

# **EAST SIDE ACCESS PROJECT**

**SUPPLEMENTAL ENVIRONMENTAL  
SITE INVESTIGATION  
FINDINGS REPORT SUMMARY  
for  
PHASE 2  
DESIGN PACKAGE No.CQ028 PART 1  
(100% SUBMITTAL)  
EXISTING RAIL YARD PREPARATION &  
DEMOLITION OF SUPERIOR REED  
REVISION 1**

**December 28, 2001**

***Prepared by PB/STV Joint Venture  
Prepared for MTA East Side Access Project***

Prepared by:	P. Oelerich
Reviewed by:	J. Butler

**SUPPLEMENTAL  
ENVIRONMENTAL SITE INVESTIGATION  
FINDINGS REPORT SUMMARY**

**for  
PHASE 2  
DESIGN PACKAGE No. CQ028 Part 1 (100% SUBMITTAL)  
EXISTING RAIL YARD PREPARATION & DEMOLITION  
OF SUPERIOR REED  
Revision 1**

***TABLE OF CONTENTS***

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
1.0 INTRODUCTION.....	1
2.0 SCOPE OF WORK AND OBJECTIVES.....	3
3.0 FINDINGS.....	6
3.1 Environmental Survey 1 – Superior Reed Building Complex.....	6
3.1.1 ACM Sample Collection.....	6
3.1.2 LBP Sample Collection.....	7
3.1.3 Storm Drain Sediment Sample Characterization.....	7
3.1.4 Soil Sample Characterization.....	8
3.1.5 Soil Sample Analytical Results.....	8
3.1.6 Groundwater Sample Collection.....	9
3.1.7 Inspection for Undocumented Environmental Liabilities.....	10
3.2 Environmental Survey 2 – Existing Rail Yard, Abandoned Substation, Abandoned Cover Platform.....	11
3.2.1 Surficial Petroleum Impact Characterization.....	11
3.2.2 Substation Concrete Characterization.....	12
3.2.3 ACM Sample Collection.....	12
3.2.4 LBP Sample Collection.....	13

**PB/STV**

3.3 Environmental Survey 3 – Hazardous Levels of Lead in Soil, Located  
South of NYAR Maintenance Shop .....13

3.4 Environmental Survey 4 – Abandoned Crew Quarters, Suspect Buried Material .....14

3.4.1 Geophysical Survey of Suspect Mounds.....14

3.4.2 Test Pits.....15

3.4.3 Waste Characterization Samples.....17

3.4.4 Additional Test Pits and Environmental Sampling.....17

4.0 CONCLUSIONS AND RECOMMENDATIONS .....18

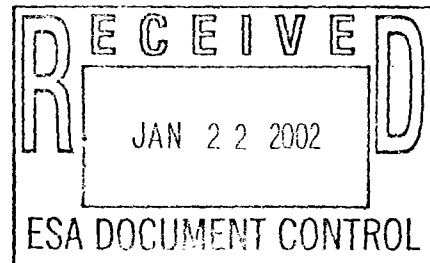
4.1 Environmental Survey 1 – Superior Reed Building Complex.....18

4.2 Environmental Survey 2 – Existing Rail Yard – Abandoned Substation  
And Abandoned Covered Platform.....19

4.3 Environmental Survey 3 – Hazardous Levels of Lead in Soil .....19

4.4 Environmental Survey 4 – Abandoned Crew Quarters, Suspect Buried Material .....20

5.0 REFERENCES.....21



***PB/STV***

***TABLE OF CONTENTS (Continued)***

**TABLES**

- 1 Phase 1A, Contract CQ025: Asbestos Containing Material Results
- 2 Phase 1A, Contract CQ025: Lead Based Paint Results
- 3 Phase 1A, Contract CQ025: Summary of Sediment Results for Total Petroleum Hydrocarbons
- 4 Phase 1A, Contract CQ025: Summary of Sediment and Concrete Results for Polychlorinated Biphenyls
- 5 Phase 1A, Contract CQ025: Summary of Sediment and Concrete Results for Toxicity Characteristics Leaching Procedure Metals
- 6 Phase 1A, Contract CQ025: Summary of Sediment and Concrete Results for Volatile Organic Compounds (VOCs)
- 7 Phase 1A, Contract CQ025: Summary of Sediment and Concrete Results for Semi-Volatile Organic Compounds (SVOCs)
- 8 Phase 1A, Contract CQ025: Summary of Groundwater Sample Results for VOCs
- 9 Phase 1A, Contract CQ025: Summary of Groundwater Sample Results for SVOCs
- 10 Phase 1A, Contract CQ025: Summary of Concrete Results for Total Metals

**FIGURES**

- 1 Site Location Map
- 2 Yard A Areas of Environmental Concern
- 3 CQ025-CT-5102
- 4 CQ025-CT-5103
- 5 CQ025-CT-5104
- 6 CQ025-CT-5107

**APPENDICES**

- A AMRO Laboratory Report
- B NAEVA Geophysics Report

## ***PB/STV***

### **1.0 INTRODUCTION**

The Metropolitan Transportation Authority/Long Island Rail Road (MTA/LIRR) has contracted the joint venture team of Parsons Brinckerhoff Quade & Douglas, Inc. and STV Incorporated (PB/STV) to provide tunnel engineering consulting services for the East Side Access (ESA) Project (the Project). The PB/STV team is known as the Tunnel Engineer (TE) of the Project. The TE is responsible for providing the conceptual design, preliminary and final design engineering, construction phase services (including pre-construction environmental assessments), and coordination services for the Project. The TE's work is conducted under the direction of the Program Management (PM) firm. Other Project consultants include the Systems Engineer (SE), involved with system design elements and the Environmental Consultant (EC), involved with the preparation of the Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS). The completed Project will provide direct LIRR service into Manhattan's Grand Central Terminal (GCT) and a new LIRR Sunnyside Station located in western Queens County, New York. Direct access to east midtown Manhattan will improve the regional mobility of Long Island and Queens County residents and commuters.

The TE has completed Project Phase 1 Preliminary Engineering Environmental Site Investigations (ESIs) within the Project's proposed right-of-ways (ROWs) and replacement rail yards. The ROWs are known as the Manhattan Alignment with GCT and the Queens Alignment with Sunnyside Yard, Existing Rail Yard, Harold Interlocking and Sunnyside Station. The replacement yards include Highbridge Yard, Fresh Pond Yard, and Blissville Yard. The results of the Phase 1 ESIs were issued in separate Findings Reports that recommended additional environmental investigations.

This Findings Report provides the results for the Supplemental ESI conducted for Phase 1A Design Package CQ025, Superior Reed Demolition and Prepare the Existing Rail Yard for Queens Open-Cut. One additional Findings Report will be issued during Phase 1A for environmental surveys conducted within the area defined by design package CQ026. The ESI

***PB/STV***

for package CQ028 will be submitted in Phase 2. The ESI was conducted according to the "Sampling and Analysis Plan for the Supplemental Environmental Site Investigation of the Queens Alignment (Phase 1A), Design Package Nos. CQ025, CQ026, and CQ028," (TE, 2001). The scope of work was based on the findings of Phase I ESIs conducted within the Queens Alignment for Sunnyside Yard, The Existing Rail Yard, Harold Interlocking, and Sunnyside Station.

Areas of Concern (AOCs) were defined for soils and structures within proposed construction areas if samples taken in these areas detected substances above regulatory thresholds (as defined in section 3.0 Findings), or if site reconnaissance indicated the potential for contamination. An AOC indicates an area that will require specific testing, handling and disposal protocols during construction and for which contaminant controls may be required to safeguard against potential impacts to the construction work force. (TE, October 2001)

## ***PB/STV***

### **2.0 SCOPE OF WORK AND OBJECTIVES**

Contract package CQ025 includes the demolition of the Superior Reed Building Complex controlled by New York City Transit (NYCT) and the preparation of The Existing Rail Yard for the Queens Open-Cut. The areas of investigation and associated tasks are as follows:

#### **Environmental Survey 1 - Superior Reed Building Complex**

The objective of the survey was to investigate the environmental liabilities identified in the Limited Phase I Environmental Site Assessment Report of the Superior Reed Building Complex produced for the Project (TE, 2000A). The Superior Reed Building Complex is included in AOC 6. (See Figure 2) Hazardous materials identified during the survey were delineated and quantified in this ESI Report and utilized for the design of remedial options presented in the Construction Contaminant Management Plan (CCMP) (TE, 2001).

- Investigate and delineate suspect Asbestos Containing Material (ACM)
- Investigate and delineate suspect Lead Based Paint (LBP)
- Storm drain sediment sample collection
- Soil sample collection
- Groundwater sample collection
- Undocumented environmental liabilities inspection

#### **Environmental Survey 2 – Existing Rail Yard, Abandoned Substation and Abandoned Covered Platform**

The objective of the survey was to investigate the environmental liabilities noted in Document 1 (TE, 2000B). Hazardous materials identified during the survey were delineated and quantified in this ESI Report and utilized for the design of remedial options presented in the CCMP (TE,

***PB/STV***

2001). The abandoned substation is included in AOC 12 (see Figure 3) and the abandoned covered platform has not been considered an AOC.

- Surficial survey of petroleum-impacted material in the western Existing Rail Yard
- Concrete sample collection from Abandoned Substation floor
- ACM survey of Abandoned Substation and the Abandoned Covered Platform
- LBP survey of Abandoned Substation and the Abandoned Covered Platform

Please note that the New York and Atlantic Railroad (NYAR) Maintenance Shop and the Yardmaster's Building will be not be demolished during the Existing Rail Yard preparation activities of Design Package CQ025. The findings for the supplemental environmental investigation of the NYAR Maintenance Shop and the Yardmaster's Building will be presented in an appropriate Project Phase 2 design package. These findings will include the ACM and LBP survey, maintenance pit concrete samples, and sediment drain samples.

**Environmental Survey 3 - Hazardous Levels of Lead in Soil, South of the NYAR Maintenance Shop**

The objective of the survey was to delineate soil surrounding the hazardous level of lead soil documented in Document 1 (TE, 2000B). The area of potential lead hazardous soil was delineated and quantified in this ESI Report and utilized for the design of remedial options presented in the CCMP (TE, 2001). This area is considered part of AOC 3. (See Figure 3)

- Soil sample collection
- Soil sample analysis

**Environmental Survey 4 - Abandoned Crew Quarters, Suspect Buried Material**



***PB/STV***

The objective of the survey was to investigate the suspect mounds located north of the Abandoned Crew Quarters noted in the Document 1 (TE, 2000B). No hazardous waste was documented during this survey. The test pits were excavated in the area that has been designated as AOC 9. (See Figure 2)

- Surface debris inspection
- Geophysical survey of suspect mounds
- Test pit excavation of subsurface geophysical anomalies
- Waste characterization sample collection at suspect subsurface objects

**Environmental Survey 5 – Eastern Existing Rail Yard – PCB-Contaminated Petroleum Plume**

Please note that the PCB-Contaminated Petroleum Plume well monitoring findings will be presented in the Supplemental ESI Findings Report Summary for Phase 1A Design Package CQ028.

**Environmental Survey 6 and 7- Existing Rail Yard Storm Sewer and Dutch Kills Outfall**

Please note that the storm sewer sediment samples findings will be presented in the Supplemental ESI Findings Report Summary for Phase 1A Design Package CQ028.

***PB/STV***

**3.0 FINDINGS**

3.1 Environmental Survey 1 - Superior Reed Building Complex

*3.1.1 ACM Sample Collection*

The NYCT Superior Reed building complex at 29-50, 29-54, and 29-60 Northern Boulevard was inspected and sampled by JLC Environmental (JLC) on March 6 and 7, 2001. The building complex is included in AOC 6. The material inspected for ACM included brick mortar, window putty, stucco, floor tiles, ceiling tiles mastic, coping stone tar, baseboard mastic, sheetrock, roof membrane, screed coat, vapor barrier, flashing, and insulating material. Bulk samples were collected and analyzed using Polarized Light Microscopy (PLM) and Transmission Electron Microscopy (TEM) methods. Material that contains more than 1% by weight of asbestos is classified as ACM. The following samples were classified as ACM: window putty, 9"x9" floor tiles and mastic, baseboard and mastic, roof membrane, and coping stone tar. See Table 1 for the ACM sample locations and approximate quantity.

The MTA Publication office building at 29-70 Northern Boulevard was inspected by JLC on April 30, 2001. The material inspected for ACM included ceiling plaster, wall sheetrock, cement block mortar, pipe insulation, floor tile, floor tile mastic, baseboard mastic, ceramic tile grout. Bulk samples were collected and analyzed using PLM and TEM methods. No sampled material was classified as ACM. See Table 1 for the ACM sample locations.

Electrical wire insulation with suspect ACM was inspected and sampled by JLC on June 26, 2001 at the Superior Reed Buildings A, B, C, and 29-70 Northern Boulevard. The findings of the electrical insulation survey will be issued as an addendum to this report.

***PB/STV***

*3.1.2 LBP Sample Collection*

The NYCT Superior Reed building complex was inspected and sampled by JLC on March 6 and 7, 2001. A portable Lead Paint Analyzer manufactured by Niton Corporation was used to test all accessible painted surfaces. The materials inspected for LBP included doors, windows, and ceiling paint. LBP is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm<sup>2</sup> or 0.5% by weight according to US Department of Housing and Urban Development (HUD) guidelines. The following samples were classified as LBP: doors and components, freight elevator doors, shelving units, stair baluster and treads, and wrought iron fence. See Table 2 for the LBP locations.

The MTA Publication office building was inspected by JLC on April 30, 2001. The materials inspected for LBP included doors, windows, walls, ceiling, stair rails, and steps. The following samples were classified as LBP: yellow paint on the exterior steps and red paint on the exterior stair rails. See Table 2 for the LBP sample locations.

*3.1.3 Storm Drain Sediment Sample Characterization*

Sediment sample TE-1A-SD-1 was collected from a blocked storm drain within the parking area of the Superior Reed complex. The sample location is indicated on Figure 6. The sample was submitted for the following analytical parameters: Total Petroleum Hydrocarbons over the Diesel and Gasoline Organic Ranges (TPH DRO/GRO), Target Compound List Polychlorinated Biphenyls (TCL PCBs), and Toxicity Characteristic Leaching Procedure (TCLP) Metals.

TPH-GRO was detected at 3,400 ppb and TPH-DRO at 860,000 ppb. The PCB Aroclor 1260 was detected at 55 ppb. Lead was detected at 5,500 ppb above the EPA Hazardous Waste Regulatory level of 5,000 ppb.

***PB/STV***

Tables 3 to 5 provide summaries of the analytical findings and the complete analytical data are included in Appendix A.

*3.1.4 Soil Sample Characterization*

Soil borings were advanced within the Superior Reed property to characterize the existing environmental conditions. Soil boring TE-1A-A1 was installed in the eastern portion of the property utilizing a Geoprobe<sup>®</sup> direct-push rig. Borings TE-1A-H1 and TE-1A-H2 were installed in the southern portion of the property utilizing a stainless steel hand-auger. The sample locations are indicated on Figure 4.

The boring location TE-1A-A1 was installed to 16 feet below surface grade (ft-bsg). Recovered material was characterized as dark brown to black, moist, fine sand. Material was wet from 12 to 13 ft-bsg and saturated below 13 feet. Recovered samples were field screened for VOCs with a Photovac<sup>®</sup> photo-ionization detector (PID), and no VOCs were detected.

The hand auger locations TE-1A-H1 and TE-1A-H2 were installed to 5 ft-bsg. Recovered material from both locations was characterized as dark brown, moist, fine sand with some gravel. Groundwater was encountered at approximately 3 ft-bsg at location TE-1A-H2. No VOCs were detected during the field screenings.

*3.1.5 Soil Sample Analytical Results*

Two soil samples for analytical analysis were collected at boring location TE-1A-A1 from 0 to 4 ft-bsg and 12 to 16 ft-bsg. One soil sample for analytical analysis was collected from 0 to 5 ft-bsg at each of the boring locations TE-1A-H1 and TE-1A-H2. Samples were submitted for laboratory analysis for the following analytical parameters: TCL VOCs, TCL semi-volatile organic compounds (SVOCs), and TCLP Metals.

***PB/STV***

Sample TE-1A-A1 (0 to 4 ft-bsg) results include the following: total SVOCs were detected at 8,770 ppb below the NYSDEC TAGM 94-4046 Recommended Soil Cleanup Objective of 50,000 and total carcinogenic SVOCs were detected at 890 ppb below the 1997 NYSDEC Record of Decision (ROD) value of 10,000 ppb.

Sample TE-1A-H1 (0 to 5 ft-bsg) results include the following: total SVOCs were detected at 36,400 ppb below the Recommended Soil Cleanup Objective and total carcinogenic SVOCs were detected at 2,200 ppb below the ROD value.

Sample TE-1A-H2 (0 to 5 ft-bsg) results include the following: total SVOCs were detected at 51,130 ppb below the Recommended Soil Cleanup Objective and total carcinogenic SVOCs were detected at 3,650 ppb below the ROD value.

VOCs and TCLP metals were not detected in any of the soil boring samples. SVOCs were not detected in the soil sample from TE-1A-A1 (12 to 16 ft-bsg).

Tables 4 to 7 provide summaries of the analytical findings and the complete analytical data are included in Appendix A.

### *3.1.6 Groundwater Sample Collection*

A groundwater sample was collected utilizing the Geoprobe<sup>®</sup> sampling system at location TE-1A-A1. The sample was collected across the groundwater table interface from approximately 12 ft-bsg.

