	0.192	0.200	pCi/g						
Antimony-124	U	0.0087	+/-0.0314	0.0563	0.100	pCi/g						
Antimony-125	U	-0.014	+/-0.0714	0.116	0.200	pCi/g						
Barium-133	U	-0.00871	+/-0.0368	0.0529	0.100	pCi/g						
Barium-140	U	0.122	+/-0.335	0.604	0.500	pCi/g						
Beryllium-7	U	0.146	+/-0.379	0.581	0.700	pCi/g						
Bismuth-212		0.660	+/-0.317	0.401	0.500	pCi/g						
Bismuth-214		0.603	+/-0.141	0.0829	0.200	pCi/g						
Cerium-139	U	-0.00621	+/-0.022	0.0364	0.050	pCi/g						
Cerium-141	U	0.0096	+/-0.0616	0.0936	0.100	pCi/g						
Cerium-144	U	-0.0466	+/-0.144	0.239	0.500	pCi/g						
Cesium-134	U	0.0462	+/-0.0332	0.0588	0.100	pCi/g						
Cesium-136	U	0.175	+/-0.137	0.271	0.300	pCi/g						
Cesium-137		1.03	+/-0.119	0.0497	0.100	pCi/g						
Chromium-51	U	-0.0124	+/-0.399	0.657	0.600	pCi/g						
Cobalt-56	U	0.0208	+/-0.0334	0.056	0.100	pCi/g						
Cobalt-57	U	-0.00653	+/-0.0175	0.0291	0.050	pCi/g						
Cobalt-58	U	0.00647	+/-0.0318	0.0568	0.100	pCi/g						
Cobalt-60	U	0.000978	+/-0.0268	0.0501	0.100	pCi/g						
Europium-152	U	-0.000144	+/-0.0728	0.120	0.200	pCi/g						
Europium-154	U	0.0477	+/-0.0871	0.162	0.500	pCi/g						
Europium-155	U	0.0343	+/-0.0742	0.128	0.500	pCi/g						
Iridium-192	U	-0.000298	+/-0.0299	0.0494	0.100	pCi/g						
Iron-59	U	-0.00433	+/-0.0691	0.121	0.300	pCi/g						
Lead-210		5.13	+/-4.25	4.55	4.00	pCi/g						
Lead-212		1.10	+/-0.119	0.0697	0.100	pCi/g						
Lead-214		0.813	+/-0.133	0.083	0.100	pCi/g						
Manganese-54	U	0.0326	+/-0.0329	0.0495	0.100	pCi/g						
Mercury-203	U	-0.0215	+/-0.0385	0.0618	0.100	pCi/g						
Neodymium-147	U	0.185	+/-0.786	1.42	1000	pCi/g						
Neptunium-239	U	0.0305	+/-0.130	0.221	2.00	pCi/g						
Niobium-94	U	0.00367	+/-0.0237	0.0422	1.00	pCi/g						
Niobium-95	U	0.0374	+/-0.0435	0.0744	0.050	pCi/g						
Potassium-40		10.1	+/-1.21	0.448	1.00	pCi/g						
Promethium-144	U	-0.0134	+/-0.0251	0.042	0.080	pCi/g						
Promethium-146	U	0.0156	+/-0.0358	0.0605	1.00	pCi/g						
Radium-226		0.603	+/-0.141	0.0829		pCi/g						

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : IEM, Inc.
Address : 6711 Kingston Pike
Suite 103
Knoxville, Tennessee 37919
Contact: Alan Duff
Project: **Routine Analysis**

Report Date: January 12, 2004

Client Sample ID: Bkgd-1
Sample ID: 103728001
Project: IEMI00100
Client ID: IEMI001

Parameter	Qualifier	Result		DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Solid (RA226 INGROWTH)											
Radium-228		0.982	+/-0.246	0.164	0.500	pCi/g					
Ruthenium-106	U	0.141	+/-0.237	0.435	0.800	pCi/g					
Silver-110m	U	0.030	+/-0.0265	0.0465	0.080	pCi/g					
Sodium-22	U	0.017	+/-0.0313	0.0581	0.080	pCi/g					
Thallium-208		0.333	+/-0.0668	0.0416	0.080	pCi/g					
Thorium-230		0.603	+/-0.141	0.0829	1.00	pCi/g					
Thorium-234	U	0.992	+/-1.06	1.47	2.00	pCi/g					
Tin-113	U	0.0206	+/-0.0343	0.0601	0.100	pCi/g					
Uranium-235	U	0.147	+/-0.166	0.252	0.500	pCi/g					
Uranium-238	U	0.992	+/-1.06	1.47	1.00	pCi/g					
Yttrium-88	U	0.00455	+/-0.026	0.052	0.100	pCi/g					
Zinc-65	U	-0.042	+/-0.0732	0.101	0.300	pCi/g					
Zirconium-95	U	0.0836	+/-0.0616	0.106	0.200	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXG1	12/16/03	1551	298008

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EML HASL 300, 4.5.2.3	

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.

ATTACHMENT D

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : IEM, Inc.
Address : 6711 Kingston Pike
Suite 103
Knoxville, Tennessee 37919
Contact: Alan Duff
Project: **Routine Analysis**

Report Date: January 26, 2004

Client Sample ID: 121203-02
Sample ID: 103728012
Matrix: Soil
Collect Date: 12-DEC-03 08:17
Receive Date: 15-DEC-03
Collector: Client

Project: IEMI00100
Client ID: IEMI001

Parameter	Qualifier	Result		DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Gravimetric Solids											
SW3550 % Moisture (EVAP LOSS)											
Moisture		25.8				percent		MJM1 01/22/04	1114	305250	1
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Uranium + Progeny											
Actinium-228		1.15	+/-0.219	0.115	0.800	pCi/g		SRB 01/07/04	1005	298468	2
Bismuth-212		0.969	+/-0.284	0.241	0.500	pCi/g					
Bismuth-214		0.793	+/-0.124	0.0601	0.200	pCi/g					
Lead-210	U	1.06	+/-6.81	11.1	4.00	pCi/g					
Lead-211	U	-0.209	+/-0.508	0.819	2.00	pCi/g					
Lead-212		1.28	+/-0.133	0.0544	0.100	pCi/g					
Lead-214		0.889	+/-0.119	0.0617	0.100	pCi/g					
Potassium-40		14.8	+/-1.48	0.310	1.00	pCi/g					
Protactinium-231	U	0.371	+/-0.808	1.45	5.00	pCi/g					
Protactinium-234	U	0.0766	+/-0.151	0.277	1.00	pCi/g					
Protactinium-234m	U	0.731	+/-2.51	4.46	10.0	pCi/g					
Radium-223	U	0.305	+/-0.361	0.648	2.00	pCi/g					
Radon-219	U	0.0592	+/-0.217	0.378	2.00	pCi/g					
Thorium-227	U	0.105	+/-0.210	0.342	1.00	pCi/g					
Thorium-228	U	1.76	+/-2.72	2.37	5.00	pCi/g					
Thorium-234		2.28	+/-2.38	1.77	2.00	pCi/g					
Uranium-235	U	0.087	+/-0.112	0.207	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	AXG1	12/16/03	1551	298008

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Analyst Comments

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : IEM, Inc.
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Report Date: January 26, 2004

Client Sample ID: 121203-02
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Project: IEMI00100
Client ID: IEMI001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
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X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Amy Jamison.

____
Reviewed by

PRELIMINARY RADIOLOGICAL SURVEY REPORT OF THE FORMER STATEN ISLAND WAREHOUSE SITE (ARCHER-DANIELS MIDLAND COMPANY) AT PORT RICHMOND, NEW YORK

Work performed
by the
Health and Safety Research Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee 37830

October 1980

OAK RIDGE NATIONAL LABORATORY
operated by
UNION CARBIDE CORPORATION
for the
DEPARTMENT OF ENERGY
as part of the
Formerly Utilized Sites--
Remedial Action Program

PRELIMINARY RADIOLOGICAL SURVEY REPORT OF THE FORMER STATEN ISLAND WAREHOUSE SITE (ARCHER-DANIELS MIDLAND COMPANY) AT PORT RICHMOND, NEW YORK

B. A. Berven and C. Clark

Introduction

A number of buildings located at the site of the former Staten Island Warehouse in Port Richmond, New York, were used by Union Minie're du Haut-Katanga Company to store high-grade Belgian Congo uranium ore (owned by that company) from 1939 to 1942. In 1942, 2007 drums of uranium ore were stored at the Staten Island Warehouse (owned by Archer-Daniels Midland Company) containing 1089 metric tons of ore. The ore contained approximately 600 metric tons of U_3O_8 and 170 grams (Ci) of radium. Following purchase of this material by the U.S. Government, the uranium ore was shipped to various Manhattan Engineer District (MED) sites for storage and processing. There is no record of any previous radiological survey of this site.

At the request of the Department of Energy (DOE), a preliminary radiological survey of this site was conducted on July 10, 1980, by members of the Health and Safety Research Division at Oak Ridge National Laboratory (ORNL). The site survey was intended to provide information on the present radiological condition and to determine the need for a more extensive radiological survey.

Site Description

The site is located at the base of the Bayonne Bridge on Richmond Terrace Avenue in Staten Island, New York (Fig. 1). The original property owned by Archer-Daniels Midland Company was divided into three parcels (Fig. 2). Since 1942, these parcels have changed ownership numerous times. Parcels 1 and 2 are currently owned by R. H. S. Realty Corporation (New York, New York); the boundary dimensions have been accurately defined in present county property records. Ownership of Parcel 3 was separated from Parcels 1 and 2 in the 1950's, and the location of Parcel 3 is known, but not the boundary dimensions.

After discussions with several local residents who had lived in the vicinity of the site for longer than 30 years, several conclusions were drawn:

1. The warehouses were believed to be located on Parcel 1, exclusively;
2. Parcel 2 had always been a vacant lot; however, at one time there had been an aborted attempt at building a two-car garage on that lot;
3. Parcel 3 has had a number of buildings on it that have been located there for over 30 years.

Currently, Parcel 1 is a vacant lot with no buildings present and ground cover of gravel and low weeds (Fig. 3). Parcel 2 is a vacant lot with no buildings present, but has remnants of a short retaining wall facing Richmond Terrace, a two-car garage foundation, and a ground cover of soil, rocks, high weeds, and small trees (Fig. 4). Parcel 3 is occupied by commercial and residential structures.

Survey Methods

The preliminary radiological survey of the former Staten Island Warehouse site consisted of the following measurements for Parcel 1: (1) a gamma-ray scan of the ground surface; (2) several random on-site surface soil samples; (3) bias soil samples of locations where external gamma radiation levels are significantly above background. For parcels 2 and 3, a ground-level gamma-ray scan was made along the perimeters of these properties. The high weeds on Parcel 2 and the lack of owner permission on Parcel 3 prohibited more extensive radiological surveys of these parcels.

The instrumentation used in this radiological survey included a gamma-ray scintillation (NaI) survey meter and a beta-gamma Geiger-Mueller (G-M) survey meter.

Survey Results

Parcel 1

External gamma-ray exposure rate levels were generally 20 to 50% lower than most background values observed in New Jersey (Fig. 5). However, in the northwest corner of the parcel, gamma radiation levels were found to be significantly above background, indicating the presence of contamination. Although the contamination was low-level throughout this area, there were localized spots with gamma exposure rates up to 0.2 mR/h (20 times background) on the ground surface (increasing to 0.4 mR/h at 15-cm depth). The contamination appeared to be in a 6-cm layer at a depth of approximately 35 to 40 cm (Fig. 6).

Three soil samples were taken for radionuclide analyses. The location of these samples are identified in Fig. 5 and the results of the analyses are listed below.

Sample	Depth From Ground Surface (cm)	Concentration of Radionuclides (pCi/g)[a] ^{238}U	^{226}Ra	^{232}Th
ST 1	35 - 40	680 ± 3%	590 ± 0.2%	[b]
ST 2	0 - 10	1.1 ± 3%	1.2 ± 2%	1.4 ± 3%
ST 3	0 - 5	0.62 ± 3%	0.62 ± 3%	0.45 ± 2%

[a] Uncertainties are listed as 2σ (95% confidence intervals).

[b] Below minimum detectable concentration (MDC).

Parcels 2 and 3

The gamma scan of the perimeter of these parcels indicated there were no radiation levels significantly above background. Higher than normal gamma radiation levels were observed from a short stone retaining wall facing Richmond Terrace on Parcel 2. This was not considered unusual since the type of stone encountered has typically higher concentrations of ^{226}Ra than the surrounding soil. It should be noted that the gamma scan was very limited and yielded information only about a 2 to 3 m strip around the perimeter of these parcels.

Recommendations

Based on the results of this preliminary survey at the former Staten Island Warehouse Site, it is recommended that a formal detailed radiological survey of Parcel 1 be conducted. There is evidence that a 20 m x 40 m area may have been contaminated with high-grade Belgian Congo uranium ore; preliminary results cannot rule out the existence of other such areas on this or other parcels.

A detailed historical and property search is needed to determine whether the uranium ore was ever stored on Parcels 2 and 3. Aerial photographs taken during the early 1940's might provide information as to the specific location of the ore storage warehouses. If enough evidence cannot be gathered to adequately determine the locations of uranium ore storage, then it is also recommended that Parcels 2 and 3 of the former Staten Island Warehouse site receive a formal radiological survey.

Figure 1. Location of the former Staten Island Warehouse site in Port Richmond, New York.

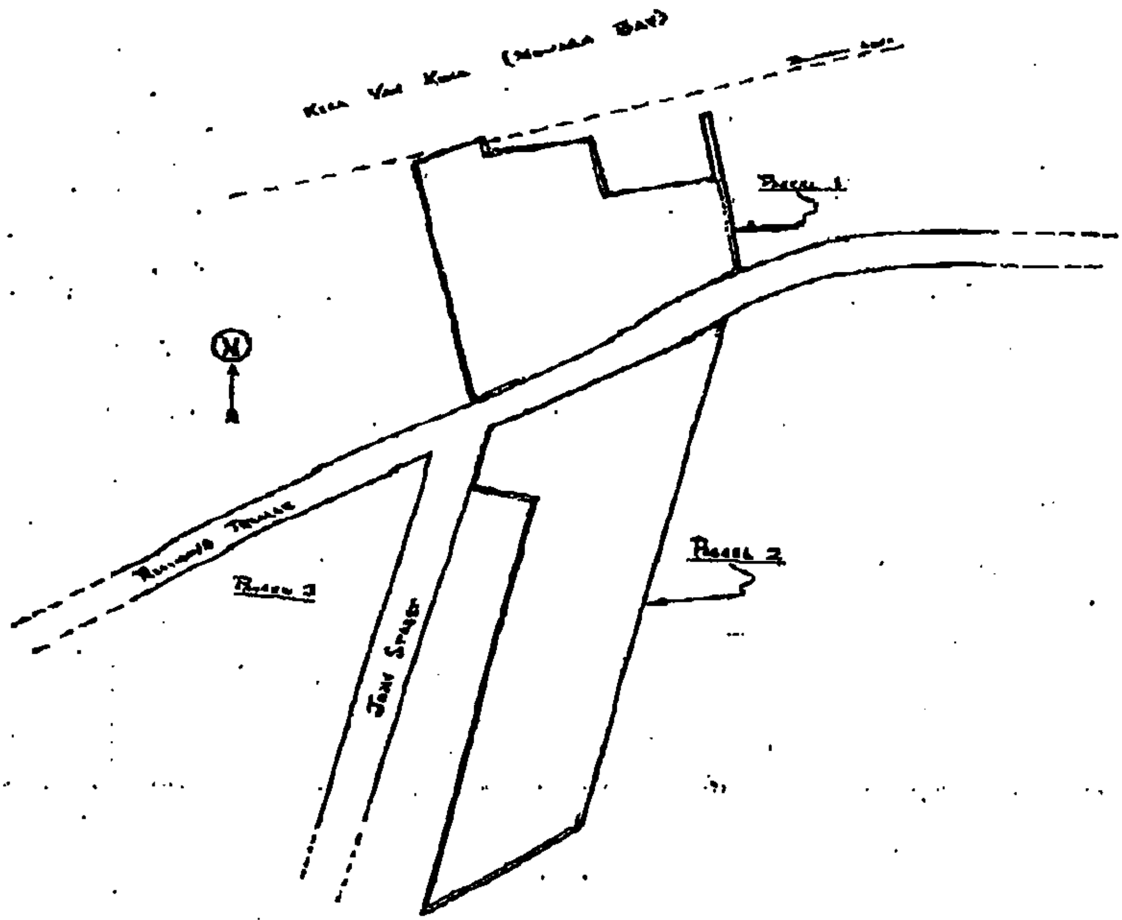


Figure 2. Location of three property parcels formerly owned by Archer-Daniels Midland Company in Port Richmond, New York.

- Letter from J. Cressy, President African Metals Corporation, to Major Thomas T. Crenshaw, Manhattan District, 11 December 1942, mentioning location of delivery of ore.

The following charts and aerial photographs are useful in identifying the Staten Island Warehouse site and in verifying its status in time:

- Chart: "Port Facilities at Port of New York," No. 67: N.Y. and N.J. Channels: Arthur Kill - Kill Van Kull, U.S. Government Printing Office, 1942 0-501293 -- shows the location of the Archer-Daniels-Midland Company Warehouse.
- Aerial Photographs: C+GS20, NY 41° 74°, No. 10 (and 19), 1223 43C328 (and 43C327) -- show the warehouse and other facilities on the wharf.
- Aerial Photographs: C+GS 1:124 NY (and NJ), 40° 74°, 12:35 EST, 6:16 46 C310 (and C311) - show the warehouse has been removed.

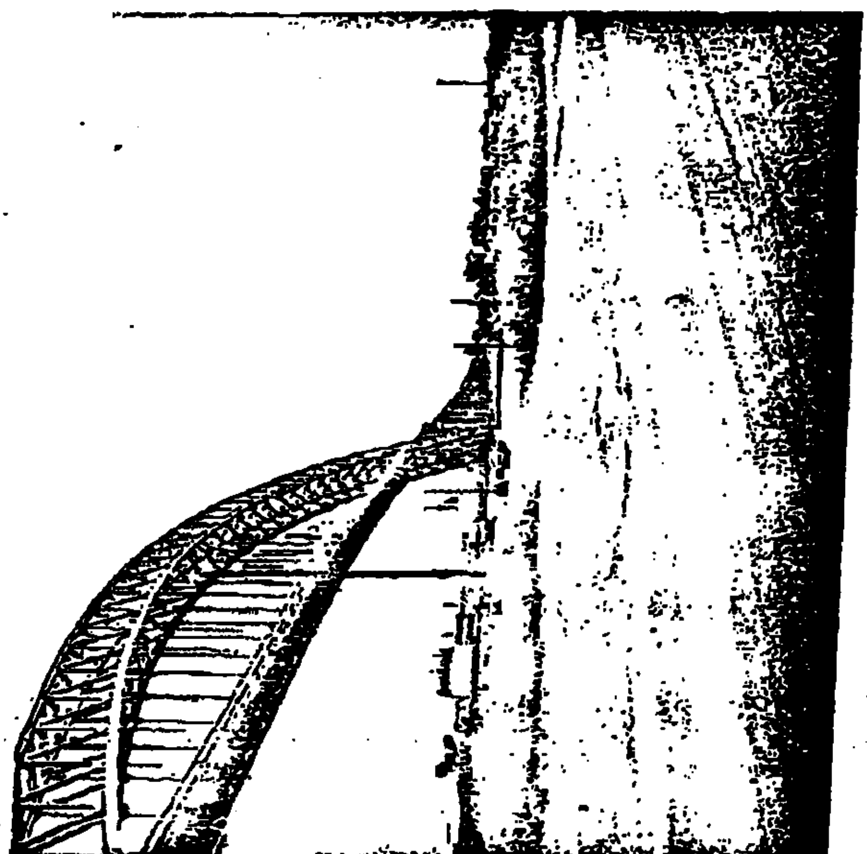


Figure 3. View of Parcel 1 of the former Staten Island Warehouse site looking north.

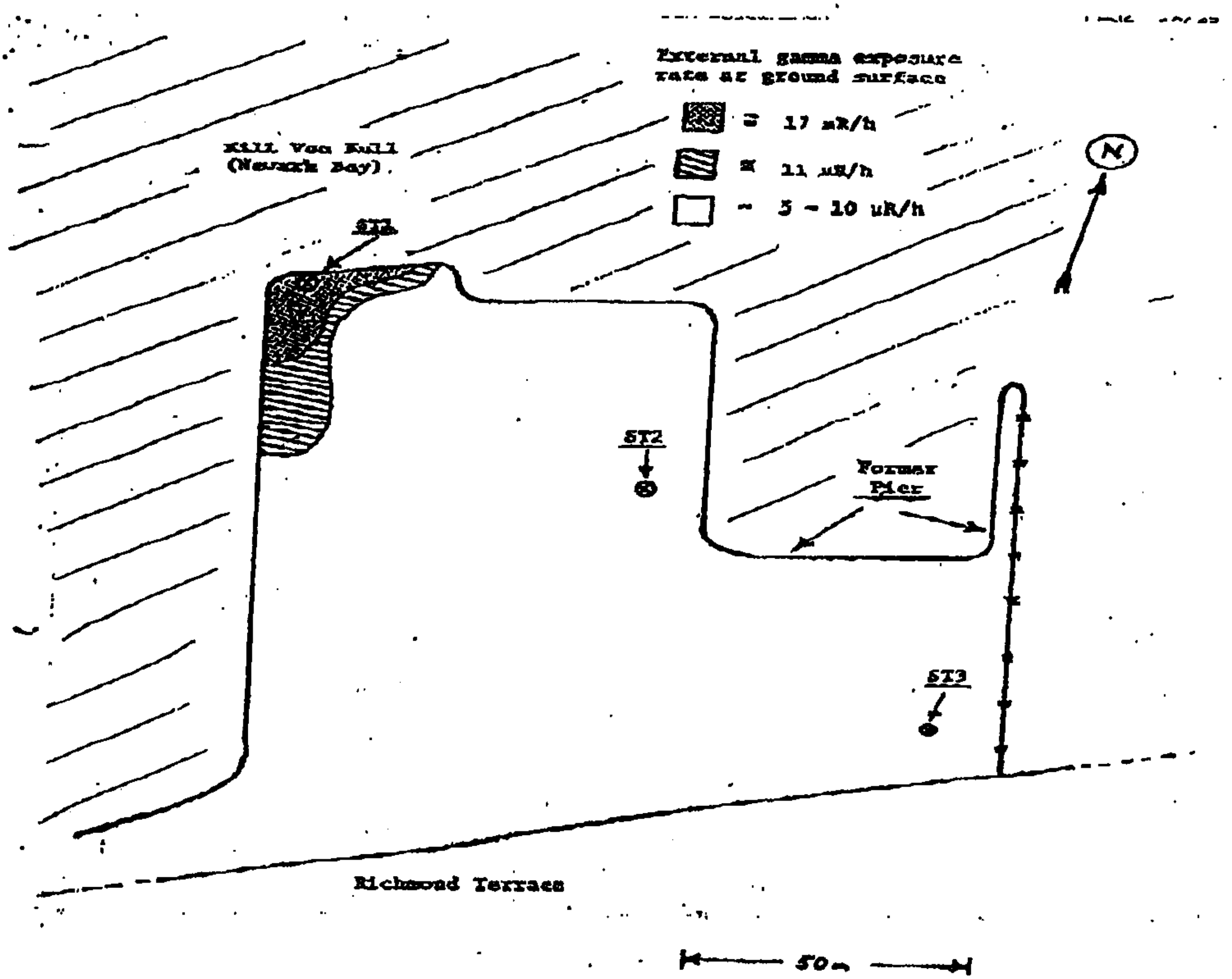


Figure 5. External gamma exposure rates observed at ground surface on Parcel 1 and location of three surface soil samples.

Figure 6. Location of soil sample ST 1 showing layer of contamination at 35 - 40 cm depth.