A second groundwater sample was collected from monitoring well QB-120 previously installed during Phase 1 of the Project. Depth to water was measured at 2.00 ft-bsg, and total depth was measured at 50.5 ft-bsg. Approximately 3 gallons were purged from the

***PB/STV***

well prior to groundwater sampling. The following parameters were measured with a Horiba U10 water quality checker: pH, 11.25; conductivity, 1.40 mS/cm; turbidity, 217 NTU; dissolved oxygen, 12.91 mg/L; temperature, 12.8 degrees Celsius; salinity, 0.06%.

Groundwater samples were submitted for the laboratory analysis of TCL VOCs and TCL SVOCs.

The results for sample TE-1A-A1 at 12 ft-bsg included the VOC methyl tert-butyl ether (MTBE) detected at 4.5 ppb below the NYSDEC standard for Class GA water quality standard according to TOGS 1.1.1 from June 1998. No other VOCs were detected and no SVOCs were detected.

The results for sample QB-120 included the VOCs 2-butanone and acetone detected below the Class GA standard, the VOC trichloroethene detected at 14 ppb and the SVOC phenol detected at 37 ppb above their respective Class GA standards of 5 ppb and 1 ppb.

Groundwater sample location TE-1A-A1 and QB-120 are not included in a designated plume.

Tables 8 to 9 provide summaries of the analytical findings and the complete analytical data are included in Appendix A.

*3.1.7 Inspection for Undocumented Environmental Liabilities*

The Superior Reed property was inspected for undocumented environmental liabilities. The Limited Phase I Environmental Site Assessment Report of the Superior Reed Building Complex (TE, 2000A) noted debris piles immediately south of the Superior Reed buildings and adjacent to the northern boundary of the Existing Rail Yard. Debris included bags of trash, plastic buckets, automotive parts, and other miscellaneous debris.

***PB/STV***

No evidence of USTs, suspect mounding or steel drums were observed. No additional investigation of this area is recommend.

A 5,000 gallon UST within the central parking areas was closed in-place during NYCT-directed activities in 1992 (URS Greiner, 2000). The approximate location of the abandoned UST is indicated on Figure 6.

Possible biologic hazards were observed in Superior Reed Building A. Building A is occupied by a number of pigeons that have covered the floor and walls with pigeon waste.

3.2 Environmental Survey 2 - Existing Rail Yard, Abandoned Substation, Abandoned Covered Platform

The western Existing Rail Yard was inspected for surficial petroleum impact to the asphalt and ballast cover. The Abandoned Substation adjacent to Dutch Kills Street is included in AOC 12 and was inspected for petroleum-impact to the concrete floor. The Abandoned Substation and Abandoned Covered Platform were inspected for suspect ACM and LBP. The abandoned covered platform has not been considered an AOC.

*3.2.1 Surficial Petroleum Impact Characterization*

Field characterization of surficial petroleum impact was conducted by visual inspection. Petroleum-stained ballast from apparent diesel train drippings was observed in the area of proposed track realignment north of the NYAR maintenance facility. The area is included in AOC 3 and is approximately 10,400 square feet and is indicated on Figure 3.

***PB/STV***

*3.2.2 Substation Concrete Characterization*

An inspection of the Abandoned Substation was conducted on April 30, 2001. Debris covered approximately 70% to 80% of the concrete floor to a depth of 3 to 4 feet. The debris included wood scraps, metal, plywood, bricks, and household trash. No areas of petroleum impact were observed on the visible areas of the floor.

The concrete sample TE-1A-C-5 was collected in the northern portion of the floor in order to test for possible RCRA metal and PCB contamination not detected by the visual inspection. The composite concrete sample was collected with a cold chisel and hammer. The sample was submitted for laboratory analysis for TCL PCBs and Total RCRA metals. The approximate location of the concrete sample is indicated on Figure 3.

The only PCB detected was Aroclor 1260 at 49 ppb below the ROD total PCBs guidance value of 25,000 ppb. Total barium was detected at 370 ppb, total chromium was detected at 58 ppb, and total lead was detected at 1,500 ppb. The ROD guidance value for total lead is 1,000,000 ppb.

Tables 4 and 10 provide summaries of the analytical findings and the complete analytical data are included in Appendix A.

*3.2.3 ACM Sample Collection*

The interior of the Abandoned Substation was inspected and sampled by JLC on April 30, 2001. The interior brick mortar was sampled as suspect ACM. During a previous inspection on April 12, 2000, JLC collected exterior brick mortar samples for suspect ACM. Both the exterior and interior mortar samples were analyzed by PLM. No asbestos was detected in the samples. See Table 1 for the ACM sample locations.



***PB/STV***

The Abandoned Covered Platform was inspected and sampled by JLC on June 5, 2001. Insulating material of a free standing heating unit was sampled for suspect ACM. ACM was confirmed positive in the samples. See Table 1 for the ACM sample locations.

*3.2.4 LBP Sample Collection*

The interior of the Abandoned Substation was inspected and sampled by JLC on April 30, 2001. A portable Lead Paint Analyzer manufactured by Niton Corporation was used to test accessible painted surfaces. The steel building support beams and wall mounted equipment dividers were inspected for LBP. LBP is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm<sup>2</sup> or 0.5% by weight according to US Department of HUD guidelines. The four samples collected from beams and the four samples collected from the dividers were classified as LBP. See Tables 2 for the LBP locations. No suspect LBP was determined during a previous inspection on April 12, 2000 of the exterior of the substation.

The Abandoned Covered Platform was inspected by JLC on June 5, 2001. LBP was confirmed positive on the overhead support beams and a vertical pipe on the southern portion of the platform. See Table 1 for the ACM sample locations.

**3.3 Environmental Survey 3 – Hazardous Levels of Lead in Soil, Located South of NYAR Maintenance Shop**

Hazardous levels of lead were detected in the soil sample TE-YA-48 installed south of the NYAR Maintenance Shop. TCLP Lead was detected in the sample from 0 to 3.5 feet below surface grade at 84 ppm; this is above the RCRA hazardous waste criterion of 5 ppm. This area is included in AOC 3. Eight soil borings were installed in a grid surrounding the sample point TE-YA-48 to quantify and delineate lead-impacted soil. At each location, one composite soil

***PB/STV***

sample was collected from 0 to 4 feet below surface grade utilizing a stainless-steel hand auger. The locations of the soil samples are indicated on Figure 3.

TCLP lead was not detected during laboratory analysis of the eight soil samples TE-1A-L1 to TE-1A-L8. Table 5 provides summaries of the analytical findings and the complete analytical data are included in Appendix A.

3.4 Environmental Survey 4 - Abandoned Crew Quarters, Suspect Buried Material

*3.4.1 Geophysical Survey of Suspect Mounds*

Mounded areas north of the Abandoned Crew Quarters were inspected for suspect subsurface debris. A geophysical site survey was conducted by NAEVA Geophysics Inc. (NAEVA) to detect and map the location of subsurface obstructions, such as USTs, buried drums, former structures, and subsurface utilities. A total magnetic field strength survey could not be conducted due to the close proximity of buildings, fences, rail tracks, and metallic surface debris. Instead, an electromagnetic metal-detector investigation was conducted utilizing a Fisher TW-6 pipe and cable locator. The detector was carried over the site in a series of parallel traverses at 3-foot spaces. Anomalies were marked on the ground for further investigation with a Sensors and Software ground-penetrating radar (GPR) with a 250 MHz antenna.

Three significant magnetic anomalies were identified. The largest anomaly was located in the northwest corner of the area of investigation. The irregular surface trace of the anomaly and the slight ground surface depression suggested a subsiding disposal pit as a likely source. The second anomaly was located near the northern fence-line over a 4 by 7-foot rectangular area. A manhole at the center of this anomaly suggested a utility or UST-related vault as the source. The manhole cover was removed, however the interior of the vault was filled with concrete and fill debris. The third anomaly was located

***PB/STV***

between the Abandoned Crew Quarters and the fence-line over a 3 by 5-foot area. A buried metal object protruded within the center of this anomaly and the size suggested a possible UST. GPR data profiles collected across the three large anomalies provided no additional information concerning the source. The locations of the anomalies are indicated in the NAEVA report drawing in Appendix B.

Nine smaller anomalies were identified in addition to the significant anomalies. These anomalies were attributed to small amounts of metallic debris. The locations of the anomalies are indicated in the NAEVA report drawing in Appendix B.

The utility locating instruments were used to delineate the surface traces of detectable utilities. In the northeast corner of the Abandoned Crew Quarters, a (water) utility line was mapped exiting the building and continuing westward across the area of investigation. Two utilities of unknown usage were mapped within the area of investigation. The locations of the utilities are indicated in the NAEVA report drawing in Appendix B.

*3.4.2 Test Pits*

Two test pits were excavated to investigate largest geophysical anomalies. Test pits were dug with a rubber-tire Case 560 backhoe. Additional hand excavations were conducted at smaller anomalies. The test pits were excavated in the area that is considered AOC 9. (See Figure 9) All excavations were performed in conformance with applicable Project and OSHA requirements.

The test pits were excavated using the bucket of the backhoe in 6-inch increments to a maximum depth of approximately 3 to 4 feet when groundwater was encountered. Upon completing each test pit, excavated soil was returned to the excavation in a similar

***PB/STV***

stratigraphic sequence as removed. The original cover material was placed on top of the excavation.

The first test pit was installed at the anomaly located near the northern fence-line over a 4 by 7-foot rectangular area. A manhole at the center of this anomaly suggested a utility or UST-related vault as the source. The excavation revealed an 8 by 5-foot concrete vault located in the middle of buried rail tracks. The concrete vault was 3 to 4 feet deep and no lines were exposed around the vault. Groundwater was encountered at approximately 3.5 ft-bsg and a heavy layer of petroleum was observed on the groundwater. VOCs levels in the excavation were measured at 25 ppm. The sample TE-1A-TP1 was collected above the groundwater table at approximately 3 ft-bsg on the eastern side of the vault. VOCs levels of the sample were measured at 35 ppm and petroleum odors were observed. The soil was moist, dark black fine-sand.

The petroleum contamination observed at the first test pit is attributed to the documented PCB-Contaminated Petroleum Plume and not the buried vault observed during the test pit excavation.

The second test pit installed at the largest anomaly, located in the northwest corner of the area, exposed buried scrap metal including lockers, steel plates, and a crushed and rusted steel drum. The sample TE-1A-TP2 was collected from 3 ft-bsg immediately adjacent the rusted drum. The soil was screened with a PID and no VOCs were detected. The soil had no odor and was moist, light brown fine-sand.

The locations of the test pit sample locations are indicated on Figure 5. Buried scrap metal was excavated at the other anomalies and no additional soil samples were collected.

***PB/STV***

*3.4.3 Waste Characterization Samples*

Two waste characterization samples were collected immediately during the excavation of the test pits. Waste characterization samples were submitted for analysis of TCLP VOCs, TCLP SVOCs, TCLP Metals, TCL PCBs, corrosivity, and reactivity.

The results of the sample TE-1A-TP1 included the PCB Aroclor 1260 detected at 270 ppb below the ROD total PCBs guidance value of 25,000 ppb. No VOCs, SVOCs, or TCLP metals were detected.

The results of the sample TE-1A-TP2 found no VOCs, SVOCs, PCBs, or TCLP metals.

Table 4 to 7 provides summaries of the analytical findings and the complete analytical data are included in Appendix A.

*3.4.4 Additional Test Pits and Environmental Sampling*

Based upon the findings of the test pit excavations, no additional test pits or soil and groundwater samples were installed.

***PB/STV***

**4.0 CONCLUSIONS AND RECOMMENDATIONS**

The conclusions and recommendations for contract package CQ025 based upon the findings of the supplemental ESI follow.

**4.1 Environmental Survey 1 - Superior Reed Building Complex**

Both ACM and LBP were documented in the Superior Reed Complex, which is included in AOC 6. Prior to and during demolition activities, ACM and LBP should be handled and disposed of as directed in the Asbestos Abatement Technical Specifications and the Lead Based Paint Technical Specifications for MTA/LIRR East Side Access Project, Contract Package CQ025.

Possible biologic hazards were observed in Superior Reed Building A. Building A is occupied by a number of pigeons that have covered the floor and walls with pigeon waste. The CCMP will direct the use personal protective equipment by workers during demolition.

Sediment sample TE-1A-SD-1 was collected from a blocked storm drain within the parking area of the Superior Reed complex. Lead was detected 5,500 ppb above the EPA Hazardous Waste Regulatory level of 5,000 ppb. TPH-GRO was detected at 3,400 ppb and TPH-DRO at 860,000 ppb. The storm drain sediment from location TE-1A-SD-1 should be handled and disposed as hazardous material. The CCMP and specifications for CQ025 will direct the proper handling and disposal procedures for this sediment.

The results for sample QB-120 included the VOC trichloroethene detected at 14 ppb and the SVOC phenol detected at 37 ppb above their respective Class GA standards of 5 ppb and 1 ppb. These VOCs and SVOCs have been documented at other Project monitoring wells. CCMPs for CQ026 and CQ028 will direct the proper groundwater management procedures for these compounds. This sample location is not within any of the designated AOCs.

***PB/STV***

4.2 Environmental Survey 2 - Existing Rail Yard, Abandoned Substation and Abandoned Covered Platform

Petroleum-stained ballast from apparent diesel train drippings was observed in the area of proposed track realignment north of the NYAR maintenance facility. This area is included in AOC 3, is approximately 10,400 square feet and is indicated on Figure 3. The CCMP and specifications for CQ025 will direct the proper handling and disposal procedures.

The LBP samples at beams and the dividers of the Abandoned Substation were classified as LBP. Prior to and during demolition activities, LBP should be handled and disposed of as directed in the Lead Based Paint Technical Specifications for MTA/LIRR East Side Access Project, Contract Package CQ025.

Insulating material of a free standing heating unit on the Abandoned Covered Platform was classified as ACM, however, the platform is not included in any of the designated AOCs. Prior to and during demolition activities, ACM should be handled and disposed of as directed in the Asbestos Abatement Technical Specifications for MTA/LIRR East Side Access Project, Contract Package CQ025.

Overhead support beams and a vertical pipe of the Abandoned Covered Platform were classified as LBP. Prior to and during demolition activities, LBP should be handled and disposed of as directed in the Lead Based Paint Technical Specifications for MTA/LIRR East Side Access Project, Contract Package CQ025.

4.3 Environmental Survey 3 - Hazardous Levels of Lead in Soil

No TCLP lead was detected in the samples collected around the potentially hazardous soil of location TE-YA-48. This area is included in AOC 3. The soil at TE-YA-48 should be handled

***PB/STV***

and disposed as hazardous material during future construction contracts. No construction or demolition activity will be conducted in the vicinity of TE-YA-48 for contract package CQ025.

4.4 Environmental Survey 4 - Abandoned Crew Quarters, Suspect Buried Material

No further investigation of the Abandoned Crew Quarters area is warranted for CQ025. However, the PCB-Contaminated Petroleum Plume will be further investigated for CQ028.



***PB/STV***

**5.0 REFERENCES**

Draft Environmental Status and Construction Plan for the Queens Alignment, TE, October 2001.

Supplemental ESI Findings Report Summary for Phase 1A Design Package No CQ026 Queens Open Cut Excavation for the Bellmouth Area, TE, April 2001.

Construction Contaminant Management Plan (CCMP) for Construction Packages: CQ025 Existing Rail Yard Preparation and Demolition of Superior Reed and CQ026 Queens Bellmouth Structure, Sunnyside, Queens New York, East Side Access Project, Alignments and Replacement Yard, (100% Submittal), TE, June 2001.

Limited Phase I ESA Report Property Located at 29-50, 29-54, 29-60 and 29-70 Northern Boulevard Queens, New York 11101 Part of Queens Alignment East Side Access Project, TE, October 2000A.

Referenced, as Document No 1 is Findings Report for the ESI of Yard A, Queens, New York East Side Access Project Alignments and Replacement Yards Study, TE, August 2000B.

NYSDEC, 1997 Record of Decision, ROD for OU-1 of Sunnyside Yard

URS Greiner, 2000

# *TABLES*

Table 1  
Asbestos Containing Material Results

Phase 2: CQ028 Part 1  
PB/STV Access Project  
Sunnyside, Queens

SAMPLE NUMBERS	BUILDING/ FLOOR	SAMPLE LOCATION	MATERIAL SAMPLED	SAMPLE RESULTS	ESTIMATED ACM QUANTITY
	<b>Superior Reed Buildings</b>				
070-072	Building A/ 1st Floor	Main Room	Brick Mortar	NON-ACM	NA
073-075	Building A/ 1st Floor	Fuel-Oil AST Room	Interior Wall Stucco	NON-ACM	NA
NS	Building A/Roof	Roof	Roof Material and Membrane	To Be Determined	12,000 SF
007-009	Building B/ Basement	Exterior	Window Putty	ACM	70 LF
010-012	Building B/ Basement	Interior Walls	Brick Mortar	NON-ACM	NA
076-078	Building B/ 1st Floor	Locker Room	12"x12" White Floor Tile	NON-ACM	NA
079-081	Building B/ 1st Floor	Locker Room	12"x12" White Floor Tile Mastic	NON-ACM	NA
089	Building B/ 1st Floor	Locker Room	Base Board Mastic	NON-ACM	NA
090	Building B/ 1st Floor	Training Area	Sheetrock	NON-ACM	NA
091	Building B/ 1st Floor	Locker Room	Sheetrock	NON-ACM	NA
093-095	Buildings B&C/ 1st Floor	East Elevation	Window Putty	ACM	50 LF
013-015	Building C/ Basement	Southeast Section	Electrical Wire Insulation	NON-ACM	NA
016-018	Building C/ Basement	Interior Walls	Brick Mortar	NON-ACM	NA
019-021	Building C/ Basement	Boiler Room	Brick Mortar	NON-ACM	NA
022-027	Building C/ Basement	Boiler Room	Electrical Wire Insulation	NON-ACM	NA
028-030	Building C/ Basement	Electrical Room	Insulation	NON-ACM	NA
031-033	Building C/ Basement	Electrical Room	Brick Mortar	NON-ACM	NA
034-036	Building C/ Basement	Electrical Room	Ceiling Stucco	NON-ACM	NA
082-084	Building C/ 1st Floor	Lunch Room	12"x12" Floor Tile	NON-ACM	NA
085-087	Building C/ 1st Floor	Lunch Room	12"x12" White Floor Tile Mastic	NON-ACM	NA
088	Building C/ 1st Floor	Training Area	Base Board Mastic	NON-ACM	NA
092	Building C/ 1st Floor	Lunch Room	Sheetrock	NON-ACM	NA
037-042	Building C/ 2nd Floor	Museum Storage Area	9"x9" Floor Tile & Mastic	ACM	510 SF
043-048	Building C/ 2nd Floor	Storage Area	9"x9" Floor Tile & Mastic	ACM	210 SF
049-051	Building C/ 2nd Floor	Storage Area	1'x1' Fiber Glass Ceiling Tile Mastic	NON-ACM	NA
052-057	Building C/ 2nd Floor	Museum Storage	Baseboard & Mastic	ACM	400 SF
058-060	Building C/ 2nd Floor	Mechanical Room	Sheetrock	NON-ACM	NA
061-063	Building C/ 2nd Floor	Mechanical Room	Brick Mortar Interior	NON-ACM	NA
064-066	Building C/ 2nd Floor	Employee Restroom	12"x12" Beige Floor Tile	NON-ACM	NA
067-069	Building C/ 2nd Floor	Employee Restroom	12"x12" Beige Floor Tile Mastic	NON-ACM	NA
096-098	Building C/ 2nd Floor	Museum Storage Area	Glass Block Mortar	NON-ACM	NA
099	Building C/ 3rd Floor	Storage Area	Glass Block Mortar	NON-ACM	NA
100-102	Building C/ 3rd Floor	Storage Area	Window Putty	ACM	60 LF
103-105	Building C/ Roof	Roof	Roof Membrane	ACM	4,000 SF
117	Building C/ Roof	Roof	Coping Stone Tar	ACM	1,000 SF
001-003	29-70 Northern Blvd/ Basement	Ceiling	White Plaster	NON-ACM	NA
004-006	29-70 Northern Blvd/ Basement	Ceiling	Brown Plaster	NON-ACM	NA
007-009	29-70 Northern Blvd/ Basement	Walls	Sheetrock	NON-ACM	NA
010-012	29-70 Northern Blvd/ Basement	Walls	Cement Block Mortar	NON-ACM	NA
013-015	29-70 Northern Blvd/ Basement	Eastern Portion	Water Heater Pipe Insulation	NON-ACM	NA
016-018	29-70 Northern Blvd/ 1st Floor	Floor	12"x12" Beige Floor Tile	NON-ACM	NA
019-021	29-70 Northern Blvd/ 1st Floor	Floor	Mastic of 12"x12" Beige Floor Tile	NON-ACM	NA
025-027	29-70 Northern Blvd/ 1st Floor	Walls	Mastic of Baseboard	NON-ACM	NA
037-039	29-70 Northern Blvd/ 2nd Floor	Floor	12"x12" Black Floor Tile	NON-ACM	NA
040-042	29-70 Northern Blvd/ 2nd Floor	Floor	Mastic of 12"x12" Black Floor Tile	NON-ACM	NA
046-048	29-70 Northern Blvd/ 2nd Floor	Bathroom	Mastic of Ceramic Wall Tile	NON-ACM	NA
NS	Superior Reed Buildings	Electrical Wiring	Throughout Buildings	To Be Determined	ND
	<b>Existing Rail Yard Buildings</b>				
059-061	Abandoned Substation	Exterior	Brick	NON-ACM	NA
062-064	Abandoned Substation	Exterior	Brick Mortar	NON-ACM	NA
065-067	Abandoned Substation	Exterior	Brick	NON-ACM	NA
068-070	Abandoned Substation	Exterior	Brick Mortar	NON-ACM	NA
071-073	Abandoned Substation	Exterior	Brick	NON-ACM	NA
074-076	Abandoned Substation	Exterior	Brick Mortar	NON-ACM	NA
077-079	Abandoned Substation	Exterior	Brick	NON-ACM	NA
080-082	Abandoned Substation	Exterior	Brick Mortar	NON-ACM	NA
001	Abandoned Substation	Interior/North Side	Brick Mortar	NON-ACM	NA
002	Abandoned Substation	Interior/South Side	Brick Mortar	NON-ACM	NA
003	Abandoned Substation	Interior/East Side	Brick Mortar	NON-ACM	NA
NS	Abandoned Substation	Roof	Roofing Material	Suspect ACM	300 SF
001-003	Abandoned Crew Quarters	Interior	Stucco	NON-ACM	NA
004-006	Abandoned Crew Quarters	Exterior	Stucco	NON-ACM	NA
007-009	Abandoned Crew Quarters	Exterior	Brick Mortar	NON-ACM	NA
010-012	Abandoned Crew Quarters	Exterior	Window Putty	NON-ACM	NA
013-015	Abandoned Crew Quarters	Roof	Roof Membrane	NON-ACM	NA
016-018	Abandoned Crew Quarters	Roof	Roof Flashing	NON-ACM	NA
004-005	Abandoned Covered Platform	Platform	Insulation Material for Free Standing Heating Unit	ACM	ND
NS	Abandoned Wood Hut	Roof	Roofing Material	To Be Determined	150 SF

**NOTES:**

\* Material is defined ACM if the sample contained greater than 1% asbestos.

Samples were prepared and analyzed in accordance with EPA "Method for the Determination of Asbestos in Bulk Building Materials"

USEPA/600/R-93/116, July 1993

ACM = Asbestos Containing Materials

PLM-DS = Polarized Light Microscopy

NA = Not Applicable

ND = No Area Determined

SF = Square Feet

Table 2  
Lead Based Paint Sample Summary

Phase 2: CQ028 Part 1  
PB/STV Access Project  
Sunnyside, Queens

SAMPLE NUMBER	SAMPLE LOCATION	PAINT COLOR	SUBSTRATE	COMPONENT	LEAD CONTENT (mg/cm2)
	<b>Abandoned Crew Quarters</b>				
003-004	Abandoned Crew Quarters	NA	Wood	NA	0.337-2.331
005-006	Abandoned Crew Quarters	NA	Window Sash	NA	0.783-1.076
	<b>Abandoned Substation</b>				
6	Abandoned Substation/South Side	Grey	Metal	Beam	6.23
7	Abandoned Substation/North Side	Grey	Metal	Beam	6.57
8	Abandoned Substation/West Side	Grey	Metal	Beam	9.91
9	Abandoned Substation/East Side	Grey	Metal	Beam	8.96
10	Abandoned Substation/East Side	Grey	Metal	Divider	9.83
11	Abandoned Substation/South Side	Grey	Metal	Divider	7.19
12	Abandoned Substation/West Side	Grey	Metal	Divider	8.99
13	Abandoned Substation/North Side	Grey	Metal	Divider	6.38
	<b>Abandoned Covered Platform</b>				
6	Communications Pole/South Side	Yellow	Metal	Pipe	3.5
7	Overhead Beam/South Side	Green	Metal	Beam	1.4
10	Overhead Beam/West Side	Green	Metal	Beam	1.09
11	Overhead Beam?West Side	Green	Metal	Beam	1.01
	<b>Superior Reed Building A</b>				
15	Basement Facility Storage Sliding Door	Brown	Metal	Door	16.24
25	1st Floor North/ Uniform Distributions	Blue	Metal	Shelving Unit	1.24
27	1st Floor North/ Uniform Distributions	Blue	Metal	Shelving Unit	1.12
30	1st Floor Northeast/ Uniform Distributions	Blue	Metal	Shelving Unit	1.38
	<b>Superior Reed Building B</b>				
20	Basement Facility Storage Wall B	White	Concrete	Wall B	1.73
	<b>Superior Reed Building C</b>				
26	Basement Facility Storage Exit Fire Door	Brown	Metal	Door	17.28
27	Basement Facility Storage Exit Fire Door	Brown	Metal	Casing	12.74
28	Basement Facility Storage Exit Fire Door	Brown	Metal	Jamb	5.64
37	Basement Facility Storage Room	Brown	Metal	Door	13.84
42	Basement Facility Storage Freight Elevator	Brown	Metal	Door	14.12
47	Basement Facility Storage Door	Brown	Metal	Door	15.35
50	Basement Facility Storage Exit Door	Brown	Metal	Door	10.04
66	2nd Floor/ Transit Museum Storage Door	White	Metal	Door	4.68
67	2nd Floor/ Transit Museum Storage	White	Metal	Door	8.54
70	2nd Floor Hall/ Freight Elevator	Brown	Metal	Door	6.8
79	2nd Floor Storage Area/ Freight Elevator	Brown	Metal	Door	11.92
80	2nd Floor Bath Door	Brown	Wood	Door	2.56
81	2nd Floor Bath Door	Brown	Wood	Casing	2.47
82	2nd Floor Bath Door	Brown	Wood	Jamb	4.94
85	2nd Floor Bath	Brown	Metal	Door	15.54
88	3rd Floor Uniform Distributions	Tan	Metal	Shelving Unit	1.95
89	3rd Floor Uniform Distributions	Tan	Metal	Shelving Unit	5.16
90	3rd Floor Uniform Distributions	Tan	Metal	Shelving Unit	3.86
93	3rd Floor Uniform Distributions	Brown	Metal	Fire Door	14.92
95	3rd Floor Uniform Distributions	Brown	Metal	Freight Elevator	7.85
96	3rd Floor Uniform Distributions	Brown	Metal	Freight Elevator	7.92
97	3rd Floor Uniform Distributions	Brown	Metal	Fire Door	14.78
98	3rd Floor Hall	Brown	Metal	Stairs	9.29
99	3rd Floor Hall	Brown	Metal	Stairs	3.96
	<b>Superior Reed Building 29-70 Northern Boulevard</b>				
51	Exterior Stairs	Yellow	Concrete	Stairs	1.23
52	Exterior Stairs	Yellow	Concrete	Stairs	2.51
53	Exterior Stairs	Red	Metal	Pipe	3.8
55	Exterior Stairs	Red	Metal	Pipe	1.11

**NOTES:**

LBP is Lead Based Paint

LBP is classified by HUD guidelines as paint containing lead levels equal or greater than 1.0 mg/cm2 or 5% by weight (5,000 ppm).

LBP was analyzed in the field utilizing a portable XRF unit according to all applicable regulations.

Ta'  
 Phase 2, Contract CQ028 Part 1  
 Summary of Sediment Results for Total Petroleum Hydrocarbons (TPH)

Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

Sample Identification Laboratory Identification Sample Date	TE-1A-SD-1 0103093-11A 3/12/01
ANALYTE	Concentration (ppb)
Gasoline Range Organics	3,400
Diesel Range Organics	860,000

**NOTES:**

Soil samples analyzed for Total Petroleum Hydrocarbons (TPH)  
 by Method SW8260B Modified 8260B.  
 Results reported in parts per billion (ppb)

Phase 2, Contract CQ028 Part 1  
 Summary of Sediment and Concrete Results for Polychlorinated Biphenyls (PCBs)

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

Sample Identification		TE-1A-SD-1	TE-1A-TP-1	TE-1A-TP-2	TE-1A-C-5
Laboratory Identification		0103093-11B	0103298-01A	0103298-02A	0105001-01A
Sample Date		3/12/01	3/29/01	3/29/01	4/30/01
ANALYTE	Guidance Value* (ppb)	Concentration (ppb)			
Aroclor 1254	-	ND	ND	ND	ND
Aroclor 1260	-	55	270	ND	49
<b>TOTAL PCBs</b>	<b>25,000*</b>	55	270	ND	49

**NOTES:**

Soil samples analyzed for PCBs by EPA Method 8082. Analytical data reported in parts per billion (ppb) or micrograms per kilogram (ug/Kg).  
 \*: Guidance value is the Site Specific guidance value for Total PCBs in surface and subsurface soils as per 1997 NYSDEC ROD for OU-1 of Sunnyside Yard  
 ND: Not Detected

Phase 2, Contract CQ028 Part 1  
 Summary of Sediment and Concrete Results for Toxicity Characteristics Leaching Procedure (TCLP) Metals

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

METAL	Sample Identification Laboratory Identification Sample Date	TE-1A-SD-1 0103093-11C 3/12/01	TE-1A-A1 (0-4) 0103093-05B 3/12/01	TE-1A-A1 (12-16) 0103093-06A 3/12/01	TE-1A-H1 (0-5) 0103093-07B 3/12/01	TE-1A-H2 (0-5) 0103093-08B 3/12/01	TE-1A-L1 (0-4) 0103139-01A 3/15/01	TE-1A-L2 (0-4) 0103139-02A 3/15/01
Lead	Hazardous Waste Standard* (ppb)	5,000	5,500	5,500	5,500	5,500	5,500	5,500
	Concentration (ppb)	ND	ND	ND	ND	ND	ND	ND

**NOTES:**

Soil samples analyzed for TCLP Metals  
 by Method SW846.

**TCLP**: Toxicity Characteristic Leaching Procedure  
 Analytical data reported in parts per billion (ppb) or  
 micrograms per liter (ug/L).

\*: Standard is EPA Hazardous Waste Regulatory  
 Levels for Toxicity Characteristics.

**Bold Values**: Exceed standards

**NA**: Not Analyzed

**ND**: Not Detected

Phase 2, Contract CQ028 Part 1  
 Summary of Sediment and Concrete Results for Toxicity Characteristics Leaching Procedure (TCLP) Metals

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

METAL	Sample Identification	Sample Date	TE-1A-L3(0-4)	TE-1A-L4(0-4)	TE-1A-L5(0-4)	TE-1A-L6(0-4)	TE-1A-L7(0-4)	TE-1A-L8(0-4)	TE-1A-TP-1	TE-1A-TP-2
Lead	0103139-03A	3/15/01	0103139-04A	0103139-04A	0103139-05A	0103139-06A	0103139-07A	0103139-08A	0103298-01B	0103298-02B
		3/15/01	3/15/01	3/15/01	3/15/01	3/15/01	3/15/01	3/15/01	3/29/01	3/29/01
	<b>Hazardous Waste Standard* (ppb)</b>									
	5,000									
	<b>Concentration (ppb)</b>									
	ND		ND	ND	ND	ND	ND	ND	ND	ND

**NOTES:**

Soil samples analyzed for TCLP Metals by Method SW846.

**TCLP:** Toxicity Characteristic Leaching Procedure Analytical data reported in parts per billion (ppb) or micrograms per liter (ug/L).

\*: Standard is EPA Hazardous Waste Regulatory Levels for Toxicity Characteristics.

**Bold Values:** Exceed standards

**NA:** Not Analyzed

**ND:** Not Detected



Phase 2, Contract CQ028 Part 1  
 Summary of Sediment and Concrete Results for Volatile Organic Compounds (VOCs)

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

ANALYTE	Guidance Value (ppb)	TE-1A-A1 (4')		TE-1A-A1 (12')		TE-1A-H1 (5')		TE-1A-H2 (5')		TE-1A-TP-1		TE-1A-TP-2	
		0103093-01A 3/12/01	0103093-01A 3/12/01	0103093-02A 3/12/01	0103093-02A 3/12/01	0103093-03A 3/12/01	0103093-04A 3/12/01	0103298-01C 3/29/01	0103298-02C 3/29/01				
Napthalene	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	---	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	12,950	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**NOTES:**

Soil samples analyzed for TCL VOCs by EPA Method 8260B.

**TCL:** Target Compound List

**VOCs:** Volatile Organic Compounds

Analytical data reported in parts per billion (ppb) or  
 micrograms per kilogram (ug/Kg).

Guidance values are the "Recommended Soil

Cleanup Objectives" from NYSDEC TAGM #94-4046.