TAB 3

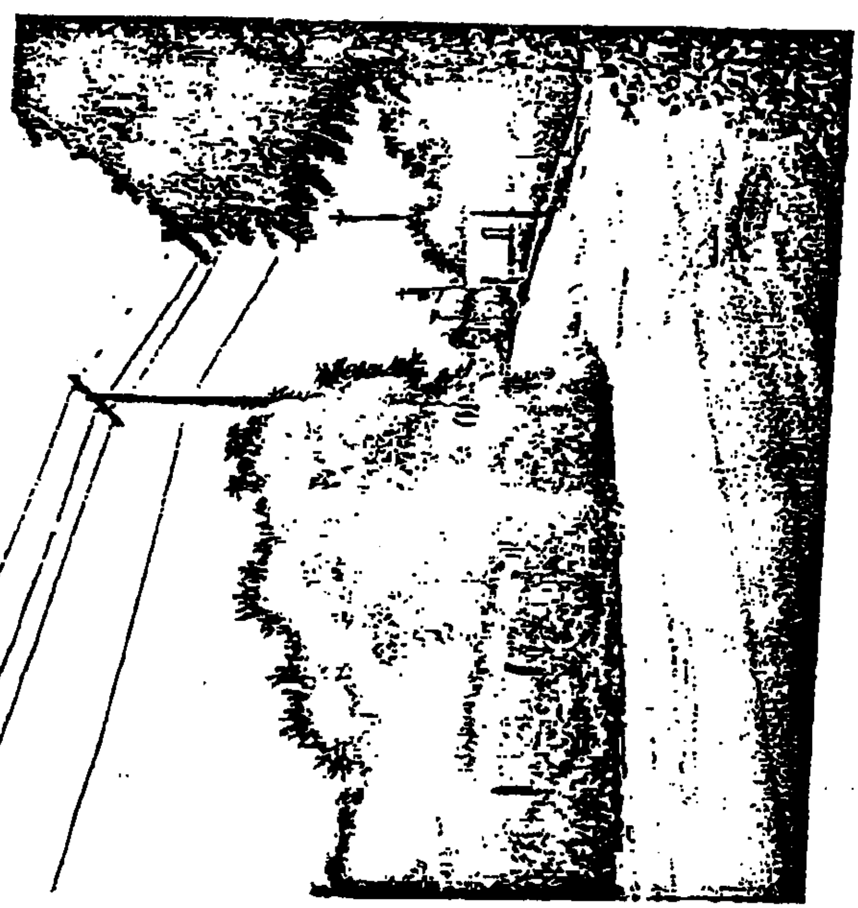
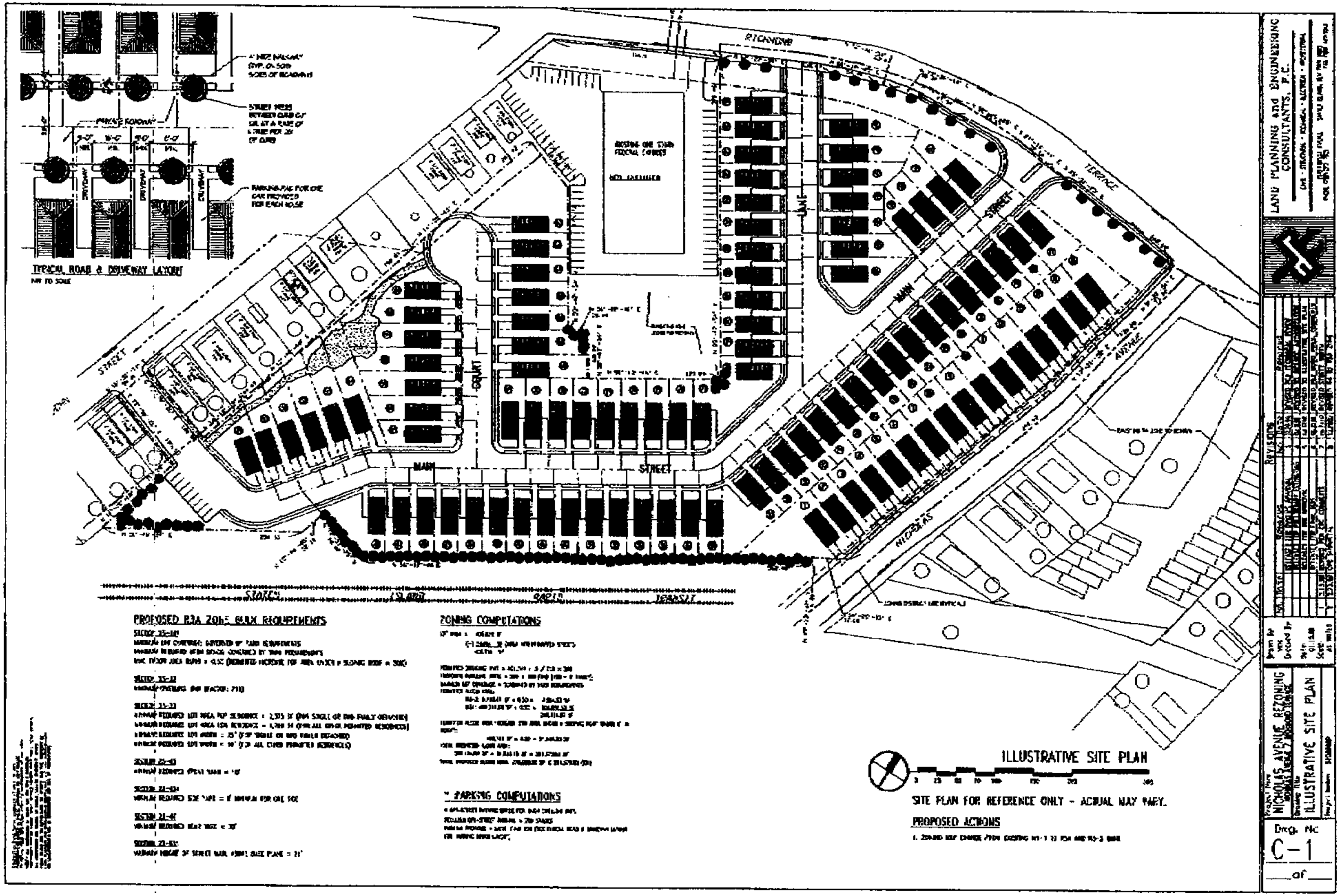


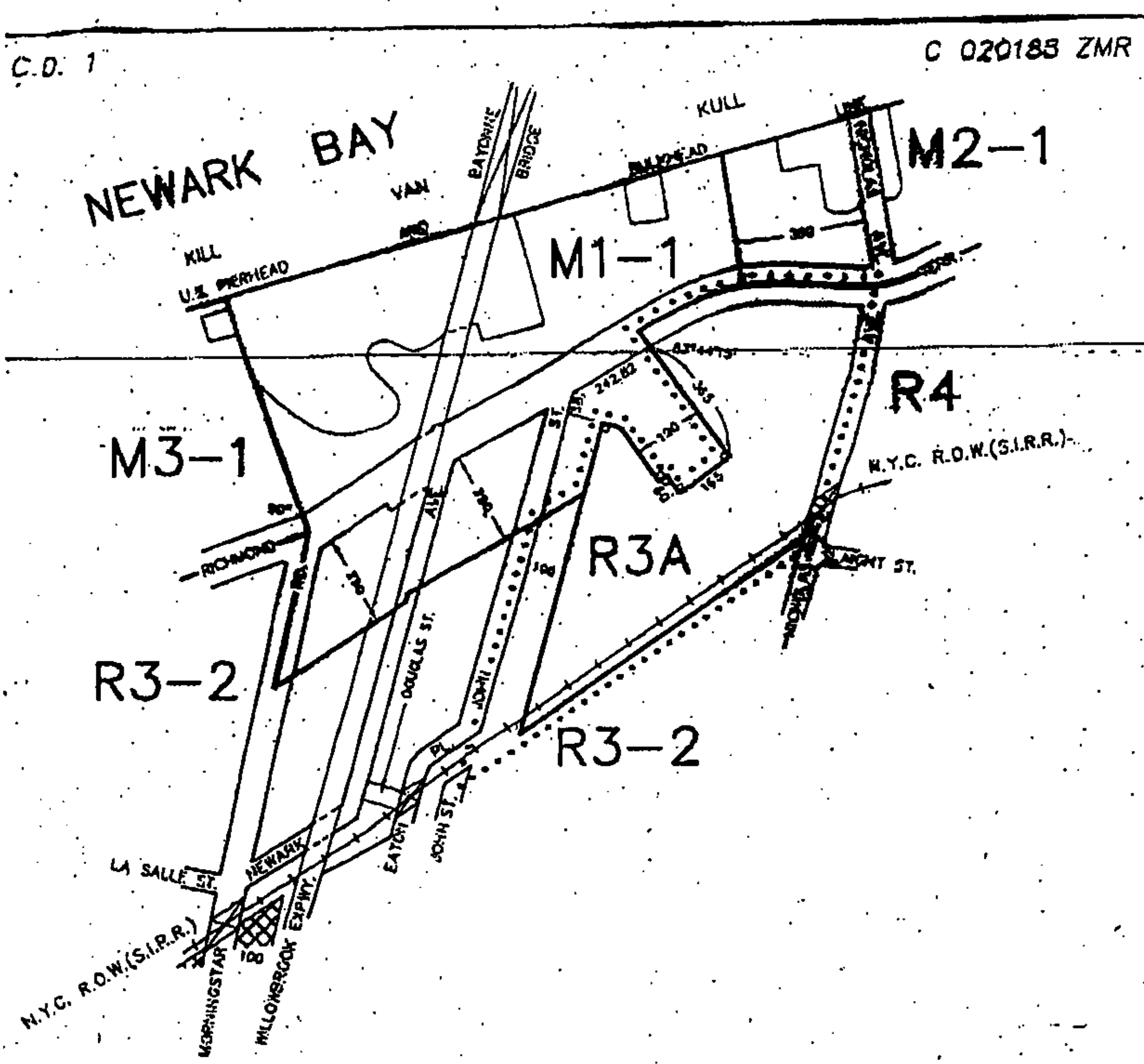
Figure 4. View of Parcel 2 (left side of John St.) and Parcel 3 (right side of John St.) of the former Staten Island Warehouse site looking south.



LAND PLANNING and ENGINEERING CONSULTANTS, P.C.
Revisions
NICHOLAS AVENUE REZONING
ILLUSTRATIVE SITE PLAN
Drwg. No.
C-1
of
RICHMOND
TERRACE
NICHOLAS
AVENUE
MAIN
STREET
LANE
COURT
STATEN
ISLAND
RAPID
TRANSIT
TYPICAL ROAD & DRIVEWAY LAYOUT
DRIVEWAY
PROPOSED R3A ZONE BULK REQUIREMENTS
ZONING COMPUTATIONS
PARKING COMPUTATIONS
ILLUSTRATIVE SITE PLAN
SITE PLAN FOR REFERENCE ONLY - ACTUAL MAY VARY.
PROPOSED ACTIONS

C.D. 1

C 020183 ZMR



CITY PLANNING COMMISSION

CITY OF NEW YORK

DIAGRAM SHOWING PROPOSED

ZONING CHANGE

ON SECTIONAL MAP

20c

BOROUGH OF

STATEN ISLAND

Director of Technical Review

New York, Certification Date.
SEPTEMBER 30, 2002
Revised
JANUARY 7, 2003

SCALE IN FEET

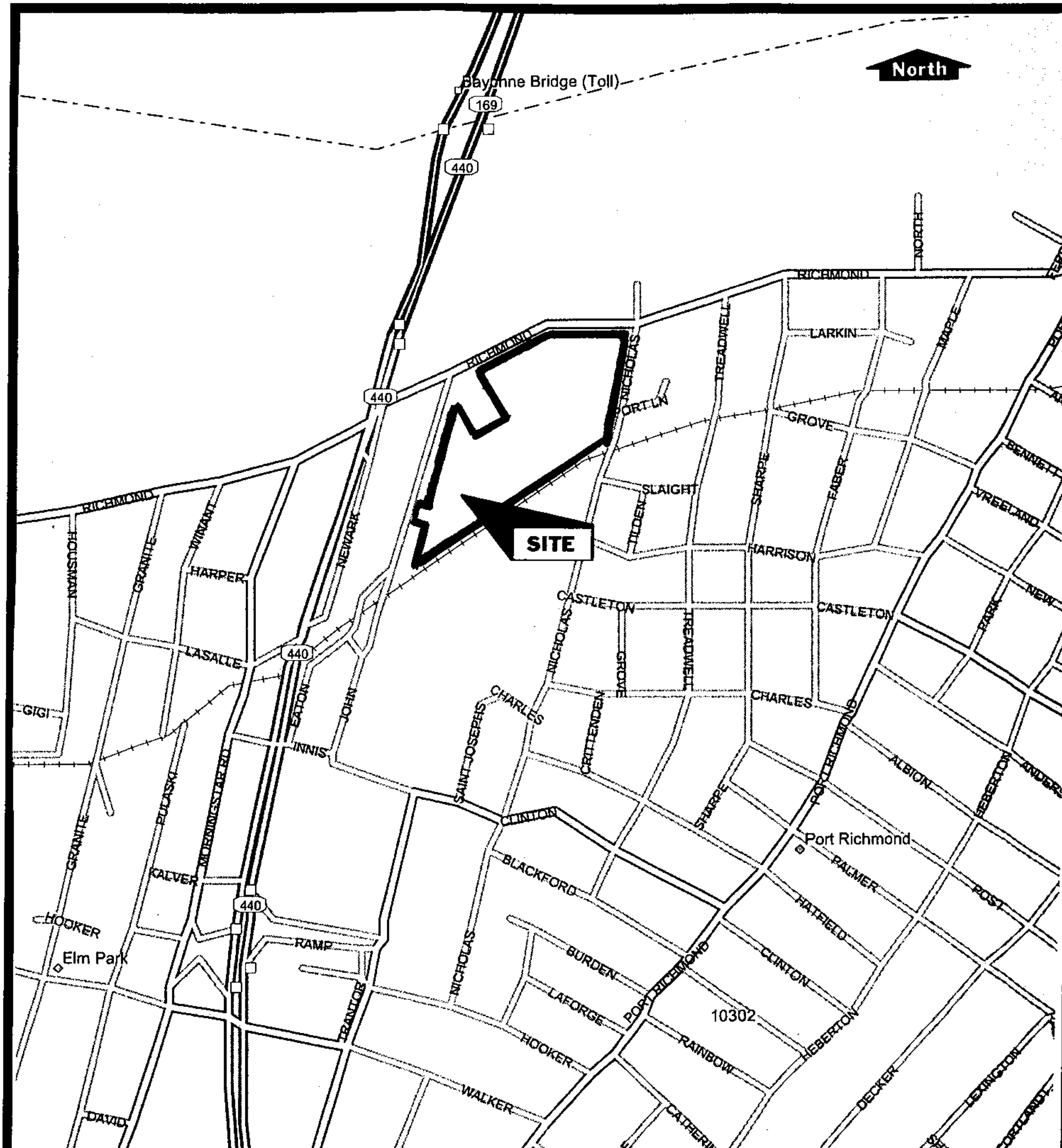
400 0 400

NOTE:

Indicates Zoning District boundary.

The area enclosed by the dotted line is proposed to be rezoned by changing an M1-1 District to R3-2 and R3A Districts.

Indicates a C1-2 District.



TITLE:	Site Location Map
CLIENT:	[redacted]

WHITESTONE ASSOCIATES, INC.
786 MOUNTAIN BOULEVARD, SUITE 200
WATCHUNG, NEW JERSEY 07069
908.668.7777 ✦ 908.754.5936 FAX

PROJECT:		PROJECT #:	BY:	PROJ. MGR.	DATE:	SCALE:	FIGURE:
	Nicholas Avenue Rezoning Block 1116, Lots 40, 75, &105 Block 1121, Lot 101 Staten Island, Richmond County, New York	WJ03-5920	DeLorme	TKU	3/25/03	NTS	1

SECTION 2.0
Introduction

DRAFT

2.1 SITE LOCATION/DESCRIPTION

2.1.1 Location

The subject property is situated at the intersection of Richmond Terrace and Nicholas Avenue in Staten Island, Richmond County, New York. The site, designated Block 1116, Lots 40, 75 and 105 and Block 1121, Lot 101, is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial and residential area of Staten Island, New York. The site location and existing conditions are depicted on Figures 1 and 2.

2.1.2 Existing Structures/Improvements & Current Site Use

The property currently is vacant and vegetated. No on-site activities or operations were observed during Whitestone's site investigation activities.

2.1.3 Utilities

The subject site currently is undeveloped, however, subsurface municipal water and sewer and natural gas lines are located beneath Richmond Terrace and Nicholas Avenue to the north and east of the site, respectively. In addition, overhead electric lines are located to the north of the subject property along Richard Terrace.

2.1.4 Past Uses of the Property

The site reportedly housed a former linseed oil bulk storage and distribution facility at the northern portion of the site and a bulk sand and gravel storage and distribution facility at the southern portion of the site until the mid-twentieth century. These former site operations reportedly date back to at least 1930's.

2.1.5 Uses of Adjoining Properties

The subject property is bordered by light industrial properties beyond Richmond Terrace to the north; residential properties beyond Nicholas Avenue the east; residential properties and John Street to the west; and Staten Island Rapid Transit Lines to the south.

2.2 PHYSICAL SETTING

DRAFT

2.2.1 Topography/Geology

The subject site is generally flat-lying with an average elevation of 19 feet above mean sea level (msl). The property is located in a region of the Piedmont Physiographic Province of New Jersey known as the Newark Basin. The Newark Basin contains rocks of the Newark Super Group which is a stratigraphic series of Triassic to Jurassic age sedimentary rocks containing intrusive sills and dikes as wells as extrusive volcanics. The Super Group rocks generally dip slightly to the north and form a northward thickening wedge that may have a composite thickness of greater than 33,000 feet. The primary formation beneath the site is believed to be the Stockton Formation which includes pale reddish brown conglomerates and mudstone.

The site also contains glacial deposits associated with a Wisconsinan Glacier which reached its most southerly advance approximately 20,000 years ago. The glacial deposits generally overlay the weathered rock.

Materials encountered during Whitestone's site investigation included organic surficial material to a depth of 0.5 feet below ground surface (fbgs). Native material encountered immediately below the surficial material in each of the test pits consisted of reddish brown silt and clay.

2.2.2 Surface Water/Wetlands

During the April 2, 2003 site visit, an area of ponded water was observed at the southeastern portion of the subject site. This area of intermittent ponded water does not constitute a surface water body or wetlands area and is the result of stormwater accumulation and previous site regrading activities. In addition, the subject site is not identified on the New York State Department of Environmental Conservation (NYSDEC) *New York State Article 24 Freshwater Wetland Map* dated September 1, 1987 or the United States Fish and Wildlife Service *National Wetlands Inventory* dated 1999. In addition, NYSDEC does not regulate wetland areas less than 12 acres. Accordingly, the approximately 9.5 acre subject site does not contain regulated wetland areas.

2.2.3 Groundwater

Groundwater was encountered in test pits TP-1 and TP-2 conducted at the northern portions of the site at a depth of 11 fbgs. Groundwater was not encountered in test pits advanced to 12 fbgs at remaining portions of the property.

2.3 PREVIOUS SITE INVESTIGATIONS AND REMEDIAL ACTIVITIES

DRAFT

Phase I and limited Phase II ESAs were completed at the site in July 1998 by T&M. The results of the investigatory activities previously were submitted to NYCDEP and are summarized as follows:

- T&M did not document on-site AOCs or RECs.

- The subsurface investigation completed by T&M in 1998 identified nickel and zinc in select soil samples exceeding NYSDEC Recommended Soil Cleanup Objectives and Eastern USA Background Levels. These exceedances are representative of naturally occurring site background levels.

2.4 CURRENT SCOPE OF WORK

The current activities which were undertaken by Whitestone in May 2003 as a follow-up to T&M's previous investigations include:

- conducting GPR and EM surveys in accessible portions of the northern portion of the site;

- conducting a radiological survey throughout the site;

- conducting additional subsurface sampling through the excavation of eight test pits to evaluate soil and groundwater conditions; and

- preparing this *Summary Report of Findings*.

Radiological Status of the Nicholas Avenue Rezoning Site

Natalie Lyn, LLC

Report No. 2003016/G-1272

Radiological Status of the Nicholas Avenue Rezoning Site

Submitted to:

Natalie Lyn, LLC
48 Liberty Avenue
New Rochelle, New York 10805
(914) 235-7865

by:

Integrated Environmental Management, Inc.
6711 Kingston Pike, Suite 103
Knoxville, Tennessee 37919
(865) 588-9180

Report No. 2003016/G-1272
January 27, 2004

TABLE OF CONTENTS

1 INTRODUCTION

A property located on Nicholas Avenue in Staten Island, New York has been designated for development as a residential property. The development is being performed by Natalie Lyn, LLC of New Rochelle, New York with the assistance of Whitestone Associates, Inc. of Watchung, New Jersey.

The subject property, hereinafter referred to as the Nicholas Avenue site, is located at the intersection of Richmond Terrace and Nicholas Avenue at the base of the Bayonne Bridge and is designated as Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101. It is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial, and residential area of Staten Island.

The Nicholas Avenue site is located adjacent to a site that was previously used as a warehouse area from 1939 through 1942 for radioactive ores shipped to various Manhattan Engineer District (MED) sites for storage and processing. The radiological character of the Nicholas Avenue site, as a result of its proximity to the ore storage/processing facility, was never completed. Nonetheless, completion of the characterization is necessary before the Nicholas Avenue site can be developed.

Integrated Environmental Management, Inc. (**IEM**) was contracted by Natalie Lyn to assess the current radiological status of the Nicholas Avenue site, and render an opinion as to its status in light of existing regulations. Between December 10 and December 13, 2003, **IEM** conducted the on-site surveys and sampling portion of the assessment. This report contains the findings of that effort.

Included herein is a brief description of the methodology used to complete this work, a review of the radiological data acquired, how the results compare to licensing and other state requirements pertaining to radioactivity on property, an evaluation of the radiological impact of the site on people, and a comparison of the radiological impact to common and typical radiation exposures. Representatives of Natalie Lyn, LLC and Whitestone Associates, Inc. were given an opportunity to review a draft prior to the publication of this report.

2 SUMMARY OF APPLICABLE REGULATIONS

2.1 Contaminants of Concern

The radioactive materials stored at the warehouse on the property adjacent to the Nicholas Avenue site were high-grade Belgian congo uranium ores. Previous studies of the radionuclide content of the ores and residual radioactivity at the processing site indicate that they consist of uranium and its radioactive progeny in general equilibrium. Therefore, the contaminants of concern for the Nicholas Avenue site are also Uranium-238 (U-238) plus progeny in equilibrium.

2.2 Release Criteria

No site specific release criteria exist for this site or for its intended use. However, the U. S. Nuclear Regulatory Commission (USNRC) published a final rule on radiological criteria for license termination in 1997 where the USNRC required that facilities that previously used radioactive materials in licensed activities perform sufficient decontamination and radiation measurements to verify that exposures to the maximum exposed members of the public be less than 25 millirem per year.[1] This regulatory basis is deemed applicable to the assessment of the Nicholas Avenue site, and will ensure the radiological impacts of any future use of the property is negligible..

Supplemental information was published by the USNRC in 1999 to provide screening values for surface soil that satisfy the license termination rule.[2] For U-238, the screening value is 14 pCi/gram. This value was used for the initial comparison of survey/sampling results.[3]

Because these values are listed in units of soil concentration, a reasonable means of guiding the sampling effort to ensure compliance with the screening criteria was necessary.[4] For the walk-over survey, an action level of twice the ambient background was used to identify those locations that would require further investigation (i.e., sampling).

---

[1] US Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Federal Register, Volume 62, page 39058, July 21, 1997.

[2] US Nuclear Regulatory Commission, *Supplemental Information on the Implementation of the Final Rule on the Radiological Criteria for License Termination*, Federal Register, Volume 64, page 68395, December 7, 1999.