ND: Not Detected

Phase 2, Contract CQ028 Part 1  
 Summary of Sediment and Concrete Results for Semi-Volatile Organic Compounds (SVOCs)

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

Sample Identification Laboratory Identification Sample Date	TE-1A-NI (0-4') 0103093-05A 3/12/01	TE-1A-A1 (12-16') 0103093-06A 3/12/01	TE-1A-H1 (0-5') 0103093-07A 3/12/01	TE-1A-H2 (0-5') 0103093-08A 3/12/01	TE-1A-TP-1 0103298-01D 3/29/01	TE-1A-TP-2 0103297-02D 3/29/01
ANALYTE	Concentration (ppb)					
2-Methylnaphthalene	36,400	ND	ND	390	ND	ND
Acenaphthene	90,000	ND	780	1,400	ND	ND
Anthracene	700,000	290	1,400	2,400	ND	ND
Benzo(a)pyrene <sup>φ</sup>	11,000	890	2,200	2,900	ND	ND
Benzo(a)anthracene	---	660	2,500	3,600	ND	ND
Benzo(b)fluoranthene	1,100	910	2,700	3,700	ND	ND
Benzo(g,h,i)perylene	800,000	750	1,300	1,500	ND	ND
Benzo(k)fluoranthene	1,100	ND	960	1,100	ND	ND
Bis(2-ethylhexyl)phthalate <sup>φ</sup>	435,000	ND	ND	320	ND	ND
Butyl benzyl phthalate	122,000	ND	ND	500	ND	ND
Carbazole	---	ND	510	770	ND	ND
Chrysene	400	720	2,600	3,500	ND	ND
Dibenz(a,h)anthracene <sup>φ</sup>	165,000,000	ND	ND	430	ND	ND
Fluoranthene	1,900,000	1,100	5,900	8,400	ND	ND
Fluorene	350,000	ND	690	1,300	ND	ND
Indeno(1,2,3-cd)pyrene	3,200	600	1,500	1,700	ND	ND
Naphthalene	13,000	ND	490	490	ND	ND
Phenanthrene	220,000	730	4,900	8,900	ND	ND
Pyrene	665,000	1,600	5,400	7,400	ND	ND
Dibenzofuran	6,200	ND	370	820	ND	ND
Acenaphthylene	41,000	520	ND	ND	ND	ND
<b>TOTAL Carcinogenic SVOCs</b>	<b>10,000***</b>	<b>890</b>	<b>2,200</b>	<b>3,650</b>	<b>ND</b>	<b>ND</b>
<b>TOTAL SVOCs</b>	<b>50,000</b>	<b>8,770</b>	<b>36,400</b>	<b>51,130</b>	<b>ND</b>	<b>ND</b>

**NOTES:**

Soil samples analyzed for TCL SVOCs by EPA Method 8270C.

TCL : Target Compound List

SVOCs : Semi-Volatile Organic Compounds

Analytical data reported in parts per billion (ppb) or micrograms per kilogram (ug/Kg).

\*\* : Secondary Guidance values are the "Recommended Soil Cleanup Objectives" from NYSDEC TAGM 94-4046.

\*\*\* : Primary guidance values are the site specific guidance values for Total Carcinogenic SVOCs in surface and subsurface soils as per 1997 NYSDEC ROD for OU-1 of Sunnyside Yard.

φ : Carcinogenic compounds, as listed in TAGM 94-4046

**Bold Values** : Exceed guidance values

ND: Not Detected

Phase 2, CQ028 Part 1  
Summary of Groundwater Sample results for VOCs

Sunnyside Yard  
PB/STV East Side Access Project  
Sunnyside, Queens

Boring Identification Laboratory Identification Sample Date		TE-1A-A1 (12') 0103093-09A 3/12/01	QB-120 0103093-14A 3/12/01
Compound	Groundwater Standard (ppb)	Concentration (ppb)	
2-Butanone	50	ND	40
Acetone	50	ND	32
Methyl tert-butyl ether (MTBE)	10	4.5	ND
Trichloroethene	5	ND	14

**NOTE:**

Samples analyzed for TCL VOCs by EPA Method 624/8260B.

Data reported in micrograms per liter (ug/L) or parts per billion (ppb).

Only detected compounds are reported.

TCL = Target Compound List

VOCs = Volatile organic compounds

ND = Not detected

Standards are the NYSDEC Class GA Water Quality Standard as per T.O.G.S. 1.1.1, "Ambient Water Quality Standards

and Guidance Values and Groundwater Effluent Limitations," June 1998.

**Bold:** Value exceeds GA groundwater standard

Phase 2, CQ028 Part 1  
 Summary of Groundwater Sample Results For SVOCs

Sunnyside Yard  
 PB/STV East Side Access Project  
 Sunnyside, Queens

Boring Identification		TE-1A-A1 (12')		QB-120	
Laboratory Identification		0103093-09B		0103093-14B	
Sample Date		3/12/01		3/12/01	
Compound	Groundwater Standard (ppb)	Concentration (ppb) or (ug/L)			
Phenol	1*	ND		37	

**NOTES:**

Samples analyzed for TCL SVOCs by EPA Method 3550B/8270C.  
 Data reported in parts per billion (ppb) or micrograms per liter (ug/L).  
 Only detected compounds are reported.  
**TCL:** Target Compound List  
**SVOCs:** Semi-Volatile organic compounds  
**ND:** Not detected  
 Standards are the NYSDEC Class GA Water Quality Standard as per T.O.G.S. 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations," June 1998  
 \* Phenolic compound regulated by Total Phenol concentration of 1 ug/L.  
**Bold:** Value exceeds GA groundwater standard

Phase 2, Contract CQ028 Part 1  
 Summary of Concrete Results for Total Metals

Yard A and Superior Reed Complex  
 PB/STV East Side Access Project  
 Sunnyside, Queens

Sample Identification		TE-1A-C-5
Laboratory Identification		0105001-01A
Sample Date		4/30/01
METAL	Guidance Value* (ppb)	Concentration (ppm)
Barium	---	370,000
Chromium	---	58,000
Lead	<b>1,000,000</b>	<b>1,500,000</b>

**NOTES:**

Soil samples analyzed for TCLP Metals by Method SW6010B.  
 Analytical data reported in parts per billion (ppb) or  
 micrograms per kilogram (ug/Kg).

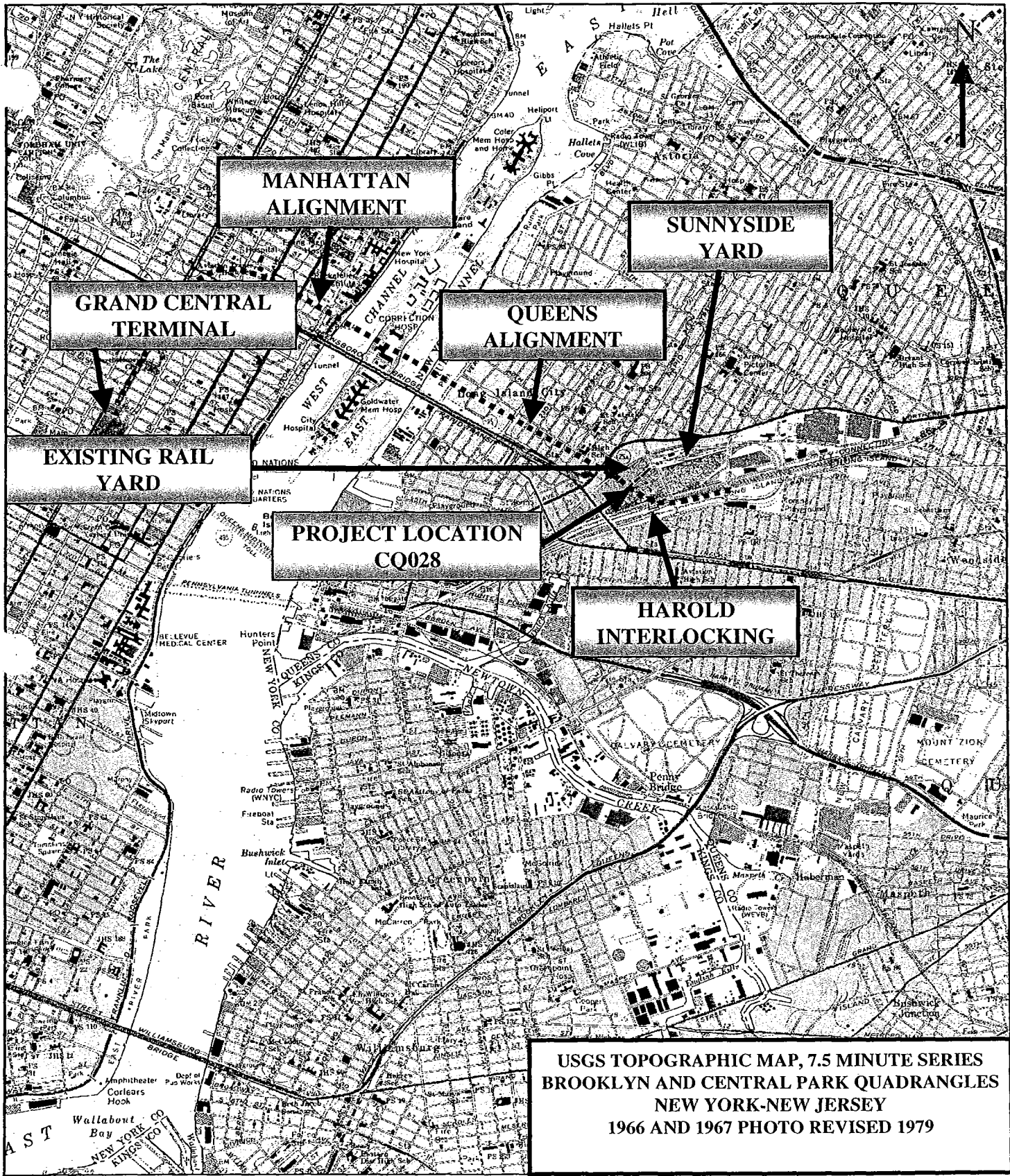
\*: Guidance Value is the Site Specific guidance value

for Total Lead in surface and subsurface soils as per 1997

NYSDEC ROD for OU-1 of Sunnyside Yard

**Bold Value:** Exceeds standard

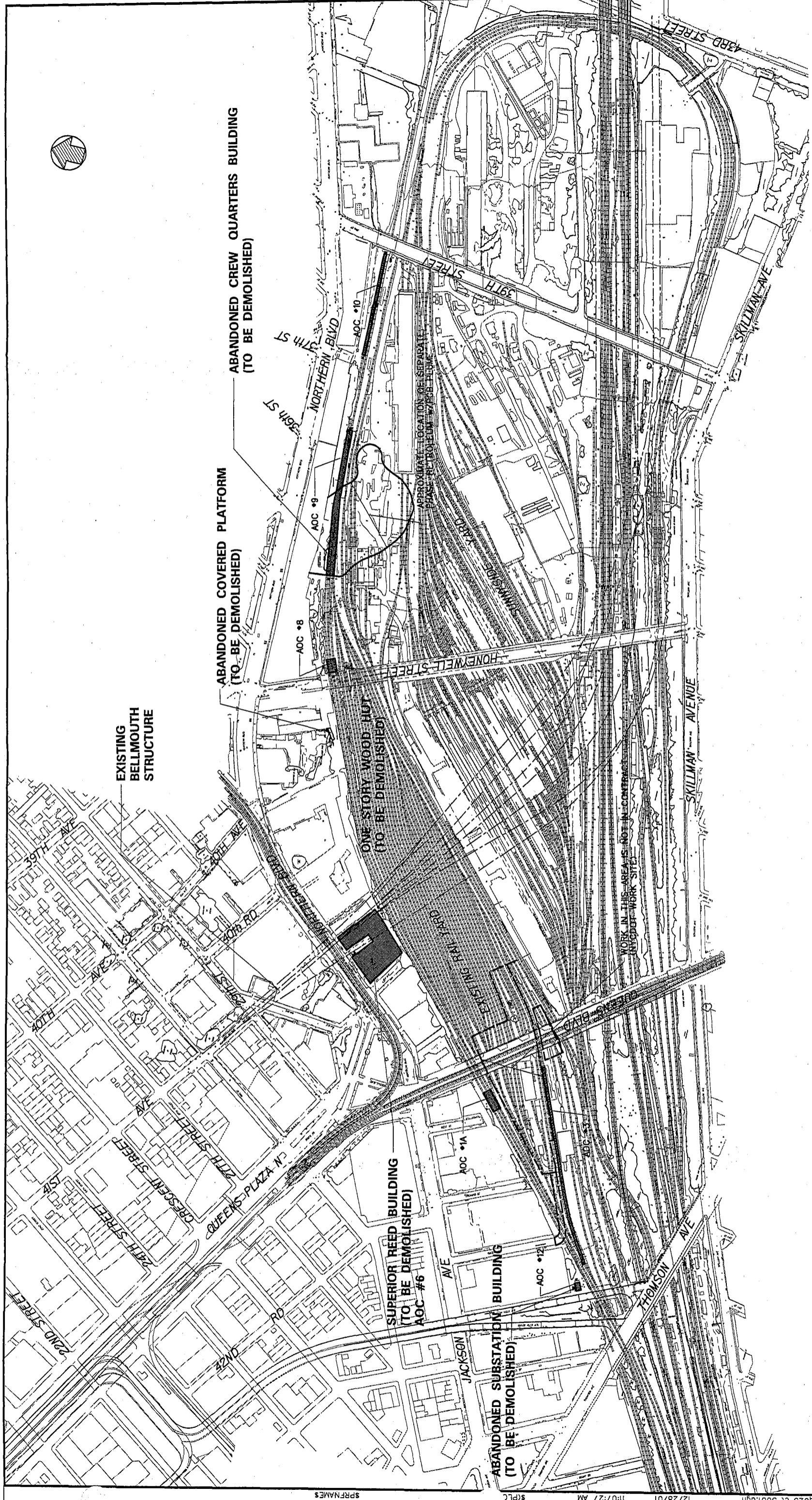
# ***FIGURES***



**EAST SIDE ACCESS**  
**LONG ISLAND RAILROAD**  
**GRAND CENTRAL CONNECTION**

**SITE LOCATION**  
**EAST SIDE ACCESS PROJECT**

Parsons Brinckerhoff Quade & Douglas Inc./STV Incorporated  
 **FIGURE 1**  
**NTS**



SCALE IN FEET  
 200' 100' 0 200' 400'

CONTRACT NO.	CQ028
AS SHOWN	ISSUE
DRAWING NUMBER	00025-CT-6001
DATE	28-DEC-2001
REVISION NUMBER	
100%	SHEET NO.
	OF

FIGURE 2  
 EXISTING RAIL YARD  
 AREAS OF ENVIRONMENTAL CONCERN

DESIGNED BY:	M. HAGERTY	PROFESSIONAL ENGINEER	DATE:
DRAWN BY:	M. HAGERTY	N.Y. LIC. NO.	
CHECKED BY:	J. BUTLER		
COORDINATED BY:			
APPROVED BY:			

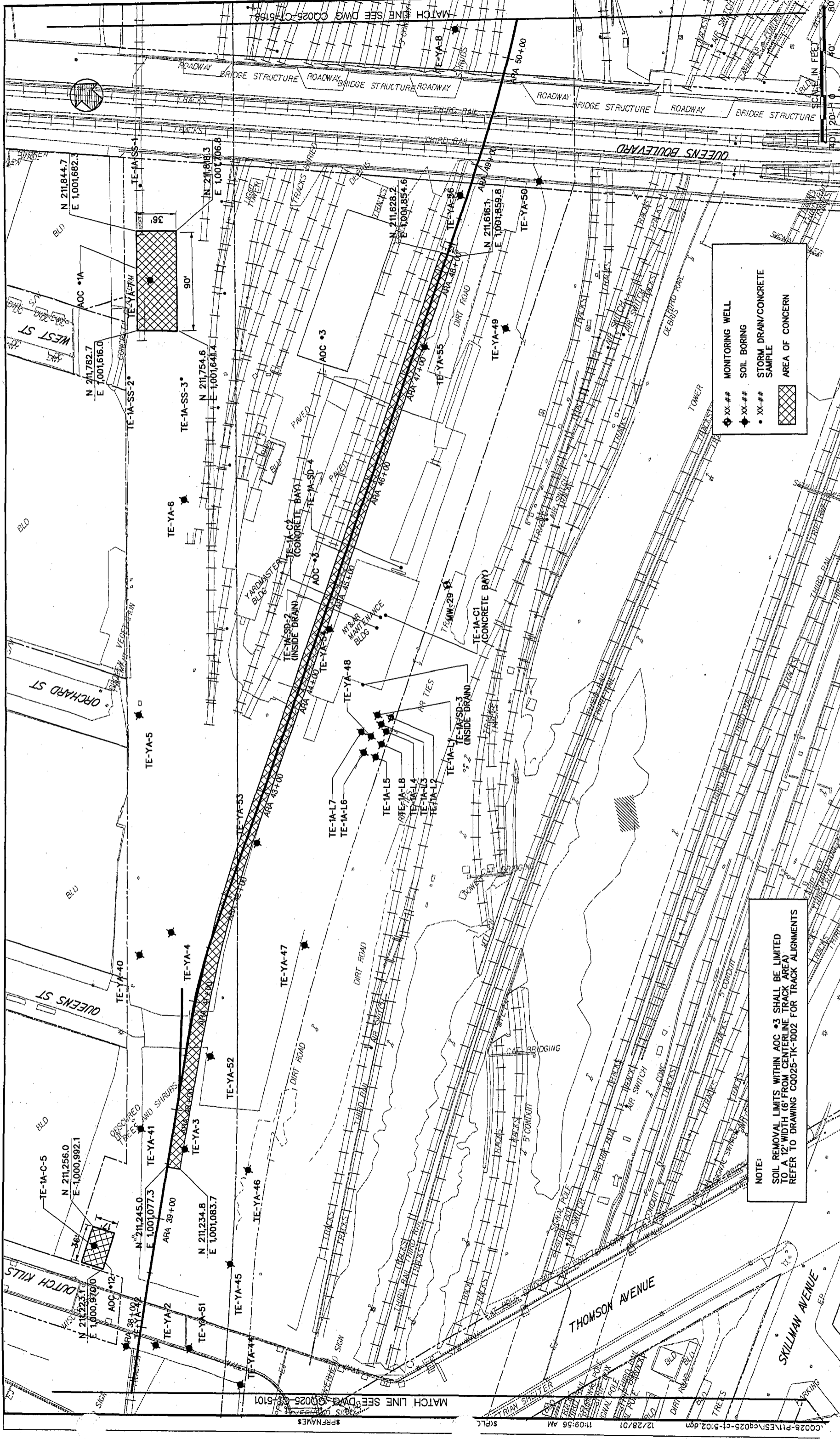
NO.	DATE	REVISIONS

PARSONS BRINCKERHOFF  
 QUADE & DOUGLAS, INC  
 AND  
 STV INCORPORATED

A JOINT VENTURE  
 BETWEEN

Long Island Rail Road  
**East Side Access**



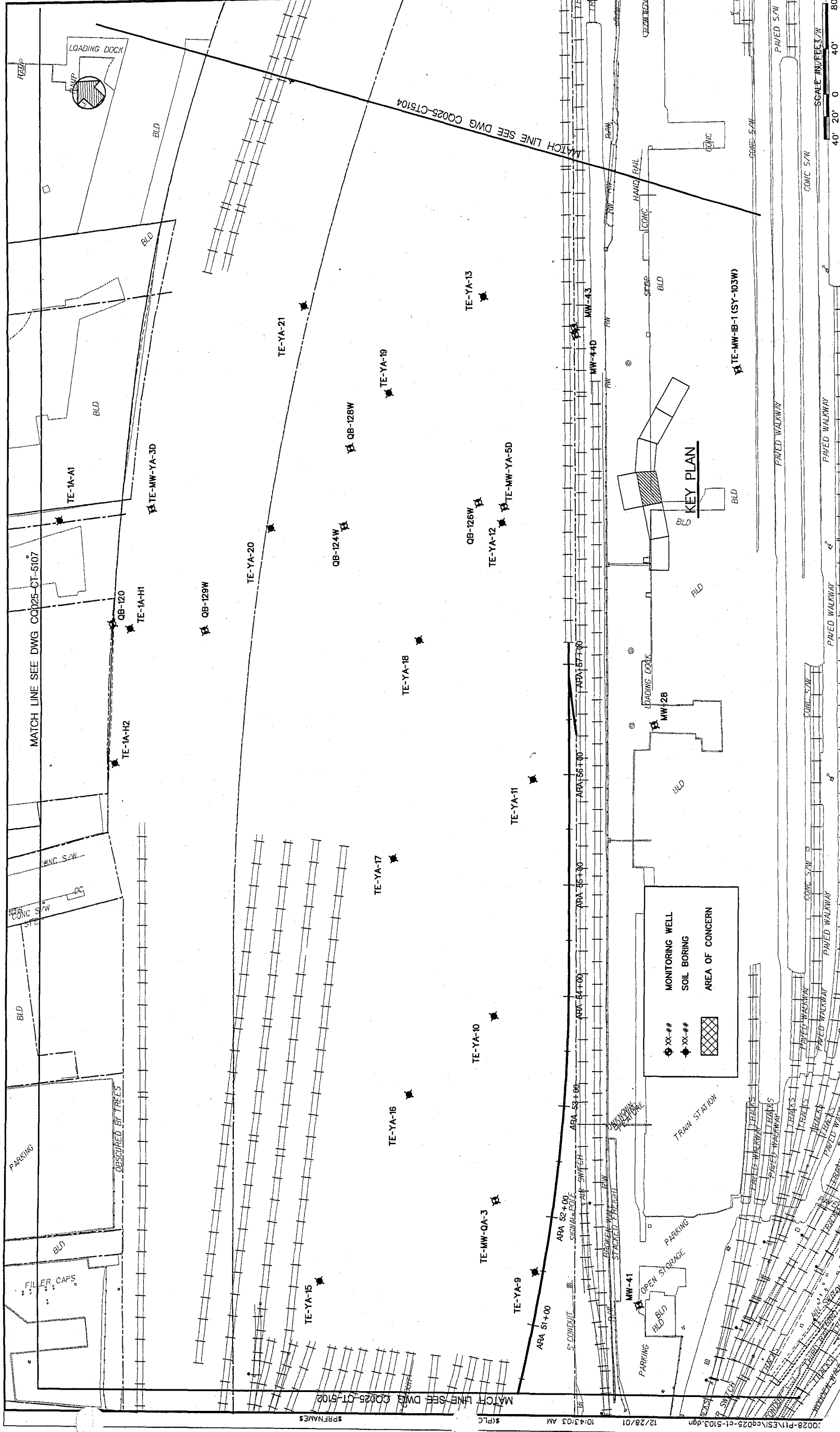


**LEGEND**

- ◆ XX-## MONITORING WELL
- XX-## SOIL BORING
- XX-## STORM DRAIN/CONCRETE SAMPLE
- ▨ AREA OF CONCERN

**NOTE:**  
 SOIL REMOVAL LIMITS WITHIN AOC #3 SHALL BE LIMITED TO A 12' WIDTH (6' FROM CENTERLINE TRACK AREA). REFER TO DRAWING C0025-TK-1002 FOR TRACK ALIGNMENTS

		<b>Long Island Rail Road</b> <b>East Side Access</b>	
		<b>PARSONS BRINCKERHOFF</b> <b>OUADE &amp; DOUGLASS, INC.</b> <b>AND</b> <b>STV INCORPORATED</b>	
<b>A JOINT VENTURE BETWEEN</b>		<b>CONTRACT NO. C0028</b> <b>DRAWING NUMBER C0025-CT-5102</b> <b>DATE 28-DEC-2001</b> <b>PERSON NUMBER</b>	
<b>FIGURE 3</b> <b>EXISTING RAIL YARD</b> <b>AREAS OF ENVIRONMENTAL CONCERN</b>		<b>AS SHOWN</b> <b>ISSUE 100%</b> <b>DATE 28-DEC-2001</b> <b>PERSON NUMBER</b>	
<b>DESIGNED BY: M. HAGERTY</b> <b>DRAWN BY: M. HAGERTY</b> <b>CHECKED BY: J. BUTLER</b> <b>COORDINATED BY:</b> <b>APPROVED BY:</b>		<b>PROFESSIONAL ENGINEER</b> <b>N.Y. LIC. NO.</b> <b>DATE:</b>	
<b>REVISIONS</b>		<b>SCALE IN FEET</b> <b>1" = 40'</b>	



CONTRACT NO.	CQ028
AS SHOWN	ISSUE
DRAWING NUMBER	CQ025-CT-5103
DATE	28-DEC-2001
REVISION NUMBER	100%
	SHEET NO.
	OF

**FIGURE 4**  
**EXISTING RAIL YARD**  
**AREAS OF ENVIRONMENTAL CONCERN**

DESIGNED BY:	M. HAGERTY
DRAWN BY:	M. HAGERTY
CHECKED BY:	J. BUTLER
COORDINATED BY:	
APPROVED BY:	
DATE:	
REVISIONS	

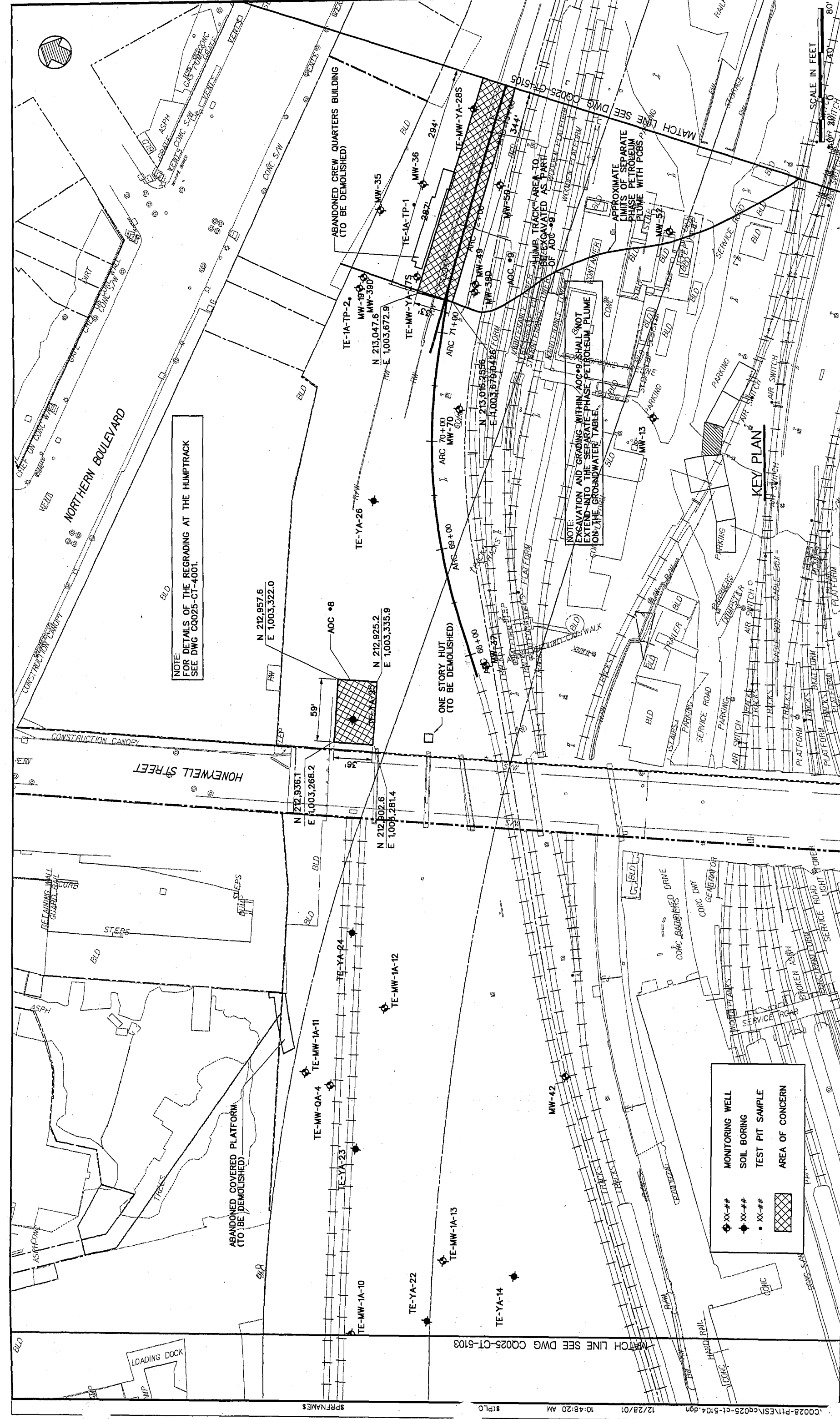
PROFESSIONAL ENGINEER	
N.Y. LIC. NO.	

**PARSONS BRINCKERHOFF**  
**QUADE & DOUGLAS, INC.**  
**AND**  
**STV INCORPORATED**

**A JOINT VENTURE BETWEEN:**

**Long Island Rail Road**  
**East Side Access**

W:\Cadd\Task2\RF 0028-P1\ES\ES\q025-ct-5103.dgn 12/28/01 10:43:03 AM \$PLC \$PRNAMES



NOTE:  
FOR DETAILS OF THE REGRADING AT THE HUMPTON TRACKS AREA TO BE EXCAVATED AS PART OF AOC-9, APPROXIMATE LIMITS OF SEPARATE PHASE PETROLEUM PLUME WITH PGBS, SEE DWG C0025-GT-5105

NOTE:  
EXCAVATION AND GRADING WITHIN AOC-9 SHALL NOT EXTEND INTO THE SEPARATE PHASE PETROLEUM PLUME ON THE GROUNDWATER TABLE.

MONITORING WELL  
SOIL BORING  
TEST PIT SAMPLE  
AREA OF CONCERN

SCALE IN FEET  
80'  
40'  
20'

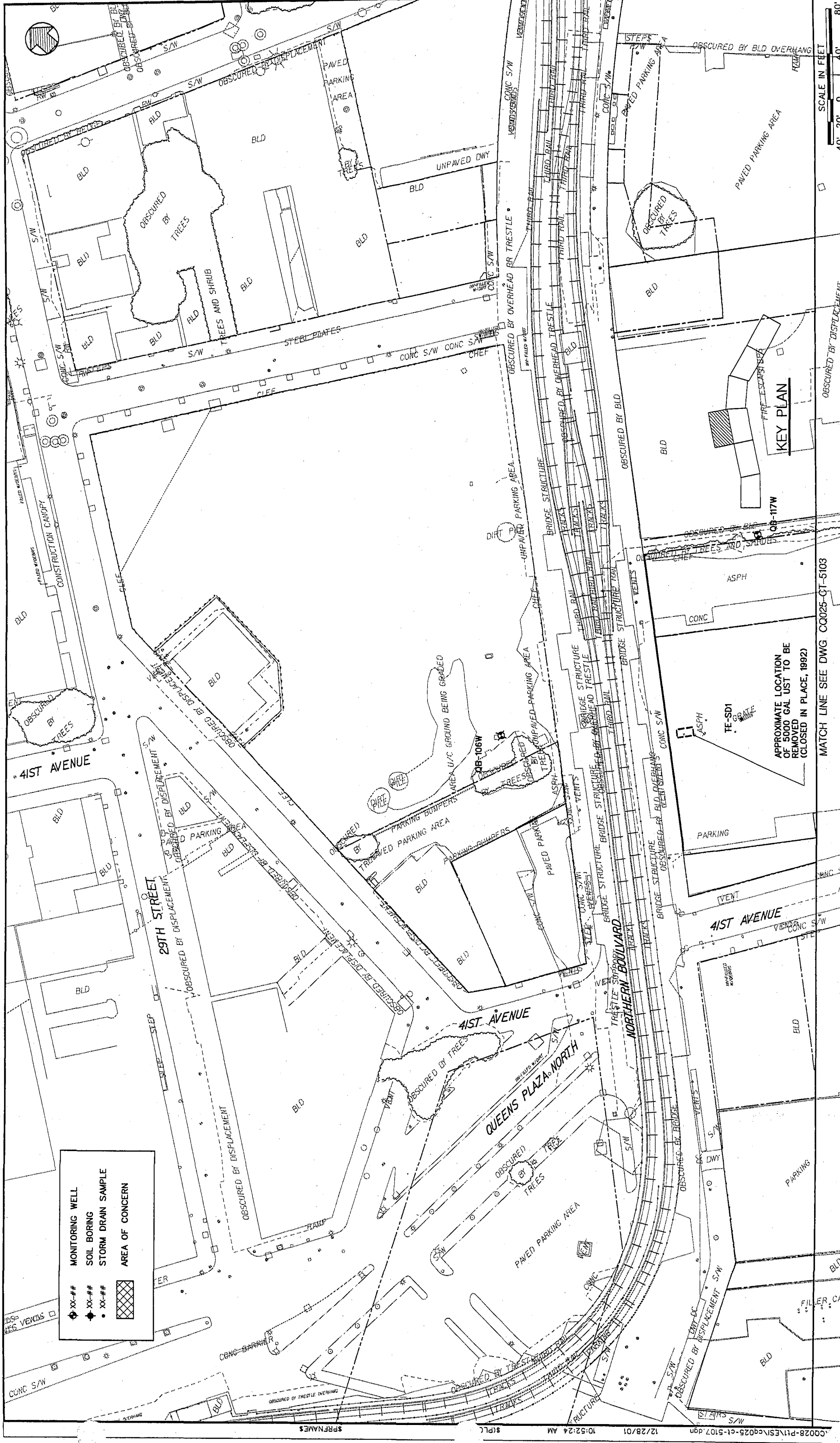
**MTA**

Long Island Rail Road  
**East Side Access**

PARSONS BRINCKERHOFF  
A JOINT VENTURE  
QUADE & DOUGLAS, INC  
AND  
STY INCORPORATED

FIGURE 5  
EXISTING RAIL YARD  
AREAS OF ENVIRONMENTAL CONCERN

CONTRACT NO.	CQ028	AS SHOWN	CQ025-CT-6104	ISSUE	100%
DESIGNED BY	M. HAGERTY	PROFESSIONAL ENGINEER			
DRAWN BY	M. HAGERTY	N.Y. LIC. NO.			
CHECKED BY	J. BUTLER				
COORDINATED BY					
APPROVED BY					
DATE					
REVISIONS					



○ XX-## MONITORING WELL  
 ● XX-## SOIL BORING  
 ● XX-## STORM DRAIN SAMPLE  
 ▨ AREA OF CONCERN

KEY PLAN

APPROXIMATE LOCATION OF 5000 GAL UST TO BE REMOVED IN PLACE, 1992

MATCH LINE SEE DWG. CQ025-CT-5103

SCALE IN FEET  
 40' 20' 0' 40' 80'

<b>MTA</b> Long Island Rail Road <b>East Side Access</b>		<b>PBS/STV</b> A JOINT VENTURE BETWEEN <b>PARSONS BRINCKERHOFF          QUADE &amp; DOUGLAS, INC          AND          STV INCORPORATED</b>		DESIGNED BY: M. HAGERTY DRAWN BY: M. HAGERTY CHECKED BY: J. BUTLER COORDINATED BY: APPROVED BY:		PROFESSIONAL ENGINEER N.Y. LIC. NO.		<b>FIGURE 6</b> EXISTING RAIL YARD AREAS OF ENVIRONMENTAL CONCERN		CONTRACT NO. CQ028 DRAWING NUMBER CQ025-CT-5107 DATE 28-DEC-2001 REVISION NUMBER		ISSUE 100% SHEET NO. OF	
DATE:	NO.	REVISIONS	DATE:	NO.	REVISIONS	DATE:	NO.	DATE:	NO.	DATE:	NO.	DATE:	NO.