[3] This screening value was conservatively-derived, meaning it was selected in order to ensure the dose criterion of 25 millirem TEDE would be easily met under any anticipated use scenario. Soil samples that exceed the screening concentration do not necessarily mean that the site does not meet the 25 millirem TEDE dose criterion; it simply means that a site-specific assessment of the concentration guidelines must be performed.

[4] Because the USNRC's screening criteria are so low, the use of hand-held radiation survey instruments alone could not be used to demonstrate compliance with the criteria. Therefore, the walk-over survey was performed in order to identify those locations on the Nicholas Avenue site that exhibited the potential for residual radioactiity that was distinguishable from background.

3 SURVEY METHODOLOGY

3.1 Project Organization

The field work for this effort was performed under the direction of Alan Duff, R.R.P.T., an employee of **IEM**. Mr. Duff, who has been qualified as a Health Physics Technician pursuant to MDE Radioactive Materials License No. 31-281-01, was responsible for managing ths project, performing survey activities and preparing this report.[5] Appendix 8.1 contains a summary of his qualifications to lead this effort. The field team assisting Mr. Duff was comprised of two individuals who were qualified as a Radiation Surveyors pursuant to Radiation Safety Procedure No. RSP-006, “Training and Qualifications of Radiation Protection Personnel”.

Technical oversight for the project was the responsibility of Carol Berger, C.H.P., who is also an employee of **IEM**. Ms. Berger assisted in the review of the quality of data collected, and performed a technical review of this report. Appendix 8.2 contains her qualifications as well

Other personnel present on site during the sampling and surveying effort included representatives of Whitestone who coordinated other contractors for the effort, and the backhoe operator who drained portions of the property in advance of the survey and sampling.

3.2 Safety Procedures

Health and safety provisions were established to permit the survey and sampling activities to be conducted without adverse impacts on worker health and safety. The applicable provisions included work area entry, control of work, training, emergency procedures, maintaining radiation exposures as low as reasonably achievable (ALARA), and control of non-radiological hazards. All radiation and industrial safety procedures were consistent with those associated with MDE License No. 31-281-01.

3.3 Instrumentation

The instrumentation used to acquire measurement data was appropriate for the type of radiation expected, of sufficient sensitivity and accuracy to detect the radioactive materials previously identified at the property, and of sufficient quantity to support the activities. Each instrument was labeled with a unique identifier (e.g., serial number of detector and rate meter) to enable traceability between instrument and survey records. Table 7.1 contains a listing of each instrument type and how it was used during performance of the survey. Additional details on the type, calibration and use of the instruments are contained in Appendix 8.2, along with copies of the daily instrument check forms and field logs.

[5] **IEM** maintains a Maryland Department of the Environment (MDE) license for the possession, use, storage and disposal of all forms and quantities of radioactivity within the State of Maryland and any other state pursuant to the provisions of interstate reciprocity. Mr. Duff serves as the Radiation Safety Officer for that license.

3.4 Survey Protocol

The walk-over surveys were conducted by traversing the surface to be monitored while moving the detector in a serpentine pattern in close proximity to the ground (i.e., less than two centimeters from the soil surface). When the health physics technician detected elevated count rates in a particular location, he would pause and obtain a stationary count rate in that area. Any measurement that exhibited contact count rates that were distinguishable from background was recorded on the applicable survey form, and the location was marked for further study.

At each survey area, measurements were made with both a Ludlum Model 2241 instrument readout device connected to a Ludlum Model 44-10 gamma scintillation probe, and a Bicron MicroRem meter. At measurement locations that exhibited the highest contact exposure rates during the walk-over survey, both meters were held at approximately one (1) meter above that area, and the instrument readings were recorded. The two measurement results from the same location provided a means of correlating the count rates obtained from the walk-over surveys into units of dose equivalent rate (i.e., microrem per hour).

A backhoe with operator was contracted to drain standing water in grids E-2, E-3, and F-3. The backhoe dug a trench from the area of standing water to allow the water to drain to grids that had already been surveyed. Two small areas were not accessible to conduct the walkover survey due to water. One location was immediately adjacent to the Federal Express property located in grid C-2 where a drainage ditch runs adjacent to the fence line. The area covered by water was approximately 20 feet long by 4 feet wide. The other location was a small area of standing water in grid D-4 which covered an area approximately 10 feet long by 6 feet wide. Neither area was drained due to the concern of flooding the Federal Express property adjacent to both areas which already had standing water in the parking lot.

3.5 Reference Grid System

A 50 meter by 50 meter grid was laid out over the property as part of this survey effort. This reference system was be recorded on survey maps and is provided in Appendix 8.2. The grid system was established to facilitate systematic reproducible selections of measuring/sampling locations, provide a mechanism for referencing a measurement/sample back at a specific location so that the same survey point can be relocated, and assist in the detection of discrete contamination areas (i.e., “hot spots”).

The grid consisted of a system of intersecting lines, referenced to a fixed site location (telephone pole at the intersection of Nicholas Avenue and Richmond Terrace). The grid lines were arranged in a perpendicular pattern, dividing the survey location into squares or blocks of equal area. Grids were marked by flags on metal stakes driven into the surface at grid line intersections.

3.6 Data Conversion

The gross count rates from the walk-over surveys were converted to units of net dose equivalent rate by the following methodology:

$$D_{net} = (E_{gross} - E_{bkg-ave}) \times C$$

where D_{net} = the net measured dose equivalent rate (microrem per hour), E_{gross} = the gross measured count rate (cpm), $E_{bkg\text{-}ave}$ = the mean background count rate applicable to the survey (cpm), and C = the correlation factor described previously to convert count rate instrument readings into units of dose equivalent rate.

3.6 Sampling Protocol

The objective of the soil sample collection effort was to characterize radiological constituents in the soil. The selection of the two of the sampling locations was biased in that the samples were collected at locations that exhibited the highest contact exposure rate during the walk-over surveys. The other eight soil samples locations on the property were selected at random. The following is a description of the sampling pattern:

- In grids B-2 and A-3, one (1) soil sample was collected in each grid and forwarded to a commercial radioanalytical laboratory. They were collected with a trowel at depths from zero (0) to six (6) inches. These samples were collected at locations that showed detectable gamma radiation above background levels during the walk-over survey.

- In grids A-1, B-3, C-1, D-2, D-3, E-3, E-4, and F-4, eight (8) soil samples were collected (one sample per grid) and forwarded to a commercial radioanalytical laboratory. They were collected with a trowel to a depth of zero (0) to six (6) inches. The sampling locations were selected at random since gamma radiation levels measured in these locations could not be distinguished from background levels.

All soil samples were placed into ziploc bags, packaged into sample coolers, and forwarded to a commercial analytical laboratory, General Engineering Laboratory (GEL) of Charleston, South Carolina, where they were analyzed by the methodology of gamma spectrometry for the presence of radium-226 and radium-228 daughter progeny.[6,7] The samples were accompanied to the lab with a completed Chain of Custody/Request for Analysis form, which is provided in Appendix 8.3. Each sample collection location is noted on the maps contained in Appendix 8.2.

Because the contaminants of concern for the Nicholas Avenue site exist in the natural background, ten additional soil samples were also collected for the purpose of determining background values

[6] The samples were sealed and held for thirty (30) days, after which they were counted to allow full ingrowth (i.e., equilibrium) to be reached between the Ra-226 and Ra-228 radionuclides and their respective progeny.

[7] The radionuclide concentrations were reported in units of "picocuries per gram", dry weight. However, each sample was also analyzed for its moisture content prior to sample preparation (i.e., drying and grinding). The "as is" concentration of each radionuclide was determined by multiplying the dry weight result by the dry weight fraction as follows:

$$C_a = C_d \times (1 - \%\, m)$$

where C_a = the "as is" concentration, C_d = the "dry weight" concentration and %m = the percent moisture of the sample.

for the area. These ten samples were collected south of the rail line on the south side of the property, at a location that was likely to be unimpacted by the former ore processing operation. These samples were collected with a trowel at a depth of 0-6 inches and were also forwarded to GEL for analysis by gamma spectroscopy (also with 30 day ingrowth period). The sample locations are shown on maps contained in Appendix 8.2.

4 RESULTS

4.1 Walk-over Survey Results

Background exposure rates for the walk-over survey instrumentation, acquired at a location approximately 30 feet south of the of the rail overpass on Nicholas Avenue, ranged from five (5) to six (6) microrem per hour using the Bicron Microrem meter.[8] Background exposure rates for the two Ludlum Model 2241 meters with Ludlum 44-10 sodium iodide detectors ranged from 8100 to 8433 counts per minute (cpm) and from 7900 to 8100 cpm, respectively.

For the majority of the Nicholas Avenue site, instrument count rates from the walk-over survey and from ambient gamma surveys could not be distinguished from background. The exceptions were located in grids A-1 and B-2, where walkover surveys located areas with count rates that ranged up to 12,000 cpm. Approximately 20% of the area of grid A-1 and 30% of grid B-2 exhibited measurements that were distinguishable from background (10,000 to 12,000 cpm). Soil samples in these two grids were collected at the locations of the highest measured count rate. However, it is important to note that while the areas within Grids A-1 and B-2 were elevated above the mean background count rate, no areas on the property exceeded the screening level of twice background. Survey maps showing the results of the walkover survey are provided in Appendix 8.2.

4.1 Analytical Results

Appendix 8.3 contains the Certificates of Analysis for the site soil samples collected both on the property at and the background location. Table 7.2, which is a summary of results, shows that soil concentrations in excess of background concentrations of the contaminants of concern were not identified. Furthermore, the screening criterion for U-238 was not exceeded.

[8] Background and survey data were acquired at a height of approximately one (1) meter above the soil surface.

5 FINDINGS

5.1 Residual Soil Concentration

Because walk-over survey data were, with few exceptions, negative for elevated radiation exposure rates in the majority of the soil on the Nicholas Avenue site, it is clear that the dose basis for unrestricted use of the site (25 millirem TEDE above background) is readily met. Those locations where elevated count rates were noted were still below the screening values of twice the background count rate, meaning they are only barely distinguishable from background.

The soil sampling effort demonstrated that the mean background concentration of U-238 in soil that is typical of the site was 1.04 ± 0.5 picocuries per gram (pCi/g). The analytical results from samples collected at locations that exhibited elevated count rates during the walk-over survey had a mean U-238 concentration of 1.11 ± 0.44 pCi/g, with a maximum concentration of 1.93 pCi/g. The net U-238 concentrations were thus 0.22 (average) and 1.47 (maximum) pCi/g. In all cases, the measured radionuclide concentrations were only a fraction of the screening criterion of 14 pCi/g for U-238, with the site average being less than two (2) percent of the criterion. Therefore, under any possible use scenario, the probability of any individual incurring a radiation dose in excess of 0.4 millirem is trivial, at best.[9]

5.2 Comparison to Common (Typical) Radiation Exposures

To put this estimate of radiation dose into perspective, it is important to note that everyone in the world is exposed to radiation at all times from natural radiation sources. This is called "natural background radiation".

Background radiation is unavoidable and its magnitude varies from one location on earth to another, depending on elevation, soil conditions, and other factors. For instance, the average person living in Dallas, Texas receives a radiation dose of 80 millirem per year due to "cosmic" and "terrestrial" radiation only, while the average person living in Denver, Colorado receives 180 millirem per year from the same two sources. The difference of 100 millirem between the two locations is primarily due to Denver's higher elevation.

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[9] The screening criterion of 14 pCi/g for U-238 has been deemed conservatively equal to a radiation dose of 25 millirem. Therefore, the average radionuclide concentration in those locations on the site that exhibited elevated count rates during the walk-over survey of 0.22 pCi/g would be equivalent to a radiation dose of 0.22 ÷14.0 = 0.02 of the 25 millirem dose basis, or 0.39 millirem.

In certain areas of the world, the residents receive over 1,000 millirem per year from "terrestrial" radiation alone because of the type of soil in these areas.[10] However, these residents show no abnormal increase in cancer rates, birth defects, or genetic problems.[11]

The National Council on Radiation Protection and Measurements gives some examples of common radiation exposures.[12,13,14] Members of the general population throughout the United States receive, on average:

- 650 millirem per nuclear medicine examination of the brain;
- 405 millirem per barium enema;
- 245 millirem per upper gastrointestinal tract series;
- 150 millirem per nuclear medicine examination of the lung;
- 110 millirem per computerized tomography of the head and body;
- 7.5 millirem per year to spouses of recipients of certain cardiac pacemakers;
- 6 millirem per dental x-ray;
- 5 millirem per year from foods grown on lands in which phosphate fertilizers are used;
- 4 millirem per year from highway and road construction materials;
- 1.5 millirem from each cross-country airline trip;
- 1 to 6 millirem per year from domestic water supplies;

[10] United Nations Scientific Committee on the Effects of Atomic Radiation, “Sources, Effects and Risks of Ionizing Radiation”, Report to the General Assembly, United Nations Press, 1988.

[11] National Research Council, Committee on the Biological Effects of Ionizing Radiations, “Health Effects of Exposure to Low Levels of Ionizing Radiation - BEIR V”, National Academy Press, Washington, D.C., 1990.

[12] National Council on Radiation Protection and Measurements, Report No. 93, "Ionizing Radiation Exposure of the Population of the Untied States", 1987.

[13] National Council on Radiation Protection and Measurements, Report No. 95, "Radiation Exposure of the U. S. Population from Consumer Products and Miscellaneous Sources", 1987.

[14] National Council on Radiation Protection and Measurements, Report No. 100, "Exposure of the U. S. Population from Occupational Radiation", 1989.

- 1 millirem per year from television receivers;
- 0.5 millirem from eating one-half pound of Brazil nuts;
- 0.3 millirem per year from combustible fuels, (i.e., coal, natural gas, and liquified petroleum);
- 0.2 millirem from drinking a quart of Gatorade™ each week; and
- 0.1 millirem per year from sleeping with one's spouse.

When all of the different types of background and medical radiation are considered, the average member of the U.S. population typically receives a radiation dose of about 360 millirem per year.[15]

The highest estimate of radiation dose applicable to any hypothetical individual as a result of the use of the Nicholas Avenue site (0.4 millirem) is 900 times lower than the dose associated with typical background radiation exposures received by average members of the U.S. population by virtue of being alive. Furthermore, that dose estimate is over seven (7) times lower than the dose associated with a round-trip cross-country flight, and 15 times lower than the dose associated with a single dental x-ray.

[15] National Council on Radiation Protection and Measurements, Report No. 91, "Recommendations on Limits for Exposure to Ionizing Radiation", June 1, 1987.

6 SUMMARY AND CONCLUSIONS

An assessment of the radiological conditions at the Nicholas Avenue Rezoning Site in Staten Island, New York was performed by IEM in December, 2003. The approach used and the assumptions made during interpretation of the data acquired were conservative in that the resulting estimates of soil concentration and associated radiation dose potential were maximized. Even so, the results indicate that the site is free of radiological contamination that can be reasonably distinguished from natural background radioactivity.

The radiological impact of the Nicholas Avenue site on humans, both now and in the future and regardless of its intended use is benign. Furthermore, based upon the findings of this evaluation, the site may be put to any use without regard for radiological issues.

7 TABLES

Table 7.1 - Survey Instrumentation

Instrument Model	Detector	Use	Nominal Background
Ludlum Model 2241	Ludlum Model 44-10	Walkover survey (gamma surface scan)	6-8 :R/hr (900 cpm/uR/hr)
Bicron MicroRem	N/A (internal)	Walkover survey (gamma general area surveys)	3-6 :rem/hr

Table 7.2 - Summary of Analytical Results

Sample No.	Ac-228 (pCi/g net)	Bi-214 (pCi/g net)	Cs-137 (pCi/g net)	K-40 (pCi/g net)	Tl-208 (pCi/g net)	U-238 (pCi/g net)
s01	0.15	0.17	-0.17	1.62	0.03	-0.17
s02	0.62	0.41	-0.17	7.87	0.16	1.19
s03	0.47	0.27	-0.00	8.33	0.11	0.31
s04	0.29	0.01	-0.35	6.88	-0.00	0.38
s05	0.82	0.60	0.00	12.36	0.25	1.47
s06	0.78	0.57	0.03	11.64	0.29	0.94
s07	0.10	-0.18	-0.00	3.69	0.03	-0.37
s08	0.21	0.10	-0.00	6.92	0.12	-0.73
s09	0.03	-0.01	0.00	1.01	0.00	0.42
s10	-0.18	-0.05	0.00	-2.35	-0.00	-1.26
Average	*0.33*	*0.19*	*-0.07*	*5.80*	*0.10*	*0.22*
SD	*0.32*	*0.25*	*0.12*	*4.49*	*0.10*	*0.82*

8 APPENDICES

Appendix 8.1 - Personnel Qualifications

R. Alan Duff - Project Manager

Professional Qualifications

Mr. Duff has over 24 years of experience in nuclear and hazardous materials project management, design support, surveillance, operational health physics, training, and decommissioning activities. He has prepared numerous plans, procedures, and license documents for U. S. Department of Energy facilities, U. S. Department of Defense facilities, U. S. Nuclear Regulatory Commission licensees, and commercial client facilities that are regulated by agreement states. Mr. Duff is well versed in the area of civilian and government radioactive and mixed waste transport and disposal requirements. He is registered by the National Registry of Radiation Protection Technologists (NRRPT).

Education

Advanced Mixed Waste Shipper Certification Training, 2003.
Confined Space Entry Training, 1998
CNSI Advanced Radioactive Material Transportation and Disposal Class, 1989 and 1993
IT Corporation Project Management Course (40 hours), 1992.
40-Hour OSHA HAZWOPER (29 CFR 1910.120) Training, 1987.
Eight-hour Supervisor Training, 1990
Eight-hour OSHA Annual Refresher (29 CFR 1910.120), 2001.
Canberra Multichannel Analyzer Operations Class, 1988.
Operational Water Chemistry and Radiological Controls, U.S. Navy, 1982
Engineering Laboratory Technician School, U.S. Navy, 1980.
Nuclear Power Training Unit (prototype), U.S. Navy, 1980.
Naval Nuclear Power School, U.S. Navy, 1978.

Registrations/Certifications

Registered Radiation Protection Technologist (RRPT), National Registry of Radiation Protection Technologists
Radiation Safety Officer - MDE Radioactive Materials License No. MD-31-281-01.
Authorized User - MDE Radioactive Materials License No. MD-31-281-01.

Experience and Background

2002 - Present *Vice President of Nuclear Services, Integrated Environmental Management, Inc., Knoxville, Tennessee* - As the director of IEM's Nuclear Services Division, which operates as a compliment to our consulting capability by providing support services and on-site project management for major client initiatives, Mr. Duff is responsible for turn-key decontamination and decomissioning of nuclear facilities - including the preparation of all planning documentation, characterization surveys and sampling - facilty and equipment decontamination, final status survey performance,waste packaging/transport/disposal coordination, routine facility surveillance services, emergency response, leak testing of sealed sources, instrument rental, employee monitoring services for internal and/or external exposures, training, and a host of other applied health physics operations.) Mr. Duff also serves as the Radiation Safety Officer (RSO) for IEM operations pursuant to Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

1995 - 2002 *Program/Project Manager, Integrated Environmental Management, Inc., Knoxville, Tennessee* - Provides high-quality project management and remediation services to commercial and government clients. As a member of the client's response team, works with clients to: Develop scopes-of-work and bid packages for specialty subcontractors handling highly focused assignments; identify those subcontractors who will provide the greatest value to the client; manage teams of specialty subcontractors to ensure that the client's goals and expectations (technical, regulatory, and financial) are met from the beginning until project completion; provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process; provide site remediation/decommissioning services for radioactive and hazardous materials; advise and train clients on waste transportation and disposal issues; and develop project specific plans and procedures to conduct on site activities.

1994 - 1995 *Senior Environmental Specialist, AWK Consulting Engineers, Inc., Pittsburgh, Pennsylvania* While assigned to the Oak Ridge, Tennessee office, was responsible for performing technical and administrative duties required to satisfy customer needs on site characterization and pre-remedial design support projects and for all aspects of D&D projects. Responsible for preparing project plans, project work plans, task specific Health & Safety Plans, and budgets/schedules for these projects. Also responsible for identifying and implementing decommissioning and decontamination methods for these projects.

1987 - 1994 *Project Manager, Health Physics Supervisor, Nuclear/Mixed Waste Engineering Services, IT Corporation, Knoxville, Tennessee*. Provided project management and health physics support services for nuclear and mixed waste projects throughout the United States.

1978 - 1987 *Engineering Laboratory Technician (ELT), Leading Petty Officer, Radiological Controls Shift Supervisor*, United States Navy Supervised a division of 40 personnel, provided support for nuclear powered submarines, and performed over 250 error-free shipments of radioactive materials. Served as Leading ELT and Engine Room Supervisor on the USS Grayling, SSN 646.

Professional Society Memberships

Health Physics Society (Plenary Member)
American Nuclear Society
Conference of Radiation Control Program Directors (Advisor to the Radioactive Waste Management Committee E-5 and to the D&D Committee E-24)

Awards

Navy Achievement Medal for conducting the first Trident Class submarine ion exchange resin discharge and solidification.

IT Corporation Project Management Associate

Example Project Descriptions

- Project Manager for health physics field activities during characterization of several oil production sites contaminated with Naturally-Occurring Radioactive Materials (NORM) for multiple clients in support of litigation defense.

- Project Manager for the radiological characterization (MARSSIM surveys) of a facility that manufactured thorium fluoride for use as an optical surfacing product. Conducted radiation and contamination surveys and obtained analytical samples of building materials. Returned to the facility to conduct surveys in support of property ownership transfer. Supervised radiological remediation of facility including floor and wall contamination, underground tank removal, drain line removal, roof decontamination, and equipment demolition including ventilation systems, fume hoods, and scrubber systems. Responsible for coordination for treatment and disposal of radioactive and mixed wastes generated during the project and conducted final status surveys at the facility upon completion of work.

- Project Manager for the decommissioning of an oven contaminated with mercury and thorium (mixed waste). Arranged for subcontractors to conduct decontamination and disposal activities, prepared project plans, supervised all field activities, and conducted all radiological surveys during the decommissioning. Responsible for coordination for treatment and disposal of mixed and hazardous wastes generated during the project. Later conducted removal of a central vacuum system that was contaminated with mercury and thorium at the same facility.

- Conducted audit of a client's radiation protection program including tour of the site, interviews with employees to verify radiological and respirator training, review of shipping, waste disposal, sealed source, training, and survey records. Also conducted leak tests of client's radioactive sealed sources.

- Project Manager for escalated decommissioning a State-licensed site that manufactured, tested, and distributed gauging devices in anticipation of the sale of the company and the possibility of its moving its operations to another location. Responsible for preparation of work plans, negotiations with regulatory agencies, decontamination of indoor and outdoor areas, performance and documentation of a final status survey, shipment of waste, and project-specific health and safety.

- Project Manager and health physicist for the remediation of a building foundation drainage system and the processing of over 100,000 gallons of water contaminated with cobalt-60 up to levels of one (1) :Ci per liter for a commercial client.

Responsible for coordination of a water processing subcontractor, an excavation subcontractor, and off-site analytical laboratory activities. Also interfaced with on-site U. S. Nuclear Regulatory Commission, U. S. Environmental Protection Agency, and a variety of state and local agencies.

- Technical writer for the development of a logic flow diagram for identifying radioactive and mixed wastes at the U. S. Department of Energy's Portsmouth (Ohio) Gaseous Diffusion Plant.

- Technical writer for the Fernald Remedial Investigation/Feasibility Study (RI/FS). Provided technical guidance to engineering staff, generated reports on radioactive and mixed waste packaging, transport, and disposal.

- Site Manager for the characterization survey of an EPA Superfund site three story warehouse that had been used in the past as a lantern mantle manufacturing facility and had been contaminated with thorium. Assisted in the development of project plans and final reports, supervised a crew of Health Physics technicians performing characterization surveys, interfaced with the facility owner and EPA personnel while on site.

- Project Manager for the decommissioning and decontamination of three facilities at Sandia National Laboratory contaminated with radioactive and mixed waste. Responsible for the coordination of resources for the development of project plans, development of Project Work Plan, and maintaining project budget and schedule commitments.