# *APPENDIX A*



March 29, 2001

Jeff Butler  
STV Incorporated  
225 Park Avenue South  
New York, NY 10003  
TEL: (212) 777-4400  
FAX:

RE: 07-02184 ESA- Phase1A- Yard A

Order No.: 0103139

Dear Jeff Butler:

AMRO Environmental Laboratories Corp. received 9 samples on 3/16/01 for the analyses presented in the following report.

AMRO operates a Quality Assurance Program which meets or exceeds National Environmental Laboratory Accreditation Conference (NELAC), state, and EPA requirements. A copy of the appropriate state and/or NELAC Certificate is attached.

The enclosed Sample Receipt Checklist details the condition of your sample(s) upon receipt. Please be advised that any unused sample volume and sample extracts will be stored for a period of thirty (30) days from this report date. After this time, AMRO will properly dispose of the remaining sample(s). If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This report consists of a total of 18 pages. This letter is an integral part of your data report. If you have any questions regarding this project in the future, please refer to the Order Number above.

Sincerely,

*Nancy Stewart*  
Nancy Stewart  
Vice President / Lab Director

**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated  
**Project:** 07-02184 ESA- Phase1A- Yard A  
**Lab Order:** 0103139  
**Date Received:** 3/16/01

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Collection Date
0103139-01A	TE-L1 (03')	3/15/01
0103139-02A	TE-L2 (0-3)	3/15/01
0103139-03A	TE-L3 (0-3)	3/15/01
0103139-04A	TE-L4 (0-3)	3/15/01
0103139-05A	TE-L5 (0-3)	3/15/01
0103139-06A	TE-L6 (0-3)	3/15/01
0103139-07A	TE-L7 (0-3)	3/15/01
0103139-08A	TE-L8 (0-3)	3/15/01
0103139-09A	TE-1A-SD-3	3/15/01



**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

<b>CLIENT:</b>	STV Incorporated	<b>Client Sample ID:</b>	TE-L1 (03')
<b>Lab Order:</b>	0103139	<b>Collection Date:</b>	3/15/01
<b>Project:</b>	07-02184 ESA- Phase1A- Yard A	<b>Matrix:</b>	SOIL
<b>Lab ID:</b>	0103139-01A		

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS, TCLP LEACHED		SW1311/6010B				Analyst: RK
Lead	ND	1.0		mg/L	1	3/22/01 2:13:29 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
H - Method prescribed holding time exceeded	# - See Case Narrative
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	



**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-L3 (0-3)  
**Lab Order:** 0103139  
**Project:** 07-02184 ESA- Phase1A- Yard A **Collection Date:** 3/15/01  
**Lab ID:** 0103139-03A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS, TCLP LEACHED		SW1311/6010B				Analyst: RK
Lead	ND	1.0		mg/L	1	3/22/01 2:28:51 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
B - Analyte detected in the associated Method Blank E - Value above quantitation range  
H - Method prescribed holding time exceeded # - See Case Narrative  
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated

**Client Sample ID:** TE-L5 (0-3)

**Lab Order:** 0103139

**Project:** 07-02184 ESA- Phase1A- Yard A

**Collection Date:** 3/15/01

**Lab ID:** 0103139-05A

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS, TCLP LEACHED		SW1311/6010B				Analyst: RK
Lead	ND	1.0		mg/L	1	3/22/01 2:35:53 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

H - Method prescribed holding time exceeded

# - See Case Narrative

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated

**Client Sample ID:** TE-L7 (0-3)

**Lab Order:** 0103139

**Project:** 07-02184 ESA- Phase1A- Yard A

**Collection Date:** 3/15/01

**Lab ID:** 0103139-07A

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS, TCLP LEACHED		SW1311/6010B				Analyst: RK
Lead	ND	1.0		mg/L	1	3/22/01 2:42:55 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

H - Method prescribed holding time exceeded

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# - See Case Narrative

**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated  
**Lab Order:** 0103139  
**Project:** 07-02184 ESA- Phase1A- Yard A  
**Lab ID:** 0103139-09A

**Client Sample ID:** TE-1A-SD-3-TE-1A-SS-2  
**Collection Date:** 3/15/01  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>MERCURY, TCLP</b>		<b>SW7470</b>				Analyst: MT
Mercury	ND	0.0010		mg/L	1	3/27/01
<b>PERCENT MOISTURE</b>		<b>D2216</b>				Analyst: CB
Percent Moisture	20.9	0		wt%	1	3/19/01
<b>ICP METALS, TCLP LEACHED</b>		<b>SW1311/6010B</b>				Analyst: RK
Arsenic	ND	1.0		mg/L	1	3/22/01 2:49:58 PM
Barium	ND	2.0		mg/L	1	3/22/01 2:49:58 PM
Cadmium	ND	0.10		mg/L	1	3/22/01 2:49:58 PM
Chromium	ND	0.10		mg/L	1	3/22/01 2:49:58 PM
Lead	1.3	1.0		mg/L	1	3/22/01 2:49:58 PM
Selenium	ND	0.58		mg/L	1	3/22/01 2:49:58 PM
Silver	ND	0.10		mg/L	1	3/22/01 2:49:58 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
H - Method prescribed holding time exceeded	# - See Case Narrative
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	

**AMRO Environmental Laboratories Corp.**

Date: 29-Mar-01

**CLIENT:** STV Incorporated  
**Lab Order:** 0103139  
**Project:** 07-02184 ESA- Phase1A- Yard A  
**Lab ID:** 0103139-09A

**Client Sample ID:** TE-1A/SD-3 *TE-1A-SS-2*  
**Collection Date:** 3/15/01  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PCBS BY EPA8082</b>						<b>Analyst: RAP</b>
		<b>SW8082</b>				
Aroclor 1016	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1221	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1232	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1242	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1248	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1254	ND	30		µg/Kg-dry	1	3/21/01 2:28:00 PM
Aroclor 1260	280	30		µg/Kg-dry	1	3/21/01 2:28:00 PM

**Qualifiers:**

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- H - Method prescribed holding time exceeded
- RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- # - See Case Narrative

# AMK Environmental Laboratories Corp.

29-Mar-01

Lab Order: 0103139  
 Client: STV Incorporated  
 Project: 07-02184 ESA- Phase 1A- Yard A

## DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0103139-01A	TE-L1 (03)	3/15/01	Soil	ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-02A	TE-L2 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-03A	TE-L3 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-04A	TE-L4 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-05A	TE-L5 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-06A	TE-L6 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-07A	TE-L7 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-08A	TE-L8 (0-3)			ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
0103139-09A	TE-1A-SD-3			DIESEL RANGE ORGANICS	3/20/01	3/22/01	3/28/01
				DIESEL RANGE ORGANICS		3/22/01	3/28/01
				GASOLINE RANGE ORGANICS		3/15/01	3/24/01
				ICP METALS, TCLP	3/20/01	3/21/01	3/22/01
				MERCURY, TCLP	3/20/01	3/27/01	3/27/01
				PCBS IN SOIL/SOLIDS		3/20/01	3/21/01
				Percent Moisture			3/19/01

CHAIN OF CUSTODY / RECORD

34343

PAGE 1 OF 1

Project Name		Project State		Matrix		Analytes						Remarks	
CSA - RHASCIA - YARD A		NY		Water - A Soil/Solid-S Waste-W Other Q Explain		TCLP LEAD	TCLP PCBs	TCLP METALS	TCLP VOCs	TCLP PCBs	TCLP METALS		TCLP VOCs
DATE	TIME	Comp	Grab	Station Location	Type, Size, & No. of Containers								
3/15/01	0830	✓		TE-L1 (0-3')	80Z	S	✓						
3/15/01	0845	✓		TE-L2 (0-3')	"	S	✓						
3/15/01	0900	✓		TE-L3 (0-3')	"	S	✓						
3/15/01	0915	✓		TE-L4 (0-3')	"	S	✓						
3/15/01	0930	✓		TE-L5 (0-3')	"	S	✓						
3/15/01	1000	✓		TE-L6 (0-3')	"	S	✓						
3/15/01	1020	✓		TE-L7 (0-3')	"	S	✓						
3/15/01	11:15	✓		TE-L8 (0-3')	"	S	✓						
3/15/01	12:00	✓		TE-1A-SD-3	4-40Z	S	✓	✓	✓	✓			
3/15/01	1:00	✓		QB-12D	2-40MI	A							HCL PRESERVE

Priority Turnaround Time Authorization  
 Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.

Authorization No. \_\_\_\_\_ T.A.T. authorized by: \_\_\_\_\_

Send Results to: JEFF BUTLER  
STV INC  
225 PARK AVE SOUTH  
AJEW YORK, NY 10003

AMPRO Project No. 0103139

Seal Intact? Yes No N/A

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

Relinquished by (Signature)	Date Time	Received by (Signature)
<u>Michael Hegerty</u>	<u>3/15/01</u>	<u>FED EX</u>
Relinquished by (Signature)	Date Time	Received by (Signature)
Relinquished by (Signature)	Date Time	Received by (Signature)
Relinquished by (Signature)	Date Time	Received for Laboratory by (Signature)
	<u>3/16/01 10:00</u>	<u>C. Carberry</u>



March 26, 2001

Jeff Butler  
STV Incorporated  
225 Park Avenue South  
New York, NY 10003  
TEL: (212) 777-4400  
FAX:

RE: 07-02184 ESA-Phase 1A Superior Reed

Order No.: 0103093

Dear Jeff Butler:

AMRO Environmental Laboratories Corp. received 14 samples on 3/13/01 for the analyses presented in the following report.

AMRO operates a Quality Assurance Program which meets or exceeds National Environmental Laboratory Accreditation Conference (NELAC), state, and EPA requirements. A copy of the appropriate state and/or NELAC Certificate is attached.

The enclosed Sample Receipt Checklist details the condition of your sample(s) upon receipt. Please be advised that any unused sample volume and sample extracts will be stored for a period of thirty (30) days from this report date. After this time, AMRO will properly dispose of the remaining sample(s). If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This report consists of a total of 53 pages. This letter is an integral part of your data report. If you have any questions regarding this project in the future, please refer to the Order Number above.

Sincerely,

Nancy Stewart  
Vice President / Lab Director



**CLIENT:** STV Incorporated  
**Project:** 07-02184 ESA-Phase 1A Superior Reed  
**Lab Order:** 0103093  
**Date Received:** 3/13/01

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Collection Date
0103093-01A	TE-1A-A1 (4')	3/12/01
0103093-02A	TE-1A-A1 (12')	3/12/01
0103093-03A	TE-1A-H1 (5')	3/12/01
0103093-04A	TE-1A-H2 (5')	3/12/01
0103093-05A	TE-1A-A1 (0-4')	3/12/01
0103093-05B	TE-1A-A1 (0-4')	3/12/01
0103093-06A	TE-1A-A1 (12-16')	3/12/01
0103093-06B	TE-1A-A1 (12-16')	3/12/01
0103093-07A	TE-1A-H1 (0-5')	3/12/01
0103093-07B	TE-1A-H1 (0-5')	3/12/01
0103093-08A	TE-1A-H2 (0-5')	3/12/01
0103093-08B	TE-1A-H2 (0-5')	3/12/01
0103093-09A	TE-1A-A1 (GW) 12'	3/12/01
0103093-09B	TE-1A-A1 (GW) 12'	3/12/01
0103093-10A	TRIP BLANK	3/12/01
0103093-11A	TE-1A-SD1	3/12/01
0103093-11B	TE-1A-SD1	3/12/01
0103093-11C	TE-1A-SD1	3/12/01
0103093-12A	QB-5	3/12/01
0103093-12B	QB-5	3/12/01
0103093-13A	QB-22	3/12/01
0103093-13B	QB-22	3/12/01
0103093-14A	QB-120	3/12/01
0103093-14B	QB-120	3/12/01

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed  
**Lab ID:** 0103093-01A

**Client Sample ID:** TE-1A-A1 (4')  
**Collection Date:** 3/12/01  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE		D2216				Analyst: SL
Percent Moisture	13.8	0		wt%	1	3/15/01

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

H - Method prescribed holding time exceeded

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# - See Case Narrative

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

---

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-H1 (5')  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-03A **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE		D2216				Analyst: SL
Percent Moisture	13.7	0		wt%	1	3/15/01

---

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
B - Analyte detected in the associated Method Blank E - Value above quantitation range  
H - Method prescribed holding time exceeded # - See Case Narrative  
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

<b>CLIENT:</b>	STV Incorporated	<b>Client Sample ID:</b>	TE-1A-A1 (0-4')
<b>Lab Order:</b>	0103093		
<b>Project:</b>	07-02184 ESA-Phase 1A Superior Reed	<b>Collection Date:</b>	3/12/01
<b>Lab ID:</b>	0103093-05A	<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE</b>		<b>D2216</b>				Analyst: SL
Percent Moisture	11.2	0		wt%	1	3/15/01

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

H - Method prescribed holding time exceeded

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# - See Case Narrative

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

<b>CLIENT:</b> STV Incorporated	<b>Client Sample ID:</b> TE-1A-A1 (12-16')
<b>Lab Order:</b> 0103093	
<b>Project:</b> 07-02184 ESA-Phase 1A Superior Reed	<b>Collection Date:</b> 3/12/01
<b>Lab ID:</b> 0103093-06B	<b>Matrix:</b> SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>MERCURY, TCLP</b>		<b>SW7470</b>				Analyst: MT
Mercury	ND	0.0010		mg/L	1	3/16/01
<b>ICP METALS, TCLP LEACHED</b>		<b>SW1311/6010B</b>				Analyst: RK
Arsenic	ND	1.0		mg/L	1	3/16/01 3:01:15 PM
Barium	ND	2.0		mg/L	1	3/16/01 3:01:15 PM
Cadmium	ND	0.10		mg/L	1	3/16/01 3:01:15 PM
Chromium	ND	0.10		mg/L	1	3/16/01 3:01:15 PM
Lead	ND	1.0		mg/L	1	3/16/01 3:01:15 PM
Selenium	ND	0.58		mg/L	1	3/16/01 3:01:15 PM
Silver	ND	0.10		mg/L	1	3/16/01 3:01:15 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
H - Method prescribed holding time exceeded	# - See Case Narrative
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.	

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed  
**Lab ID:** 0103093-07A

**Client Sample ID:** TE-1A-H1 (0-5')  
**Collection Date:** 3/12/01  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE		D2216				Analyst: SL
Percent Moisture	24.8	0		wt%	1	3/15/01

**Qualifiers:**

ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 H - Method prescribed holding time exceeded  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 # - See Case Narrative

**MRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed  
**Lab ID:** 0103093-08A

**Client Sample ID:** TE-1A-H2 (0-5')  
**Collection Date:** 3/12/01  
**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE		D2216				Analyst: SL
Percent Moisture	22.5	0		wt%	1	3/15/01

**Qualifiers:**

ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 H - Method prescribed holding time exceeded  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 # - See Case Narrative

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-SD1  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-11B **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE</b>		<b>D2216</b>				Analyst: SL
Percent Moisture	11.0	0		wt%	1	3/15/01

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

H - Method prescribed holding time exceeded

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# - See Case Narrative



**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-A1 (4')  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-01A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY GC/MS</b>		<b>SW8260B</b>		<b>Analyst: SK</b>		
Dichlorodifluoromethane	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Chloromethane	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Vinyl chloride	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Chloroethane	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Bromomethane	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Trichlorofluoromethane	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Acetone	ND	270		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,1-Dichloroethene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Carbon disulfide	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Methylene chloride	ND	53		µg/Kg-dry	1	3/17/01 7:29:00 PM
Methyl tert-butyl ether	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
trans-1,2-Dichloroethene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,1-Dichloroethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
2-Butanone	ND	270		µg/Kg-dry	1	3/17/01 7:29:00 PM
2,2-Dichloropropane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
cis-1,2-Dichloroethene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Chloroform	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Bromochloromethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,1,1-Trichloroethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,1-Dichloropropene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Carbon tetrachloride	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,2-Dichloroethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Benzene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Trichloroethene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,2-Dichloropropane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Bromodichloromethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Dibromomethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
4-Methyl-2-pentanone	ND	270		µg/Kg-dry	1	3/17/01 7:29:00 PM
cis-1,3-Dichloropropene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Toluene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
trans-1,3-Dichloropropene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,1,2-Trichloroethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,2-Dibromoethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
2-Hexanone	ND	270		µg/Kg-dry	1	3/17/01 7:29:00 PM
1,3-Dichloropropane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Tetrachloroethene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Dibromochloromethane	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM
Chlorobenzene	ND	27		µg/Kg-dry	1	3/17/01 7:29:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

CLIENT: STV Incorporated Client Sample ID: TE-1A-A1 (12')  
 Lab Order: 0103093  
 Project: 07-02184 ESA-Phase 1A Superior Reed Collection Date: 3/12/01  
 Lab ID: 0103093-02A Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed

VOLATILES BY GC/MS SW8260B Analyst: SK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Chloromethane	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Vinyl chloride	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Chloroethane	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Bromomethane	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Trichlorofluoromethane	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Acetone	ND	290		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,1-Dichloroethene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Carbon disulfide	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Methylene chloride	ND	59		µg/Kg-dry	1	3/17/01 8:05:00 PM
Methyl tert-butyl ether	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
trans-1,2-Dichloroethene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,1-Dichloroethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
2-Butanone	ND	290		µg/Kg-dry	1	3/17/01 8:05:00 PM
2,2-Dichloropropane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
cis-1,2-Dichloroethene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Chloroform	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Bromochloromethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,1,1-Trichloroethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,1-Dichloropropene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Carbon tetrachloride	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,2-Dichloroethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Benzene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Trichloroethene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,2-Dichloropropane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Bromodichloromethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Dibromomethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
4-Methyl-2-pentanone	ND	290		µg/Kg-dry	1	3/17/01 8:05:00 PM
cis-1,3-Dichloropropene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Toluene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
trans-1,3-Dichloropropene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,1,2-Trichloroethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,2-Dibromoethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
2-Hexanone	ND	290		µg/Kg-dry	1	3/17/01 8:05:00 PM
1,3-Dichloropropane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Tetrachloroethene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Dibromochloromethane	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM
Chlorobenzene	ND	29		µg/Kg-dry	1	3/17/01 8:05:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

# AMRO Environmental Laboratories Corp.

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-H1 (5')  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase IA Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-03A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY GC/MS</b>		<b>SW8260B</b>			<b>Analyst: SK</b>	
Dichlorodifluoromethane	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Chloromethane	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Vinyl chloride	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Chloroethane	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Bromomethane	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Trichlorofluoromethane	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Acetone	ND	280		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,1-Dichloroethene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Carbon disulfide	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Methylene chloride	ND	55		µg/Kg-dry	1	3/17/01 8:41:00 PM
Methyl tert-butyl ether	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
trans-1,2-Dichloroethene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,1-Dichloroethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
2-Butanone	ND	280		µg/Kg-dry	1	3/17/01 8:41:00 PM
2,2-Dichloropropane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
cis-1,2-Dichloroethene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Chloroform	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Bromochloromethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,1,1-Trichloroethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,1-Dichloropropene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Carbon tetrachloride	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,2-Dichloroethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Benzene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Trichloroethene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,2-Dichloropropane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Bromodichloromethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Dibromomethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
4-Methyl-2-pentanone	ND	280		µg/Kg-dry	1	3/17/01 8:41:00 PM
cis-1,3-Dichloropropene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Toluene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
trans-1,3-Dichloropropene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,1,2-Trichloroethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,2-Dibromoethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
2-Hexanone	ND	280		µg/Kg-dry	1	3/17/01 8:41:00 PM
1,3-Dichloropropane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Tetrachloroethene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Dibromochloromethane	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM
Chlorobenzene	ND	28		µg/Kg-dry	1	3/17/01 8:41:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

CLIENT: STV Incorporated Client Sample ID: TE-1A-H2 (5')  
 Lab Order: 0103093  
 Project: 07-02184 ESA-Phase 1A Superior Reed Collection Date: 3/12/01  
 Lab ID: 0103093-04A Matrix: SOIL

Analyses Result RL Qual Units DF Date Analyzed

VOLATILES BY GC/MS	Result	RL	Qual	Units	DF	Date Analyzed
		SW8260B			Analyst: SK	
Dichlorodifluoromethane	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Chloromethane	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Vinyl chloride	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Chloroethane	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Bromomethane	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Trichlorofluoromethane	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Acetone	ND	290		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,1-Dichloroethene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Carbon disulfide	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Methylene chloride	ND	59		µg/Kg-dry	1	3/19/01 4:06:00 PM
Methyl tert-butyl ether	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
trans-1,2-Dichloroethene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,1-Dichloroethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
2-Butanone	ND	290		µg/Kg-dry	1	3/19/01 4:06:00 PM
2,2-Dichloropropane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
cis-1,2-Dichloroethene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Chloroform	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Bromochloromethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,1,1-Trichloroethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,1-Dichloropropene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Carbon tetrachloride	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,2-Dichloroethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Benzene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Trichloroethene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,2-Dichloropropane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Bromodichloromethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Dibromomethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
4-Methyl-2-pentanone	ND	290		µg/Kg-dry	1	3/19/01 4:06:00 PM
cis-1,3-Dichloropropene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Toluene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
trans-1,3-Dichloropropene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,1,2-Trichloroethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,2-Dibromoethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
2-Hexanone	ND	290		µg/Kg-dry	1	3/19/01 4:06:00 PM
1,3-Dichloropropane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Tetrachloroethene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Dibromochloromethane	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM
Chlorobenzene	ND	29		µg/Kg-dry	1	3/19/01 4:06:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

CLIENT: STV Incorporated Client Sample ID: TE-1A-A1 (GW) 12'  
 Lab Order: 0103093  
 Project: 07-02184 ESA-Phase IA Superior Reed Collection Date: 3/12/01  
 Lab ID: 0103093-09A Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY GC/MS</b>		<b>SW8260B</b>		Analyst: JSL		
Dichlorodifluoromethane	ND	5.0		µg/L	1	3/16/01 8:44:00 PM
Chloromethane	ND	5.0		µg/L	1	3/16/01 8:44:00 PM
Vinyl chloride	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Chloroethane	ND	5.0		µg/L	1	3/16/01 8:44:00 PM
Bromomethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Trichlorofluoromethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Acetone	ND	10		µg/L	1	3/16/01 8:44:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	3/16/01 8:44:00 PM
Carbon disulfide	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Methylene chloride	ND	5.0		µg/L	1	3/16/01 8:44:00 PM
Methyl tert-butyl ether	4.5	2.0		µg/L	1	3/16/01 8:44:00 PM
trans-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,1-Dichloroethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
2-Butanone	ND	10		µg/L	1	3/16/01 8:44:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
cis-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Chloroform	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Bromochloromethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,1-Dichloropropene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Carbon tetrachloride	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,2-Dichloroethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Benzene	ND	1.0		µg/L	1	3/16/01 8:44:00 PM
Trichloroethene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Bromodichloromethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Dibromomethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	3/16/01 8:44:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 8:44:00 PM
Toluene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 8:44:00 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
1,2-Dibromoethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
2-Hexanone	ND	10		µg/L	1	3/16/01 8:44:00 PM
1,3-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Tetrachloroethene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Dibromochloromethane	ND	2.0		µg/L	1	3/16/01 8:44:00 PM
Chlorobenzene	ND	2.0		µg/L	1	3/16/01 8:44:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

CLIENT: STV Incorporated Client Sample ID: TRIP BLANK  
 Lab Order: 0103093  
 Project: 07-02184 ESA-Phase 1A Superior Reed Collection Date: 3/12/01  
 Lab ID: 0103093-10A Matrix: AQUEOUS

Analyses Result RL Qual Units DF Date Analyzed

VOLATILES BY GC/MS SW8260B Analyst: JSL

\*\*\*Sample receipt problems were observed for this test method. See Case Narrative for details.\*\*\*

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dichlorodifluoromethane	ND	5.0		µg/L	1	3/16/01 8:11:00 PM
Chloromethane	ND	5.0		µg/L	1	3/16/01 8:11:00 PM
Vinyl chloride	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Chloroethane	ND	5.0		µg/L	1	3/16/01 8:11:00 PM
Bromomethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Trichlorofluoromethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Acetone	ND	10		µg/L	1	3/16/01 8:11:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	3/16/01 8:11:00 PM
Carbon disulfide	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Methylene chloride	ND	5.0		µg/L	1	3/16/01 8:11:00 PM
Methyl tert-butyl ether	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
trans-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,1-Dichloroethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
2-Butanone	ND	10		µg/L	1	3/16/01 8:11:00 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
cis-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Chloroform	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Bromochloromethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,1-Dichloropropene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Carbon tetrachloride	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,2-Dichloroethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Benzene	ND	1.0		µg/L	1	3/16/01 8:11:00 PM
Trichloroethene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Bromodichloromethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Dibromomethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	3/16/01 8:11:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 8:11:00 PM
Toluene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 8:11:00 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
1,2-Dibromoethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
2-Hexanone	ND	10		µg/L	1	3/16/01 8:11:00 PM
1,3-Dichloropropane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Tetrachloroethene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Dibromochloromethane	ND	2.0		µg/L	1	3/16/01 8:11:00 PM
Chlorobenzene	ND	2.0		µg/L	1	3/16/01 8:11:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

# AMRO Environmental Laboratories Corp.

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** QB-120  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-14A **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
<b>VOLATILES BY GC/MS</b>		<b>SW8260B</b>				<b>Analyst: JSL</b>	
Dichlorodifluoromethane	ND	5.0		µg/L	1	3/16/01 9:19:00 PM	
Chloromethane	ND	5.0		µg/L	1	3/16/01 9:19:00 PM	
Vinyl chloride	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Chloroethane	ND	5.0		µg/L	1	3/16/01 9:19:00 PM	
Bromomethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Trichlorofluoromethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Acetone	32	10		µg/L	1	3/16/01 9:19:00 PM	
1,1-Dichloroethene	ND	1.0		µg/L	1	3/16/01 9:19:00 PM	
Carbon disulfide	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Methylene chloride	ND	5.0		µg/L	1	3/16/01 9:19:00 PM	
Methyl tert-butyl ether	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
trans-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,1-Dichloroethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
2-Butanone	40	10		µg/L	1	3/16/01 9:19:00 PM	
2,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
cis-1,2-Dichloroethene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Chloroform	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Bromochloromethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,1,1-Trichloroethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,1-Dichloropropene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Carbon tetrachloride	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,2-Dichloroethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Benzene	ND	1.0		µg/L	1	3/16/01 9:19:00 PM	
Trichloroethene	14	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,2-Dichloropropane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Bromodichloromethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Dibromomethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
4-Methyl-2-pentanone	ND	10		µg/L	1	3/16/01 9:19:00 PM	
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 9:19:00 PM	
Toluene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/16/01 9:19:00 PM	
1,1,2-Trichloroethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
1,2-Dibromoethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
2-Hexanone	ND	10		µg/L	1	3/16/01 9:19:00 PM	
1,3-Dichloropropane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Tetrachloroethene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Dibromochloromethane	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	
Chlorobenzene	ND	2.0		µg/L	1	3/16/01 9:19:00 PM	

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-A1 (0-4')

**Lab Order:** 0103093

**Project:** 07-02184 ESA-Phase IA Superior Reed **Collection Date:** 3/12/01

**Lab ID:** 0103093-05A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>			<b>Analyst: KD</b>	
Phenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Bis(2-chloroethyl)ether	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Chlorophenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
1,3-Dichlorobenzene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
1,4-Dichlorobenzene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Benzyl alcohol	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Methylphenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
1,2-Dichlorobenzene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Bis(2-chloroisopropyl)ether	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
4-Methylphenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
N-Nitrosodi-n-propylamine	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Hexachloroethane	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Nitrobenzene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Isophorone	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4-Dimethylphenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Benzoic acid	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Nitrophenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Bis(2-chloroethoxy)methane	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4-Dichlorophenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
1,2,4-Trichlorobenzene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Naphthalene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
4-Chloroaniline	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Hexachlorobutadiene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
4-Chloro-3-methylphenol	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Methylnaphthalene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Hexachlorocyclopentadiene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4,6-Trichlorophenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4,5-Trichlorophenol	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Chloronaphthalene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2-Nitroaniline	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
Dimethyl phthalate	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,6-Dinitrotoluene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
Acenaphthylene	520	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
3-Nitroaniline	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
4-Nitrophenol	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4-Dinitrophenol	ND	550		µg/Kg-dry	1	3/15/01 9:55:00 PM
Acenaphthene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM
2,4-Dinitrotoluene	ND	280		µg/Kg-dry	1	3/15/01 9:55:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank      E - Value above quantitation range

H - Method prescribed holding time exceeded      # - See Case Narrative

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.



**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-A1 (12-16')  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-06A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>		<b>Analyst: KD</b>		
Phenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Bis(2-chloroethyl)ether	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Chlorophenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
1,3-Dichlorobenzene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
1,4-Dichlorobenzene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Benzyl alcohol	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Methylphenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
1,2-Dichlorobenzene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
4-Methylphenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Hexachloroethane	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Nitrobenzene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Isophorone	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4-Dimethylphenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Benzoic acid	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Nitrophenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4-Dichlorophenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
1,2,4-Trichlorobenzene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Naphthalene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
4-Chloroaniline	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Hexachlorobutadiene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
4-Chloro-3-methylphenol	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Methylnaphthalene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Hexachlorocyclopentadiene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4,6-Trichlorophenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4,5-Trichlorophenol	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Chloronaphthalene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2-Nitroaniline	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
Dimethyl phthalate	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,6-Dinitrotoluene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
Acenaphthylene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
3-Nitroaniline	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
4-Nitrophenol	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4-Dinitrophenol	ND	650		µg/Kg-dry	1	3/15/01 11:12:00 PM
Acenaphthene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM
2,4-Dinitrotoluene	ND	330		µg/Kg-dry	1	3/15/01 11:12:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-H1 (0-5')  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-07A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>		Analyst: KD		
Phenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Bis(2-chloroethyl)ether	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Chlorophenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
1,3-Dichlorobenzene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
1,4-Dichlorobenzene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Benzyl alcohol	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Methylphenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
1,2-Dichlorobenzene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Bis(2-chloroisopropyl)ether	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
4-Methylphenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
N-Nitrosodi-n-propylamine	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Hexachloroethane	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Nitrobenzene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Isophorone	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4-Dimethylphenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Benzoic acid	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Nitrophenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Bis(2-chloroethoxy)methane	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4-Dichlorophenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
1,2,4-Trichlorobenzene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Naphthalene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
4-Chloroaniline	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Hexachlorobutadiene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
4-Chloro-3-methylphenol	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Methylnaphthalene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Hexachlorocyclopentadiene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4,6-Trichlorophenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4,5-Trichlorophenol	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Chloronaphthalene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2-Nitroaniline	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
Dimethyl phthalate	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,6-Dinitrotoluene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
Acenaphthylene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
3-Nitroaniline	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
4-Nitrophenol	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4-Dinitrophenol	ND	650		µg/Kg-dry	1	3/15/01 11:37:00 PM
Acenaphthene	780	320		µg/Kg-dry	1	3/15/01 11:37:00 PM
2,4-Dinitrotoluene	ND	320		µg/Kg-dry	1	3/15/01 11:37:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated

**Client Sample ID:** TE-1A-H2 (0-5')

**Lab Order:** 0103093

**Project:** 07-02184 ESA-Phase 1A Superior Reed

**Collection Date:** 3/12/01

**Lab ID:** 0103093-08A

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>			<b>Analyst: KD</b>	
Phenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Bis(2-chloroethyl)ether	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Chlorophenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
1,3-Dichlorobenzene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
1,4-Dichlorobenzene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Benzyl alcohol	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Methylphenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
1,2-Dichlorobenzene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Bis(2-chloroisopropyl)ether	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
4-Methylphenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
N-Nitrosodi-n-propylamine	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Hexachloroethane	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Nitrobenzene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Isophorone	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4-Dimethylphenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Benzoic acid	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Nitrophenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Bis(2-chloroethoxy)methane	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4-Dichlorophenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
1,2,4-Trichlorobenzene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Naphthalene	490	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
4-Chloroaniline	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Hexachlorobutadiene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
4-Chloro-3-methylphenol	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Methylnaphthalene	390	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Hexachlorocyclopentadiene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4,6-Trichlorophenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4,5-Trichlorophenol	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Chloronaphthalene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2-Nitroaniline	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
Dimethyl phthalate	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,6-Dinitrotoluene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
Acenaphthylene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
3-Nitroaniline	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
4-Nitrophenol	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4-Dinitrophenol	ND	620		µg/Kg-dry	1	3/16/01 12:03:00 AM
Acenaphthene	1,400	310		µg/Kg-dry	1	3/16/01 12:03:00 AM
2,4-Dinitrotoluene	ND	310		µg/Kg-dry	1	3/16/01 12:03:00 AM

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank      E - Value above quantitation range  
 H - Method prescribed holding time exceeded      # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-A1 (GW) 12'  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-09B **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>			<b>Analyst: KD</b>	
Phenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	3/16/01 2:59:00 PM
2-Chlorophenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	3/16/01 2:59:00 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Benzyl alcohol	ND	20		µg/L	1	3/16/01 2:59:00 PM
2-Methylphenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	3/16/01 2:59:00 PM
4-Methylphenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	3/16/01 2:59:00 PM
Hexachloroethane	ND	10		µg/L	1	3/16/01 2:59:00 PM
Nitrobenzene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Isophorone	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,4-Dimethylphenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
Benzoic acid	ND	20		µg/L	1	3/16/01 2:59:00 PM
2-Nitrophenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Naphthalene	ND	10		µg/L	1	3/16/01 2:59:00 PM
4-Chloroaniline	ND	10		µg/L	1	3/16/01 2:59:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	3/16/01 2:59:00 PM
4-Chloro-3-methylphenol	ND	20		µg/L	1	3/16/01 2:59:00 PM
2-Methylnaphthalene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	3/16/01 2:59:00 PM
2-Chloronaphthalene	ND	10		µg/L	1	3/16/01 2:59:00 PM
2-Nitroaniline	ND	20		µg/L	1	3/16/01 2:59:00 PM
Dimethyl phthalate	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	3/16/01 2:59:00 PM
Acenaphthylene	ND	10		µg/L	1	3/16/01 2:59:00 PM
3-Nitroaniline	ND	20		µg/L	1	3/16/01 2:59:00 PM
4-Nitrophenol	ND	20		µg/L	1	3/16/01 2:59:00 PM
2,4-Dinitrophenol	ND	20		µg/L	1	3/16/01 2:59:00 PM
Acenaphthene	ND	10		µg/L	1	3/16/01 2:59:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	3/16/01 2:59:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit **S** - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits **R** - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank **E** - Value above quantitation range  
 H - Method prescribed holding time exceeded **#** - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