- Health Physics Supervisor for a transuranic (TRU) waste repackaging project. Supervised the characterization, repackaging and shipment of 130 containers of high-activity americium-241 and plutonium-238 hot cell waste. The waste was packaged to meet the WIPP waste acceptance criteria and was transported (highway route controlled quantity) to the Idaho National Engineering Laboratory (INEL) for storage.

- Project Manager for the excavation and disposal of radium waste cells for the Corps of Engineers at Bergstrom Air Force Base in Austin, TX. Developed all project plans, supervised field efforts, and coordinated waste transport and disposal activities.

- Project Manager for the decontamination and final release survey of a 70,000 ft^2 facility that manufactured cesium-137 level gauges. Decontamination efforts involved overhead areas, work area concrete floors, and removal of soil under the floor slab. Facility was released from their license following a verification survey by the state radiological licensing agency. Developed state approved decommissioning plan and final status survey report.

- Project Manager for the packaging and disposal of 55,000 Curies of cobalt-60 teletherapy sources. Sources were loaded into cask liners in the facility hot cell and loaded into Type B casks for shipment for disposal. Also supported the packaging and disposal of several low level waste drums and HEPA filters that required the use of shielded Type A and B shipping containers.

- Project Manager for the decommissioning and decontamination of IT's Oak Ridge Mixed Waste Analytical Laboratory. Developed the decommissioning and decontamination plan that was approved by the State of Tennessee. Also supervised the field crew during final surveys of facility.

- Project Manager for the decommissioning and decontamination of a magnesium-thorium waterfall grinding booth at Tinker Air Force Base in Oklahoma. Responsible for the development of project plans, schedule and budget management, and disposal of radioactive and mixed wastes.

- Project Manager for the decommissioning of a commercial facility which had previously processed ores containing uranium and thorium. Generated the decommissioning plan submitted to and approved by the U. S. Nuclear Regulatory Commission, and was responsible for schedule, budget, and on site activities.

- Project Manager for the removal of a 22 MeV particle accelerator from a major university medical center. Developed State-approved decommissioning and decontamination plans, arranged for waste disposal and transfer of the accelerator to a university in Beijing, China, and was responsible for budget, schedule and all on site activities.

- Project Manager for the decommissioning and decontamination of two radioactive source manufacturing laboratories at Chevron Research and Technology. The laboratories housed a neutron generator and were contaminated with tritium, carbon-14, cesium-134, and cobalt-60. Negotiated plan approvals with the State agency, and was responsible for budget, schedule, and all on site activities including waste transport and disposal.

- Project Manager for the routine quarterly surveillance and special radiological projects at a metallurgical facility licensed by the NRC. Conducted radiation, contamination, and airborne radioactivity surveys as well as personnel bioassay and dosimetry program and environmental monitoring program each quarter. Provided health physics coverage for non-routine activities such as baghouse and stack testing, heats of specialty materials, final release surveys of an excavated road area, storage yard, and a warehouse formerly used for storage of radioactive materials, and recovery of radioactively contaminated equipment improperly released from site. Responsible for the generation of quarterly surveillance reports.

- Project Manager for the development of a conceptual decommissioning plan for a maintenance facility located in South Carolina. The plan was generated to provide support for the facility's decommissioning funding plan.

- Health and Safety Manager/Project Manager at the U. S. Department of Energy's Fernald site thorium silo and bins decommissioning and decontamination project. Developed the project-specific health and safety plan, and interfaced with the client on health physics and health/safety issues. This project received safety and quality awards from the client.

- Health Physics Supervisor responsible for the sampling of underground storage tanks with radioactive and mixed wastes at Brookhaven National Laboratory.

- Health and Safety Manager for the U. S. Department of Energy's Fernald Plant K-65 Silo sampling project. Developed the health/safety and sampling plans. The silos contained up to 0.5 µCi of Radium-226 per gram and were the largest single source of radon gas in the U.S.

- D&D Technical Manager for the decommissioning of the U. S. Department of Energy's LEHR facility at the University of California at Davis. Developed project decommissioning and decontamination plans and field procedures.

- Health Physics Supervisor for the excavation of waste materials which included mixtures of uranium and explosives.

- Proposal Coordinator for over 50 business proposals for nuclear decommissioning and decontamination projects including job walk downs, cost estimation, scheduling, and technical content of proposals.

- While in the US Navy, acted as radioactive materials shipper for the Trident Submarine Refit Facility. Performed over 250 error-free shipments of radioactive materials including Type B quantity radiography source shipments and radioactive waste shipments to the naval shipyard.

Carol D. Berger - Technical Reviewer

Professional Qualifications

Ms. Berger has over 26 years experience in nuclear and radiological activities with emphasis in strategic planning, radiation dosimetry, instrumentation, and applied health physics. As a co-founder of **IEM**, Inc., Ms. Berger is actively involved in performance of radiological dose assessments, regulatory interactions, site decommissioning, program evaluations, program development, pathway analyses, risk assessments, dosimetry evaluations, assessment and control of sources of non-ionizing radiations, waste management programs, environmental monitoring programs, and detection and quantification of low-levels of radioactivity.

Education

M.S., Health Physics, San Diego State University, San Diego, California; 1979

M.S., Radiation Physics, San Diego State University, San Diego, California; 1977

B.S., Physics/Chemistry, San Diego State University, San Diego, California; 1972

Certifications

Certified Health Physicist (Comprehensive), American Board of Health Physics, 1983 (Re-certified: 1987, 1991, 1995, 1999, 2003)

Alternate Radiation Safety Officer - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Authorized User - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Experience and Background

1994 - *Present* *President and Founder, Integrated Environmental Management, Inc., Gaithersburg, Maryland.* Provides high-quality strategic environmental management services to commercial and government clients. As a member of the client's response team, works with clients to promote an understanding of what is required to achieve and/or maintain compliance in the eyes of all pertinent regulatory agencies, individually or jointly; develop an overall strategy for achieving compliance and reduce liabilities in a technically-sound, legally-defensible, and fiscally-conservative business manner; recommend specific solutions that are compatible with the client's operating philosophy; and provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process.

1989 - 1994 — *Senior Technical Consultant, IT Corporation/Nuclear Sciences, Washington, D.C.* Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Instrumentation; Emergency Response and Preparedness; Site Decommissioning; Radioactive Waste Management; Radiation Risk Assessment; Training; Licensing and Regulatory Negotiations; and Non-ionizing Radiation

1986 - 1989 — *Senior Health Physicist, IT Radiological Sciences Laboratory, Knoxville, Tennessee* - Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Applied Health Physics; Instrumentation; Radioactive Waste Management; Training; and Non-ionizing Radiation.

1983 - 1986 — *Radiation Dosimetry Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for internal and external dose assessment and programs for ORNL employees, visitors and contractors. Experience included Internal and External Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Site Characterizations; Personnel Management; and Training.

1978 - 1983 — *Internal Dose Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee*. Responsible for development of the ORNL Whole Body Counter Facility for detection and quantification of the actinides in-vivo. Experience included: Internal Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Special Studies; Personnel Management; and Training.

1978 - 1986 — *Adjunct Faculty, Oak Ridge Associated Universities, Oak Ridge, Tennessee.* Professional training courses and general classes in the following health physics and radiation protection areas: Internal Dose Assessment; In-vivo Monitoring and Bioassay Methodologies; Instrumentation, and Applied Health Physics.

1979 - 1980 — *Health Physics and Dosimetry Task Group Member, President's Commission on the Accident at Three Mile Island, Washington, D.C.* Tasks included: Internal Dose Assessment from Whole Body Counting Results; Estimates of Source Term from in-plant Monitoring Systems; Atmospheric Dispersion Modeling and Population Dose Assessment; and Development of Health Physics Sequence of Events.

Professional Society Membership

American Academy of Health Physics (President, 1995; Executive Committee, 1995-1997; Chair of Strategic Planning Committee, 1997; Chair of Professional Standards and Ethics Committee, 2003)

Health Physics Society (Plenary Member; Publications Committee, 1999-2001)

Baltimore-Washington Chapter, Health Physics Society (Treasurer, 1993-1994, Board of Directors, 1998-2000)

American Bar Association (Natural Resources, Energy, and Environmental Law)

Environmental Law Institute

Publications

Over 30 professional publications; over 40 oral presentations; over 100 technical reports; over 25 training courses taught.

Other Appointments/Awards

East Tennessee Chapter - Health Physics Society (President, 1986; President-Elect, 1985; Secretary, 1981-1982)

San Diego Chapter - Health Physics Society (Charter member)

American Board of Health Physics, Comprehensive Panel of Examiners, (1989-1993)

ASTM Task Group E-10.04.27 "Transuranic Wound Analysis"; (1986 to 1000)

ANSI Standards Committee (ANSI N13.41) on Multiple Badging; 1986 to 1996 (Chairman, PlanCo-59 Working Group, 1990 to 1996)

ANSI Standards Committee (ANSI N13.39) on Internal Dosimetry Programs (1994 to 2001)

Sigma Xi - Scientific Research Society

National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 46-10, "Assessment of Occupational Exposures from Internal Emitters" (1989-present)

Purdue University, Health Sciences Advisory Council for the School of Health Sciences (1995-1998)

DOE/IAEA Whole Body Counter Intercalibration Committee (1980-1986)

Consultant to Knoxville Academy of Medicine, Mass Casualty Simulation (1984-1985)

Consultant to the National Cancer Institute to Evaluate Devices and Techniques to Determine Previous Radiation Exposure under Public Law 98-54 (Award for participation presented by Oak Ridge Associated Universities in April, 1988.)

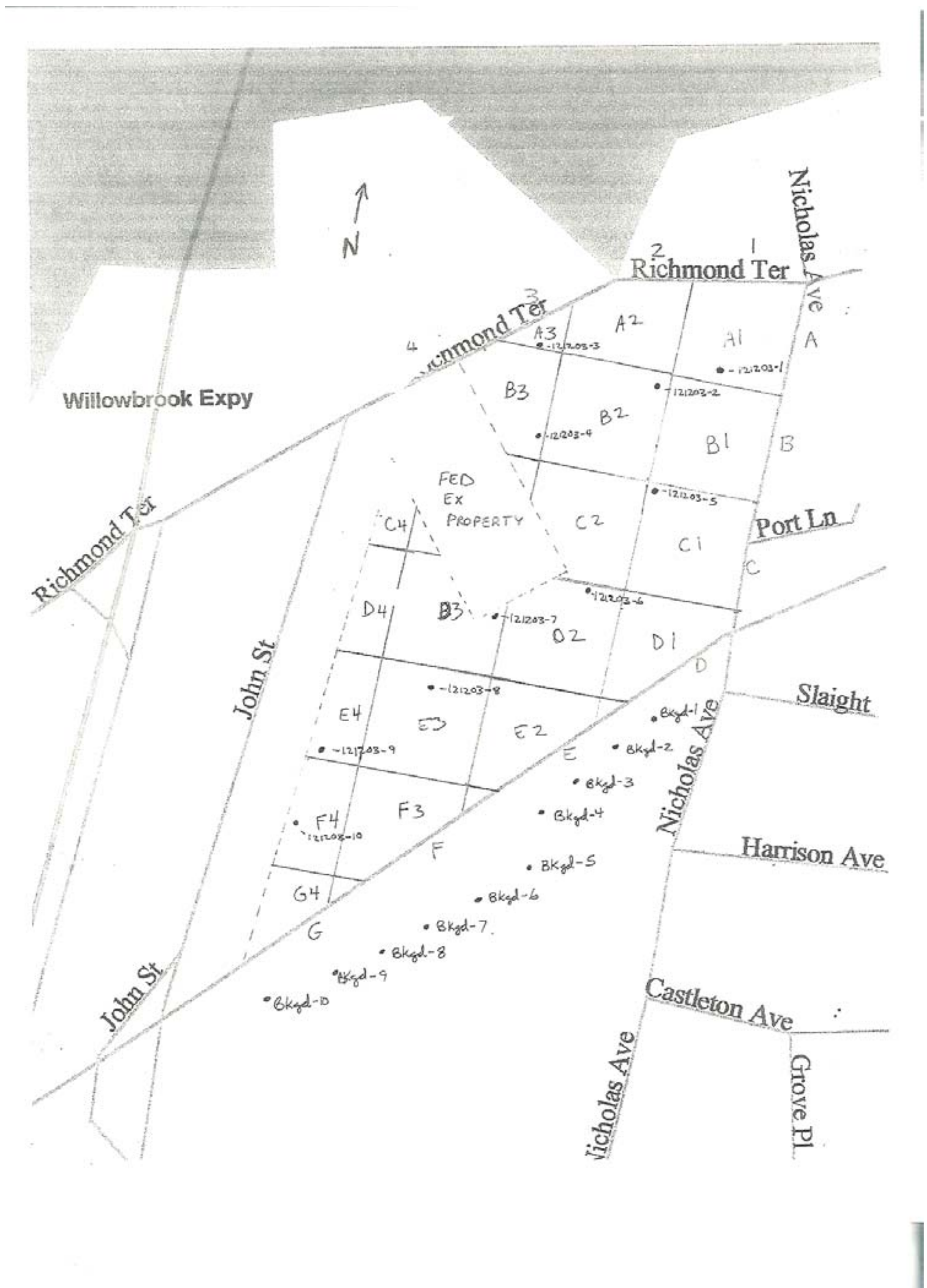
Steering Committee Member, U. S. Department of Energy Task Group on the Education of Future Health Physicists (1989-1991)

Technical reviewer and referee for *Health Physics*, *Nuclear Technology*, and *Radiation Protection Management*

IT Corporation *Distinguished Technical Associate* - June, 1992.

Appendix 8.2 - Instrument Records, Survey Maps and Field Logs

Sampling/Survey Map



Appendix 8.3 - Certificates of Analysis

This report was prepared under the direction of
Natallie Lyn, LLC

by

R. Alan Duff, R.R.P.T.
Integrated Environmental Management, Inc.
302 Westfield Road
Knoxville, Tennessee 37919
(865) 588-9180
RADuff@IEM-Inc.com

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WHITESTONE ASSOCIATES, INC.

DRAFT

May 5, 2003

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via Fax and Federal Express

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment
59-17 Junction Boulevard, 11th Floor
Corona, New York 11373

Attention: Mr. John Wuthenow
Director of Site Assessment Unit

Regarding: **SUPPLEMENT TO THE SITE INVESTIGATION WORKPLAN**
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
STATEN ISLAND COMMUNITY DISTRICT NO. 1
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Wuthenow:

Whitestone Associates, Inc. (Whitestone) has prepared this supplement to the April16, 2003 *Site Investigation Workplan* (SIW) on behalf of Natalie Lyn, L.L.C. to address the comments outlined in the New York City Department of Environmental Protection's (NYCDEP's) April 29, 2003 correspondence.

Radiological Assessment

As requested by NYCDEP, Whitestone will conduct the ground-level radiological survey across the entire subject site. Prior to commencement of site activities, Whitestone will contact Richard Borri of the New York City Department of Health (NYCDOH) to confirm approval of the proposed radiological survey. The boundaries of the subject site are identified on Figure 1 of the SIW previously submitted to NYCDEP.

Suspected Wetland Areas

During the April 2, 2003 site visit, an area of ponded water was observed at the southeastern portion of the subject site. This area of ponded water does not constitute a surface water body or wetlands area and is the result of stormwater accumulation and previous site grading activities. In addition, the subject site is not identified on the New York State Department of Environmental Conservation (NYSDEC) *New York State Article 24 Freshwater Wetland Map* dated September 1, 1987 or the United States Fish and Wildlife Service *National Wetlands Inventory* dated 1999. In addition, NYSDEC does not regulate wetland areas less than 12 acres. Accordingly, the approximately 9.5 acre subject site does not contain regulated wetland areas.

Hopefully, this information reconciles NYCDEP's concerns. Site investigation activities are scheduled to commence of Wednesday, May 14, 2003. Please contact us with any questions regarding these matters.

Sincerely,

WHITESTONE ASSOCIATES, INC.

DRAFT

Thomas K. Uzzo, P.E.A.
Principal

DRAFT

Christopher Seib
Environmental Services Manager

CS/pjp L:\WhitestoneOffice\2003\035920\SIWsupplement.wpd
Copy: Richard Borri, NYCDOH
Daniel L. Cole, P.G., NYCDEP-OEPA
Angela Licata, NYCDEP-OEPA
Getz Obstfeld, Natalie Lyn, L.L.C.
Richard Bowers, Esq., Stadtmauer Bailkin, L.L.P.

WHITESTONE ASSOCIATES, INC.

March 16, 2004

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1120 Welsh Road
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22630 Davis Drive
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via fax and Federal Express

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Environmental Planning and Assessment
59-17 Junction Boulevard, 11th Floor
Corona, New York 11373-5108

Attention: Mr. Darryl Cabbagestalk
Director

Regarding: **SUPPLEMENT TO THE SITE INVESTIGATION/ CORRECTIVE ACTION WORKPLAN**
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
BOROUGH OF STATEN ISLAND,
RICHMOND COUNTY, NEW YORK
STATEN ISLAND COMMUNITY DISTRICT NO. 1
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Cabbagestalk:

Thank you for your correspondence dated January 27, 2004 (copy attached). Whitestone Associates, Inc. (Whitestone) is pleased to submit this "point by point" clarification to address the New York City Department of Environmental Protection's (NYCDEP's) comments presented in response to Whitestone's December 2003 *Site Investigation Report* (SIR) and *Supplemental Site Investigation/Corrective Action Workplan* (SI/CAW) for the above referenced site.

1.0 HEALTH AND SAFETY PLAN

Whitestone will prepare a construction *Health and Safety Plan* (HASP) for implementation during site redevelopment activities. The HASP is intended solely for construction activities associated with site remediation and management of on-site soils. The construction HASP will be implemented in accordance with *Occupational Health and Safety Administration* (OSHA) regulations summarized in 29 CFR 1910.120 *Hazardous Waste Operations and Emergency Response*, applicable parts of OSHA 29 CFR 1910 and 1926, and NYCDEP requirements.

2.0 MANAGEMENT OF ON-SITE SOILS

Soils contaminated with 2,6-dinitrotoluene identified in test pit TP-3 during Whitestone's May 2003 SI will be classified, excavated and loaded into transportation vehicles for off-site treatment/disposal at a permitted facility. Post-excavation soil samples will be collected from the soil hot spot excavation in accordance with NYCDEP and New York State Department of Environmental Conservation (NYSDEC) regulations. Post-excavation soil samples collected in the vicinity of the soil hot spot will be analyzed for semi-volatile organics (SVO) in accordance with Whitestone's December 2003 SI/CAW. The remediated excavation will be backfilled with certified clean material. NYCDEP will be notified one week prior to commencement of soil excavation activities.

In addition, Whitestone also will prepare a site-specific HASP intended solely for use by Whitestone and subcontractors during soil remediation activities at the site. The HASP will be implemented in accordance with OSHA regulations summarized in 29 CFR 1910.120 *Hazardous Waste Operations and Emergency Response,* applicable parts of OSHA 29 CFR 1910 and 1926, and NYCDEP requirements.

3.0 CAPPING OF LANDSCAPED AREAS

NYCDEP's requirement for two feet of clean material in landscaped is excessive. Contaminant concentrations identified at the subject property exceeding NYSDEC Recommended Soil Cleanup Objectives included a single polyaromatic hydrocarbon (PAH) and select metals. As discussed above, the single PAH concentration detected at the site will be remediated during hot spot excavation activities. The remaining concentrations of select metals exceeding NYSDEC Recommended Soil Cleanup Objectives are within Eastern USA Background Levels and/or are representative of natural background conditions as the concentrations detected by Whitestone and T&M Associates, Inc. generally are within the same order of magnitude. The metals also have been detected at concentrations which do not represent an impact to human health in the event of direct exposure. Accordingly, Whitestone requests approval from NYCDEP that landscaped and grass-covered areas be capped with six inches of topsoil and/or vegetative cover and not two feet of clean soil.

4.0 UNDERGROUND STORAGE TANKS

In the unlikely event that abandoned underground storage tanks (USTs) are encountered during site redevelopment, the appropriate notifications will be made to NYSDEC and NYCDEP, and the tanks closed in accordance with NYSDEC regulations.

5.0 REMEDIAL ACTION REPORT

Upon completion of the remedial actions discussed above, Whitestone will submit a *Remedial Action Report* (RAR) certified by a Professional Engineer to NYCDEP for review. Results of the radiological survey conducted at the site in December 2003 also will accompany the RAR.

Hopefully, this information clarifies the comments presented in NYCDEP's January 27, 2004 letter. Please contact us with any questions regarding these matters.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

TKU/pjp L:\WhitestoneOffice\2003\035920\SIWsupplement2.wpd
Enclosures
Copy: John Wuthenow, NYCDEP-OEPA
Dan Cole, NYCDEP-OEPA
Matthew Lonuzzi, Natalie Lyn, L.L.C.
Getz Obstfeld, Natalie Lyn, L.L.C.
Richard Bowers, Esq., Stadtmauer Bailkin, L.L.P.
Louis Perfetto, Esq., Stadtmauer Bailkin, L.L.P.

The City of New York
Department of Environmental Protection
59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Angela Licata
Assistant Commissioner

Office of Environmental Planning & Assessment

Tel: (718) 595-4398
Fax: (718) 595-4479

JAN 3 0 2004

January 27, 2004

Thomas Uzzo
Principal
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: Nicholas Avenue Rezoning
Block 1116, Lots 40, 75 & 105, Block 1121, Lot 101
CEQR # 99DCP012R / 04DEP118R

Dear Mr. Uzzo:

The New York City Department of Environmental Protection, Office of Environmental Planning and Assessment (DEP) has reviewed the December 2003 Site Investigation Report and Supplemental Site Investigation /Corrective Action Workplan, prepared by Whitestone Associates Inc., on behalf of Natalie Lyn LLC, for the above referenced site. It is our understanding that Natalie Lyn is proposing to develop a residential site encompassing Block 116, Lots 40, 75, and 105, and Block 1121, Lot 101 within Staten Island Community District #1. The proposed development would include approximately 100 multi-story, single-family homes and associated roadways and utilities. Although the site is currently vacant and vegetated, past uses of the site reportedly include a linseed bulk oil and distribution facility, and a bulk sand and gravel storage and distribution facility. Furthermore, the shipment of uranium one reportedly may have been conducted on or adjacent to the site. The site investigation was conducted pursuant to the February 4, 2003 Restrictive Declaration executed by Natalie Lyn LLC, the T&M Associates July 1998 Phase II Site Investigation Workplan, and subsequent meetings/correspondence with DEP and New York City Department of Health (DOH) personnel.

Ground Penetrating Radar (GPR) and Electromagnetic surveys were performed at the site. Three (3) anomalies were excavated with a backhoe and determined to be scrap metal. No Underground Storage Tanks (USTs) were discovered. Soil samples were analyzed from eight (8) test pits. The results indicate modest exceedances above DEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs) for certain metals including: beryllium, chromium, nickel, zinc, and copper. These results are comparable to those from testing performed at the site in 1998 by T&M Associates. In addition, Test Pit 3 exhibited a modest exceedance of 2,6-Dinitrotoluene.

Please note that the radiological survey agreed upon in the July 1998 Phase II Workplan was not submitted. We understand the radiological survey report will be available for review by DEP and DOH in late January or early February 2004. Therefore, the following are our initial comments / recommendations based upon our

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
www.nyc.gov/dep
(718) DEP-HELP

review of the aforementioned documentation. Further comments are forthcoming pending the results of the radiological survey:

- A construction Health and Safety Plan (HASP) should be developed and submitted to DEP for review.

- The localized "hot spot" at Test Pit 3 containing 2,6-Dinitrotoluene should be excavated and disposed off-site in accordance with local, state, and federal regulations. Post excavation soil sampling should be conducted for SVOCs to confirm that soil cleanup objectives have been achieved.

- Due to exceedances of DEC TAGM 4046 RSCOs, all landscaped areas of the development site not covered by asphalt or concrete should be capped with two (2) feet of clean fill.

- DEP should be notified when excavation of the "hot spot" will take place.

- If USTs are discovered during construction, DEP and NYSDEC should be notified. The USTs should be removed in accordance with NYSDEC regulations.

If you have any comments or questions, please call Kate Demong at (718) 595-6443.

Sincerely,

Darryl Cabbagestalk
Director
Project Management-NYC Projects

cc: A. Licata, DEP
J. Wuthenow, DEP
D. Cole, DEP
K. Demong, DEP
M. Eckels, DEP Legal Affairs
R. Dobruskin, DCP
T. Lickerman, DOH

WHITESTONE
ASSOCIATES, INC.
ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

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January 8, 2005

via email and Federal Express

CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Bureau of Environmental Sciences and Engineering
Office of Radiological Health
2 Lafayette Street, 11th Floor, CN 60
New York, New York 10007

Attention: Tobias Lickerman
Supervisor

Regarding: SUPPLEMENTAL RADIOLOGICAL SURVEY WORKPLAN
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Lickerman:

Whitestone Associates, Inc. (Whitestone) and Integrated Environmental Management, Inc. (IEM) have prepared the enclosed January 7, 2005 *Supplemental Sampling Plan* (SSP) *for the Nicholas Avenue Rezoning Site* for your review and approval. The SSP outlines the supplemental radiological investigations requested by the City of New York Department of Health and Mental Hygiene (DOHMH) during the November 4, 2004 and December 16, 2004 meetings at your office and in your December 15, 2004 e-mail correspondence prepared in response to Whitestone's and IEM's November 29, 2004 *Supplement to the MARSSIM Radiological Survey and Radon Investigation Results.* These efforts are intended to supplement the radiological survey and radon flux investigation previously conducted at the site in December 2003 and November 2004, respectively. The supplemental investigation tentatively is scheduled to be conducted on January 21, 2005.

As discussed and agreed to during the December 16, 2004 meeting, upon documenting that supplemental sampling results do not exceed release criteria and are statistically indistinguishable from background (as were the results obtained during the initial survey effort), it will be scientifically defensible to conclude that former warehousing operations at the adjacent property beyond Richmond Terrace to the north had no radiological impact on the subject property. Therefore, no further investigation would be required and the Nicholas Avenue site could be redeveloped without regard to radiological contamination.

Whitestone appreciates your attention to these matters. Please do not hesitate to contact us at (908) 668-7777 with any questions.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

CS/pjp L:\WhitestoneOffice\2003\035920\suppRadSurveyWorkplan1-05.wpd
Enclosures
Copy: Louise Cohen, M.P.H., DOHMH
Gene Miskin, DOHMH
Jeanine Prudhomme, DOHMH
Richard Borri, DOHMH
Angela Licata, NYCDEP
John Wuthenow, NYCDEP
Daniel Cole, P.G., NYCDEP
Darryl Cabbagestalk, NYCDEP
Barbara Youngberg, NYSDEC
Matthew Lonuzzi, Natalie Lyn, L.L.C.
Getz Obstfeld, Natalie Lyn, L.L.C.
Louis Perfetto, Esq., Stadtmauer Bailkin, L.L.P.
Richard Bowers, Esq., Stadtmauer Bailkin, L.L.P.
Carol Berger, IEM

Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site

Natalie Lyn, LLC

Report No. 2003016/G-2292

Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site

Submitted to:

Natalie Lyn, LLC
48 Liberty Avenue
New Rochelle, New York 10805
(914) 235-7865

by:

Integrated Environmental Management, Inc.
8 Brookes Avenue, Suite 205
Gaithersburg, Maryland 20877
(240) 631-8990

Report No. 2003016/G-2292
January 7, 2005

TABLE OF CONTENTS

1 INTRODUCTION

A property located on Nicholas Avenue in Staten Island, New York has been designated for development as a residential property. The development is being performed by Natalie Lyn, LLC of New Rochelle, New York.

The subject property, hereinafter referred to as the Nicholas Avenue site, is located at the intersection of Richmond Terrace and Nicholas Avenue at the base of the Bayonne Bridge and is designated as Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101. It is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial, and residential area of Staten Island.

The Nicholas Avenue site is located adjacent to a site that was previously used as a warehouse area from 1939 through 1942 for radioactive ores shipped to various Manhattan Engineer District (MED) sites for storage and processing. Integrated Environmental Management, Inc. (**IEM**) was contracted by Natalie Lyn to assess the current radiological status of the Nicholas Avenue site, and render an opinion as to its status in light of existing regulations. Between December 10 and December 13, 2003, **IEM** conducted the on-site surveys and sampling portion of the assessment, and a report of findings was issued.[1] That report concluded that the site is free of radiological contamination that can be reasonably distinguished from natural background radioactivity.

Subsequent to the issue of the final report, interested regulatory parties asked that additional samples, beyond those specified in the pre-approved project work plan, be collected and analyzed.[2] Therefore, Natalie Lyn has agreed to initiate a supplemental sampling campaign.

This plan details the conduct of the supplemental sampling effort. It includes a brief description of the contaminants of concern, a summary of the sampling methodology, and the means by which the new analytical results will be evaluated.

---

[1] Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004.

[2] Integrated Environmental Management, Inc., Report No. 2003016/G-1270, "Survey/Sampling Plan for the Nicholas Avenue Rezoning Site"(January 27, 2004), which was approved for implementation by the applicable regulatory agencies, specified that surface soil samples only (i.e., soil from the first six inches below the ground surface) would be collected and analyzed.

2 SITE INFORMATION

2.1 Contaminants of Concern

The radioactive materials stored at the warehouse on the property adjacent to the Nicholas Avenue site were high-grade Belgian congo uranium ores. Previous studies of the radionuclide content of the ores and residual radioactivity at the processing site indicate that they consist of uranium and its radioactive progeny in general equilibrium. Therefore, the contaminants of concern for the Nicholas Avenue site are Uranium-238 (U-238) plus progeny in equilibrium.

2.2 Release Criteria

No site specific release criteria exist for this site or for its intended use. However, the U. S. Nuclear Regulatory Commission (USNRC) published a final rule on radiological criteria for license termination in 1997 where the USNRC required that facilities that previously used radioactive materials in licensed activities perform sufficient decontamination and radiation measurements to verify that exposures to the maximum exposed members of the public be less than 25 millirem per year.[3] This regulatory basis is deemed applicable to the assessment of the Nicholas Avenue site, and will ensure the radiological impacts of any future use of the property is negligible.

Supplemental information was published by the USNRC in 1999 to provide screening values for surface soil that satisfy the license termination rule.[4] However, the screening values shown in the referenced Federal Register notice (64 FR 68395-68396) were derived using the USNRC's "DandD" code (version 1). This computer model is not well-suited to development of screening values for series radionuclides like uranium and its progeny, due partly to the fact that the selection of default input parameters is constant for all radionuclides in the series, even though they would be different if each radionuclide were processed independently. Therefore, U-238 results only, not U-238 plus progeny, will be compared to the U-238 only screening value that appeared in Table 3 of the Federal Register notice. This approach is further justified in that, as stated in footnote 3 of Report No. 2003016/G-1272, the screening values were never meant to be used as a demonstration of compliance with the USNRC's license termination rule, meaning soil samples that exceed the screening concentration do not necessarily indicate that the site does not meet the agency's dose criterion; it simply means that site-specific concentration guidelines must be developed instead.

[3] US Nuclear Regulatory Commission, *Radiological Criteria for License Termination*, Federal Register, Volume 62, page 39058, July 21, 1997.

[4] US Nuclear Regulatory Commission, *Supplemental Information on the Implementation of the Final Rule on the Radiological Criteria for License Termination*, Federal Register, Volume 64, page 68395, December 7, 1999.

3 SURVEY METHODOLOGY

3.1 Project Organization

The field work for this effort will be performed under the direction of Michael Nickerson. Mr. Nickerson, who has been qualified as a Health Physics Technician pursuant to MDE Radioactive Materials License No. 31-281-01 and is listed as an Authorized User on that license, will collect, package and ship the six (6) supplemental samples for analysis, and record surface and ambient radiation survey data for the collection locations. He will also participate in the preparation of the report of findings. Appendix 4.1 contains a summary of his qualifications.

Technical oversight for the project will be the responsibility of Carol Berger, C.H.P., who is also an employee of **IEM**. Ms. Berger will review of the quality of data collected, and performed a technical review of the report of findings. Appendix 4.2 contains her qualifications.

3.2 Safety Procedures

Health and safety provisions will be established to permit the survey and sampling activities to be conducted without adverse impacts on worker health and safety. The applicable provisions will include work area entry, control of work, training, emergency procedures, maintaining radiation exposures as low as reasonably achievable (ALARA), and control of non-radiological hazards. All radiation and industrial safety procedures will be consistent with those associated with MDE License No. 31-281-01.

3.3 Instrumentation

The instrumentation used to acquire measurement data will be appropriate for the type of radiation expected, of sufficient sensitivity and accuracy to detect the radioactive materials previously identified at the property, and of sufficient quantity to support the activities. Each instrument will be labeled with a unique identifier (e.g., serial number of detector and rate meter) to enable traceability between instrument and survey records.

3.4 Sampling Protocol

The sampling locations will be based upon the grid laid out during the initial site survey and sampling effort.[5] A soil sample collected from a depth of 12 to 18 inches below the ground surface will be obtained from the following locations:

- Grid square number A-1, location J-6
- Grid square number A-1, location L-7
- Grid square number B-2, location T-5

[5] Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004, Appendix 8.2.

- Grid square number B-2, location N-7
- Grid square number C-1, location K-16
- Grid square number E-3, location L-16

At each sample collection point, a stationary (i.e., at least one minute duration) contact exposure rate and ambient exposure rate measurement will be made prior to and after sample collection.[6] All measurement results will be recorded on a survey map, a copy of which will be included in the report of findings.

Approximately one (1) kilogram of soil will be collected from each designated location. These will be packaged and shipped to a commercial analytical laboratory for radionuclide analysis by the methodology of gamma spectroscopy pursuant to a letter of specification. The sample collection locations will be captured on a map, a copy of which will be included in the report of findings. The letter of specification to the laboratory will be included as well, along with the Certificates of Analysis for each of the six (6) samples.

3.5 Background Values

During the initial survey/sampling effort, a series of 10 surface soil samples were collected south of the rail line on the south side of the property, at a location that was likely to be unimpacted by the former ore processing operation. The analytical results for these samples will also be used during the evaluation of the results from this supplemental sampling effort. Therefore, no additional background soil samples will be collected/analyzed during the pending campaign.

3.6 Documentation

All records pertinent to the supplemental sampling effort will be maintained pursuant to Radiation Safety Procedure No. RSP-004, "Radiation Protection Records". The letter report of findings will contain, at a minimum, the following information:

- A description of the purpose of the supplemental sampling effort;
- A listing of the surveyor qualifications;
- A description of the sampling methodology;

[6] For the purposes of this report, "contact exposure rate" refers to the radiation exposure rate at a height of a few centimeters above the ground surface, and "ambient exposure rate" refers to the ambient radiation exposure rate at a height of three meters (i.e., waist-high) above the ground surface.

- Copies of all Radiological Survey Forms, instrument check sheets, and calculation forms as required in Radiation Safety Procedure No. RSP-008, "Instrumentation" and RSP-018, "Surveillance".

- An evaluation of the radiological character of the collected samples, using the release criteria described in Section 2.2 above, and the background data set described in Section 3.5 above.

If the supplemental sampling results do not exceed the release criteria and if they are statistically indistinguishable from background - as were all of the results obtained during the initial survey/sampling effort - it will be scientifically-defensible to conclude that the former warehousing operation that took place on the property adjacent to the Nicholas Avenue site had no radiological impact on the Nicholas Avenue site. Therefore, the Nicholas Avenue site may be put to any use without regard for radiological constituents.

4 APPENDICES

Appendix 4.1 - Qualifications of Michael Nickerson

Michael W. Nickerson - Field Technician

Professional Qualifications

Mr. Nickerson has over 20 years of experience in the radiation protection and electronics, with emphasis in radiological control, industrial operations, project planning and applied health physics. He has over 10 years of progressively responsible experience as a U. S. Department of Energy Radiological Control Technologist (RCT) and 10 years of experience as a Nuclear/Biological/Chemical (NBC) Operations Specialist for the U. S. Army. Mr. Nickerson has been qualified as an Authorized User on Maryland Department of the Environment (MDE) Radioactive Materials License No. MD-31-281-01 which permits him to supervise the use of radioactive materials used under the provisions of that license.

Education

Department of Defense certified HAZMAT technician

40-Hour OSHA Hazardous Waste Operator and Emergency Response Training (HAZWOPER)

40-Hour Basic Tritium Training

Plutonium D&D/ER Operations and Transuranic Waste Packaging

Asbestos Awareness Training

Hazard Recognition Training

Nuclear, Biological, Chemical Operations School, Ft. McClellan, AL, 1986.

Advanced Skills & Education Program, Ft. Riley, KS 1989.

Registrations

Authorized User - MDE Radioactive Materials License No. MD-31-281-01.

Certifications and Awards

USDOE Radiological Control Technologist (RCT)
Army Service Ribbon
National Defense Service Ribbon
Kuwait Liberation Medal
NCO Professional Development Ribbon "2"

Experience and Background

March, 2004 - Present - Health Physics Technician, Integrated Environmental Management, Inc. (Gaithersburg, MD) - Duties include surveillance activities, instrumentation usage/control, training, project support, emergency response and applied health physics. Mr. Nickerson has been qualified as a Health Physics Technician pursuant to Radiation Safety Procedure No. RSP-006, "Training and Qualification of Radiation Protection Personnel" and as an Authorized User pursuant to License No. MD-31-281-01.

January 26, 2004- Present - HAZMAT Response Technician, Dept. Of Defense, (Arlington, Va.) - Duties include response to hazardous material situations and incidents on the Pentagon reservation.

August, 18 - September 24, 2003 - Armed Security Officer, Inter-Con Services UPSP (Alexandria, VA) - Provided armed security services for the Department of State. Duties included access control, surveillance and roving patrols.

June, 1998 - July, 2003 - Senior Radiological Control Technologist, CH2M Hill (Miamisburg, OH) - Duties included performing and documenting routine, planning, job and release radiological surveys for ambient radiation, contamination and airborne radioactivity; reviewed radiological surveys for accuracy and completeness; directed radiological control activities in accordance with approved written procedures; evaluated data to assess safe work conditions; provided support to schedule milestones and technical oversight for radiological work requiring adherence to regulatory compliance.

July, 1997 - June, 1998 - Senior Radiological Control Technologist, Kelly Scientific Resources (Oak Ridge, TN) - Duties included providing technical oversight for radiological work, conducting training and mentoring for junior-level technicians; providing overall direction and justification within assigned areas of responsibility for access control, posting, labeling, materials transfer and waste management; oversaw the collection, labeling and submission of radiological samples.

January, 1993 - October, 1997 - Senior Radiological Control Technologist, EG&G Mound (Miamisburg, OH) - Duties included providing oversight for the survey and radiological control inspections of packages and vehicles involved in the receipt and shipment of radioactive waste or material; providing oversight and direction of performance tests an operations of portable radiological instruments; directed and assisted personnel in donning and removing radiological protective equipment and clothing; and assisted personnel in monitoring themselves and personal articles for contamination at exit points to restricted areas.

July, 1982 - August, 1992 - Nuclear/Biological/Chemical (NBC) Operations Specialist, U. S. Army - Duties included responsibility for forming and training decontamination, radiation, and chemical survey teams and for setting up decontamination areas; maintaining accountability for all NBC gear ($500,000 approx. value); providing armed escorts for radioactive and chemical shipments and performing falling predictions.

Appendix 4.2 - Qualifications of Carol Berger

Carol D. Berger - Technical Reviewer

Professional Qualifications

Ms. Berger has over 26 years experience in nuclear and radiological activities with emphasis in strategic planning, radiation dosimetry, instrumentation, and applied health physics. As a co-founder of **IEM**, Inc., Ms. Berger is actively involved in performance of radiological dose assessments, regulatory interactions, site decommissioning, program evaluations, program development, pathway analyses, risk assessments, dosimetry evaluations, assessment and control of sources of non-ionizing radiations, waste management programs, environmental monitoring programs, and detection and quantification of low-levels of radioactivity.

Education

M.S., Health Physics, San Diego State University, San Diego, California; 1979

M.S., Radiation Physics, San Diego State University, San Diego, California; 1977

B.S., Physics/Chemistry, San Diego State University, San Diego, California; 1972

Certifications

Certified Health Physicist (Comprehensive), American Board of Health Physics, 1983 (Re-certified: 1987, 1991, 1995, 1999, 2003)

Alternate Radiation Safety Officer - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Authorized User - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Experience and Background

1994 - Present *President and Founder, Integrated Environmental Management, Inc., Gaithersburg, Maryland.* Provides high-quality strategic environmental management services to commercial and government clients. As a member of the client's response team, works with clients to promote an understanding of what is required to achieve and/or maintain compliance in the eyes of all pertinent regulatory agencies, individually or jointly; develop an overall strategy for achieving compliance and reduce liabilities in a technically-sound, legally-defensible, and fiscally-conservative business manner; recommend specific solutions that are compatible with the client's operating philosophy; and provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process.

1989 - 1994 *Senior Technical Consultant, IT Corporation/Nuclear Sciences, Washington, D.C.* Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Instrumentation; Emergency Response and Preparedness; Site Decommissioning; Radioactive Waste Management; Radiation Risk Assessment; Training; Licensing and Regulatory Negotiations; and Non-ionizing Radiation

1986 - 1989 *Senior Health Physicist, IT Radiological Sciences Laboratory, Knoxville, Tennessee* - Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Applied Health Physics; Instrumentation; Radioactive Waste Management; Training; and Non-ionizing Radiation.

1983 - 1986 *Radiation Dosimetry Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for internal and external dose assessment and programs for ORNL employees, visitors and contractors. Experience included Internal and External Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Site Characterizations; Personnel Management; and Training.

1978 - 1983 *Internal Dose Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for development of the ORNL Whole Body Counter Facility for detection and quantification of the actinides in-vivo. Experience included: Internal Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Special Studies; Personnel Management; and Training.

1978 - 1986 *Adjunct Faculty, Oak Ridge Associated Universities, Oak Ridge, Tennessee.* Professional training courses and general classes in the following health physics and radiation protection areas: Internal Dose Assessment; In-vivo Monitoring and Bioassay Methodologies; Instrumentation, and Applied Health Physics.

1979 - 1980 *Health Physics and Dosimetry Task Group Member, President's Commission on the Accident at Three Mile Island, Washington, D.C.* Tasks included: Internal Dose Assessment from Whole Body Counting Results; Estimates of Source Term from in-plant Monitoring Systems; Atmospheric Dispersion Modeling and Population Dose Assessment; and Development of Health Physics Sequence of Events.

Professional Society Membership

American Academy of Health Physics (President, 1995; Executive Committee, 1995-1997; Chair of Strategic Planning Committee, 1997; Chair of Professional Standards and Ethics Committee, 2003)

Health Physics Society (Plenary Member; Publications Committee, 1999-2001)
Baltimore-Washington Chapter, Health Physics Society (Treasurer, 1993-1994, Board of Directors, 1998-2000)
American Bar Association (Natural Resources, Energy, and Environmental Law)
Environmental Law Institute

Publications

Over 30 professional publications; over 40 oral presentations; over 100 technical reports; over 25 training courses taught.

Other Appointments/Awards

East Tennessee Chapter - Health Physics Society (President, 1986; President-Elect, 1985; Secretary, 1981-1982)

San Diego Chapter - Health Physics Society (Charter member)

American Board of Health Physics, Comprehensive Panel of Examiners, (1989-1993)

ASTM Task Group E-10.04.27 "Transuranic Wound Analysis"; (1986 to 1000)

ANSI Standards Committee (ANSI N13.41) on Multiple Badging; 1986 to 1996 (Chairman, PlanCo-59 Working Group, 1990 to 1996)

ANSI Standards Committee (ANSI N13.39) on Internal Dosimetry Programs (1994 to 2001)

Sigma Xi - Scientific Research Society

National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 46-10, "Assessment of Occupational Exposures from Internal Emitters" (1989-present)

Purdue University, Health Sciences Advisory Council for the School of Health Sciences (1995-1998)

DOE/IAEA Whole Body Counter Intercalibration Committee (1980-1986)

Consultant to Knoxville Academy of Medicine, Mass Casualty Simulation (1984-1985)

Consultant to the National Cancer Institute to Evaluate Devices and Techniques to Determine Previous Radiation Exposure under Public Law 98-54 (Award for participation presented by Oak Ridge Associated Universities in April, 1988.)

Steering Committee Member, U. S. Department of Energy Task Group on the Education of Future Health Physicists (1989-1991)

Technical reviewer and referee for *Health Physics*, *Nuclear Technology*, and *Radiation Protection Management*

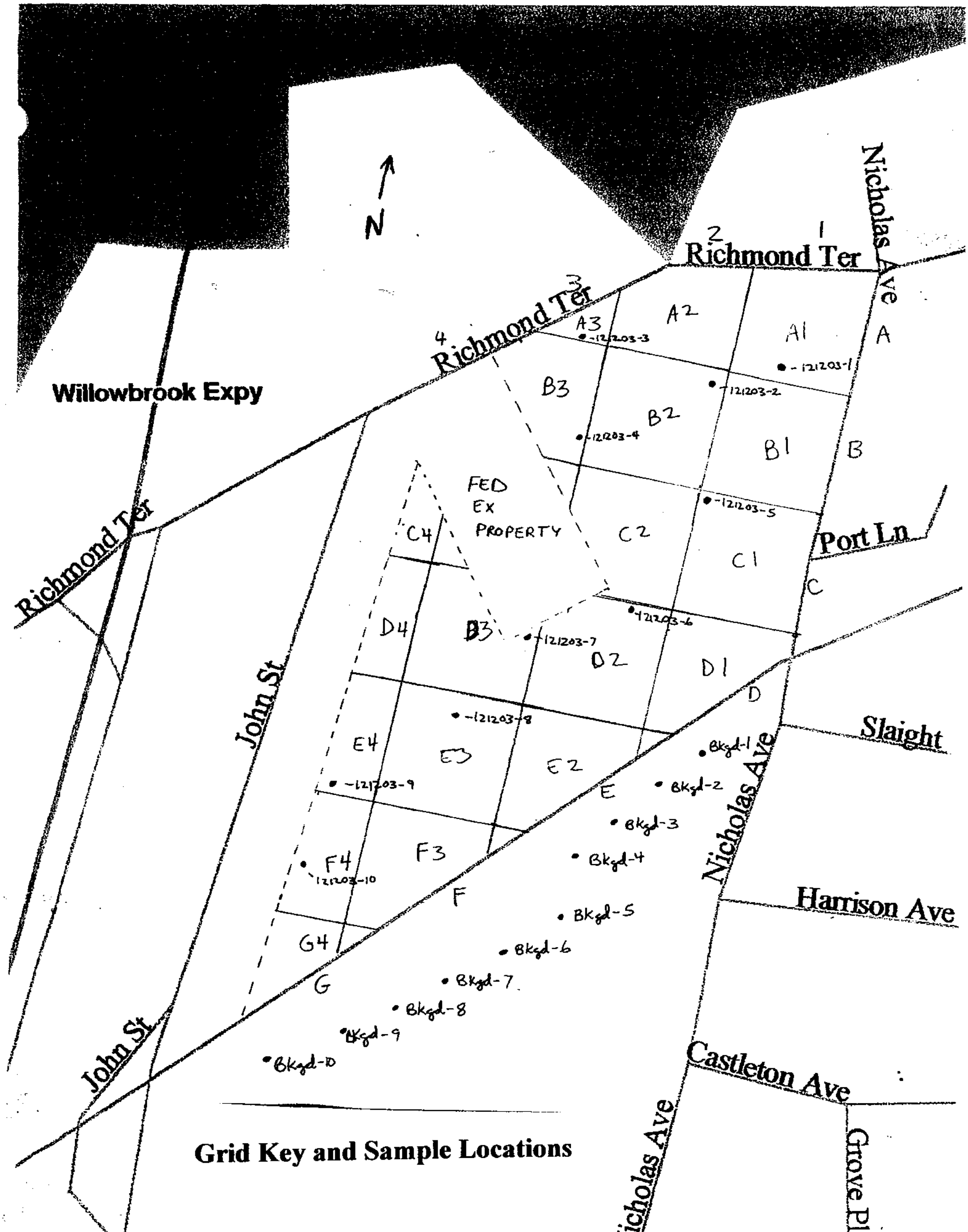
IT Corporation *Distinguished Technical Associate* - June, 1992.

This report was prepared under the direction of
Natallie Lyn, LLC

by

Carol D. Berger, CHP
Integrated Environmental Management, Inc.
8 Brookes Avenue, Suite 205
Gaithersburg, Maryland 20877
(240) 631-8990
CDBerger@IEM-Inc.com

http://www.iem-inc.com

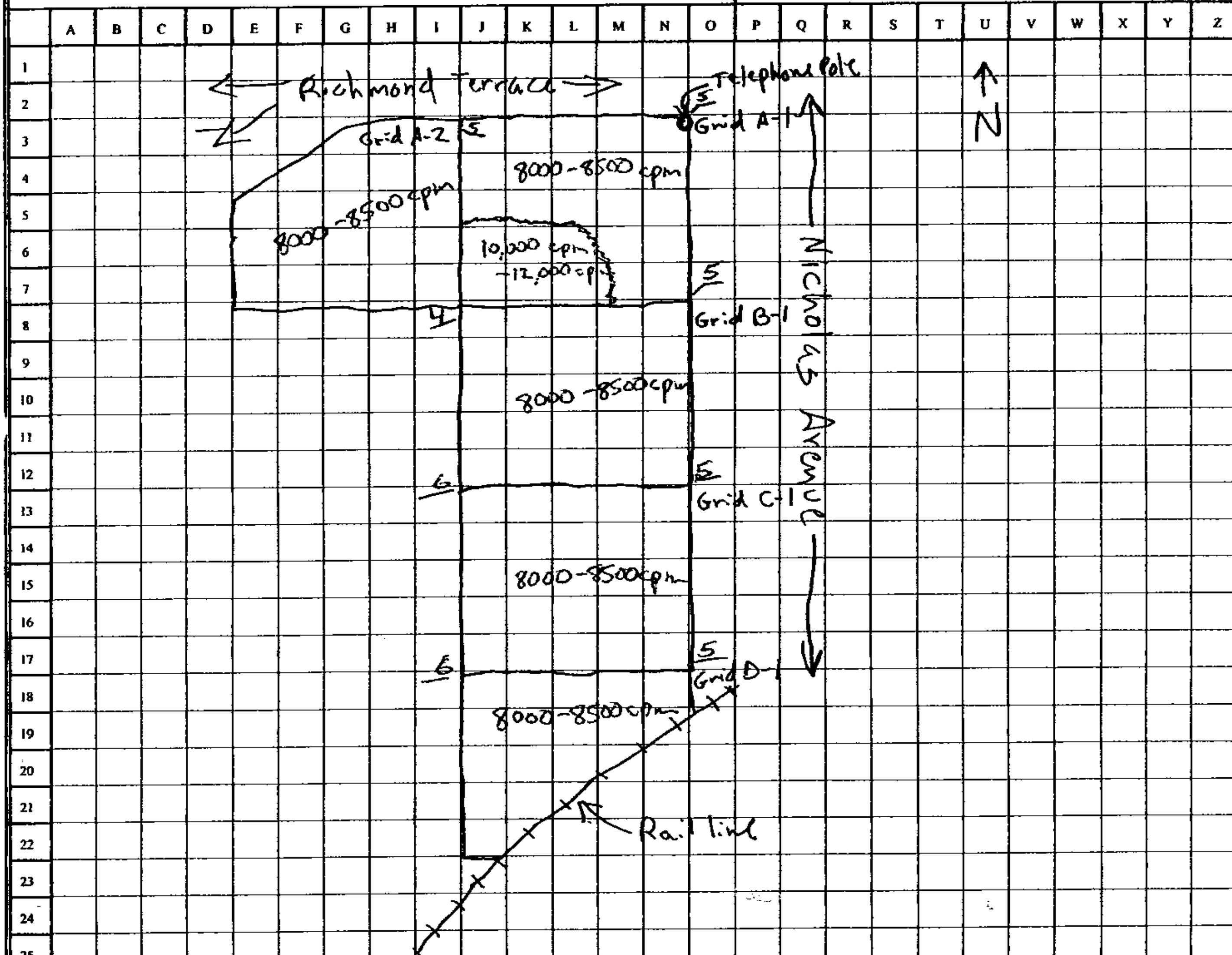


Grid Key and Sample Locations

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.
RADIOLOGICAL SURVEY FORM

Survey Number 121003-01

Instrument/SN: Ludlum Model 2224/43-89 119791/132118	Calibration Due: 4/14/04	Site Name: Staten Island, Nicholas Avenue Rezoning Site	Date: 12/10/03	Time: 1000
Instrument/SN: Bicron Micro Rem #B295W	Calibration Due: 11/24/2004	Location: Grids A-1, B-1, C-1, D-1, + A-2		
Instrument/SN: Ludlum Model 2241/44-10 #114535/132520	Calibration Due: 4/16/2004	Purpose: Land Survey		
Survey Performed By (Print): R. Alan Duff, RRPT Pat Manning		Survey Performed By (Signature): PLM RAD		
X Battery OK	X HV OK	X Source Check OK	Grid Dimensions: 50 x 50 X meters ☐ inches ☐ feet ☐ centimeters	



Notes: Conducted a walkover survey using Ludlum Model 2241/44-10 probe, covered 100% of the grid areas shown, moving the probe in a serpentine pattern ~ 1/2" from soil surface. All areas were indistinguishable from bkgd. w/exception of the area shown. Dose rate measurements were taken at grid nodes with Bicron MicroRem, shown as # (in units of uRem/hr) held @ waist height.

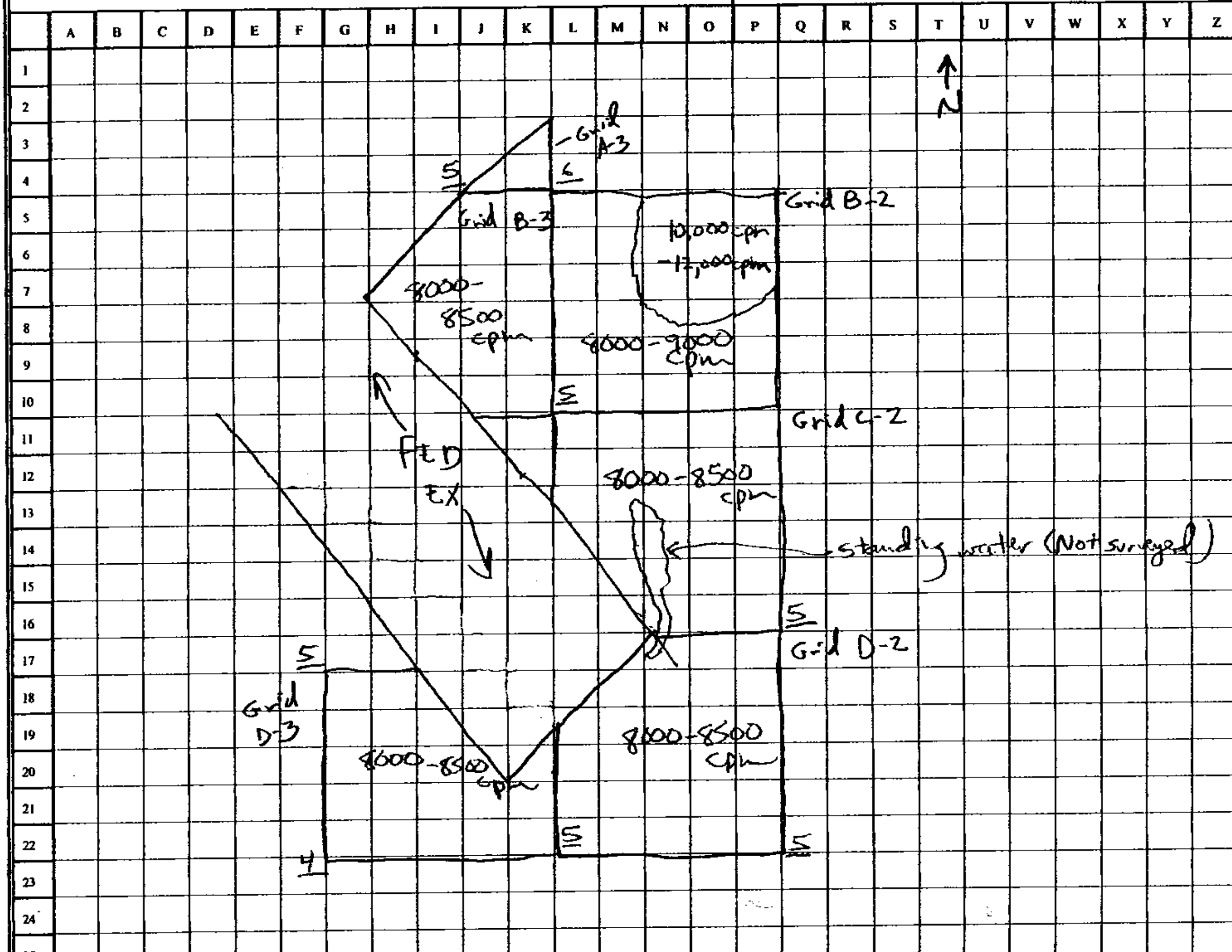
RSP-018 (Rev. 001) - Attachment 1

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.
RADIOLOGICAL SURVEY FORM

Survey Number 121103-01

Page 1 of 1

Instrument/SN: Ludlum Model 2224/43-89 119791/132118	Calibration Due: 4/14/04	Site Name: Staten Island, Nicholas Avenue Rezoning Site	Date: 12/11/03	Time: 0810
Instrument/SN: Bicron Micro Rem #B295W	Calibration Due: 11/24/2004	Location: Grids B-2, C-2, D-2, A-3, B-3 + D-3		
Instrument/SN: Ludlum Model 2241/44-10 #114535/132520	Calibration Due: 4/16/2004	Purpose: Land Survey		
Survey Performed By (Print): R. Alan Duff, RRPT Pat Manning		Survey Performed By (Signature):		
X Battery OK	X HV OK	X Source Check OK; Grid Dimensions: 50 x 50; X meters ☐ feet ☐ inches ☐ centimeters		



Notes: Conducted a walkover survey using Ludlum Model 2241/44-10 probe, covered 100% of the grid areas shown, moving the probe in a serpentine pattern ~1/2" from the soil surface. All areas were indistinguishable from bkgd with the exception of the area shown. Dose Rate Measurements were taken at grid nodes with Bicron MicroRem, shown as # (in units of uRem/hr), held @ waist height

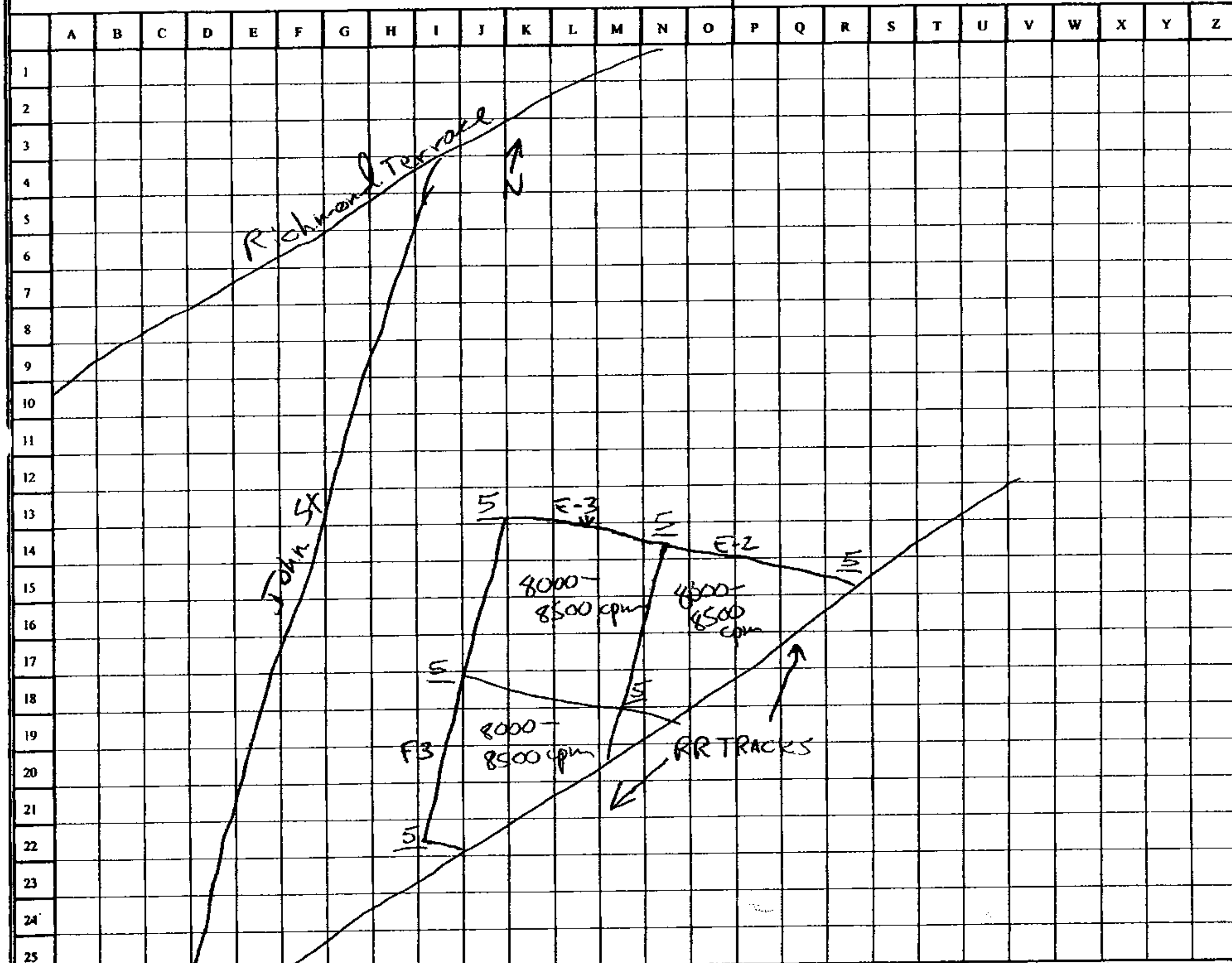
RSP-018 (Rev. 001) - Attachment 1

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.

RADIOLOGICAL SURVEY FORM

Survey Number 121303-01

Instrument/SN: Ludlum Model 2224/43-89 119791/132118	Calibration Due: 4/14/04	Site Name: Staten Island, Nicholas Avenue Rezoning Site	Date: 12/13/03	Time: 0900
Instrument/SN: Bicron Micro Rem #B295W	Calibration Due: 11/24/2004	Location: Grids E-2, E-3, + F-3		
Instrument/SN: Ludlum Model 2241/44-10 #114536/132520	Calibration Due: 4/16/2004	Purpose: Land Survey		
Survey Performed By (Print): R. Alan Duff, RRPT Pat Manning		Survey Performed By (Signature): [signature]		
☒ Battery OK ☒ HV OK	☒ Source Check OK	Grid Dimensions: 50 x 50 ☒ meters ☐ feet ☐ inches ☐ centimeters		



Notes: Conducted a walkover survey using Ludlum Model 2241/44-10 probe, covered 100% of the grid areas shown, moving the probe in a serpentine pattern ~1/2" from soil surface. All areas were indistinguishable from background. Dose rate measurements were taken at grid nodes with Bicron MicroRem held at waist height, shown as # (in units of uRem/hr).

RSP-018 (Rev. 001) - Attachment 1

WHITESTONE ASSOCIATES, INC.
ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

786 MOUNTAIN BOULEVARD
SUITE 200
WATCHUNG, NJ 07069
908.668.7777
FAX 908.754.5936
www.whitestoneassoc.com

March 14, 2005

via email and U.S. Mail

CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Bureau of Environmental Sciences and Engineering
Office of Radiological Health
2 Lafayette Street, 11th Floor, CN 60
New York, New York 10007

Attention: Tobias Lickerman
Supervisor

Regarding: SUPPLEMENTAL RADIOLOGICAL SURVEY
NICHOLAS AVENUE REZONING
BLOCK 1116, LOTS 40, 75 AND 105
BLOCK 1121, LOT 101
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
CEQR NO.: 99 DCP 012R
WHITESTONE PROJECT NO.: WJ03-5920

Dear Mr. Lickerman:

Whitestone Associates, Inc. (Whitestone) and Integrated Environmental Management, Inc. (IEM) have prepared the enclosed March 10, 2005 *Results of Supplemental Sampling for the Nicholas Avenue Rezoning Site* for your review. The report outlines the supplemental radiological investigations conducted at the site on February 10, 2005 in accordance with Whitestone's and IEM's January 20, 2005 *Supplemental Sampling Plan for the Nicholas Avenue Rezoning Site* and associated correspondences which were approved in the City of New York Department of Health and Mental Hygiene's (DOHMH's) January 31, 2005 letter.

As discussed in the attached report and documented during previous radiological investigations at the site, sample results do not exceed release criteria and are statistically indistinguishable from background. Accordingly, Whitestone and IEM conclude that former warehousing operations at the adjacent property beyond Richmond Terrace to the north have had no radiological impact on the subject property. Therefore, no further investigation of the site is required.

Whitestone appreciates your attention to these matters and would like the opportunity to discuss these results further with you. Please do not hesitate to contact us at (908) 668-7777 with any questions.

Sincerely,

WHITESTONE ASSOCIATES, INC.

Thomas K. Uzzo, P.E.A.
Principal

Christopher Seib
Environmental Services Manager

CS/pjp L:\WhitestoneOffice\2003\035920\suppRadSurveyWorkplan3-05.wpd
Enclosures
Copy:
Louise Cohen, M.P.H., DOHMH
Gene Miskin, DOHMH
Jeanine Prudhomme, DOHMH
Richard Borri, DOHMH
Angela Licata, NYCDEP
John Wuthenow, NYCDEP
Daniel Cole, P.G., NYCDEP
Darryl Cabbagestalk, NYCDEP
Barbara Youngberg, NYSDEC
Matthew Lonuzzi, Natalie Lyn, L.L.C.
Getz Obstfeld, Natalie Lyn, L.L.C.
Louis Perfetto, Esq., Stadtmauer Bailkin, L.L.P.
Richard Bowers, Esq., Stadtmauer Bailkin, L.L.P.
Carol Berger, IEM

IEM
Integrated Environmental Management, Inc.

8 Brookes Avenue, Suite 205
Gaithersburg, MD 20877
Phone: (240) 631-8990
Fax: (240) 631-8991

www.IEM-Inc.com

March 10, 2005

Mr. Christopher Seib
Whitestone Associates, Inc.
786 Mountain Boulevard, Suite 200
Watchung, NJ 07069

Re: Transmittal of Supplemental Sampling Report

Dear Mr. Seib:

Enclosed please find one bound and two unbound copies of Integrated Environmental Management, Inc. (**IEM**) Report No. 2003016/G-2296, Rev. 0, "Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site". Other than one record copy for our files and our electronic version, no other copies of this report exist.

Thank you for the opportunity of assisting you on this project. I hope that **IEM**'s performance met with your satisfaction and that you will consider calling on us again for other radiation-related matters. Best wishes and I look forward to speaking with you again soon.

Sincerely,

Carol D. Berger, CHP

File 2003016

Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site

Natalie Lyn, LLC

Report No. 2003016/G-2296, Rev. 0

Results of Supplemental Sampling at the Nicholas Avenue Rezoning Site

Submitted to:

Natalie Lyn, LLC
48 Liberty Avenue
New Rochelle, New York 10805
(914) 235-7865

by:

Integrated Environmental Management, Inc.
8 Brookes Avenue, Suite 205
Gaithersburg, Maryland 20877
(240) 631-8990

Report No. 2003016/G-2292, Rev. 01
March 10, 2005

TABLE OF CONTENTS

1 INTRODUCTION

A property located on Nicholas Avenue in Staten Island, New York has been designated for development as a residential property. The development is being performed by Natalie Lyn, LLC of New Rochelle, New York.

The subject property, hereinafter referred to as the Nicholas Avenue site, is located at the intersection of Richmond Terrace and Nicholas Avenue at the base of the Bayonne Bridge and is designated as Block 1116, Lots 40, 75, and 105 and Block 1121, Lot 101. It is an irregularly shaped parcel occupying approximately 9.5 acres within a mixed industrial, commercial, and residential area of Staten Island.

The Nicholas Avenue site is located adjacent to a site that was previously used as a warehouse area from 1939 through 1942 for radioactive ores shipped to various Manhattan Engineer District (MED) sites for storage and processing. Integrated Environmental Management, Inc. (**IEM**) was contracted by Natalie Lyn to assess the current radiological status of the Nicholas Avenue site, and render an opinion as to its status in light of existing regulations. Between December 10 and December 13, 2003, **IEM** conducted the on-site surveys and sampling portion of the assessment, and a report of findings was issued.[1] That report concluded that the site is free of radiological contamination that can be reasonably distinguished from natural background radioactivity.

Subsequent to the issue of the final report, interested regulatory parties asked that additional samples, beyond those specified in the pre-approved project work plan, be collected and analyzed.[2] Therefore, Natalie Lyn has agreed to initiate a supplemental sampling campaign. This report contains the findings of the of the supplemental sampling campaign.

---

[1] Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004.

[2] Integrated Environmental Management, Inc., Report No. 2003016/G-1270, "Survey/Sampling Plan for the Nicholas Avenue Rezoning Site"(January 27, 2004).

2 METHODOLOGY

2.1 Project Organization

The field work for this effort was performed by Mr. Michael Nickerson of Integrated Environmental Management, Inc. (**IEM**). Mr. Nickerson has been qualified as a Health Physics Technician pursuant to MDE Radioactive Materials License No. 31-281-01.[3] Appendix 6.1 contains a summary of his qualifications. Technical oversight for the project was the responsibility of Carol Berger, C.H.P., who is also an employee of **IEM**. Ms. Berger assisted in the review of the quality of data collected and prepared this report. Appendix 6.1 contains her qualifications as well.

2.2 Safety Procedures

Health and safety provisions were established to permit the survey and sampling activities to be conducted without adverse impacts on worker health and safety. The applicable provisions included work area entry, control of work, training, emergency procedures, maintaining radiation exposures as low as reasonably achievable (ALARA), and control of non-radiological hazards. All radiation and industrial safety procedures were consistent with those associated with MDE License No. 31-281-01.

2.3 Approach

A work plan for the acquisition and analysis of the additional soil samples was prepared and submitted to the New York City Department of Health for approval. After an exchange of information, Rev. 01 of the plan was approved for implementation.[4]

A soil sample was collected from a depth ranging from six (6) to 18 inches below the ground surface from each of the following locations on the property:[5]

- Grid square number A-1, location J-6
- Grid square number A-1, location L-7
- Grid square number B-2, location P-5
- Grid square number B-2, location N-7

---

[3] **IEM** maintains a Maryland Department of the Environment (MDE) license for the possession, use, storage and disposal of all forms and quantities of radioactivity within the State of Maryland and any other state pursuant to the provisions of interstate reciprocity. Mr. Nickerson is listed as an Authorized User on that license.

[4] Integrated Environmental Management, Inc., Report No. 2002016/G-2292 (Rev. 01), prepared on behalf of Natalie Lyn, LLC, January 20, 2005.

[5] The grid numbering system was identical to that found in Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004, Appendix 8.2.

- Grid square number C-1, location K-16
- Grid square number E-3, location L-16

The exact sample collection point was biased by the results of walkover survey measurements such that the sample was collected from the point of maximum measured contact exposure rate. Figure 5.1 contains a map showing the location of the various grid squares with respect to the property.

3 RESULTS

The on-site portion of the work was completed on February 10, 2005. Appendix 6.2 contains Mr. Nickerson's Field Activity Daily Log, as well as a copy of his survey records and the records associated with the hand-held instruments used on-site. All measurements made at the six sample collection locations were within the range of background (i.e., 9,000 $\pm$ 200 counts per minute and 10 $\pm$ 6 microR per hour).

Samples were collected at the six locations and forwarded to General Engineering Laboratory (GEL) where they were analyzed as described in the work plan. Appendix 6.3 contains the Certificates of Analysis for each of the samples.

The following table is a summary of these results, corrected for the background contribution:

Location	Sample ID	U-238 Radionuclide Concentration (based on Bi-214 results)		
		"Dry Weight" Result (pCi/g, gross)	Percent Moisture	"As Is" Result (pCi/g, net)
		Mean Surface Soil Background (from 2004 results):		0.550
A1, J-6	130650001	0.730	0.214	0.024
A1, L-7	130650002	0.831	0.174	0.136
B2, P-5	130650003	0.921	0.166	0.218
B2, N-7	130650004	1.050	0.167	0.325
C1, K-16	130650005	0.907	0.161	0.211
E3, L-16	130650006	0.782	0.161	0.106
			Average:	*0.170*
			Standard Deviation:	*0.104*

For comparison purposes, the surface soil samples collected during the 2004 campaign exhibited U-238 concentrations that averaged 0.09 $\pm$ 0.06 pCi per gram.[6] Therefore, the "at depth" concentrations are statistically similar to the surface soil concentrations.

[6] Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004 (Table 7.2).

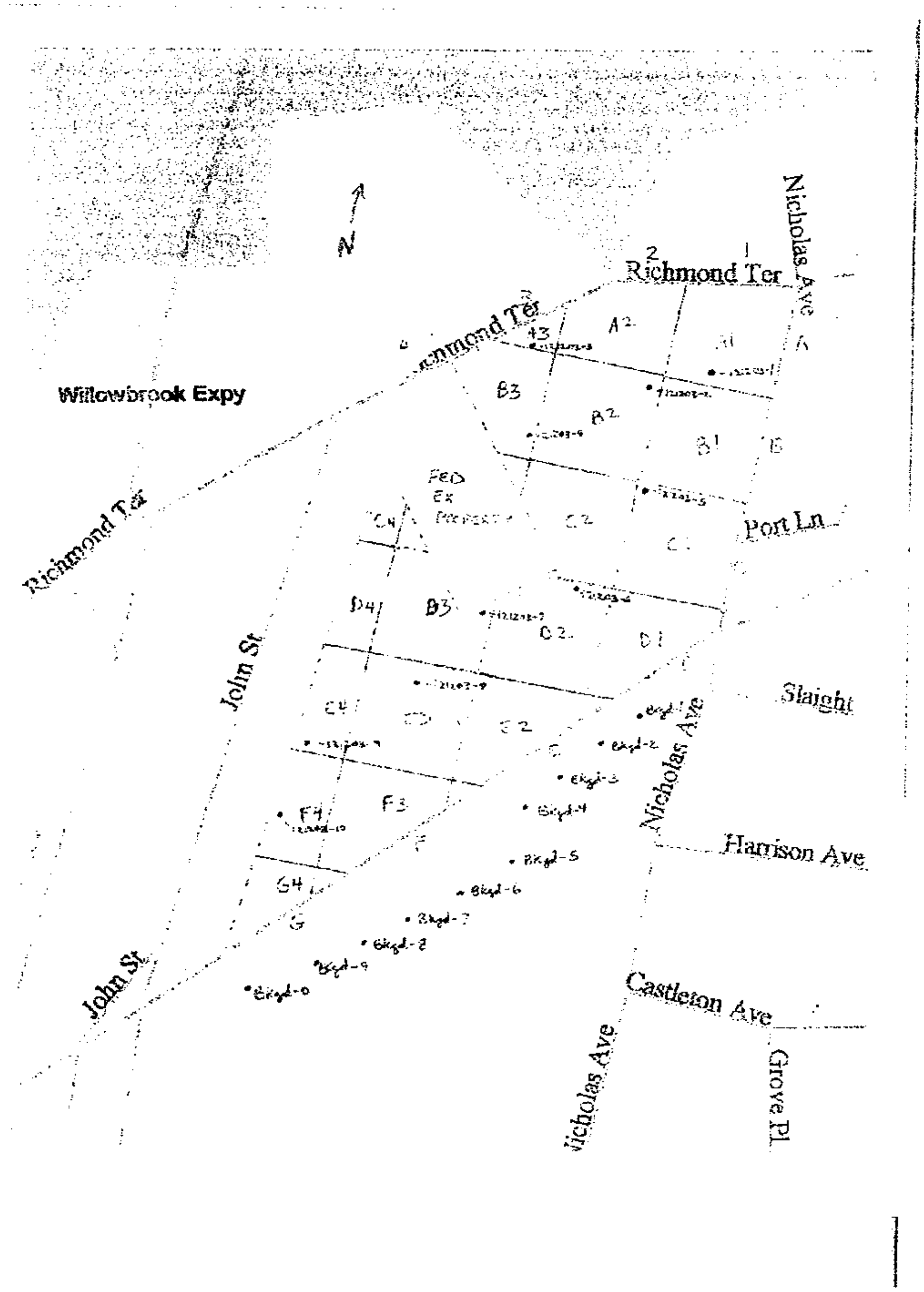
4 SUMMARY AND CONCLUSIONS

An assessment of the radiological conditions at the Nicholas Avenue Rezoning Site in Staten Island, New York was performed by IEM in December, 2003. The approach used and the assumptions made during interpretation of the data acquired were conservative in that the resulting estimates of soil concentration and associated radiation dose potential were maximized. Even so, the results indicated that the site is free of radiological contamination that can be reasonably distinguished from natural background radioactivity.

A supplemental sampling campaign was performed in February, 2005. These results are consistent with the 2003 results. Therefore, the radiological impact of the Nicholas Avenue site on humans, both now and in the future and regardless of its intended use is benign. Furthermore, based upon the findings of this evaluation, the site may be put to any use without regard for radiological issues.

5 FIGURES

Figure 5.1 - Layout of Property and Location of Grid Squares[7]



[7] Duplicated from Integrated Environmental Management, Inc., Report No. 2003016/G-1272, "Radiological Status of the Nicholas Avenue Rezoning Site", April 23, 2004, Appendix 8.2

6 APPENDICES

Appendix 6.1 - Qualifications of Project Personnel

Michael W. Nickerson - Field Technician

Professional Qualifications

Mr. Nickerson has over 20 years of experience in the radiation protection and electronics, with emphasis in radiological control, industrial operations, project planning and applied health physics. He has over 10 years of progressively responsible experience as a U. S. Department of Energy Radiological Control Technologist (RCT) and 10 years of experience as a Nuclear/Biological/Chemical (NBC) Operations Specialist for the U. S. Army. Mr. Nickerson has been qualified as an Authorized User on Maryland Department of the Environment (MDE) Radioactive Materials License No. MD-31-281-01 which permits him to supervise the use of radioactive materials used under the provisions of that license.

Education

Department of Defense certified HAZMAT technician

40-Hour OSHA Hazardous Waste Operator and Emergency Response Training (HAZWOPER)

40-Hour Basic Tritium Training

Plutonium D&D/ER Operations and Transuranic Waste Packaging

Asbestos Awareness Training

Hazard Recognition Training

Nuclear, Biological, Chemical Operations School, Ft. McClellan, AL, 1986.

Advanced Skills & Education Program, Ft. Riley, KS 1989.

Registrations

Authorized User - MDE Radioactive Materials License No. MD-31-281-01.

Certifications and Awards

USDOE Radiological Control Technologist (RCT)
Army Service Ribbon
National Defense Service Ribbon
Kuwait Liberation Medal
NCO Professional Development Ribbon "2"

Experience and Background

March, 2004 - Present - Health Physics Technician, Integrated Environmental Management, Inc. (Gaithersburg, MD) - Duties include surveillance activities, instrumentation usage/control, training, project support, emergency response and applied health physics. Mr. Nickerson has been qualified as a Health Physics Technician pursuant to Radiation Safety Procedure No. RSP-006, "Training and Qualification of Radiation Protection Personnel" and as an Authorized User pursuant to License No. MD-31-281-01.

January 26, 2004- Present - HAZMAT Response Technician, Dept. Of Defense, (Arlington, Va.) - Duties include response to hazardous material situations and incidents on the Pentagon reservation.

August, 18 - September 24, 2003 - Armed Security Officer, Inter-Con Services UPSP (Alexandria, VA) - Provided armed security services for the Department of State. Duties included access control, surveillance and roving patrols.

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Alternate Radiation Safety Officer - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Authorized User - Maryland Department of the Environment Radioactive Materials License No. MD-31-281-01.

Experience and Background

1994 - *Present* — *President and Founder, Integrated Environmental Management, Inc., Gaithersburg, Maryland.* Provides high-quality strategic environmental management services to commercial and government clients. As a member of the client's response team, works with clients to promote an understanding of what is required to achieve and/or maintain compliance in the eyes of all pertinent regulatory agencies, individually or jointly; develop an overall strategy for achieving compliance and reduce liabilities in a technically-sound, legally-defensible, and fiscally-conservative business manner; recommend specific solutions that are compatible with the client's operating philosophy;

and provide insights into future regulatory issues and their impact as input to the client's long-range business planning and cost forecasting process.

1989 - 1994 *Senior Technical Consultant, IT Corporation/Nuclear Sciences, Washington, D.C.* Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Instrumentation; Emergency Response and Preparedness; Site Decommissioning; Radioactive Waste Management; Radiation Risk Assessment; Training; Licensing and Regulatory Negotiations; and Non-ionizing Radiation

1986 - 1989 *Senior Health Physicist, IT Radiological Sciences Laboratory, Knoxville, Tennessee* - Performed health physics consulting for government and commercial facilities in Internal and External Dosimetry; Radiation Monitoring; Environmental Monitoring; Applied Health Physics; Instrumentation; Radioactive Waste Management; Training; and Non-ionizing Radiation.

1983 - 1986 *Radiation Dosimetry Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for internal and external dose assessment and programs for ORNL employees, visitors and contractors. Experience included Internal and External Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Site Characterizations; Personnel Management; and Training.

1978 - 1983 *Internal Dose Group Leader, Oak Ridge National Laboratory, Oak Ridge, Tennessee.* Responsible for development of the ORNL Whole Body Counter Facility for detection and quantification of the actinides in-vivo. Experience included: Internal Dose Assessment; Monitoring Program Design and Implementation; Instrumentation Development; Special Studies; Personnel Management; and Training.

1978 - 1986 *Adjunct Faculty, Oak Ridge Associated Universities, Oak Ridge, Tennessee.* Professional training courses and general classes in the following health physics and radiation protection areas: Internal Dose Assessment; In-vivo Monitoring and Bioassay Methodologies; Instrumentation, and Applied Health Physics.

1979 - 1980 *Health Physics and Dosimetry Task Group Member, President's Commission on the Accident at Three Mile Island, Washington, D.C.* Tasks included: Internal Dose Assessment from Whole Body Counting Results; Estimates of Source Term from in-plant Monitoring Systems; Atmospheric Dispersion Modeling and Population Dose Assessment; and Development of Health Physics Sequence of Events.

Professional Society Membership

American Academy of Health Physics (President, 1995; Executive Committee, 1995-1997; Chair of Strategic Planning Committee, 1997; Chair of Professional Standards and Ethics

Committee, 2003)
Health Physics Society (Plenary Member; Publications Committee, 1999-2001)
Baltimore-Washington Chapter, Health Physics Society (Treasurer, 1993-1994, Board of Directors, 1998-2000)
American Bar Association (Natural Resources, Energy, and Environmental Law)
Environmental Law Institute

Publications

Over 30 professional publications; over 40 oral presentations; over 100 technical reports; over 25 training courses taught.

Other Appointments/Awards

East Tennessee Chapter - Health Physics Society (President, 1986; President-Elect, 1985; Secretary, 1981-1982)

San Diego Chapter - Health Physics Society (Charter member)

American Board of Health Physics, Comprehensive Panel of Examiners, (1989-1993)

ASTM Task Group E-10.04.27 "Transuranic Wound Analysis"; (1986 to 1000)

ANSI Standards Committee (ANSI N13.41) on Multiple Badging; 1986 to 1996 (Chairman, PlanCo-59 Working Group, 1990 to 1996)

ANSI Standards Committee (ANSI N13.39) on Internal Dosimetry Programs (1994 to 2001)

Sigma Xi - Scientific Research Society

National Council on Radiation Protection and Measurements (NCRP) Scientific Committee 46-10, "Assessment of Occupational Exposures from Internal Emitters" (1989-present)

Purdue University, Health Sciences Advisory Council for the School of Health Sciences (1995-1998)

DOE/IAEA Whole Body Counter Intercalibration Committee (1980-1986)

Consultant to Knoxville Academy of Medicine, Mass Casualty Simulation (1984-1985)

Consultant to the National Cancer Institute to Evaluate Devices and Techniques to Determine Previous Radiation Exposure under Public Law 98-54 (Award for participation presented by Oak Ridge Associated Universities in April, 1988.)

Steering Committee Member, U. S. Department of Energy Task Group on the Education of Future Health Physicists (1989-1991)

Technical reviewer and referee for *Health Physics*, *Nuclear Technology*, and *Radiation Protection Management*

IT Corporation *Distinguished Technical Associate* - June, 1992.

Appendix 6.2 - Field Notes and Records

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.
FIELD ACTIVITY DAILY LOG

Facility: Nicholas Ave. Site	
Date: 2/10/05	Job/Task Number: 2003016.02
Client Name: Natalie Lyn	
Address of Work Site: Nicholas Ave. Staten Island, New York	
Description of Work: Take Soil Samples / Take RAD Survey	

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS

Arrived on site at (insert date and time): 2/10/05 10:30 Am

Arrived at the site and linked up with Chris Seib of White Stone Associates. Area in question is not marked off. Chris went to the hardware store to get materials to grid area off. The site was difficult to grid off due to overgrown foilage and lots of debris. Once area was marked, I performed a walkover survey in the grids, near the locations where the samples would be taken. Once locations were identified, I performed Radiation readings on contact and at 1 meter before each soil sample was obtained. Radiation readings were also taken on contact and at 1 meter after each soil sample was obtained. No readings above background were noticed. Upon completion of surveys, I FED-EX'd soil samples to the analytical lab and the instruments to G. Duff.

Departed site at (insert date and time): 2/10/05 1430

Changes from Plans and Specifications, and Other Special Orders and Important Decisions:

Weather Conditions: Cold, Cloudy, Muddy	Important Telephone Calls and Interactions:
Personnel on Site: Chris Seib	
Name (print): Michael Nickerson	Signature: Michael W. Nickerson

Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER INTEGRATED ENV MGMT ORDER NO. 226575/286878

Mfg. Bicron Model MICRO REM Serial No. B295W

Mfg. ______ Model ______ Serial No. ______

Cal. Date 26-Nov-04 Cal Due Date 26-Nov-05 Cal. Interval 1 Year Meterface 0-200µrem/

Check mark ☑ applies to applicable Instr. and/or detector IAW mfg. spec. T. 73 °F RH 29 % Alt 690.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☐ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) ______ VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set ______ V Input Sens. ______ mV Det. Oper. ______ V at ______ mV Threshold Dial Ratio ______ = ______ mV

☐ HV Readout (2 points) Ref./Inst. ______ / ______ V Ref./Inst. ______ / ______ V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x 1000	150 mR/hr	140	150
x 1000	50 mR/hr	48	50
x 100	15 mR/hr	135	150
x 100	5 mR/hr	40	50
x 10	1500 µR/hr	150	150
x 10	500 µR/hr	50	50
x 1	150 µR/hr	140	150
x 1	100 µR/hr	90	100
x0.1	15 µR/hr	135 ~~13.5~~ MTT	150
x0.1			

*Uncertainty within ± 10% C.F. within ± 20%

Range(s) Calibrated Electronically

Digital Readout	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	Log Scale	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978

State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☑ G112 ☑ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☑ E551 ☐ 720 ☐ 734 ☐ 1616 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ______ ☐ Beta S/N ______ ☐ Other ______

☐ m 500 S/N ______ ☐ Oscilloscope S/N ______ ☐ Multimeter S/N ______

Calibrated By: Michael J Thomas Date 26-NOV-04

Reviewed By: [signature] Date 29 NOV 04

Designer and Manufacturer of Scientific and Industrial Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

Bench Test Data For Detector

Detector 44-10 Serial No. PR151705

Customer INTEGRATED ENV MGMT Order #. 226575/286878

Counter 2241 Serial No. 119737 Counter Input Sensitivity 10 mV

Count Time 6 sec Distance Source to Detector Surface

Other

High Voltage	Background	Isotope Am-241 Size ~0.74uCi	Isotope Size	Isotope Size	Isotope Size
850	625	718			
900	795	~~795~~ 9107			
950	756	10588			
1000	784	11633			
→ 1050	800	12178			
1100	794	12677			
1150	833	12692			
1200	1491	13212			

Signature Michael T Thomas Date 26-Nov-04

of
Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER INTEGRATED ENV MGMT ORDER NO. 226575/286878

Mfg. Ludlum Measurements, Inc. Model 2241 Serial No. 119737

Mfg. Ludlum Measurements, Inc. Model 44-10 Serial No. PR151705

Cal. Date 26-Nov-04 Cal Due Date 26-Nov-05 Cal. Interval 1 Year Meterface ____ cpm

heck mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 29 % Alt 690.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☐ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation
☑ Audio ck. ☑ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC
☑ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☐ Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

strument Volt Set 1050 V Input Sens. 10 mV Det. Oper. 1050 V at ____ mV Threshold Dial Ratio ____ = ____ mV

COMMENTS:

Det 1
Dead time: 7usec
Cal Constant: 100-2
Alert: 20kc/m
Alarm: 50kc/m
Firmware: P0405
Overload checked but not set.
Calibrated w/39inch cable.

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
AUTO			
AUTO			

*Uncertainty within ± 10% C.F. within ± 20%

ALL Range(s) Calibrated Electronically

Ratemeter Readout

REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
800K cpm	802 Kc/m	802 Kc/m
200K cpm	200	200
80K cpm	80.1	80.1
20K cpm	20.0	20.0
8K cpm	8.0	8.0
2K cpm	1.94	1.94
800 cpm	801 c/m	801 c/m
200 cpm	201	201

Scaler Readout

REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
800K cpm	80189(0)	80189(0)
200K cpm	20076(0)	20076(0)
80K cpm	8019(0)	8019(0)
20K cpm	2005(0)	2005(0)
8K cpm	802(0)	802(0)
2K cpm	200(0)	200(0)
800 cpm	80(0)	80(0)
200 cpm	20(0)	20(0)

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978.
State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☐ E551 ☐ 720 ☐ 734 ☐ 1616 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ____ ☐ Beta S/N ____ ☑ Other Am-241 ≈ 0.74uCi

☑ m 500 S/N 57881 ☐ Oscilloscope S/N ____ ☑ Multimeter S/N 80040300

Calibrated By: Michael J Thomas Date 26-NOV-04

Reviewed By: [signature] Date 29 NOV 04

FORM C225 11/26/2003

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

INTEGRAGED ENVIRONMENTAL MANAGEMENT, INC.
RADIOLOGICAL SURVEY FORM

Survey Number 021005-01

Instrument/SN: Bicron/B295 W	Calibration Due: 26 Nov. 2005	Site Name: Nicholas Ave.	Date: 3/11/05	Time: 11:05
Instrument/SN Ludlum 2241/119737	Calibration Due: 26 Nov. 2005	Location: Nicholas Ave. Staten Island N.Y.		
Instrument/SN → Fixed/151705	Calibration Due:	Purpose: Rad Readings/Soil Samples		
Survey Performed By (Print): Michael Nickerson		Survey Performed By (Signature): Michael Nickerson		
☒ Battery OK ☒ HV OK ☒ Source Check OK		Grid Dimensions: ______ x ______ ☒ meters ☐ feet ☐ inches ☐ centimeters		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2																										
3																										
4																										
5								SEE MAP																		
6																										
7								PG. # 1																		
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										
16																										
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18																										
19																										
20																										
21																										
22																										
23																										
24																										
25																										

Notes: Conducted a walkover survey with Ludlum 2241 in the grids, near where the sample locations are. None of the readings taken were significantly above background. Once soil sample locations were determined a radiation reading with a Bicron Micro-R was performed. At each sample location a contact reading and a 1 meter reading was taken before sample was obtained. Another contact and 1 meter reading was taken after sample was obtained. None of these readings were above background levels.

RSP-018 (Rev. 001) - Attachment 1

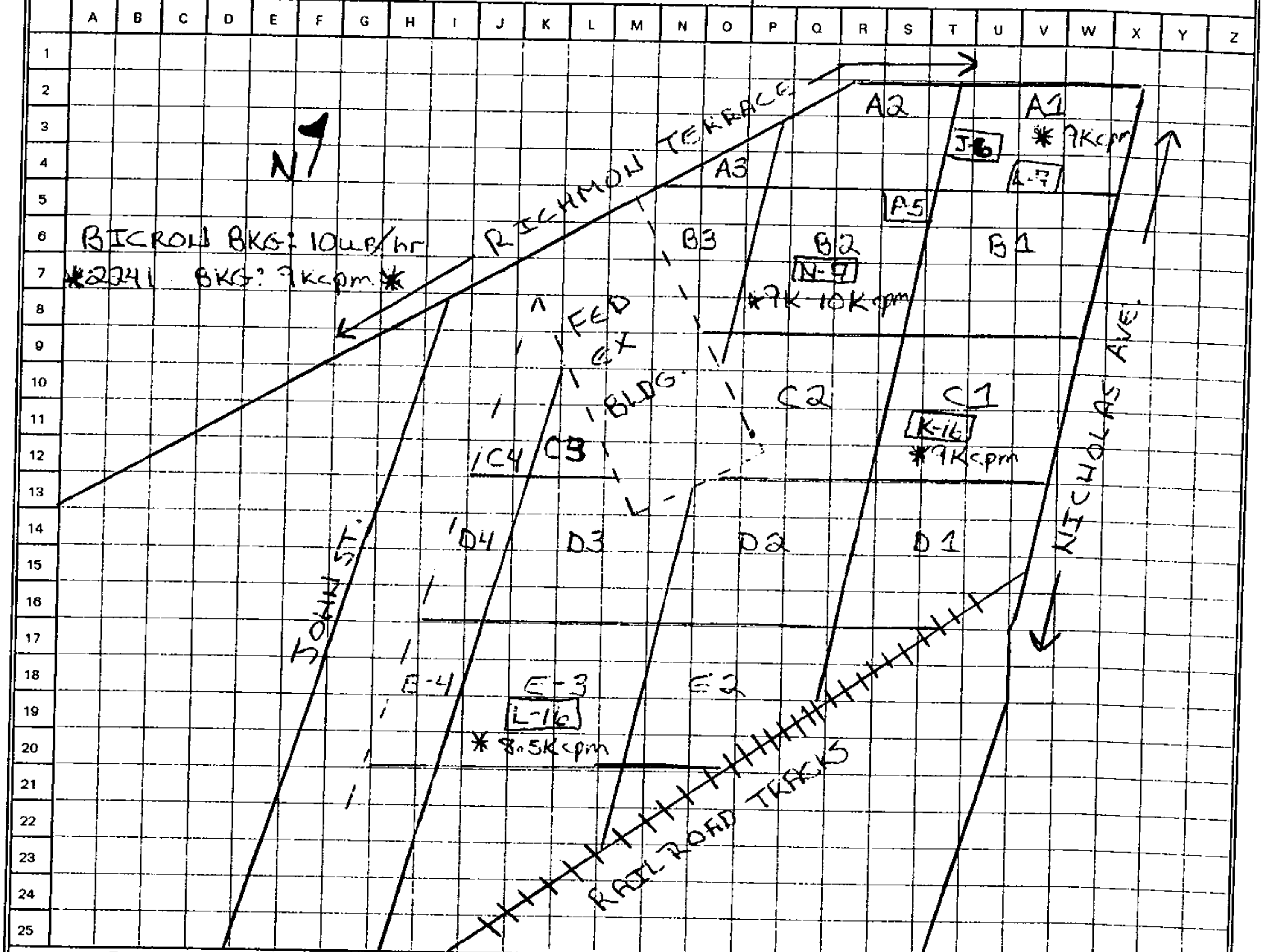
INTEGRAGED ENVIRONMENTAL MANAGEMENT, INC.
RADIOLOGICAL SURVEY FORM

Survey Number 021005-01

Instrument/SN: Bicron/B295W	Calibration Due: 26 Nov. 2005	Site Name: Nicholas Ave.	Date: 2/10/05 Time: 1100
Instrument/SN Ludlum 2241/119734 ↳ Probe/151705	Calibration Due: 26 Nov. 2005	Location: Nicholas Ave. Staten Island, N.Y.	
Instrument/SN	Calibration Due:	Purpose: Rad Readings / Soil Samples	
Survey Performed By (Print): Michael Nickerson		Survey Performed By (Signature): Michael Nickerson	

☒ Battery OK ☒ HV OK ☒ Source Check OK

Grid Dimensions: ______ x ______ ☒ meters ☐ feet ☐ inches ☐ centimeters



Notes:

	Before Contact	Before 1M	After Contact	After 1M
A1 J-6	BKG	BKG	BKG	BKG
A1 L-4	BKG	BKG	BKG	BKG
B2 F-5	BKG	BKG	BKG	BKG

	Before Contact	Before 1M	After Contact	After 1M
B2 N7	BKG	BKG	BKG	BKG
C1 K-16	BKG	BKG	BKG	BKG
E-3 L16	BKG	BKG	BKG	BKG

Appendix 6.3 - Certificates of Analysis

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid A1 Loc. J6	Project:	IEMI00105
Sample ID:	130650001	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		21.4					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		0.931	+/-0.179	0.121	+/-0.179	0.800	pCi/g		MJH1 02/23/05	0710	402816	2
Bismuth-212		0.734	+/-0.255	0.224	+/-0.255	0.500	pCi/g					
Bismuth-214		0.730	+/-0.097	0.0531	+/-0.097	0.200	pCi/g					
Lead-210	U	1.21	+/-3.97	6.92	+/-3.97	4.00	pCi/g					
Lead-211	U	0.0801	+/-0.485	0.784	+/-0.485		pCi/g					
Lead-212		0.954	+/-0.108	0.0448	+/-0.108	0.100	pCi/g					
Lead-214		0.819	+/-0.119	0.0572	+/-0.119	0.100	pCi/g					
Potassium-40		12.1	+/-1.14	0.298	+/-1.14	1.00	pCi/g					
Protactinium-231	U	0.0386	+/-0.781	1.35	+/-0.781		pCi/g					
Radium-223	U	0.0935	+/-0.327	0.568	+/-0.327		pCi/g					
Radon-219	U	0.152	+/-0.183	0.321	+/-0.183		pCi/g					
Thallium-208		0.322	+/-0.0534	0.0292	+/-0.0534	0.080	pCi/g					
Thorium-227	U	-0.0298	+/-0.186	0.321	+/-0.186		pCi/g					
Thorium-230		0.730	+/-0.097	0.0531	+/-0.097	1.00	pCi/g					
Thorium-234	U	0.917	+/-0.909	1.56	+/-0.909	5.00	pCi/g					
Uranium-235	U	0.0982	+/-0.101	0.184	+/-0.101	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID: Grid A1 Loc. J6 Project: IEMI00105
Sample ID: 130650001 Client ID: IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.
This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Joanne Harley.

JHarley

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid A1 Loc. L7	Project:	IEMI00105
Sample ID:	130650002	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		17.4					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		1.03	+/-0.192	0.120	+/-0.192	0.800	pCi/g		MJH1 02/23/05	0701	402816	2
Bismuth-212		0.702	+/-0.227	0.253	+/-0.227	0.500	pCi/g					
Bismuth-214		0.831	+/-0.122	0.0555	+/-0.122	0.200	pCi/g					
Lead-210	U	0.769	+/-2.41	4.30	+/-2.41	4.00	pCi/g					
Lead-211	U	0.155	+/-0.459	0.841	+/-0.459		pCi/g					
Lead-212		0.997	+/-0.104	0.0476	+/-0.104	0.100	pCi/g					
Lead-214		0.879	+/-0.117	0.0559	+/-0.117	0.100	pCi/g					
Potassium-40		13.2	+/-1.25	0.334	+/-1.25	1.00	pCi/g					
Protactinium-231	U	0.370	+/-0.996	1.38	+/-0.996		pCi/g					
Radium-223	U	0.156	+/-0.362	0.577	+/-0.362		pCi/g					
Radon-219	U	0.0536	+/-0.205	0.383	+/-0.205		pCi/g					
Thallium-208		0.300	+/-0.0504	0.0304	+/-0.0504	0.080	pCi/g					
Thorium-227	U	0.120	+/-0.193	0.348	+/-0.193		pCi/g					
Thorium-230		0.831	+/-0.122	0.0555	+/-0.122	1.00	pCi/g					
Thorium-234	U	0.788	+/-0.926	1.18	+/-0.926	5.00	pCi/g					
Uranium-235	U	0.00718	+/-0.104	0.190	+/-0.104	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Notes:
The Qualifiers in this report are defined as follows :

* Indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID: Grid A1 Loc. L7
Sample ID: 130650002
Project: IEMI00105
Client ID: IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Joanne Harley.

JHarley

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid B2 Loc. P5	Project:	IEMI00105
Sample ID:	130650003	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		16.6					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		1.44	+/-0.236	0.139	+/-0.236	0.800	pCi/g		MJH1 02/23/05	0702	402816	2
Bismuth-212		1.10	+/-0.282	0.291	+/-0.282	0.500	pCi/g					
Bismuth-214		0.921	+/-0.128	0.0778	+/-0.128	0.200	pCi/g					
Lead-210	U	1.95	+/-2.97	5.09	+/-2.97	4.00	pCi/g					
Lead-211	U	0.0558	+/-0.670	1.04	+/-0.670		pCi/g					
Lead-212		1.45	+/-0.141	0.0677	+/-0.141	0.100	pCi/g					
Lead-214		1.24	+/-0.158	0.0822	+/-0.158	0.100	pCi/g					
Potassium-40		21.9	+/-2.38	0.392	+/-2.38	1.00	pCi/g					
Protactinium-231	U	0.349	+/-1.00	1.83	+/-1.00		pCi/g					
Radium-223	U	0.487	+/-0.452	0.662	+/-0.452		pCi/g					
Radon-219	U	0.149	+/-0.266	0.480	+/-0.266		pCi/g					
Thallium-208		0.460	+/-0.066	0.0405	+/-0.066	0.080	pCi/g					
Thorium-227	U	-0.0288	+/-0.289	0.459	+/-0.289		pCi/g					
Thorium-230		0.921	+/-0.128	0.0778	+/-0.128	1.00	pCi/g					
Thorium-234		1.99	+/-1.38	1.60	+/-1.38	5.00	pCi/g					
Uranium-235	U	0.0798	+/-0.180	0.261	+/-0.180	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Notes:
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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID: Grid B2 Loc. P5
Sample ID: 130650003

Project: IEMI00105
Client ID: IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Joanne Harley.

JMHarley

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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid B2 Loc. N7	Project:	IEMI00105
Sample ID:	130650004	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		16.7					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		1.33	+/-0.304	0.158	+/-0.304	0.800	pCi/g		MJH1 02/23/05	0855	402816	2
Bismuth-212		1.21	+/-0.363	0.299	+/-0.363	0.500	pCi/g					
Bismuth-214		1.05	+/-0.154	0.0797	+/-0.154	0.200	pCi/g					
Lead-210	U	0.224	+/-2.87	4.47	+/-2.87	4.00	pCi/g					
Lead-211	U	0.091	+/-0.679	1.18	+/-0.679		pCi/g					
Lead-212		1.48	+/-0.147	0.0656	+/-0.147	0.100	pCi/g					
Lead-214		1.09	+/-0.150	0.0844	+/-0.150	0.100	pCi/g					
Potassium-40		23.1	+/-2.11	0.380	+/-2.11	1.00	pCi/g					
Protactinium-231	U	-0.381	+/-1.05	1.81	+/-1.05		pCi/g					
Radium-223	U	0.197	+/-0.521	0.820	+/-0.521		pCi/g					
Radon-219	U	0.0592	+/-0.302	0.528	+/-0.302		pCi/g					
Thallium-208		0.439	+/-0.0761	0.043	+/-0.0761	0.080	pCi/g					
Thorium-227	U	-0.147	+/-0.306	0.461	+/-0.306		pCi/g					
Thorium-230		1.05	+/-0.154	0.0797	+/-0.154	1.00	pCi/g					
Thorium-234	U	1.41	+/-1.32	1.52	+/-1.32	5.00	pCi/g					
Uranium-235	U	0.0534	+/-0.154	0.259	+/-0.154	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Notes:
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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID: Grid B2 Loc. N7 Project: IEMI00105
Sample ID: 130650004 Client ID: IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

** Indicates the analyte is a surrogate compound.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.
This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Joanne Harley.

JHarley

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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid C1 Loc. K16	Project:	IEMI00105
Sample ID:	130650005	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		16.1					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		1.61	+/-0.269	0.136	+/-0.269	0.800	pCi/g		MJH1 02/23/05	1151	402816	2
Bismuth-212		0.847	+/-0.393	0.303	+/-0.393	0.500	pCi/g					
Bismuth-214		0.907	+/-0.128	0.0693	+/-0.128	0.200	pCi/g					
Lead-210	U	0.931	+/-2.39	4.11	+/-2.39	4.00	pCi/g					
Lead-211	U	-0.17	+/-0.665	0.983	+/-0.665		pCi/g					
Lead-212		1.29	+/-0.124	0.058	+/-0.124	0.100	pCi/g					
Lead-214		0.960	+/-0.120	0.0746	+/-0.120	0.100	pCi/g					
Potassium-40		23.3	+/-1.93	0.389	+/-1.93	1.00	pCi/g					
Protactinium-231	U	-0.00831	+/-0.905	1.61	+/-0.905		pCi/g					
Radium-223	U	-0.588	+/-0.494	0.696	+/-0.494		pCi/g					
Radon-219	U	0.00622	+/-0.253	0.441	+/-0.253		pCi/g					
Thallium-208		0.420	+/-0.0576	0.0364	+/-0.0576	0.080	pCi/g					
Thorium-227	U	0.0317	+/-0.234	0.419	+/-0.234		pCi/g					
Thorium-230		0.907	+/-0.128	0.0693	+/-0.128	1.00	pCi/g					
Thorium-234	U	1.20	+/-1.12	1.29	+/-1.12	5.00	pCi/g					
Uranium-235	U	0.0799	+/-0.203	0.243	+/-0.203	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

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Certificate of Analysis

Company :	**Intergrated Environmental Management, Inc**		
Address :	**8 Brookes Avenue**		
	Suite 205		
	Gaithersburg, Maryland 20877	Report Date:	March 1, 2005
Contact:	**Carol Berger**		
Project:	**Radiochemistry- Berger**		

Client Sample ID:	Grid C1 Loc. K16	Project:	IEMI00105
Sample ID:	130650005	Client ID:	IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

** Indicates the analyte is a surrogate compound.
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X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
h Sample preparation or preservation holding time exceeded.
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JMHarley

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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID:	Grid E3 Loc .L16	Project:	IEMI00105
Sample ID:	130650006	Client ID:	IEMI001
Matrix:	Soil		
Collect Date:	10-FEB-05		
Receive Date:	14-FEB-05		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch	Mtd.
Gravimetric Solids												
SW3550 % Moisture (EVAP LOSS)												
Moisture		15.1					percent		DLD1 02/25/05	1457	404812	1
Rad Gamma Spec Analysis												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-228		1.22	+/-0.218	0.116	+/-0.218	0.800	pCi/g		MJH1 02/23/05	1151	402816	2
Bismuth-212		0.885	+/-0.369	0.255	+/-0.369	0.500	pCi/g					
Bismuth-214		0.782	+/-0.112	0.0588	+/-0.112	0.200	pCi/g					
Lead-210	U	0.475	+/-2.59	4.27	+/-2.59	4.00	pCi/g					
Lead-211	U	-0.347	+/-0.575	0.829	+/-0.575		pCi/g					
Lead-212		1.12	+/-0.114	0.0522	+/-0.114	0.100	pCi/g					
Lead-214		0.892	+/-0.117	0.0668	+/-0.117	0.100	pCi/g					
Potassium-40		19.5	+/-1.61	0.305	+/-1.61	1.00	pCi/g					
Protactinium-231	U	-0.297	+/-0.798	1.38	+/-0.798		pCi/g					
Radium-223	U	-0.0348	+/-0.337	0.586	+/-0.337		pCi/g					
Radon-219	U	-0.0772	+/-0.211	0.382	+/-0.211		pCi/g					
Thallium-208		0.400	+/-0.0527	0.0374	+/-0.0527	0.080	pCi/g					
Thorium-227	U	-0.0888	+/-0.196	0.340	+/-0.196		pCi/g					
Thorium-230		0.782	+/-0.112	0.0588	+/-0.112	1.00	pCi/g					
Thorium-234	U	1.20	+/-0.969	1.26	+/-0.969	5.00	pCi/g					
Uranium-235	U	0.0778	+/-0.155	0.200	+/-0.155	0.500	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DLD1	02/15/05	2025	402098

The following Analytical Methods were performed

Method	Description
1	SW846 3550
2	EML HASL 300, 4.5.2.3

Notes:
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Certificate of Analysis

Company : Intergrated Environmental Management, Inc
Address : 8 Brookes Avenue
Suite 205
Gaithersburg, Maryland 20877
Contact: Carol Berger
Project: Radiochemistry- Berger

Report Date: March 1, 2005

Client Sample ID: Grid E3 Loc .L16
Sample ID: 130650006
Project: IEMI00105
Client ID: IEMI001

Parameter	Qualifier	Result	Uncertainty	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.

** Indicates the analyte is a surrogate compound.
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UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
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JHarley

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QC Summary

Report Date: March 1, 2005

Client :	**Intergrated Environmental Management, Inc** **8 Brookes Avenue** **Suite 205** **Gaithersburg, Maryland**
Contact:	**Carol Berger**
Workorder:	**130650**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 402816										
QC1200791922 130650001 DUP										
Actinium-228		0.931		0.990	pCi/g	6		(0% - 100%)	MJH1	02/23/05 11:52
	Uncert:	+/-0.179		+/-0.182						
	TPU:	+/-0.179		+/-0.182						
Bismuth-212		0.734		0.638	pCi/g	14		(0% - 100%)		
	Uncert:	+/-0.255		+/-0.238						
	TPU:	+/-0.255		+/-0.238						
Bismuth-214		0.730		0.812	pCi/g	11		(0% - 100%)		
	Uncert:	+/-0.097		+/-0.120						
	TPU:	+/-0.097		+/-0.120						
Lead-210	U	1.21	U	1.57	pCi/g	26		(0% - 100%)		
	Uncert:	+/-3.97		+/-3.39						
	TPU:	+/-3.97		+/-3.39						
Lead-211	U	0.0801	U	-0.322	pCi/g	N/A				
	Uncert:	+/-0.485		+/-0.594						
	TPU:	+/-0.485		+/-0.594						
Lead-212		0.954		1.16	pCi/g	20		(0% - 20%)		
	Uncert:	+/-0.108		+/-0.117						
	TPU:	+/-0.108		+/-0.117						
Lead-214		0.819		1.05	pCi/g	25		(0% - 20%)		
	Uncert:	+/-0.119		+/-0.139						
	TPU:	+/-0.119		+/-0.139						
Potassium-40		12.1		12.6	pCi/g	4		(0% - 20%)		
	Uncert:	+/-1.14		+/-1.46						
	TPU:	+/-1.14		+/-1.46						
Protactinium-231	U	0.0386	U	-0.0961	pCi/g	N/A				
	Uncert:	+/-0.781		+/-0.890						
	TPU:	+/-0.781		+/-0.890						
Radium-223	U	0.0935	U	0.301	pCi/g	105		(0% - 20%)		
	Uncert:	+/-0.327		+/-0.447						
	TPU:	+/-0.327		+/-0.447						
Radon-219	U	0.152	U	0.0968	pCi/g	45		(0% - 20%)		
	Uncert:	+/-0.183		+/-0.249						
	TPU:	+/-0.183		+/-0.249						
Thallium-208		0.322		0.362	pCi/g	12		(0% - 100%)		
	Uncert:	+/-0.0534		+/-0.0541						
	TPU:	+/-0.0534		+/-0.0541						
Thorium-227	U	-0.0298	U	-0.156	pCi/g	N/A		(0% - 100%)		
	Uncert:	+/-0.186		+/-0.234						
	TPU:	+/-0.186		+/-0.234						
Thorium-230		0.730		0.812	pCi/g	11		(0% - 100%)		
	Uncert:	+/-0.097		+/-0.120						

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QC Summary

Workorder: **130650**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 402816										
	TPU:	+/-0.097		+/-0.120						
Thorium-234	U	0.917	U	1.11	pCi/g	19		(0% - 100%)		
	Uncert:	+/-0.909		+/-1.21						
	TPU:	+/-0.909		+/-1.21						
Uranium-235	U	0.0982	U	0.054	pCi/g	58		(0% - 100%)		
	Uncert:	+/-0.101		+/-0.175						
	TPU:	+/-0.101		+/-0.175						
QC1200791923 LCS										
Actinium-228			U	0.142	pCi/g					02/23/05 07:17
	Uncert:			+/-0.743						
	TPU:			+/-0.743						
Americium-241	23.4			24.6	pCi/g		105	(75%-125%)		
	Uncert:			+/-2.03						
	TPU:			+/-2.03						
Bismuth-212			U	0.596	pCi/g					
	Uncert:			+/-1.31						
	TPU:			+/-1.31						
Bismuth-214				1.48	pCi/g					
	Uncert:			+/-0.765						
	TPU:			+/-0.765						
Cesium-137	9.16			10.1	pCi/g		111	(75%-125%)		
	Uncert:			+/-1.03						
	TPU:			+/-1.03						
Cobalt-60	13.1			13.3	pCi/g		101	(75%-125%)		
	Uncert:			+/-1.10						
	TPU:			+/-1.10						
Lead-210			U	-9.07	pCi/g					
	Uncert:			+/-4.89						
	TPU:			+/-4.89						
Lead-211			U	-0.245	pCi/g					
	Uncert:			+/-3.50						
	TPU:			+/-3.50						
Lead-212			U	0.244	pCi/g					
	Uncert:			+/-0.188						
	TPU:			+/-0.188						
Lead-214			U	-0.0663	pCi/g					
	Uncert:			+/-0.255						
	TPU:			+/-0.255						
Potassium-40			U	1.73	pCi/g					
	Uncert:			+/-2.07						
	TPU:			+/-2.07						
Protactinium-231			U	0.305	pCi/g					
	Uncert:			+/-5.40						
	TPU:			+/-5.40						
Radium-223			U	-1.24	pCi/g					
	Uncert:			+/-2.55						
	TPU:			+/-2.55						
Radon-219			U	-0.514	pCi/g					

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QC Summary

Workorder: 130650

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 402816											
	Uncert:			+/-1.59							
	TPU:			+/-1.59							
Thallium-208			U	-0.0167	pCi/g						
	Uncert:			+/-0.144							
	TPU:			+/-0.144							
Thorium-227			U	0.144	pCi/g						
	Uncert:			+/-1.30							
	TPU:			+/-1.30							
Thorium-230				1.48	pCi/g						
	Uncert:			+/-0.765							
	TPU:			+/-0.765							
Thorium-234			U	-1.48	pCi/g			(75%-125%)			
	Uncert:			+/-3.31							
	TPU:			+/-3.31							
Uranium-235			U	0.183	pCi/g			(75%-125%)			
	Uncert:			+/-0.614							
	TPU:			+/-0.614							
QC1200791921 MB											
Actinium-228			UI	0.145	pCi/g					02/23/05	11:52
	Uncert:			+/-0.0798							
	TPU:			+/-0.0798							
Bismuth-212			U	0.0379	pCi/g						
	Uncert:			+/-0.0774							
	TPU:			+/-0.0774							
Bismuth-214			U	0.0121	pCi/g						
	Uncert:			+/-0.0221							
	TPU:			+/-0.0221							
Lead-210			U	1.60	pCi/g						
	Uncert:			+/-1.99							
	TPU:			+/-1.99							
Lead-211			U	-0.107	pCi/g						
	Uncert:			+/-0.259							
	TPU:			+/-0.259							
Lead-212			U	0.025	pCi/g						
	Uncert:			+/-0.0165							
	TPU:			+/-0.0165							
Lead-214			U	0.0118	pCi/g						
	Uncert:			+/-0.0205							
	TPU:			+/-0.0205							
Potassium-40			U	0.0965	pCi/g						
	Uncert:			+/-0.211							
	TPU:			+/-0.211							
Protactinium-231			U	0.396	pCi/g						
	Uncert:			+/-0.404							
	TPU:			+/-0.404							
Radium-223			U	-0.0925	pCi/g						
	Uncert:			+/-0.183							
	TPU:			+/-0.183							

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 130650

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 402816											
Radon-219			U	0.00879	pCi/g						
	Uncert:			+/-0.111							
	TPU:			+/-0.111							
Thallium-208			U	0.0104	pCi/g						
	Uncert:			+/-0.0105							
	TPU:			+/-0.0105							
Thorium-227			U	-0.0951	pCi/g						
	Uncert:			+/-0.109							
	TPU:			+/-0.109							
Thorium-230			U	0.0121	pCi/g						
	Uncert:			+/-0.0221							
	TPU:			+/-0.0221							
Thorium-234			U	0.489	pCi/g						
	Uncert:			+/-0.478							
	TPU:			+/-0.478							
Uranium-235			U	0.0475	pCi/g						
	Uncert:			+/-0.0528							
	TPU:			+/-0.0528							

Notes:
The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Flag for results below the MDC or a flag for low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the target analyte was analyzed for but not detected above the detection limit.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- h Sample preparation or preservation holding time exceeded.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

130656/ 2005027670S

INTEGRATED ENVIRONMENTAL MANAGEMENT, INC.
ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Page ___ of ___

Reference No ______

(1) Client Name Kimmie Lyn	(7) Samples Shipment Date	(5) Bill to: See PO
(2) Collected By: M. Nickerson	(8) Lab Destination GEL	
(3) Job/Task No: 2003016.02	(9) Lab Contact Jeanne Harley	
(4) Project Manager: C. Berger	(12) IEM Technical Contact/Phone 240-631-8990	(10) Report to: C D Berger, IEM
(6) Purchase Order No. 2003016.02.01	(13) Carrier/Waybill No.	S Brookes Ave Suite 305
(11) Required Report Date See PO (Attached)		Gaithersburg MD 2087

ONE CONTAINER PER LINE

(14) Sample Number	(15) Sample Description/Type	(16) Date/Time Collected	(17) Container Type	(18) Sample Volume	(19) Preservative	(20) Requested Testing Program
				≈ 1 KG	None	See PO
Grid A1 Loc. J6	Soil	2/10/05 / 1200	Glass Jar			
Grid A1 Loc. L7		2/10/05 / 1210				
Grid B2 Loc. F5		2/10/05 / 1230				
Grid B2 Loc. N7		2/10/05 / 1235				
Grid C1 Loc. K16		2/10/05 / 1255				
Grid C3 Loc. L16		2/10/05 / 1315				

(23) Special Instructions

(24) Possible Hazard Identification
Non-hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

(25) Sample Disposal
Return to Client ☐ Disposal by Lab ☒ Archive ______ months

(26) Turnaround Time Required: Normal ☐ Rush ☐

(27) QC Level: I ☐ II ☐ III ☐ Project Specific ______

(28) Relinquished by: (signature, date, time): Michael W. Nickerson 2/10/05 1350	Received by: (signature, date, time) [signature] 2/14/05 9:30
Relinquished by: (signature, date, time):	Received by: (signature, date, time)
Relinquished by: (signature, date, time):	Received by: (signature, date, time)

(See Reverse for Instructions)

This report was prepared under the direction of
Natallie Lyn, LLC

by

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