**AMRO Environmental Laboratories Corp.**

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** QB-120  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-14B **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILE ORGANICS</b>		<b>SW8270C</b>			Analyst: KD	
Phenol	37	10		µg/L	1	3/16/01 3:25:00 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	3/16/01 3:25:00 PM
2-Chlorophenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	3/16/01 3:25:00 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Benzyl alcohol	ND	20		µg/L	1	3/16/01 3:25:00 PM
2-Methylphenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	3/16/01 3:25:00 PM
4-Methylphenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	3/16/01 3:25:00 PM
Hexachloroethane	ND	10		µg/L	1	3/16/01 3:25:00 PM
Nitrobenzene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Isophorone	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,4-Dimethylphenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
Benzoic acid	ND	20		µg/L	1	3/16/01 3:25:00 PM
2-Nitrophenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,4-Dichlorophenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Naphthalene	ND	10		µg/L	1	3/16/01 3:25:00 PM
4-Chloroaniline	ND	10		µg/L	1	3/16/01 3:25:00 PM
Hexachlorobutadiene	ND	10		µg/L	1	3/16/01 3:25:00 PM
4-Chloro-3-methylphenol	ND	20		µg/L	1	3/16/01 3:25:00 PM
2-Methylnaphthalene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	3/16/01 3:25:00 PM
2-Chloronaphthalene	ND	10		µg/L	1	3/16/01 3:25:00 PM
2-Nitroaniline	ND	20		µg/L	1	3/16/01 3:25:00 PM
Dimethyl phthalate	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	3/16/01 3:25:00 PM
Acenaphthylene	ND	10		µg/L	1	3/16/01 3:25:00 PM
3-Nitroaniline	ND	20		µg/L	1	3/16/01 3:25:00 PM
4-Nitrophenol	ND	20		µg/L	1	3/16/01 3:25:00 PM
2,4-Dinitrophenol	ND	20		µg/L	1	3/16/01 3:25:00 PM
Acenaphthene	ND	10		µg/L	1	3/16/01 3:25:00 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	3/16/01 3:25:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range  
 H - Method prescribed holding time exceeded # - See Case Narrative  
 RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

# AMRO Environmental Laboratories Corp.

Date: 26-Mar-01

CLIENT: STV Incorporated  
 Lab Order: 0103093  
 Project: 07-02184 ESA-Phase 1A Superior Reed  
 Lab ID: 0103093-11B

Client Sample ID: TE-1A-SD1  
 TE-1A-SS-1  
 Collection Date: 3/12/01  
 Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PCBS BY EPA8082						Analyst: RAP
		SW8082				
Aroclor 1016	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1221	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1232	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1242	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1248	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1254	ND	28		µg/Kg-dry	1	3/16/01 12:23:00 PM
Aroclor 1260	55	28		µg/Kg-dry	1	3/16/01 12:23:00 PM

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

H - Method prescribed holding time exceeded

RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

# - See Case Narrative

# AMRO Environmental Laboratories Corp.

Date: 26-Mar-01

**CLIENT:** STV Incorporated **Client Sample ID:** TE-1A-SD1  
**Lab Order:** 0103093  
**Project:** 07-02184 ESA-Phase 1A Superior Reed **Collection Date:** 3/12/01  
**Lab ID:** 0103093-11A **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>DIESEL RANGE ORGANICS</b>		<b>SW8015B</b>				Analyst: KD
Diesel Range Organics	860	56		mg/Kg-dry	1	3/15/01 7:06:00 PM

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
B - Analyte detected in the associated Method Blank E - Value above quantitation range  
H - Method prescribed holding time exceeded # - See Case Narrative  
RL - Reporting Limit; defined as the lowest concentration the laboratory can accurately quantitate.

Lab Order: 0103093  
 Client: STV Incorporated  
 Project: 07-02184 ESA-Phase 1A Superio

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0103093-11A	TE-1A-SD1	3/12/01	Soil	GASOLINE RANGE ORGANICS		3/12/01	3/23/01
0103093-11B				PCBS IN SOIL/SOLIDS		3/15/01	3/16/01
				Percent Moisture			3/15/01
0103093-11C				ICP METALS, TCLP	3/15/01	3/16/01	3/16/01
				ICP METALS, TCLP	3/15/01	3/16/01	3/22/01
				MERCURY, TCLP	3/15/01	3/16/01	3/16/01
0103093-14A	QB-120		Aqueous	VOLATILES by GC/MS		3/15/01	3/16/01
0103093-14B				SEMIVOLATILE ORGANICS, Aqueous		3/15/01	3/16/01





CHAIN OF CUSTODY RECORD

Proj. No.	Project Name	Project State	MATRIX	PAGE	OF
07-02184	ESA-Phase 1A Superior Road	NY	Water-A Soil/Solid-S Waste-W Other-Q Explain	1	2
Samplers (Signature)	Station Location	Type Size, & No. of Containers			Remarks
Brian Barone Butler	TE-1A-A1 (4')	1-20Z	S		
	TE-1A-A1 (0-4')	1-40Z/1-80Z	S	X	
	TE-1A-A1 (12')	1-20Z	S	X	
	TE-1A-A1 (12-16')	1-40Z/1-80Z	S	X	
	TE-1A-A1 (6W) 12'	2-40ML/1L	A	X	* 1 of the VOCs is unreserved
	TE-1A-H1 (5')	1-20Z	S	X	Please analyze preserved
	TE-1A-H1 (0-5)	1-40Z/1-80Z	S	X	sample and save second
	QB-5*	1-40ML/1-L	A	X	as a backup * VOC is
	QB-22*	1-40ML/1-L	A	X	unreserved
	TE-1A-H2 (5')	1-20Z	S	X	
	TE-1A-H2 (0-5)	1-40Z/1-80Z	S	X	
	TRIP BLANK	1-40ML	A	X	
	QB-120	1-40ML/1-L	A	X	* unreserved VOC

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

PRIORITY TURNAROUND TIME AUTHORIZATION

Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.

AUTHORIZATION NO. T.A.T. authorized by:

Relinquished by (Signature)	Date Time	Received by (Signature)	AMRO Project No.	Remarks
	3/12/01 1600		0103093	QB-5 and QB-22 - hold for analysis
Relinquished by (Signature)	Date Time	Received by (Signature)	Seal Intact?	Yes No N/A
Relinquished by (Signature)	Date Time	Received by (Signature)		
Relinquished by (Signature)	Date Time	Received for Laboratory by (Signature)		
	3/13/01 11:00			

Send Results to:  
 Jeff Butler

Fax to (phone)

Results needed

PO#

*The Commonwealth of Massachusetts*



*Department of Environmental Protection*  
*Division of Environmental Analysis*  
*Senator William X. Wall Experiment Station*

*certifies*

M-NH012

AMRO ENVIRONMENTAL LAB  
111 HERRICK ST  
MERRIMACK, NH 03054-0000

*Laboratory Director:* Nancy Stewart

*for the analysis of* NON POTABLE WATER (CHEMISTRY)  
POTABLE WATER (CHEMISTRY)

*pursuant to 310 CMR 42.00*

*This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.*

*This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.*

*Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.*

A handwritten signature in cursive script, reading "Oscar P. Parola".

*Director, Division of Environmental Analysis*

*Issued: 01 JUL 2000*

*Expires: 30 JUN 2001*

# *APPENDIX B*



# NAEVA GEOPHYSICS INC.

A SUBSIDIARY OF NORTH AMERICAN EXPLORATION OF VIRGINIA INC.

## Subsurface Geophysical Surveys

GPR  
MAGNETICS  
ELECTROMAGNETICS  
SEISMICS  
RESISTIVITY  
UTILITY LOCATION  
BOREHOLE LOGGING  
BOREHOLE CAMERA  
STAFF SUPPORT

---

### Results of Geophysical Investigation

**Long Island Rail Road: Yard A  
East Side Access Project  
Queens, New York**

**Prepared for: STV Incorporated  
New York, New York**

**Date of Investigation: March 19, 2001**

---

**Prepared by:**

Mark E. Weis  
Project Geologist  
NAEVA Geophysics, Inc.  
P.O. Box 576  
Tappan, NY 10983

### Contents

Introduction

Methods

Results

Plate 1

Area of Geophysical Investigation on a Portion of the Long Island Rail Road's Yard A, East Side Access Project, Queens, New York

### NEW YORK

P.O. Box 576  
Tappan  
New York 10983  
(914) 268-1800  
(914) 268-1802 Fax

### VIRGINIA

P.O. Box 7325  
Charlottesville  
Virginia 22906  
(804) 978-3187  
(804) 973-9791 Fax

**Results of Geophysical Investigation  
Long Island Rail Road – Yard A  
East Side Access Project  
Queens, New York**

---

**Introduction** As part of the Long Island Rail Road's East Side Access Project, on March 19, 2001, NAEVA Geophysics Inc. conducted a geophysical investigation on a portion of the Yard A property in Queens, New York. The purpose of the investigation was to identify underground storage tanks (USTs), drums, and buried metallic debris suspected to exist at the site, and to mark-out detectable subsurface utilities. The area of investigation was an approximately 40 by 300-foot vacant lot north and east of an abandoned crew building (see Plate 1) at the northern edge of the tract between Honeywell and 39<sup>th</sup> Streets.

---

**Methods** Where site conditions allow, the most effective technique when searching for buried ferrous objects such as drums and USTs is usually to conduct either magnetic or electromagnetic (EM) investigations. For these types of investigations, a grid of parallel lines is laid out over the area of interest. The magnitude of the Earth's magnetic field (magnetic investigations) or an induced EM field (EM investigations) is then measured at regular intervals along each line. The data is processed to produce contour maps of the magnetic field or EM response at the site. Large ferrous objects such as USTs or drums can be expected to produce anomalies in these contour maps. The EM instrument, unlike the magnetometer, is also capable of detecting non-ferrous metals such as aluminum, copper, and brass.

At this site, the close proximity of the buildings, fences, and railroad tracks, and the presence of metallic debris piles at the surface (all of which would have affected the magnetic or EM data) prevented the use of these methods. Also, a large percentage of the site was covered by trees and waist-high brush that would have made the installation of a survey grid and the collection of coherent data difficult. It was decided, therefore, to conduct a metal-detector investigation over accessible portions of the site.

The advantages of a metal-detector investigation are that it is quick and the investigator can work around cultural obstructions such as buildings and parked vehicles. The disadvantages are that while a magnetometer

can sense ferrous objects at a distance, the metal-detector must pass almost directly over a UST or drum for the target to be detected. In addition, the magnetometer responds to the mass of ferrous objects but the metal-detector responds to surface area. Hence, a UST and a buried sheet of corrugated steel, which will have very different magnetic signatures, can evoke a similar response from the metal-detector.

The equipment selected for this investigation included a Fisher TW-6 Pipe and Cable Locator (an electromagnetic metal-detector), a Sensors & Software ground-penetrating radar (GPR) with a 250 MHz antenna, Radiodetection RD400PDL2 and RD600 utility locators, and a Dynatel 2250 cable locator.

The area of investigation was first visually inspected for evidence of fill ports, vent pipes, subsurface utilities, and other buried features. Much of the brush and low-lying tree limbs were cut down using hand tools. The metal-detector was then used in a reconnaissance investigation of the site for evidence of metallic objects that could represent USTs, utilities, or other buried metallic objects. The metal-detector was carried over the site in a series of parallel traverses at a 3-foot line spacing. Anomalies were marked on the ground for further investigation using the GPR. The GPR data profiles that were collected over significant anomalies were examined for evidence of reflections that could be interpreted as being caused by USTs or other subsurface features.

The utility locating instruments were used to delineate the surface traces of detectable utilities at the site. Whenever a metallic/electrically conductive utility was noted, a radio-frequency signal was conducted or induced onto the line using one of the instruments' transmitters. This signal was then used to trace out the utility. Many utilities carry electric currents, and therefore produce electromagnetic fields that can be detected at the surface. In addition, buried metallic conduits, acting as antennas, often pick up background radar and commercial radio signals and re-radiate them. The site was investigated for evidence of these signals using the RD600 operating in a passive mode.

The Dynatel was used in the split-box fashion to examine the area for buried utilities. Two operators, one carrying the transmitter and one carrying the receiver, walked bi-directionally across portions of the site at a fixed distance to one another while listening for increases in signal strength which would suggest possible subsurface utilities. Where signal increases were noted, they were further investigated in an attempt to discern a signal propagating utility. The Dynatel is particularly suited to locating the surface trace of telephone, electric, and other narrow-gauge wiring, but can also detect larger metallic conduits and piping.

---

## Results

While NAEVA found no conclusive evidence to suggest the presence of undocumented USTs or buried drums within the area of investigation; indications of expensive amounts of buried metallic scrap were seen and three significant metal-detector anomalies were identified.

The largest anomaly is located in the northwest corner of the area of investigation. The irregular surface trace of this anomaly, as well as a slight depression visible at the ground surface, suggests a subsiding disposal pit as a likely source.

The second metal-detector anomaly is a 4 by 7-foot rectangular feature located near the fenceline north of the eastern side of the crew building. A manhole at the center of this anomaly suggests a utility or UST-related vault as the likely identity of this object. The manhole cover was removed, but the interior of the vault had been backfilled with soil and construction debris.

The third metal-detector anomaly is located roughly midway between the center of the crew building and the fenceline, and has dimensions of approximately 3 by 5 feet. A metal appendage that appears to be associated to this buried object protrudes through the surface. The dimensions of this anomaly are about the same as a 275-gallon UST.

The GPR data profiles collected across the metal-detector anomalies gave no additional information as to their sources. No evidence of the hyperbolic reflections typically caused by USTs or horizontally oriented drums was seen in the GPR data profiles collected over the anomalies. However, the GPR's depth of penetration, which is typically less than 3 feet in this portion of Long Island, may have been insufficient to image most USTs.

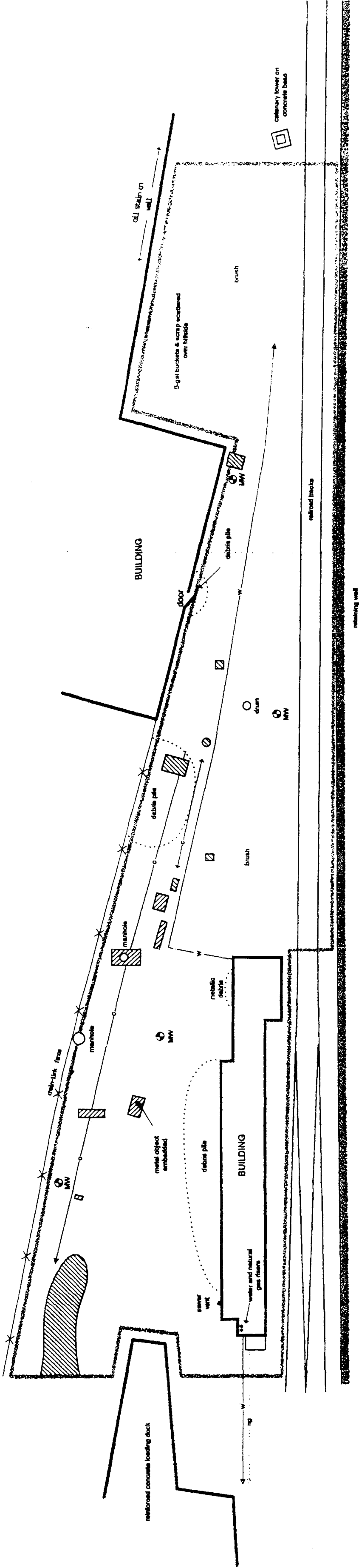
While NAEVA believes the many remaining small metal-detector anomalies indicated on the site map are most likely caused by small amounts of metallic debris, it might be prudent to carefully excavate them to determine their sources. The surface traces of all metal-detector anomalies were delineated using pink spray paint and white plastic pin flags were placed at their centers.

From our inspection of the former crew building's interior, it was found that the water and natural gas service lines enter the building from the west. A utility, believed to be a water line, exits the northeast corner of the building and continues eastward across the area of investigation. We were



unable to locate the sanitary line for the building, but a gooseneck vent attached to the northwest corner of the building indicates that the line probably exits at that point and runs northward to the sewer main that parallels the northern fenceline.

Two utilities of undetermined usage were detected within the area of investigation. One line runs along the northern property line and through the large vault-like metal-detector anomaly. The line was traced eastward for about 50 feet beyond the manhole cover of the anomaly, while the western end of this line was lost in the suspected burial pit area. A second possible conduit, which appears to be only about 30 feet long, runs parallels to and about 5 feet south of the previously described line. The relatively short apparent length of this line suggests it may be caused by a linear piece of metal such as a section of railroad track. The surface traces of these lines were delineated using pink paint.



**EXPLANATION**

- Area of geophysical investigation
- Metal-detector anomaly
- Monitoring well
- Conduits
  - Natural gas
  - Water
  - Sewer
  - Conduit of unknown usage

Approximate



0 10 20 ft  
 Scale: One inch equals  
 approximately twenty feet

**NACVA GEOPHYSICS, INC.**  
 50 N Harrison Avenue, Suite 11  
 Congers, NY 10920  
 (914) 266-1800  
 Subsurface Geophysical Surveys

Plate 1. - Area of Geophysical Investigation on  
 a Portion of the Long Island Rail Road's Yard A,  
 East Side Access Project, Queens, New York

Client:	STV Incorporated	Scale:	1 inch = 20 feet
Project #:	C0103191W	Date of Work:	March 19, 2001
		Map By:	Rob Grimpel

ALL BELOW GROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP