Remedial Design Work Plan

Former Elmont Welding

546 Hempstead Turnpike
Elmont
Nassau County
New York

NYSDEC Site No. E130150

Prepared by
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
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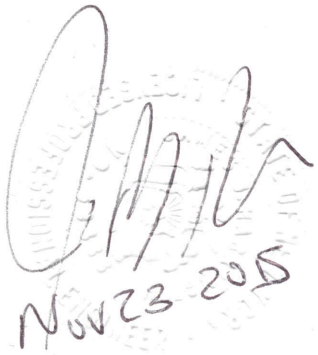
I JAMES B HARRINGTON certify that I am currently a NYS registered professional engineer and that this Remedial Design Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.



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1.0 Introduction

New York State Department of Environmental Conservation (NYSDEC) has developed this work plan to complete the remediation at the Former Elmont Welding Site located at 546 Hempstead Turnpike, Elmont, Nassau County, NY (referred to herein as the site). The remediation is specified in the Record of Decision dated March 2014.

The 0.350 acre lot was a welding shop for approximately 30 years and an auto repair garage previous to that. A site investigation determined that the site's soils have been impacted by the activities that occurred on the property. Based on the results of the investigation the Town of Hempstead applied to the Department's Environmental Restoration Program (ERP) for remedial program funding. The Town of Hempstead entered into an Environmental Restoration Program with the NYSDEC in 2015 for this site.

1.1 Physical Setting

Location: The Former Elmont Welding Site is located in a suburban area at 546 Hempstead Turnpike, in Elmont, NY. The 0.35-acre site consists of the now-demolished former welding shop and the adjoining vacant lot to the west of the welding shop. The site is bounded by Louis Avenue to the west, Makofske Avenue/Marguerite Avenue to the east and Hempstead Turnpike to the south. The site is shown in Figure 1.

Site Features: The site is currently vacant and fenced-in. Site surface is sloped from southeast to the northwest. A timber retaining wall is located along Louis Avenue and a combination of stone and timber retaining walls exist along the eastern part of the property. Site features are shown on Figure 2.

Current Zoning: The site is zoned for commercial use. The surrounding parcels are currently zoned for a combination of commercial and residential buildings.

Past Use of the Site: The Former Elmont Welding property was originally used as an automobile garage as early as 1925. Past use of the building included an auto repair shop in the 1950s and 1960s. From the 1970s to 2006, the site was used as a welding shop, and the adjacent lot was used as a parking area for construction equipment. The site is currently inactive.

Site Geology and Hydrogeology: The soil consists mainly of sand. The depth to water is 30 to 40 feet below ground surface depending on the site topography. Groundwater flow direction is towards the south.

1.2 Environmental Assessment

A Phase I Environmental Site Assessment was performed in 2000. A limited soil investigation was performed in 2002. The Department conducted a preliminary investigation of the property with the USEPA Targeted Site Assessment grant funding in 2006.

Based upon investigations conducted to date, the primary contaminants of concern for the site include benzo(a)pyrene, benzo(b)fluoranthene, benzo[k]fluoranthene, and benz(a)anthracene, which are known as polycyclic aromatic hydrocarbons (PAHs) and two metals identified as cadmium and lead.

Soil - PAHs are found at higher concentrations in the shallow soils (0-4" and 18-24") compared to deeper soils (depth of the water table and below) on-site. They were found primarily in the former parking lot adjacent to the welding shop. Three out of ten samples collected on-site exceeded the restricted residential SCOs for PAHs. Metals were also generally detected at concentrations slightly exceeding the SCOs in shallower soils at the welding shop..

Groundwater - No site-related contaminants were found in the groundwater. PAHs that were found in the soils were not detected in the groundwater. The analysis of unfiltered groundwater samples showed detections of metals. However, the results from the filtered groundwater samples showed that most of the metal detections found in the unfiltered groundwater samples are a result of the presence of metals in the suspended solids.

1.3 Selected Remedial Action

According to the Record of Decision (ROD), based on the results of the Site Investigation Report and the criteria identified for evaluation of alternatives, the NYSDEC selected excavation and off-site disposal of contaminated soil as the selected remedial action.

The primary components of the remedy are as follows:

- Excavation of up to two feet of surface soils that exceed restricted residential soil clean up objectives (SCO) will occur at the site. The excavated soil will be disposed at a permitted facility.
- Post excavation samples will be collected to document remaining concentrations at the site.
- Backfill consisting of soil that meets NYSDEC subpart 375-6.8(b) for restricted residential SCO will be placed at the site to restore site grades.
- Where site contamination remains above restricted residential SCO, a demarcation layer and a minimum of two feet of backfill material will be placed above the contamination.

2.0 Pre-Design Investigation

The purpose of this sampling event was to provide a baseline for the design of the site excavation plan.
The scope of work for this plan included:

- Collection of Soil Samples
- GPS locating of samples
- Labeling and shipment of samples
- Analysis of Samples by a Laboratory

2.1 Collection of Samples

Two sampling events were held in order to characterize the contamination on-site. An initial round of samples were collected in April 2015 and a supplemental round of samples were collected in June 2015.

The Site was divided into a grid as shown in Figure 5; in general, one borehole was located within a 30 ft by 30 ft grid. Utilizing a hand auger, a borehole was advanced in the center of the grid or in the location that the sampler determines to be the best representative of the grid. A sample was collected from each of the sample intervals indicated on Table 1. Limitations to sampling were encountered due to subsurface obstructions (e.g. A3, A5, and B3) and access (debris and vegetative growth north of D2), which resulted in adjusting or removing sampling points. After sample collection, a wooden stake was placed in the sample location and labeled with the location ID number. The location of the stake was recorded with a hand held GPS device for mapping purposes. The stake remained in place until confirmatory results were received from the lab.

The samples were collected by the technician wearing disposable, nitrile gloves. Technicians visually classified the soils within each borehole (see Appendix A for boring logs).

The following outlines the soil sampling procedures that were employed to collect the soil samples:

- Using a pre-cleaned stainless steel hand auger or stainless steel scoop, advance the sampling equipment to the specified depths, see Table 1, and remove the soil.
- Place the soil into a stainless steel mixing bowl.
- Composite the contents of the mixing bowl and place an adequate volume into the appropriate containers.
- Appropriately label the jars
- Place the sample on ice in a cooler.
- Record observations in field book.
- Decontaminate equipment after each use and between sample locations.

All down-hole drilling equipment, hand augers, and other tools were decontaminated prior to its arrival at the site and between each use. All reusable sampling equipment was decontaminated

with a three step washing process that consists of a tap water rinse, an alconox and tap water wash, followed by a tap water rinse.

2.2 Analysis of Samples

All samples were submitted to Test America, a New York State Department of Health-Environmental Laboratory Approval Program (NYSDOH-ELAP-certified) laboratory for analysis of metals via Method 6010 and semi-volatile organic compounds (SVOCs) via Method 8270 with a standard 2-week turnaround period. Soil samples were collected unpreserved in laboratory supplied 6-oz jars with 180 day sample holding time for metals analysis and 14 day sample holding time for SVOCs both stored at 4°C. ASP Category B deliverables were reported for each sample.

Table 1 – Summary Table of Sampling Locations

Location	Matrix	Depths	Analytical Parameters	Method	QA/QC
SB-A1	Soil	0-2”, 18-24”, 30-36”, 42-48”	Metals SVOCs	Method 6010 Method 8270	
SB-A2	Soil	0-2”, 18-24”, 30-36” 42-48”	Metals SVOCs	Method 6010 Method 8270	
SB-A3	Soil	0-2”, 18-24”, 30-36”, 42-48”	Metals SVOCs	Method 6010 Method 8270	
SB-A4	Soil	0-2”, 18-24”, 30-36”, 42-48”	Metals SVOCs	Method 6010 Method 8270	
SB-A5	Soil	0-2”, 18-24”, 30-36”, 42-48”	Metals SVOCs	Method 6010 Method 8270	MS/MSD
SB-B1	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	FD04151602 (6-12”)
SB-B2	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	FD04151501 (0-2”)
SB-B3	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-B4	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-B5	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	MS/MSD
SB-C1	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-C2	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-C3	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	FD04161501 (6-12)

SB-C4	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	FD04151502 (0-2)
SB-C5	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	MS/MSD
SB-D1	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-D2	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-D3	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-D4	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-D5	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	MS/MSD
SB-E2	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-E3	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
SB-E4	Soil	0-2”, 6-12”, 18-24”	Metals SVOCs	Method 6010 Method 8270	
Total of 74 samples+ 4 Field Duplicates + 4 MS/MSD					

Samples were identified by using site number, sampling date, sample location, and sample depth. The intial results of this sampling are shown in Table 3 and 4. The supplemental lead sample results can be found in Table 10.

2.3 Waste Characterization Sampling

Soil samples were analyzed to assess site materials for waste characterization by analyzing composite samples from shallow soils (0-6 inches bgs) and deep soils (18-24 inches bgs) for total and leachable contaminants. The analysis covered metals, SVOCs, pesticides, and polychlorinated biphenyls (PCBs). Additional analysis was performed to assess volatile organic compounds (VOCs) within the soil at discrete locations for total and leachable contaminants.

The following samples were collected for the purposes of waste characterization for the excavation activities planned for the site.

Table 2 - Waste Characterization Samples

Sample ID	Location	Discrete or Composite	Analysis	Analytical Method
WC - B1 (18-24)	B1 (18-24”)	Discrete	Total VOC	8260
WC - C1 (0-2)	C1 (0-2”)	Discrete	Total VOC	8260
WC - C2 (18-24)	C2 (18-24”)	Discrete	Total VOC	8260

WC - A3 (0-2)	A3 (0-2”)	Discrete	Total VOC	8260
WC - B3 (0-2)	B3 (0-2”)	Discrete	Total VOC	8260
WC - B3 (18-24)	B3 (18-24”)	Discrete	Total VOC	8260
WC - C3 (0-2)	C3 (0-2”)	Discrete	Total VOC	8260
WC - D3(6-12)/ D4(6-12)	D3(6-12”)/ D4(6-12”)	Semi-Composite	TCLP VOC	1311, 8260
WC - C1(18-24)/ A3(18-24)	C1(18-24”)/ A3(18-24”)	Semi-Composite	TCLP VOC	1311, 8260
WC - C2(0-2)/ A4(0-2)	C2(0-2”) A4(0-2”)	Semi–Composite	TCLP VOC	1311, 8260
WC - Deep (Total)	C1 (18-24”), C2(18-24”), C3 (18-24”), B3(18-24”)	Composite	Total SVOCs, Metals, PCBs, Pesticides	8270, 6010, 8280
WC -Deep (TCLP)	C1 (18-24”), C2(18-24”), C3 (18-24”), B3(18-24”)	Composite	TCLP SVOCs, Metals, PCBs, Pesticides	1311, 8270, 6010, 8280
WC - Shallow Total	E4 (0-6”), E3(0-6”), A3(0-6”), C3(0-6”)	Composite	Total SVOCs, Metals, PCBs, Pesticides	8270, 6010, 8280
WC - Shallow TCLP	E4 (0-6”), E3(0-6”), A3(0-6”), C3(0-6”)	Composite	TCLP SVOCs, Metals, PCBs, Pesticides	1311, 8270, 6010, 8280
A2-30-60-72015	A2 (30-36”)	Discrete	Total Lead, TCLP Metals	6010, 1311
A5-0-2-72015	A5 (0-2”)	Discrete	Total Lead, TCLP Metals	6010, 1311
B2-18-24-72015	B2 (18-24”)	Discrete	Total Lead, TCLP Metals	6010, 1311
B3-18-24-72015	B3 (18-24”)	Discrete	Total Lead, TCLP Metals	6010, 1311
C0-0-2-72015	C0 (0-2”)	Discrete	Total Lead, TCLP Metals	6010, 1311
C3-18-24-72015	C3(18-24”)	Discrete	Total Lead, TCLP Metals	6010, 1311
C4-18-24-72015	C4 (18-24”)	Discrete	Total Lead, TCLP Metals	6010, 1311
D2-18-24-72015	D2 (18-24”)	Discrete	Total Lead, TCLP Metals	6010, 1311

D3-6-12-72015	D3(6-12”)	Discrete	Total Lead, TCLP Metals	6010, 1311

Samples were identified by site number, sampling date and sample ID.

The following outlines the semi-compositing soil sampling procedures that were employed to collect the TCLP VOC samples:

- Using a pre-cleaned stainless steel hand auger or stainless steel scoop, advance the sampling equipment to the specified depths, see Table 2, and remove the soil.
- Place the soil into a sampling jar filling up half way
- Move to the second location listed in Table 2 for the composite sample
- Having Decontaminated the stainless steel hand auger or stainless steel scoop, advance the sampling equipment to the specified depth
- Place the soil into the sampling jar filling up the rest of the way to the cap.
- Seal cap
- Appropriately label the jars
- Place the sample on ice in a cooler.
- Record observations in field book.
- Decontaminate equipment after each use and between sample locations.

The results of the Waste Characterization Samples are shown in Tables 5 through 15.

2.4 Pre-Design Investigation Results and Evaluation

2.4.1 Analytical Results

The results of the SVOC analysis can be found in Table 3 and the results of the metals analysis can be found in Tables 4 and 15. Results that exceed the restricted residential soil cleanup objective (RRSCO) have been highlighted in those tables. The SVOCs that were detected above the RRSCO are benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, indeno[1,2,3-cd]pyrene, benzo[g,h,i]perylene, chrysene, dibenz(a,h)anthracene, and benzo[k]fluoranthene. The metal that was detected most prevalently above the RRSCO in samples was lead. Arsenic, copper, barium, and cadmium were detected in two to three samples and silver, selenium, nickel were detected in one sample (SB-B2(18-24”)).

The waste characterization analytical results are provided on Tables 5 through 15. Waste characterization samples detected similar contaminants detected within the discrete sample location. The only contaminant to be detected above criteria from the leachable analysis was lead.

A data review was completed to assess the analytical results (see appendix A). Based on the review the data was found to be acceptable with the inclusion of qualifiers for select data

2.4.2 Soil Evaluation

These results indicate that the highest results were seen in grid B2 (18-24") for metals and A3 (18-24") for SVOCs. No pattern was observed with respect to metals and SVOC concentrations in the soil based on the location within the grid. Exceedances of SVOCs and metals were detected within each interval, but the majority of the contamination was detected below the surface soils (0-2 inches bgs).

Based on the results of the pre-design investigation, the majority of the grids require excavation up to 2 ft below ground surface (bgs) and four grids will require no excavation to comply with the Record of Decision. Due to the presence of the retaining walls located along the western site boundary in four grids, identified as A1 through A4, over excavation is necessary otherwise a retaining wall must be designed. Excavation down to 3 ft bgs is necessary in three locations, identified as B1, B2, and B3, to accommodate proposed grades and cover requirements. See Table 16 and Figure 5 for grid excavation depths.
The initial waste characterization sampling only identified lead at the site above 371 toxicity standards in the deep composite sample (Table 9). Material that exceeds these criteria are considered to have characteristics of hazardous material and the material must be disposed as hazardous material. Based on the lead results presented in Table 4, a supplemental sampling effort was conducted to further evaluate where hazardous lead is located at the site by resampling the locations with elevated lead concentrations. Based on the analytical results the hazardous lead is located within the central part of the site between 1 to 2 ft bgs, see Figure 4.

Due to elevated lead concentrations above the part 371 toxicity standards in the 18-24" sample, hazardous soil disposal is warranted within two cells, C3 and C4. The approximate volume of hazardous material to be disposed of is 65.8 cubic yards and non-hazardous material is 877.3 cubic yards.

3.0 Summary of Remedial Work Tasks

Based on the pre-design investigation and the goal of the decision document the excavation and disposal of the contaminated material will be performed. Using a DEC Remedial Contractor, DEC intends to excavate identified areas by excavator down to a maximum depth of 3.5 feet. The excavation and disposal activities will comply with applicable federal state, and local laws, regulation, and requirements. Based on the planned excavation depth, it is anticipated that contamination will remain above the RRSCO, see Table 16, at select cells and will require placement of a demarcation layer. The following items will be conducted as part of the remedial work plan.

Pre-Excavation Activities include:

- Site mobilization involves site security setup, equipment mobilization, and utility mark outs, and silt fence setup.
- Permits

- Contractor Submittals (e.g. construction layout, truck washing station, etc…) regarding construction activities for Engineer's approval
- Clearing and Grubbing
- HASP and CAMP developed by the contractor
- Provide traffic control plan for the site.
- Survey the site: grid areas will be staked out for the ease of surveying the corners (see Figure 6)
- Crack gauge and video survey to property adjacent on the east of the site.
- Close off Sidewalks adjacent to the site

Excavation Activities include:

- Excavation to the depth of each cell as indicated in Table 16 and Figure 5.
- Survey of the site following excavation of the hazardous and non-hazardous grid materials (Figure 4)
- Storm Water Management Plan
- Transport and off-site disposal of excavated material to permitted facility
- Perform air monitoring per Community Air Monitoring Plan (CAMP) during excavation and re-grading activities.
- Post Excavation Sampling of each excavation grid
- Backfill of each cell
- Slope the area per the Grading plan, Figure 7.
- Demobilization

Post-Construction activities include:

- Survey the final site following re-grading and sloping and for the completion of an environmental easement
- Provide As-built drawings and a Final Engineering Report.

These tasks are more thoroughly dealt with in Appendix C, Specifications.

3.1 Pre-Excavation Activities

Prior to the excavation the following activities must be completed.

Meeting at the site to discuss conditions and proposed activities.

A Health and Safety Plan and Community Air Monitoring Plan must be developed by the contractor. The Health and Safety Plan (HASP) must be in accordance with DER-10 Section 1.9. The Community Air Monitoring Plan (CAMP) must be in accordance with DER-10 Appendix 1A and 1B. Both must be submitted and approved prior to the beginning of the excavation activities.

Submit a storm water management plan for approval.

Any and all permits that are required including a utility mark-out must be completed.

Especially important to the safety and flow of the project is a traffic control plan. The traffic control plan will identify measures to be undertaken to control traffic, deliveries, and waste transport from the site.

A grid has been produced for the site per Figure 3 and Table 12. A survey will be conducted surveying in each of the corners of those grids in order to establish the baseline grade of each square in the grid. Base survey shall be compared to site grades on Figure 2 and any differences shall be identified.

A video survey shall be conducted on the concrete block retaining wall on property adjacent to the site on the east. This survey shall be completed prior to construction activities and include setting crack gauges within the building.

The site should be cleared and grubbed of all debris on the property prior to any excavation work.

Finally, the mobilization for the site would include access to the vacant property across Louis Avenue.

Mobilization includes setting up any and all temporary facilities that are required during the work period including rest facilities, security equipment, silt fencing, and decontamination stations. A detail must be provided showing the silt fencing and truck washing station prior to installation and must be approved.

3.2 Excavation & Backfill Activities

Each grid cell will require a survey at each cut to ensure that the proper depth is reached during excavation. The grade that each grid cell is required to be cut to is indicated in Table 5 and Figure 5.

Perform any storm water maintenance to keep the excavation clear of standing water

A Demarcation layer shall be placed at the base of the excavation.

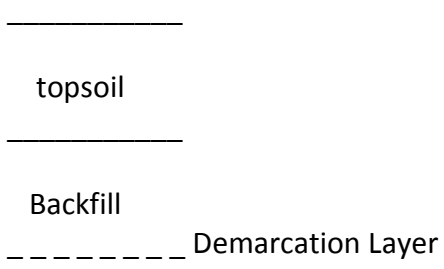
Contain and manage any water generated during decontamination of trucks. Proper containment and disposal of decontamination water to a Department approved facility.

Transport and off-site disposal of excavated material to permitted facility in accordance with applicable laws and regulations including debris such as concrete and timber.

The air monitoring should be in accordance with the CAMP during excavation and backfill operations.

The backfill shall be composed of material acceptable per DER-10. Common Backfill material must be from a virgin source and meet RRSCO. The top 6" of material will be topsoil that meets RRSCO and then it shall be seeded and mulched per the specifications.

Include a cross section that shows 6" topsoil layer, X ft of approved backfill, demarcation layer, and undisturbed soils.



The backfilling operation must agree with the sloping plan for the site, Figure 7. A survey will be conducted to ensure this.

Samples will be collected from the bottom of the excavation to assess the waste classification of that particular cell and the concentration of contaminant left in a cell. One sample will be collected from the base of each cell and analyzed for metals and SVOCs.

If post-excavation sample results are above RRSCO and less than 2 ft of cover will be located above the cell, additional excavation and sampling shall be performed to meet the requirements of the ROD.

The face of the excavations should not be left open for more than three days. The face of the excavation located along the perimeter of the property shall have a 0.5 foot horizontal to 1 foot vertical slope to maintain the integrity of off-site material (e.g. soils beneath the sidewalk). This will leave wedge of soil at the edge of the excavation along the perimeter of the property. Prior to conducting backfill operations, the upper foot of this wedge shall be removed and initial backfill placed to final grade and within three feet of the excavation face that day. Any off-site soils that slough into the excavation shall be replaced with approved backfill material as part of the backfill operations. The remaining portion of the excavation shall be backfilled within an appropriate time frame to complete site activities.

3.4 Post Construction Activities

A final site Survey is required. This information shall also be used to determine volume of material placed at the site and to document 2 feet of backfill covers the remaining contaminated soils. Following re-grading and sloping, a survey of the site and its boundaries will be completed for the purposes of an environmental easement.

Following construction activities a subsequent video survey shall be performed and crack gauges shall be assessed and removed.

The contractor must develop and provide an as-built drawing of the site and a DEC approved Final Engineering Report in accordance with DER-10.

3.5 Cost

The estimated cost to complete this remedial action is estimated to be $351,035. A summary of the estimated costs are included in Appendix D.

4.0 Schedule

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Activities							
HASP/CAMP submittal							
Traffic Plan Submittal							
HASP/CAMP approval							
Traffic Plan Approval							
Storm Water Management Plan Submittal							
Storm Water Management Plan Approval							
Site Survey							
Video Survey/Crack Gauge							
Utility Markout							
Obtain Permits							
Mobilization							
Clearing and Grubbing							
Establish Decon Pad							
Begin Excavation							
Survey cut of cells as completed							
Begin Backfill							
Demobilization							

Final Survey							
As-builts and Final Engineering Report Submission							
As-builts and FER approval							

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-A0(0-2)			SB-A1(0-2)			SB-A1(18-24)			SB-A1(30-36)			SB-A1(42-48)			SB-A2(0-2)			SB-A2(18-24)			SB-A2(30-36)		
Lab Sample ID	& CP-51 T-1	460-93506-36			460-93506-9			460-93506-10			460-93506-15			460-93506-19			460-93506-1			460-93506-2			460-93506-3		
Sampling Date	Restricted Residential	04/15/2015 15:20:00			04/15/2015 13:40:00			04/15/2015 13:45:00			04/15/2015 14:05:00			04/15/2015 14:20:00			04/15/2015 12:30:00			04/15/2015 12:45:00			04/15/2015 13:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			1			1			2			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.47	U	0.040	0.38	U	0.032	0.36	U	0.031	0.360	U	0.031	0.35	U	0.030	0.4	U	0.035	0.73	U	0.062	0.36	U	0.031
1,2,4,5-Tetrachlorobenzene	NA	0.47	U	0.035	0.38	U	0.028	0.36	U	0.027	0.360	U	0.027	0.35	U	0.026	0.4	U	0.030	0.73	U	0.054	0.36	U	0.027
2,2'-oxybis[1-chloropropane]	NA	0.47	U	0.019	0.38	U	0.016	0.36	U	0.015	0.360	U	0.015	0.35	U	0.015	0.4	U	0.017	0.73	U	0.030	0.36	U	0.015
2,3,4,6-Tetrachlorophenol	NA	0.47	U	0.044	0.38	U	0.036	0.36	U	0.034	0.360	U	0.034	0.35	U	0.033	0.4	U	0.038	0.73	U	0.069	0.36	U	0.034
2,4,5-Trichlorophenol	NA	0.47	U	0.047	0.38	U	0.038	0.36	U	0.036	0.360	U	0.036	0.35	U	0.035	0.4	U	0.040	0.73	U	0.073	0.36	U	0.036
2,4,6-Trichlorophenol	NA	0.19	U	0.013	0.15	U	0.011	0.15	U	0.010	0.140	U	0.010	0.14	U	0.010	0.16	U	0.012	0.29	U	0.021	0.14	U	0.010
2,4-Dichlorophenol	NA	0.19	U	0.011	0.15	U	0.009	0.15	U	0.0085	0.140	U	0.0085	0.14	U	0.0083	0.16	U	0.0096	0.29	U	0.017	0.14	U	0.0084
2,4-Dimethylphenol	NA	0.47	U	0.10	0.38	U	0.084	0.36	U	0.080	0.360	U	0.079	0.35	U	0.078	0.4	U	0.089	0.73	U	0.16	0.36	U	0.079
2,4-Dinitrophenol	NA	0.38	U	0.35	0.31	U	0.29	0.29	U	0.27	0.290	U	0.27	0.28	U	0.27	0.33	U	0.31	0.59	U	0.55	0.29	U	0.27
2,4-Dinitrotoluene	NA	0.095	U	0.019	0.077	U	0.015	0.073	U	0.014	0.073	U	0.014	0.071	U	0.014	0.082	U	0.016	0.15	U	0.029	0.072	U	0.014
2,6-Dinitrotoluene	NA	0.095	U	0.025	0.077	U	0.020	0.073	U	0.019	0.073	U	0.019	0.071	U	0.019	0.082	U	0.022	0.15	U	0.039	0.072	U	0.019
2-Chloronaphthalene	NA	0.47	U	0.011	0.38	U	0.0086	0.36	U	0.0082	0.360	U	0.0081	0.35	U	0.008	0.4	U	0.0092	0.73	U	0.017	0.36	U	0.0081
2-Chlorophenol	NA	0.47	U	0.012	0.38	U	0.0097	0.36	U	0.0092	0.360	U	0.0091	0.35	U	0.009	0.4	U	0.010	0.73	U	0.019	0.36	U	0.0091
2-Methylnaphthalene	NA	0.47	U	0.010	0.38	U	0.0084	0.029	J	0.008	0.360	U	0.0079	0.35	U	0.0078	0.4	U	0.0089	0.1	J	0.016	0.021	J	0.0079
2-Methylphenol	100	0.47	U	0.020	0.38	U	0.017	0.36	U	0.016	0.360	U	0.016	0.35	U	0.015	0.4	U	0.018	0.73	U	0.032	0.36	U	0.016
2-Nitroaniline	NA	0.47	U	0.015	0.38	U	0.013	0.36	U	0.012	0.360	U	0.012	0.35	U	0.012	0.4	U	0.013	0.73	U	0.024	0.36	U	0.012
2-Nitrophenol	NA	0.47	U	0.016	0.38	U	0.013	0.36	U	0.012	0.360	U	0.012	0.35	U	0.012	0.4	U	0.014	0.73	U	0.025	0.36	U	0.012
3,3'-Dichlorobenzidine	NA	0.19	U	0.052	0.15	U	0.042	0.15	U	0.040	0.140	U	0.040	0.14	U	0.039	0.16	U	0.045	0.29	U	0.082	0.14	U	0.040
3-Nitroaniline	NA	0.47	U	0.014	0.38	U	0.011	0.36	U	0.011	0.360	U	0.011	0.35	U	0.010	0.4	U	0.012	0.73	U	0.022	0.36	U	0.011
4,6-Dinitro-2-methylphenol	NA	0.38	U	0.12	0.31	U	0.10	0.29	U	0.097	0.290	U	0.096	0.28	U	0.094	0.33	U	0.11	0.59	U	0.19	0.29	U	0.095
4-Bromophenyl phenyl ether	NA	0.47	U	0.015	0.38	U	0.012	0.36	U	0.011	0.360	U	0.011	0.35	U	0.011	0.4	U	0.013	0.73	U	0.023	0.36	U	0.011
4-Chloro-3-methylphenol	NA	0.47	U	0.020	0.38	U	0.016	0.36	U	0.016	0.360	U	0.015	0.35	U	0.015	0.4	U	0.017	0.73	U	0.031	0.36	U	0.015
4-Chloroaniline	NA	0.47	U	0.012	0.38	U	0.0098	0.36	U	0.0093	0.360	U	0.0092	0.35	U	0.0091	0.4	U	0.010	0.73	U	0.019	0.36	U	0.0092
4-Chlorophenyl phenyl ether	NA	0.47	U	0.014	0.38	U	0.011	0.36	U	0.011	0.360	U *	0.011	0.35	U *	0.011	0.4	U	0.012	0.73	U	0.022	0.36	U	0.011
4-Methylphenol	100	0.47	U	0.013	0.38	U	0.010	0.36	U	0.0099	0.360	U	0.0098	0.35	U	0.0096	0.4	U	0.011	0.73	U	0.020	0.36	U	0.0097
4-Nitroaniline	NA	0.47	U	0.018	0.38	U	0.014	0.36	U	0.014	0.360	U	0.014	0.35	U	0.013	0.4	U	0.015	0.73	U	0.028	0.36	U	0.014
4-Nitrophenol	NA	0.95	U	0.23	0.77	U	0.18	0.73	U	0.17	0.730	U	0.17	0.71	U	0.17	0.82	U	0.19	1.5	U	0.35	0.72	U	0.17
Acenaphthene	100	0.041	J	0.011	0.015	J *	0.0092	0.13	J *	0.0088	0.010	J *	0.0087	0.35	U *	0.0085	0.014	J *	0.0098	0.48	J *	0.018	0.031	J *	0.0087
Acenaphthylene	100	0.031	J	0.012	0.029	J	0.0098	0.089	J	0.0093	0.010	J	0.0092	0.35	U	0.0091	0.032	J	0.010	0.43	J	0.019	0.067	J	0.0092
Acetophenone	NA	0.022	J	0.010	0.38	U	0.0083	0.36	U	0.0079	0.360	U *	0.0078	0.35	U *	0.0077	0.4	U	0.0088	0.73	U	0.016	0.36	U	0.0078
Anthracene	100	0.16	J	0.044	0.054	J	0.036	0.39		0.034	0.360	U	0.034	0.35	U	0.033	0.054	J	0.038	1.5		0.069	0.11	J	0.034
Atrazine	NA	0.19	U *	0.021	0.15	U *	0.017	0.15	U *	0.016	0.140	U *	0.016	0.14	U *	0.016	0.16	U *	0.018	0.29	U *	0.032	0.14	U *	0.016
Benzaldehyde	NA	0.47	U	0.036	0.38	U	0.029	0.36	U	0.028	0.360	U	0.027	0.35	U	0.027	0.4	U	0.031	0.73	U	0.056	0.36	U	0.027
Benzo[a]anthracene	1	**0.55**		0.039	**0.34**		0.032	**1.4**		0.030	0.190		0.030	0.18		0.029	**0.47**		0.034	**5.3**		0.061	**0.48**		0.030
Benzo[a]pyrene	1	**0.55**		0.014	**0.38**		0.012	**1.4**		0.011	**0.180**		0.011	**0.2**		0.011	**0.48**		0.012	**5.5**		0.022	**0.47**		0.011
Benzo[b]fluoranthene	1	**0.91**		0.018	**0.63**		0.015	**2.2**		0.014	**0.270**		0.014	**0.26**		0.014	**0.85**		0.016	**9.1**		0.029	**0.8**		0.014
Benzo[g,h,i]perylene	100	0.57		0.027	0.21	J	0.022	0.46		0.021	0.180	J	0.021	0.15	J	0.020	0.18	J	0.023	2.3		0.042	0.23	J	0.021
Benzo[k]fluoranthene	3.9	**0.29**		0.020	**0.27**		0.017	**0.82**		0.016	0.091		0.016	0.089		0.015	**0.35**		0.018	**3.3**		0.032	**0.31**		0.016
Bis(2-chloroethoxy)methane	NA	0.47	U	0.015	0.38	U	0.012	0.36	U	0.011	0.360	U	0.011	0.35	U	0.011	0.4	U	0.013	0.73	U	0.023	0.36	U	0.011
Bis(2-chloroethyl)ether	NA	0.047	U	0.011	0.038	U	0.009	0.036	U	0.0085	0.036	U	0.0085	0.035	U	0.0083	0.04	U	0.0096	0.073	U	0.017	0.036	U	0.0084
Bis(2-ethylhexyl) phthalate	NA	0.31	J	0.018	0.32	J	0.015	0.12	J	0.014	0.020	J	0.014	0.35	U	0.014	0.18	J	0.016	0.31	J	0.029	0.096	J	0.014
Butyl benzyl phthalate	NA	0.1	J	0.014	0.24	J	0.012	0.53		0.011	0.024	J	0.011	0.35	U	0.011	0.32	J	0.013	0.35	J	0.023	0.36	U	0.011
Caprolactam	NA	0.47	U	0.034	0.38	U	0.027	0.36	U	0.026	0.360	U	0.026	0.35	U	0.025	0.4	U	0.029	0.73	U	0.053	0.36	U	0.026
Carbazole	NA	0.029	J	0.012	0.029	J	0.0094	0.076	J	0.009	0.016	J	0.0089	0.0099	J	0.0087	0.031	J	0.010	0.29	J	0.018	0.063	J	0.0089
Chrysene	3.9	**0.63**		0.013	0.37	J	0.010	**1.3**		0.0099	0.200	J	0.0098	0.22	J	0.0096	**0.5**		0.011	**4.9**		0.020	**0.52**		0.0097
Dibenz(a,h)anthracene	0.33	**0.12**		0.024	**0.048**		0.020	**0.11**		0.019	**0.039**		0.019	**0.052**		0.018	**0.052**		0.021	**0.56**		0.038	**0.053**		0.019
Dibenzofuran	59	0.023	J	0.014	0.38	U	0.012	0.046	J	0.011	0.360	U	0.011	0.35	U	0.011	0.4	U	0.012	0.26	J	0.022	0.027	J	0.011
Diethyl phthalate	NA	0.47	U	0.013	0.38	U	0.011	0.36	U	0.010	0.360	U	0.010	0.35	U	0.010	0.4	U	0.012	0.73	U	0.021	0.36	U	0.010
Dimethyl phthalate	NA	0.47	U	0.014	0.38	U	0.011	0.36	U	0.011	0.360	U	0.010	0.35	U	0.010	0.4	U	0.012	0.73	U	0.021	0.36	U	0.010
Di-n-butyl phthalate	NA	**0.018**	J	0.014	**0.046**	J	0.011	**0.036**	J	0.011	0.360	U	0.011	0.35	U	0.011	**0.02**	J	0.012	**0.063**	J	0.022	**0.016**	J	0.011
Di-n-octyl phthalate	NA	0.47	U	0.024	0.38	U	0.019	0.36	U	0.018	0.360	U	0.018	0.35	U	0.018	0.4	U	0.021	0.73	U	0.037	0.36	U	0.018
Fluoranthene	100	1		0.014	0.74		0.011	3.1		0.011	0.310	J	0.011	0.36		0.010	0.93		0.012	15		0.022	1.3		0.011
Fluorene	100	0.044	J	0.010	0.016	J	0.0083	0.13	J	0.0079	0.012	J *	0.0078	0.35	U *	0.0077	0.4	U	0.0088	0.58	J	0.016	0.036	J	0.0078
Hexachlorobenzene	1.2	0.047	U	0.019	0.038	U	0.015	0.036	U	0.015	0.036	U	0.015	0.035	U	0.014	0.04	U	0.016	0.073	U	0.030	0.036	U	0.014
Hexachlorobutadiene	NA	0.095	U	0.013	0.077	U	0.011	0.073	U	0.010	0.073	U	0.010	0.071	U	0.0099	0.082	U	0.011	0.15	U	0.021	0.072	U	0.010
Hexachlorocyclopentadiene	NA	0.47	U *	0.029	0.38	U *	0.024	0.36	U *	0.023	0.360	U *	0.022	0.35	U *	0.022	0.4	U *	0.025	0.73	U *	0.046	0.36	U *	0.022
Hexachloroethane	NA	0.047	U	0.017	0.038	U	0.014	0.036	U	0.013	0.036	U	0.013	0.035	U	0.013	0.04	U	0.015	0.073	U	0.027	0.036	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	**0.64**		0.031	0.2		0.025	**0.53**		0.024	0.200		0.024	0.21		0.023	0.19		0.027	**2.4**		0.049	0.21		0.024
Isophorone	NA	0.19	U	0.010	0.15	U	0.0082	0.15	U	0.0078	0.140	U	0.0077	0.14	U	0.0076	0.16	U	0.0087	0.29	U	0.016	0.14	U	0.0077
Naphthalene	100	0.015	J	0.012	0.012	J	0.0097	0.029	J	0.0092	0.360	U	0.0091	0.35	U	0.009	0.4	U	0.010	0.14	J	0.019	0.029	J	0.0091
Nitrobenzene	15	0.047	U	0.015	0.038	U	0.012	0.036	U	0.011	0.036	U	0.011	0.035	U	0.011	0.04	U	0.013	0.073	U	0.023	0.036	U	0.011
N-Nitrosodi-n-propylamine	NA	0.047	U	0.016	0.038	U	0.013	0.036	U	0.012	0.036	U	0.012	0.035	U	0.012	0.04	U	0.014	0.073	U	0.025	0.036	U	0.012
N-Nitrosodiphenylamine	NA	0.47	U	0.043	0.38	U	0.035	0.36	U	0.033	0.360	U	0.033	0.35	U	0.032	0.4	U	0.037	0.73	U	0.066	0.36	U	0.032
Pentachlorophenol	6.7	0.38	U	0.057	0.31	U	0.046	0.29	U	0.044	0.290	U	0.043	0.28	U	0.043	0.33	U	0.049	0.59	U	0.088	0.29	U	0.043
Phenanthrene	100	0.49		0.012	0.2	J	0.010	1.4		0.0096	0.150	J	0.0095	0.21	J	0.0094	0.21	J	0.011	5		0.019	0.59		0.0095
Phenol	100	0.47	U	0.015	0.38	U	0.012	0.36	U	0.012	0.360	U	0.012	0.35	U	0.012	0.4	U	0.013	0.73	U	0.024	0.36	U	0.012
Pyrene	100	0.85		0.021	0.75		0.017	2.7		0.016	0.310	J	0.016	0.47		0.016	0.63		0.018	9.1		0.033	0.96		0.016
Total Conc	NA	7.393			4.899			17.025			2.212			2.4109			5.493			66.963			6.419		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-A2(42-48)			SB-A3(18-24)			SB-A3(30-36)			SB-A3(42-48)			SB-A4(0-2)			SB-A4(18-24)			SB-A4(30-36)			SB-A4(42-48)		
Lab Sample ID	& CP-51 T-1	460-93506-48			460-93506-4			460-93506-5			460-93506-12			460-93506-6			460-93506-11			460-93506-14			460-93506-17		
Sampling Date	Restricted Residential	04/15/2015 16:40:00			04/15/2015 12:30:00			04/15/2015 13:30:00			04/15/2015 14:00:00			04/15/2015 13:15:00			04/15/2015 13:45:00			04/15/2015 14:00:00			04/15/2015 14:15:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			10			2			1			1			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.35	U	0.030	3.5	U	0.30	0.71	U	0.060	0.35	U	0.030	0.38	U	0.032	0.35	U	0.030	0.36	U	0.031	0.370	U	0.031
1,2,4,5-Tetrachlorobenzene	NA	0.35	U	0.026	3.5	U	0.26	0.71	U	0.053	0.35	U	0.026	0.38	U	0.028	0.35	U	0.026	0.36	U	0.027	0.370	U	0.027
2,2'-oxybis[1-chloropropane]	NA	0.35	U	0.015	3.5	U	0.14	0.71	U	0.029	0.35	U	0.014	0.38	U	0.016	0.35	U	0.014	0.36	U	0.015	0.370	U	0.015
2,3,4,6-Tetrachlorophenol	NA	0.35	U	0.033	3.5	U	0.33	0.71	U	0.066	0.35	U	0.033	0.38	U	0.036	0.35	U	0.033	0.36	U	0.034	0.370	U	0.035
2,4,5-Trichlorophenol	NA	0.35	U	0.035	3.5	U	0.35	0.71	U	0.070	0.35	U	0.035	0.38	U	0.038	0.35	U	0.035	0.36	U	0.036	0.370	U	0.037
2,4,6-Trichlorophenol	NA	0.14	U	0.010	1.4	U	0.099	0.28	U	0.020	0.14	U	0.0099	0.15	U	0.011	0.14	U	0.010	0.14	U	0.010	0.150	U	0.010
2,4-Dichlorophenol	NA	0.14	U	0.0083	1.4	U	0.082	0.28	U	0.017	0.14	U	0.0082	0.15	U	0.009	0.14	U	0.0083	0.14	U	0.0085	0.150	U	0.0087
2,4-Dimethylphenol	NA	0.35	U	0.078	3.5	U	0.77	0.71	U	0.16	0.35	U	0.077	0.38	U	0.083	0.35	U	0.077	0.36	U	0.079	0.370	U	0.081
2,4-Dinitrophenol	NA	0.28	U	0.27	2.8	U	2.6	0.57	U	0.53	0.28	U	0.26	0.31	U	0.29	0.28	U	0.27	0.29	U	0.27	0.300	U	0.28
2,4-Dinitrotoluene	NA	0.072	U	0.014	0.71	U	0.14	0.14	U	0.028	0.07	U	0.014	0.077	U	0.015	0.071	U	0.014	0.073	U	0.014	0.075	U	0.015
2,6-Dinitrotoluene	NA	0.072	U	0.019	0.71	U	0.19	0.14	U	0.038	0.07	U	0.019	0.077	U	0.020	0.071	U	0.019	0.073	U	0.019	0.075	U	0.020
2-Chloronaphthalene	NA	0.35	U	0.008	3.5	U	0.079	0.71	U	0.016	0.35	U	0.0079	0.38	U	0.0086	0.35	U	0.008	0.36	U	0.0082	0.370	U	0.0084
2-Chlorophenol	NA	0.35	U	0.009	3.5	U	0.088	0.71	U	0.018	0.35	U	0.0089	0.38	U	0.0096	0.35	U	0.0089	0.36	U	0.0091	0.370	U	0.0094
2-Methylnaphthalene	NA	0.35	U	0.0078	0.25	J	0.077	0.14	J	0.016	0.35	U	0.0077	0.38	U	0.0084	0.023	J	0.0078	0.36	U	0.0079	0.370	U	0.0081
2-Methylphenol	100	0.35	U	0.015	3.5	U	0.15	0.71	U	0.031	0.35	U	0.015	0.38	U	0.017	0.35	U	0.015	0.36	U	0.016	0.370	U	0.016
2-Nitroaniline	NA	0.35	U	0.012	3.5	U	0.11	0.71	U	0.023	0.35	U	0.011	0.38	U	0.013	0.35	U	0.012	0.36	U	0.012	0.370	U	0.012
2-Nitrophenol	NA	0.35	U	0.012	3.5	U	0.12	0.71	U	0.024	0.35	U	0.012	0.38	U	0.013	0.35	U	0.012	0.36	U	0.012	0.370	U	0.012
3,3'-Dichlorobenzidine	NA	0.14	U	0.039	1.4	U	0.39	0.28	U	0.079	0.14	U	0.039	0.15	U	0.042	0.14	U	0.039	0.14	U	0.040	0.150	U	0.041
3-Nitroaniline	NA	0.35	U	0.010	3.5	U	0.10	0.71	U	0.021	0.35	U	0.010	0.38	U	0.011	0.35	U	0.010	0.36	U	0.011	0.370	U	0.011
4,6-Dinitro-2-methylphenol	NA	0.28	U	0.094	2.8	U	0.93	0.57	U	0.19	0.28	U	0.093	0.31	U	0.10	0.28	U	0.094	0.29	U	0.096	0.300	U	0.098
4-Bromophenyl phenyl ether	NA	0.35	U	0.011	3.5	U	0.11	0.71	U	0.022	0.35	U	0.011	0.38	U	0.012	0.35	U	0.011	0.36	U	0.011	0.370	U	0.012
4-Chloro-3-methylphenol	NA	0.35	U	0.015	3.5	U	0.15	0.71	U	0.030	0.35	U	0.015	0.38	U	0.016	0.35	U	0.015	0.36	U	0.015	0.370	U	0.016
4-Chloroaniline	NA	0.35	U	0.0091	3.5	U	0.089	0.71	U	0.018	0.35	U	0.009	0.38	U	0.0098	0.35	U	0.009	0.36	U	0.0092	0.370	U	0.0095
4-Chlorophenyl phenyl ether	NA	0.35	U	0.011	3.5	U	0.10	0.71	U	0.021	0.35	U *	0.010	0.38	U	0.011	0.35	U *	0.011	0.36	U *	0.011	0.370	U *	0.011
4-Methylphenol	100	0.35	U	0.0096	3.5	U	0.095	0.71	U	0.019	0.35	U	0.0095	0.38	U	0.010	0.35	U	0.0096	0.36	U	0.0098	0.370	U	0.010
4-Nitroaniline	NA	0.35	U	0.013	3.5	U	0.13	0.71	U	0.027	0.35	U	0.013	0.38	U	0.014	0.35	U	0.013	0.36	U	0.014	0.370	U	0.014
4-Nitrophenol	NA	0.72	U	0.17	7.1	U	1.7	1.4	U	0.34	0.71	U	0.17	0.77	U	0.18	0.71	U	0.17	0.73	U	0.17	0.750	U	0.18
Acenaphthene	100	0.35	U	0.0085	1.7	J *	0.084	0.67	J *	0.017	0.35	U *	0.0084	0.013	J *	0.0092	0.043	J *	0.0085	0.36	U *	0.0087	0.370	U *	0.0089
Acenaphthylene	100	0.35	U	0.0091	1.8	J	0.089	0.27	J	0.018	0.35	U	0.009	0.032	J	0.0098	0.07	J	0.009	0.36	U	0.0092	0.370	U	0.0095
Acetophenone	NA	0.35	U	0.0077	3.5	U	0.076	0.71	U	0.015	0.35	U *	0.0076	0.38	U	0.0083	0.35	U *	0.0076	0.36	U *	0.0078	0.370	U *	0.008
Anthracene	100	0.35	U	0.034	8.4		0.33	2.1		0.067	0.35	U	0.033	0.064	J	0.036	0.22	J	0.033	0.36	U	0.034	0.370	U	0.035
Atrazine	NA	0.14	U *	0.016	1.4	U *	0.15	0.28	U *	0.031	0.14	U *	0.016	0.15	U *	0.017	0.14	U *	0.016	0.14	U *	0.016	0.150	U *	0.016
Benzaldehyde	NA	0.35	U	0.027	3.5	U	0.27	0.71	U	0.054	0.35	U	0.027	0.38	U	0.029	0.35	U	0.027	0.36	U	0.027	0.370	U	0.028
Benzo[a]anthracene	1	0.035		0.029	**29**		0.29	**6**		0.059	0.15		0.029	**0.36**		0.032	**0.84**		0.029	0.10		0.030	0.031	J	0.031
Benzo[a]pyrene	1	0.039		0.011	**28**		0.11	**5.5**		0.021	**0.17**		0.011	**0.4**		0.011	**0.93**		0.011	**0.10**		0.011	0.033	J	0.011
Benzo[b]fluoranthene	1	0.046		0.014	**45**		0.14	**8.5**		0.028	**0.26**		0.014	**0.71**		0.015	**1.1**		0.014	0.13		0.014	0.045		0.014
Benzo[g,h,i]perylene	100	0.024	J	0.020	10		0.20	1.9		0.041	0.13	J	0.020	0.19	J	0.022	0.72		0.020	0.10	J	0.021	0.026	J	0.021
Benzo[k]fluoranthene	3.9	0.017	J	0.015	**15**		0.15	**3.8**		0.031	0.10		0.015	**0.3**		0.017	**0.44**		0.015	0.06		0.016	0.037	U	0.016
Bis(2-chloroethoxy)methane	NA	0.35	U	0.011	3.5	U	0.11	0.71	U	0.022	0.35	U	0.011	0.38	U	0.012	0.35	U	0.011	0.36	U	0.011	0.370	U	0.011
Bis(2-chloroethyl)ether	NA	0.035	U	0.0083	0.35	U	0.082	0.071	U	0.017	0.04	U	0.0082	0.038	U	0.009	0.035	U	0.0083	0.04	U	0.0085	0.037	U	0.0087
Bis(2-ethylhexyl) phthalate	NA	0.35	U	0.014	3.5	U	0.14	0.71	U	0.028	0.35	U	0.014	0.25	J	0.015	0.27	J	0.014	0.36	U	0.014	0.370	U	0.014
Butyl benzyl phthalate	NA	0.35	U	0.011	3.5	U	0.11	0.71	U	0.022	0.35	U	0.011	0.3	J	0.012	0.038	J	0.011	0.36	U	0.011	0.370	U	0.011
Caprolactam	NA	0.35	U	0.025	3.5	U	0.25	0.71	U	0.051	0.35	U	0.025	0.38	U	0.027	0.35	U	0.025	0.36	U	0.026	0.370	U	0.027
Carbazole	NA	0.35	U	0.0088	1	J	0.086	0.36	J	0.018	0.02	J	0.0086	0.024	J	0.0094	0.034	J	0.0087	0.36	U	0.0089	0.370	U	0.0091
Chrysene	3.9	0.036	J	0.0096	**26**		0.095	**5.3**		0.019	0.16	J	0.0095	0.4		0.010	**0.82**		0.0096	0.09	J	0.0098	0.026	J	0.010
Dibenz(a,h)anthracene	0.33	0.035	U	0.018	**2.3**		0.18	**0.53**		0.037	**0.04**		0.018	**0.047**		0.020	**0.18**		0.018	**0.02**	J	0.019	0.037	U	0.019
Dibenzofuran	59	0.35	U	0.011	0.94	J	0.11	0.42	J	0.021	0.35	U	0.011	0.38	U	0.011	0.021	J	0.011	0.36	U	0.011	0.370	U	0.011
Diethyl phthalate	NA	0.35	U	0.010	3.5	U	0.099	0.71	U	0.020	0.35	U	0.0099	0.38	U	0.011	0.35	U	0.010	0.36	U	0.010	0.370	U	0.010
Dimethyl phthalate	NA	0.35	U	0.010	3.5	U	0.10	0.71	U	0.021	0.35	U	0.010	0.38	U	0.011	0.35	U	0.010	0.36	U	0.010	0.370	U	0.011
Di-n-butyl phthalate	NA	0.35	U	0.011	3.5	U	0.10	0.71	U	0.021	0.35	U	0.010	**0.021**	J	0.011	0.35	U	0.011	0.36	U	0.011	0.370	U	0.011
Di-n-octyl phthalate	NA	0.35	U	0.018	3.5	U	0.18	0.71	U	0.036	0.35	U	0.018	0.38	U	0.019	0.35	U	0.018	0.36	U	0.018	0.370	U	0.019
Fluoranthene	100	0.05	J	0.010	**77**		0.10	17		0.021	0.32	J	0.010	0.75		0.011	1.8		0.010	0.15	J	0.011	0.041	J	0.011
Fluorene	100	0.35	U	0.0077	2.7	J	0.076	0.9		0.015	0.35	U *	0.0076	0.016	J	0.0083	0.05	J *	0.0076	0.36	U *	0.0078	0.370	U *	0.008
Hexachlorobenzene	1.2	0.035	U	0.014	0.35	U	0.14	0.071	U	0.029	0.04	U	0.014	0.038	U	0.015	0.035	U	0.014	0.04	U	0.015	0.037	U	0.015
Hexachlorobutadiene	NA	0.072	U	0.0099	0.71	U	0.098	0.14	U	0.020	0.07	U	0.0098	0.077	U	0.011	0.071	U	0.0099	0.07	U	0.010	0.075	U	0.010
Hexachlorocyclopentadiene	NA	0.35	U *	0.022	3.5	U *	0.22	0.71	U *	0.044	0.35	U *	0.022	0.38	U *	0.024	0.35	U *	0.022	0.36	U *	0.022	0.370	U *	0.023
Hexachloroethane	NA	0.035	U	0.013	0.35	U	0.13	0.071	U	0.026	0.04	U	0.013	0.038	U	0.014	0.035	U	0.013	0.04	U	0.013	0.037	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	0.024	J	0.024	**11**		0.23	**2.1**		0.047	0.18		0.023	0.2		0.025	**0.92**		0.023	0.10		0.024	0.035	J	0.025
Isophorone	NA	0.14	U	0.0076	1.4	U	0.075	0.28	U	0.015	0.14	U	0.0075	0.15	U	0.0082	0.14	U	0.0075	0.14	U	0.0077	0.150	U	0.0079
Naphthalene	100	0.35	U	0.009	0.32	J	0.088	0.16	J	0.018	0.35	U	0.0089	0.38	U	0.0096	0.031	J	0.0089	0.36	U	0.0091	0.370	U	0.0094
Nitrobenzene	15	0.035	U	0.011	0.35	U	0.11	0.071	U	0.022	0.04	U	0.011	0.038	U	0.012	0.035	U	0.011	0.04	U	0.011	0.037	U	0.012
N-Nitrosodi-n-propylamine	NA	0.035	U	0.012	0.35	U	0.12	0.071	U	0.024	0.04	U	0.012	0.038	U	0.013	0.035	U	0.012	0.04	U	0.012	0.037	U	0.012
N-Nitrosodiphenylamine	NA	0.35	U	0.032	3.5	U	0.32	0.71	U	0.064	0.35	U	0.032	0.38	U	0.034	0.35	U	0.032	0.36	U	0.033	0.370	U	0.033
Pentachlorophenol	6.7	0.28	U	0.043	2.8	U	0.42	0.57	U	0.086	0.28	U	0.042	0.31	U	0.046	0.28	U	0.042	0.29	U	0.043	0.300	U	0.045
Phenanthrene	100	0.015	J	0.0094	24		0.093	6.8		0.019	0.19	J	0.0093	0.2	J	0.010	0.56		0.0093	0.06	J	0.0096	0.023	J	0.0098
Phenol	100	0.35	U	0.012	3.5	U	0.11	0.71	U	0.023	0.35	U	0.011	0.38	U	0.012	0.35	U	0.011	0.36	U	0.012	0.370	U	0.012
Pyrene	100	0.05	J	0.016	**54**		0.16	11		0.032	0.33	J	0.016	0.68		0.017	0.99		0.016	0.16	J	0.016	0.047	J	0.017
Total Conc	NA	0.336			338.41			73.45			2.04			4.957			10.1			1.07			0.307		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-A5(0-2)			SB-A5(18-24)			SB-A5(30-36)			SB-A5(42-48)			SB-B0(0-2)			SB-B1(0-2)			SB-B1(6-12)			FD04161502		
Lab Sample ID	& CP-51 T-1	460-93506-7			460-93506-8			460-93506-13			460-93506-16			460-93506-37			460-93506-85			460-93506-87			460-93506-86		
Sampling Date	Restricted Residential	04/15/2015 13:35:00			04/15/2015 13:40:00			04/15/2015 14:00:00			04/15/2015 14:10:00			04/15/2015 15:30:00			04/16/2015 11:25:00			04/16/2015 11:45:00			04/16/2015 00:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			1			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.36	U	0.031	0.35	U	0.030	0.36	U	0.031	0.36	U	0.031	0.43	U	0.037	0.37	U	0.031	0.38	U	0.032	0.37	U	0.032
1,2,4,5-Tetrachlorobenzene	NA	0.36	U	0.027	0.35	U	0.026	0.36	U	0.027	0.36	U	0.027	0.43	U	0.032	0.37	U	0.027	0.38	U	0.028	0.37	U	0.028
2,2'-oxybis[1-chloropropane]	NA	0.36	U	0.015	0.35	U	0.014	0.36	U	0.015	0.36	U	0.015	0.43	U	0.018	0.37	U	0.015	0.38	U	0.015	0.37	U	0.015
2,3,4,6-Tetrachlorophenol	NA	0.36	U	0.034	0.35	U	0.033	0.36	U	0.034	0.36	U	0.034	0.43	U	0.041	0.37	U	0.035	0.38	U	0.035	0.37	U	0.035
2,4,5-Trichlorophenol	NA	0.36	U	0.036	0.35	U	0.035	0.36	U	0.036	0.36	U	0.036	0.43	U	0.043	0.37	U	0.037	0.38	U	0.037	0.37	U	0.037
2,4,6-Trichlorophenol	NA	0.15	U	0.010	0.14	U	0.010	0.15	U	0.010	0.15	U	0.010	0.17	U	0.012	0.15	U	0.010	0.15	U	0.011	0.15	U	0.011
2,4-Dichlorophenol	NA	0.15	U	0.0085	0.14	U	0.0083	0.15	U	0.0085	0.15	U	0.0085	0.17	U	0.010	0.15	U	0.0087	0.15	U	0.0089	0.15	U	0.0089
2,4-Dimethylphenol	NA	0.36	U	0.079	0.35	U	0.077	0.36	U	0.079	0.36	U	0.079	0.43	U	0.095	0.37	U	0.081	0.38	U	0.083	0.37	U	0.083
2,4-Dinitrophenol	NA	0.29	U	0.27	0.28	U	0.27	0.29	U	0.27	0.29	U	0.27	0.35	U	0.33	0.3	U	0.28	0.3	U	0.28	0.3	U	0.28
2,4-Dinitrotoluene	NA	0.073	U	0.014	0.071	U	0.014	0.073	U	0.014	0.073	U	0.014	0.088	U	0.017	0.075	U	0.015	0.076	U	0.015	0.076	U	0.015
2,6-Dinitrotoluene	NA	0.073	U	0.019	0.071	U	0.019	0.073	U	0.019	0.073	U	0.019	0.088	U	0.023	0.075	U	0.020	0.076	U	0.020	0.076	U	0.020
2-Chloronaphthalene	NA	0.36	U	0.0082	0.35	U	0.008	0.36	U	0.0082	0.36	U	0.0082	0.43	U	0.0098	0.37	U	0.0084	0.38	U	0.0085	0.37	U	0.0085
2-Chlorophenol	NA	0.36	U	0.0092	0.35	U	0.0089	0.36	U	0.0092	0.36	U	0.0092	0.43	U	0.011	0.37	U	0.0094	0.38	U	0.0096	0.37	U	0.0095
2-Methylnaphthalene	NA	0.027	J	0.008	0.35	U	0.0078	0.36	U	0.008	0.36	U	0.008	0.034	J	0.0096	0.37	U	0.0081	0.38	U	0.0083	0.37	U	0.0083
2-Methylphenol	100	0.36	U	0.016	0.35	U	0.015	0.36	U	0.016	0.36	U	0.016	0.43	U	0.019	0.37	U	0.016	0.38	U	0.016	0.37	U	0.016
2-Nitroaniline	NA	0.36	U	0.012	0.35	U	0.012	0.36	U	0.012	0.36	U	0.012	0.43	U	0.014	0.37	U	0.012	0.38	U	0.012	0.37	U	0.012
2-Nitrophenol	NA	0.36	U	0.012	0.35	U	0.012	0.36	U	0.012	0.36	U	0.012	0.43	U	0.015	0.37	U	0.012	0.38	U	0.013	0.37	U	0.013
3,3'-Dichlorobenzidine	NA	0.15	U	0.040	0.14	U	0.039	0.15	U	0.040	0.15	U	0.040	0.17	U	0.048	0.15	U	0.041	0.15	U	0.042	0.15	U	0.042
3-Nitroaniline	NA	0.36	U	0.011	0.35	U	0.010	0.36	U	0.011	0.36	U	0.011	0.43	U	0.013	0.37	U	0.011	0.38	U	0.011	0.37	U	0.011
4,6-Dinitro-2-methylphenol	NA	0.29	U	0.096	0.28	U	0.094	0.29	U	0.096	0.29	U	0.096	0.35	U	0.12	0.3	U	0.098	0.3	U	0.10	0.3	U	0.10
4-Bromophenyl phenyl ether	NA	0.36	U	0.011	0.35	U	0.011	0.36	U	0.011	0.36	U	0.011	0.43	U	0.014	0.37	U	0.012	0.38	U	0.012	0.37	U	0.012
4-Chloro-3-methylphenol	NA	0.36	U	0.016	0.35	U	0.015	0.36	U	0.016	0.36	U	0.016	0.43	U	0.019	0.37	U	0.016	0.38	U	0.016	0.37	U	0.016
4-Chloroaniline	NA	0.36	U	0.0093	0.35	U	0.009	0.36	U	0.0093	0.36	U	0.0093	0.43	U	0.011	0.37	U	0.0095	0.38	U	0.0097	0.37	U	0.0097
4-Chlorophenyl phenyl ether	NA	0.36	U	0.011	0.35	U	0.011	0.36	U *	0.011	0.36	U *	0.011	0.43	U	0.013	0.37	U	0.011	0.38	U	0.011	0.37	U	0.011
4-Methylphenol	100	0.36	U	0.0098	0.35	U	0.0096	0.36	U	0.0098	0.36	U	0.0098	0.43	U	0.012	0.37	U	0.010	0.38	U	0.010	0.37	U	0.010
4-Nitroaniline	NA	0.36	U	0.014	0.35	U	0.013	0.36	U	0.014	0.36	U	0.014	0.43	U	0.016	0.37	U	0.014	0.38	U	0.014	0.37	U	0.014
4-Nitrophenol	NA	0.73	U	0.17	0.71	U	0.17	0.73	U	0.17	0.73	U	0.17	0.88	U	0.21	0.75	U	0.18	0.76	U	0.18	0.76	U	0.18
Acenaphthene	100	0.16	J *	0.0087	0.35	U *	0.0085	0.36	U *	0.0087	0.36	U *	0.0087	0.2	J	0.010	0.0095	J	0.0089	0.014	J	0.0091	0.018	J	0.0091
Acenaphthylene	100	0.14	J	0.0093	0.35	U	0.009	0.36	U	0.0093	0.36	U	0.0093	0.17	J	0.011	0.019	J	0.0095	0.014	J	0.0097	0.012	J	0.0097
Acetophenone	NA	0.36	U	0.0079	0.35	U	0.0077	0.36	U *	0.0079	0.36	U *	0.0079	0.031	J	0.0094	0.013	J	0.008	0.38	U	0.0082	0.37	U	0.0082
Anthracene	100	0.67		0.034	0.35	U	0.033	0.36	U	0.034	0.36	U	0.034	0.83		0.041	0.37	U	0.035	0.039	J	0.036	0.056	J	0.036
Atrazine	NA	0.15	U *	0.016	0.14	U *	0.016	0.15	U *	0.016	0.15	U *	0.016	0.17	U *	0.019	0.15	U	0.016	0.15	U	0.017	0.15	U	0.017
Benzaldehyde	NA	0.36	U	0.028	0.35	U	0.027	0.36	U	0.028	0.36	U	0.028	0.43	U	0.033	0.37	U	0.028	0.38	U	0.029	0.37	U	0.029
Benzo[a]anthracene	1	**2.9**		0.030	0.035	U	0.029	0.2		0.030	**0.4**		0.030	**2.7**		0.036	**0.29**		0.031	0.2		0.031	**0.29**		0.031
Benzo[a]pyrene	1	**2.7**		0.011	0.012	J	0.011	**0.21**		0.011	**0.44**		0.011	**2.9**		0.013	**0.35**		0.011	**0.24**		0.011	**0.32**		0.011
Benzo[b]fluoranthene	1	**4.4**		0.014	0.035	U	0.014	**0.29**		0.014	**0.58**		0.014	**5**		0.017	**0.46**		0.014	**0.33**		0.015	**0.44**		0.015
Benzo[g,h,i]perylene	100	1.2		0.021	0.35	U	0.020	0.14	J	0.021	0.31	J	0.021	2.7		0.025	0.6		0.021	0.19	J	0.022	0.3	J	0.022
Benzo[k]fluoranthene	3.9	**1.6**		0.016	0.035	U	0.015	0.11		0.016	0.22		0.016	**2**		0.019	0.16		0.016	0.12		0.016	0.16		0.016
Bis(2-chloroethoxy)methane	NA	0.36	U	0.011	0.35	U	0.011	0.36	U	0.011	0.36	U	0.011	0.43	U	0.013	0.37	U	0.011	0.38	U	0.012	0.37	U	0.012
Bis(2-chloroethyl)ether	NA	0.036	U	0.0085	0.035	U	0.0083	0.036	U	0.0085	0.036	U	0.0085	0.043	U	0.010	0.037	U	0.0087	0.038	U	0.0089	0.037	U	0.0089
Bis(2-ethylhexyl) phthalate	NA	0.56		0.014	0.35	U	0.014	0.36	U	0.014	0.36	U	0.014	0.17	J	0.017	0.1	J	0.014	0.2	J	0.015	0.097	J	0.015
Butyl benzyl phthalate	NA	0.43		0.011	0.35	U	0.011	0.36	U	0.011	0.36	U	0.011	0.09	J	0.013	0.37		0.011	0.19	J	0.012	0.14	J	0.012
Caprolactam	NA	0.36	U	0.026	0.35	U	0.025	0.36	U	0.026	0.36	U	0.026	0.43	U	0.031	0.37	U	0.027	0.38	U	0.027	0.37	U	0.027
Carbazole	NA	0.12	J	0.009	0.35	U	0.0087	0.36	U	0.009	0.014	J	0.009	0.13	J	0.011	0.019	J	0.0092	0.017	J	0.0093	0.028	J	0.0093
Chrysene	3.9	**2.7**		0.0098	0.35	U	0.0096	0.18	J	0.0098	0.37		0.0098	**3.4**		0.012	0.29	J	0.010	0.22	J	0.010	0.33	J	0.010
Dibenz(a,h)anthracene	0.33	**0.28**		0.019	0.035	U	0.018	**0.042**		0.019	**0.078**		0.019	**0.9**		0.023	**0.1**		0.019	**0.048**		0.020	**0.081**		0.020
Dibenzofuran	59	0.069	J	0.011	0.35	U	0.011	0.36	U	0.011	0.36	U	0.011	0.088	J	0.013	0.37	U	0.011	0.38	U	0.011	0.37	U	0.011
Diethyl phthalate	NA	0.36	U	0.010	0.35	U	0.010	0.36	U	0.010	0.36	U	0.010	0.43	U	0.012	0.37	U	0.010	0.38	U	0.011	0.37	U	0.011
Dimethyl phthalate	NA	0.36	U	0.010	0.35	U	0.010	0.36	U	0.010	0.36	U	0.010	0.43	U	0.013	0.37	U	0.011	0.38	U	0.011	0.37	U	0.011
Di-n-butyl phthalate	NA	**0.065**	J	0.011	0.35	U	0.011	0.36	U	0.011	**0.095**	J	0.011	**0.028**	J	0.013	0.014	J	0.011	**0.017**	J	0.011	**0.015**	J	0.011
Di-n-octyl phthalate	NA	0.36	U	0.018	0.35	U	0.018	0.36	U	0.018	0.36	U	0.018	0.43	U	0.022	0.37	U	0.019	0.38	U	0.019	0.37	U	0.019
Fluoranthene	100	7.5		0.011	0.013	J	0.010	0.38		0.011	0.74		0.011	4.5		0.013	0.4		0.011	0.29	J	0.011	0.42		0.011
Fluorene	100	0.17	J	0.0079	0.35	U	0.0077	0.36	U *	0.0079	0.36	U *	0.0079	0.18	J	0.0094	0.37	U	0.008	0.0097	J	0.0082	0.019	J	0.0082
Hexachlorobenzene	1.2	0.036	U	0.015	0.035	U	0.014	0.036	U	0.015	0.036	U	0.015	0.043	U	0.018	0.037	U	0.015	0.038	U	0.015	0.037	U	0.015
Hexachlorobutadiene	NA	0.073	U	0.010	0.071	U	0.0099	0.073	U	0.010	0.073	U	0.010	0.088	U	0.012	0.075	U	0.010	0.076	U	0.011	0.076	U	0.011
Hexachlorocyclopentadiene	NA	0.36	U *	0.022	0.35	U *	0.022	0.36	U *	0.023	0.36	U *	0.023	0.43	U *	0.027	0.37	U	0.023	0.38	U	0.023	0.37	U	0.023
Hexachloroethane	NA	0.036	U	0.013	0.035	U	0.013	0.036	U	0.013	0.036	U	0.013	0.043	U	0.016	0.037	U	0.014	0.038	U	0.014	0.037	U	0.014
Indeno[1,2,3-cd]pyrene	0.5	**1.3**		0.024	0.035	U	0.023	0.2		0.024	0.43		0.024	**3.3**		0.029	0.35		0.025	0.2		0.025	0.29		0.025
Isophorone	NA	0.15	U	0.0078	0.14	U	0.0076	0.0093	J	0.0078	0.014	J	0.0078	0.17	U	0.0093	0.15	U	0.0079	0.15	U	0.0081	0.15	U	0.0081
Naphthalene	100	0.042	J	0.0092	0.35	U	0.0089	0.36	U	0.0092	0.36	U	0.0092	0.048	J	0.011	0.37	U	0.0094	0.38	U	0.0096	0.37	U	0.0095
Nitrobenzene	15	0.036	U	0.011	0.035	U	0.011	0.036	U	0.011	0.036	U	0.011	0.043	U	0.014	0.037	U	0.012	0.038	U	0.012	0.037	U	0.012
N-Nitrosodi-n-propylamine	NA	0.036	U	0.012	0.035	U	0.012	0.036	U	0.012	0.036	U	0.012	0.043	U	0.015	0.037	U	0.012	0.038	U	0.013	0.037	U	0.013
N-Nitrosodiphenylamine	NA	0.36	U	0.033	0.35	U	0.032	0.36	U	0.033	0.36	U	0.033	0.43	U	0.039	0.37	U	0.033	0.38	U	0.034	0.37	U	0.034
Pentachlorophenol	6.7	0.29	U	0.044	0.28	U	0.043	0.29	U	0.044	0.29	U	0.044	0.35	U	0.052	0.3	U	0.045	0.3	U	0.046	0.3	U	0.045
Phenanthrene	100	2.3		0.0096	0.35	U	0.0094	0.2	J	0.0096	0.38		0.0096	2		0.012	0.13	J	0.0098	0.13	J	0.010	0.22	J	0.010
Phenol	100	0.36	U	0.012	0.35	U	0.011	0.36	U	0.012	0.36	U	0.012	0.43	U	0.014	0.37	U	0.012	0.38	U	0.012	0.37	U	0.012
Pyrene	100	6.4		0.016	0.02	J	0.016	0.37		0.016	0.77		0.016	3.7		0.020	0.42		0.017	0.25	J	0.017	0.42		0.017
Total Conc	NA	35.733			0.045			2.3313			4.841			35.099			4.0945			2.7187			3.656		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-B1(18-24)			SB-B2(0-2)			SB-FD04151501			SB-B2(6-12)			SB-B2(18-24)			SB-B3(0-2)			SB-B3(6-12)			SB-B3(18-24)		
Lab Sample ID	& CP-51 T-1	460-93506-88			460-93506-22			460-93506-23			460-93506-29			460-93506-35			460-93506-63			460-93506-70			460-93506-74		
Sampling Date	Restricted Residential	04/16/2015 12:00:00			04/15/2015 14:30:00			04/15/2015 00:00:00			04/15/2015 14:45:00			04/15/2015 15:10:00			04/16/2015 09:55:00			04/16/2015 10:25:00			04/16/2015 10:45:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	5			1			1			1			1			2			5			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.42	J	0.16	0.37	U	0.031	0.37	U	0.032	0.36	U	0.031	0.36	U	0.030	0.74	U	0.064	1.8	U	0.15	0.36	U	0.031
1,2,4,5-Tetrachlorobenzene	NA	1.8	U	0.14	0.37	U	0.027	0.37	U	0.028	0.36	U	0.027	0.36	U	0.027	0.74	U	0.055	1.8	U	0.13	0.36	U	0.027
2,2'-oxybis[1-chloropropane]	NA	1.8	U	0.075	0.37	U	0.015	0.37	U	0.015	0.36	U	0.015	0.36	U	0.015	0.74	U	0.031	1.8	U	0.073	0.36	U	0.015
2,3,4,6-Tetrachlorophenol	NA	1.8	U	0.17	0.37	U	0.035	0.37	U	0.035	0.36	U	0.034	0.36	U	0.034	0.74	U	0.070	1.8	U	0.17	0.36	U	0.034
2,4,5-Trichlorophenol	NA	1.8	U	0.18	0.37	U	0.037	0.37	U	0.037	0.36	U	0.036	0.36	U	0.036	0.74	U	0.074	1.8	U	0.18	0.36	U	0.036
2,4,6-Trichlorophenol	NA	0.73	U	0.052	0.15	U	0.010	0.15	U	0.011	0.15	U	0.010	0.14	U	0.010	0.3	U	0.021	0.72	U	0.051	0.15	U	0.010
2,4-Dichlorophenol	NA	0.73	U	0.043	0.15	U	0.0087	0.15	U	0.0088	0.15	U	0.0086	0.14	U	0.0084	0.3	U	0.018	0.72	U	0.042	0.15	U	0.0086
2,4-Dimethylphenol	NA	1.8	U	0.40	0.37	U	0.081	0.37	U	0.082	0.36	U	0.080	0.36	U	0.078	0.74	U	0.16	1.8	U	0.39	0.36	U	0.080
2,4-Dinitrophenol	NA	1.5	U	1.4	0.3	U	0.28	0.3	U	0.28	0.29	U	0.28	0.29	U	0.27	0.6	U	0.56	1.4	U	1.3	0.29	U	0.28
2,4-Dinitrotoluene	NA	0.37	U	0.072	0.074	U	0.015	0.075	U	0.015	0.074	U	0.014	0.072	U	0.014	0.15	U	0.030	0.36	U	0.070	0.074	U	0.014
2,6-Dinitrotoluene	NA	0.37	U	0.097	0.074	U	0.020	0.075	U	0.020	0.074	U	0.019	0.072	U	0.019	0.15	U	0.040	0.36	U	0.095	0.074	U	0.019
2-Chloronaphthalene	NA	1.8	U	0.041	0.37	U	0.0083	0.37	U	0.0084	0.36	U	0.0083	0.36	U	0.0081	0.74	U	0.017	1.8	U	0.040	0.36	U	0.0083
2-Chlorophenol	NA	1.8	U	0.046	0.37	U	0.0093	0.37	U	0.0094	0.36	U	0.0093	0.36	U	0.0091	0.74	U	0.019	1.8	U	0.045	0.36	U	0.0092
2-Methylnaphthalene	NA	**1.2**	J	0.040	0.37	U	0.0081	0.37	U	0.0082	0.36	U	0.008	0.024	J	0.0079	0.74	U	0.016	0.14	J	0.039	0.016	J	0.008
2-Methylphenol	100	1.8	U	0.079	0.37	U	0.016	0.37	U	0.016	0.36	U	0.016	0.36	U	0.016	0.74	U	0.032	1.8	U	0.077	0.36	U	0.016
2-Nitroaniline	NA	1.8	U	0.060	0.37	U	0.012	0.37	U	0.012	0.36	U	0.012	0.36	U	0.012	0.74	U	0.025	1.8	U	0.059	0.36	U	0.012
2-Nitrophenol	NA	1.8	U	0.061	0.37	U	0.012	0.37	U	0.012	0.36	U	0.012	0.36	U	0.012	0.74	U	0.025	1.8	U	0.060	0.36	U	0.012
3,3'-Dichlorobenzidine	NA	0.73	U	0.20	0.15	U	0.041	0.15	U	0.041	0.15	U	0.041	0.14	U	0.040	0.3	U	0.083	0.72	U	0.20	0.15	U	0.041
3-Nitroaniline	NA	1.8	U	0.054	0.37	U	0.011	0.37	U	0.011	0.36	U	0.011	0.36	U	0.011	0.74	U	0.022	1.8	U	0.053	0.36	U	0.011
4,6-Dinitro-2-methylphenol	NA	1.5	U	0.48	0.3	U	0.098	0.3	U	0.099	0.29	U	0.097	0.29	U	0.095	0.6	U	0.20	1.4	U	0.47	0.29	U	0.097
4-Bromophenyl phenyl ether	NA	1.8	U	0.057	0.37	U	0.012	0.37	U	0.012	0.36	U	0.011	0.36	U	0.011	0.74	U	0.023	1.8	U	0.056	0.36	U	0.011
4-Chloro-3-methylphenol	NA	1.8	U	0.078	0.37	U	0.016	0.37	U	0.016	0.36	U	0.016	0.36	U	0.015	0.74	U	0.032	1.8	U	0.076	0.36	U	0.016
4-Chloroaniline	NA	1.8	U	0.047	0.37	U	0.0094	0.37	U	0.0095	0.36	U	0.0094	0.36	U	0.0092	0.74	U	0.019	1.8	U	0.046	0.36	U	0.0094
4-Chlorophenyl phenyl ether	NA	1.8	U	0.054	0.37	U *	0.011	0.37	U *	0.011	0.36	U *	0.011	0.36	U	0.011	0.74	U	0.022	1.8	U	0.053	0.36	U	0.011
4-Methylphenol	100	0.17	J	0.049	0.37	U	0.010	0.37	U	0.010	0.36	U	0.0099	0.36	U	0.0097	0.74	U	0.020	1.8	U	0.048	0.36	U	0.0099
4-Nitroaniline	NA	1.8	U	0.069	0.37	U	0.014	0.37	U	0.014	0.36	U	0.014	0.36	U	0.013	0.74	U	0.028	1.8	U	0.067	0.36	U	0.014
4-Nitrophenol	NA	3.7	U	0.87	0.74	U	0.18	0.75	U	0.18	0.74	U	0.18	0.72	U	0.17	1.5	U	0.36	3.6	U	0.86	0.74	U	0.17
Acenaphthene	100	2.8		0.044	0.37	U *	0.0089	0.37	U *	0.009	0.013	J *	0.0088	0.035	J	0.0086	0.74	U	0.018	0.52	J	0.043	0.037	J	0.0088
Acenaphthylene	100	0.11	J	0.047	0.018	J	0.0094	0.02	J	0.0095	0.015	J	0.0094	0.051	J	0.0092	0.054	J	0.019	0.32	J	0.046	0.14	J	0.0094
Acetophenone	NA	1.8	U	0.040	0.37	U *	0.008	0.37	U *	0.0081	0.36	U *	0.0079	0.36	U	0.0078	0.74	U	0.016	1.8	U	0.039	0.36	U	0.0079
Anthracene	100	4.6		0.17	0.37	U	0.035	0.37	U	0.035	0.042	J	0.035	0.12	J	0.034	0.74	U	0.071	1.6	J	0.17	0.14	J	0.035
Atrazine	NA	0.73	U	0.081	0.15	U *	0.016	0.15	U *	0.017	0.15	U *	0.016	0.14	U *	0.016	0.3	U *	0.033	0.72	U *	0.079	0.15	U *	0.016
Benzaldehyde	NA	1.8	U	0.14	0.37	U	0.028	0.37	U	0.028	0.36	U	0.028	0.36	U	0.027	0.74	U	0.057	1.8	U	0.14	0.36	U	0.028
Benzo[a]anthracene	1	**6.7**		0.15	0.17		0.031	0.16		0.031	**0.25**		0.030	**0.63**		0.030	**0.53**		0.062	**5.5**		0.15	**0.97**		0.030
Benzo[a]pyrene	1	**6.3**		0.055	**0.2**		0.011	**0.19**		0.011	**0.28**		0.011	**0.75**		0.011	**0.73**	*	0.023	**6.2**	*	0.054	**1.1**	*	0.011
Benzo[b]fluoranthene	1	**7.3**		0.071	**0.28**		0.014	**0.26**		0.014	**0.38**		0.014	**0.95**		0.014	**1.1**		0.029	**9**		0.069	**1.9**		0.014
Benzo[g,h,i]perylene	100	6.1		0.10	0.18	J	0.021	0.15	J	0.021	0.17	J	0.021	0.63		0.021	0.43	J	0.043	2.1		0.10	0.3	J	0.021
Benzo[k]fluoranthene	3.9	**2.8**		0.079	0.11		0.016	0.1		0.016	0.16		0.016	**0.32**		0.016	**0.48**		0.032	**3.9**		0.077	**0.67**		0.016
Bis(2-chloroethoxy)methane	NA	1.8	U	0.057	0.37	U	0.011	0.37	U	0.012	0.36	U	0.011	0.36	U	0.011	0.74	U	0.023	1.8	U	0.055	0.36	U	0.011
Bis(2-chloroethyl)ether	NA	0.18	U	0.043	0.037	U	0.0087	0.037	U	0.0088	0.036	U	0.0086	0.036	U	0.0084	0.074	U	0.018	0.18	U	0.042	0.036	U	0.0086
Bis(2-ethylhexyl) phthalate	NA	1.8	U	0.071	0.033	J	0.014	0.06	J	0.014	0.084	J	0.014	0.15	J	0.014	0.14	J	0.029	1.8	U	0.069	0.043	J	0.014
Butyl benzyl phthalate	NA	1.8	U	0.056	0.035	J	0.011	0.052	J	0.011	0.08	J	0.011	0.086	J	0.011	0.3	J	0.023	1.8	U	0.055	0.023	J	0.011
Caprolactam	NA	1.8	U	0.13	0.37	U	0.026	0.37	U	0.027	0.36	U	0.026	0.36	U	0.026	0.74	U	0.054	1.8	U	0.13	0.36	U	0.026
Carbazole	NA	1.7	J	0.045	0.0095	J	0.0091	0.011	J	0.0092	0.021	J	0.009	0.041	J	0.0089	0.024	J	0.018	0.28	J	0.044	0.079	J	0.009
Chrysene	3.9	**6.1**		0.049	0.17	J	0.010	0.16	J	0.010	0.27	J	0.0099	**0.71**		0.0097	**0.56**	J	0.020	**5.3**		0.048	**1.1**		0.0099
Dibenz(a,h)anthracene	0.33	**1.2**		0.095	**0.045**		0.019	**0.03**	J	0.019	**0.043**		0.019	**0.13**		0.019	**0.097**		0.039	**0.54**		0.093	**0.09**		0.019
Dibenzofuran	59	2.2		0.055	0.37	U	0.011	0.37	U	0.011	0.36	U	0.011	0.019	J	0.011	0.74	U	0.023	0.33	J	0.054	0.02	J	0.011
Diethyl phthalate	NA	1.8	U	0.052	0.37	U	0.010	0.37	U	0.011	0.36	U	0.010	0.36	U	0.010	0.74	U	0.021	1.8	U	0.051	0.36	U	0.010
Dimethyl phthalate	NA	1.8	U	0.053	0.37	U	0.011	0.37	U	0.011	0.36	U	0.011	0.36	U	0.010	0.74	U	0.022	1.8	U	0.052	0.36	U	0.011
Di-n-butyl phthalate	NA	1.8	U	0.054	0.37	U	0.011	0.37	U	0.011	0.36	U	0.011	**0.027**	J	0.011	0.74	U	0.022	1.8	U	0.053	0.36	U	0.011
Di-n-octyl phthalate	NA	1.8	U	0.092	0.37	U	0.019	0.37	U	0.019	0.36	U	0.019	0.36	U	0.018	0.74	U	0.038	1.8	U	0.090	0.36	U	0.018
Fluoranthene	100	16		0.054	0.27	J	0.011	0.26	J	0.011	0.49		0.011	1.1		0.011	1.1		0.022	12		0.053	2.2		0.011
Fluorene	100	2.7		0.040	0.37	U *	0.008	0.37	U *	0.0081	0.013	J *	0.0079	0.034	J	0.0078	0.74	U	0.016	0.6	J	0.039	0.045	J	0.0079
Hexachlorobenzene	1.2	0.18	U	0.074	0.037	U	0.015	0.037	U	0.015	0.036	U	0.015	0.036	U	0.014	0.074	U	0.030	0.18	U	0.072	0.036	U	0.015
Hexachlorobutadiene	NA	0.37	U	0.051	0.074	U	0.010	0.075	U	0.010	0.074	U	0.010	0.072	U	0.010	0.15	U	0.021	0.36	U	0.050	0.074	U	0.010
Hexachlorocyclopentadiene	NA	1.8	U	0.11	0.37	U *	0.023	0.37	U *	0.023	0.36	U *	0.023	0.36	U *	0.022	0.74	U	0.046	1.8	U	0.11	0.36	U	0.023
Hexachloroethane	NA	0.18	U	0.067	0.037	U	0.013	0.037	U	0.014	0.036	U	0.013	0.036	U	0.013	0.074	U	0.027	0.18	U	0.065	0.036	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	**7.4**		0.12	0.17		0.024	0.16		0.025	0.18		0.024	**0.75**		0.024	0.32	*	0.050	**2.2**	*	0.12	0.38	*	0.024
Isophorone	NA	0.73	U	0.039	0.15	U	0.0079	0.15	U	0.008	0.15	U	0.0078	0.14	U	0.0077	0.3	U	0.016	0.72	U	0.038	0.15	U	0.0078
Naphthalene	100	5		0.046	0.37	U	0.0093	0.37	U	0.0094	0.01	J	0.0093	0.029	J	0.0091	0.023	J	0.019	0.27	J	0.045	0.029	J	0.0092
Nitrobenzene	15	0.18	U	0.057	0.037	U	0.012	0.037	U	0.012	0.036	U	0.011	0.036	U	0.011	0.074	U	0.023	0.18	U	0.056	0.036	U	0.011
N-Nitrosodi-n-propylamine	NA	0.18	U	0.061	0.037	U	0.012	0.037	U	0.012	0.036	U	0.012	0.036	U	0.012	0.074	U	0.025	0.18	U	0.060	0.036	U	0.012
N-Nitrosodiphenylamine	NA	1.8	U	0.16	0.37	U	0.033	0.37	U	0.034	0.36	U	0.033	0.36	U	0.032	0.74	U	0.068	1.8	U	0.16	0.36	U	0.033
Pentachlorophenol	6.7	1.5	U	0.22	0.3	U	0.044	0.3	U	0.045	0.29	U	0.044	0.29	U	0.043	0.6	U	0.090	1.4	U	0.22	0.29	U	0.044
Phenanthrene	100	17		0.048	0.072	J	0.0098	0.055	J	0.0099	0.15	J	0.0097	0.45		0.0095	0.22	J	0.020	4.5		0.047	0.7		0.0097
Phenol	100	0.096	J	0.059	0.37	U	0.012	0.37	U	0.012	0.36	U	0.012	0.36	U	0.012	0.74	U	0.024	1.8	U	0.058	0.36	U	0.012
Pyrene	100	13		0.082	0.19	J	0.017	0.16	J	0.017	0.26	J	0.017	0.95		0.016	0.72	J	0.034	7.7		0.081	1.6		0.017
Total Conc	NA	110.896			1.9525			1.828			2.911			7.986			6.828			63			11.582		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-B4(0-2)			SB-B4(6-12)			SB-B4(18-24)			SB-B5(0-2)			SB-B5(6-12)			SB-B5(18-24)			SB-C0(0-2)			SB-C1(6-12)		
Lab Sample ID	& CP-51 T-1	460-93506-18			460-93506-20			460-93506-21			460-93506-24			460-93506-30			460-93506-34			460-93506-41			460-93506-69		
Sampling Date	Restricted Residential	04/15/2015 14:20:00			04/15/2015 14:25:00			04/15/2015 14:30:00			04/15/2015 14:30:00			04/15/2015 14:45:00			04/15/2015 15:05:00			04/15/2015 15:50:00			04/16/2015 10:25:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			1			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.36	U	0.031	0.35	U	0.030	0.36	U	0.030	0.360	U	0.031	0.350	U	0.030	0.36	U	0.031	0.39	U	0.034	0.36	U	0.031
1,2,4,5-Tetrachlorobenzene	NA	0.36	U	0.027	0.35	U	0.026	0.36	U	0.027	0.360	U	0.027	0.350	U	0.026	0.36	U	0.027	0.39	U	0.029	0.36	U	0.027
2,2'-oxybis[1-chloropropane]	NA	0.36	U	0.015	0.35	U	0.014	0.36	U	0.015	0.360	U	0.015	0.350	U	0.015	0.36	U	0.015	0.39	U	0.016	0.36	U	0.015
2,3,4,6-Tetrachlorophenol	NA	0.36	U	0.034	0.35	U	0.033	0.36	U	0.034	0.360	U	0.034	0.350	U	0.033	0.36	U	0.034	0.39	U	0.037	0.36	U	0.034
2,4,5-Trichlorophenol	NA	0.36	U	0.036	0.35	U	0.035	0.36	U	0.035	0.360	U	0.036	0.350	U	0.035	0.36	U	0.036	0.39	U	0.039	0.36	U	0.036
2,4,6-Trichlorophenol	NA	0.15	U	0.010	0.14	U	0.0099	0.14	U	0.010	0.150	U	0.010	0.140	U	0.010	0.14	U	0.010	0.16	U	0.011	0.15	U	0.010
2,4-Dichlorophenol	NA	0.15	U	0.0085	0.14	U	0.0082	0.14	U	0.0084	0.150	U	0.0086	0.140	U	0.0084	0.14	U	0.0084	0.16	U	0.0093	0.15	U	0.0086
2,4-Dimethylphenol	NA	0.36	U	0.079	0.35	U	0.077	0.36	U	0.078	0.360	U	0.080	0.350	U	0.078	0.36	U	0.079	0.39	U	0.087	0.36	U	0.080
2,4-Dinitrophenol	NA	0.29	U	0.27	0.28	U	0.26	0.29	U	0.27	0.290	U	0.28	0.290	U	0.27	0.29	U	0.27	0.32	U	0.30	0.29	U	0.27
2,4-Dinitrotoluene	NA	0.073	U	0.014	0.071	U	0.014	0.072	U	0.014	0.074	U	0.014	0.072	U	0.014	0.073	U	0.014	0.08	U	0.016	0.074	U	0.014
2,6-Dinitrotoluene	NA	0.073	U	0.019	0.071	U	0.019	0.072	U	0.019	0.074	U	0.019	0.072	U	0.019	0.073	U	0.019	0.08	U	0.021	0.074	U	0.019
2-Chloronaphthalene	NA	0.36	U	0.0082	0.35	U	0.0079	0.36	U	0.0081	0.360	U	0.0083	0.350	U	0.008	0.36	U	0.0081	0.39	U	0.009	0.36	U	0.0082
2-Chlorophenol	NA	0.36	U	0.0092	0.35	U	0.0089	0.36	U	0.0091	0.360	U	0.0093	0.350	U	0.009	0.36	U	0.0091	0.39	U	0.010	0.36	U	0.0092
2-Methylnaphthalene	NA	0.01	J	0.008	0.01	J	0.0077	0.36	U	0.0079	0.360	U	0.0081	0.350	U	0.0078	0.36	U	0.0079	0.024	J	0.0087	0.013	J	0.008
2-Methylphenol	100	0.36	U	0.016	0.35	U	0.015	0.36	U	0.016	0.360	U	0.016	0.350	U	0.015	0.36	U	0.016	0.39	U	0.017	0.36	U	0.016
2-Nitroaniline	NA	0.36	U	0.012	0.35	U	0.012	0.36	U	0.012	0.360	U	0.012	0.350	U	0.012	0.36	U	0.012	0.39	U	0.013	0.36	U	0.012
2-Nitrophenol	NA	0.36	U	0.012	0.35	U	0.012	0.36	U	0.012	0.360	U	0.012	0.350	U	0.012	0.36	U	0.012	0.39	U	0.013	0.36	U	0.012
3,3'-Dichlorobenzidine	NA	0.15	U	0.040	0.14	U	0.039	0.14	U	0.040	0.150	U	0.041	0.140	U	0.040	0.14	U	0.040	0.16	U	0.044	0.15	U	0.041
3-Nitroaniline	NA	0.36	U	0.011	0.35	U	0.010	0.36	U	0.011	0.360	U	0.011	0.350	U	0.011	0.36	U	0.011	0.39	U	0.012	0.36	U	0.011
4,6-Dinitro-2-methylphenol	NA	0.29	U	0.096	0.28	U	0.093	0.29	U	0.095	0.290	U	0.098	0.290	U	0.095	0.29	U	0.095	0.32	U	0.11	0.29	U	0.097
4-Bromophenyl phenyl ether	NA	0.36	U	0.011	0.35	U	0.011	0.36	U	0.011	0.360	U	0.012	0.350	U	0.011	0.36	U	0.011	0.39	U	0.012	0.36	U	0.011
4-Chloro-3-methylphenol	NA	0.36	U	0.016	0.35	U	0.015	0.36	U	0.015	0.360	U	0.016	0.350	U	0.015	0.36	U	0.015	0.39	U	0.017	0.36	U	0.016
4-Chloroaniline	NA	0.36	U	0.0093	0.35	U	0.009	0.36	U	0.0092	0.360	U	0.0094	0.350	U	0.0091	0.36	U	0.0092	0.39	U	0.010	0.36	U	0.0093
4-Chlorophenyl phenyl ether	NA	0.36	U *	0.011	0.35	U *	0.010	0.36	U *	0.011	0.360	U *	0.011	0.350	U *	0.011	0.36	U	0.011	0.39	U	0.012	0.36	U	0.011
4-Methylphenol	100	0.36	U	0.0098	0.35	U	0.0095	0.36	U	0.0097	0.360	U	0.010	0.350	U	0.0097	0.36	U	0.0097	0.39	U	0.011	0.36	U	0.0099
4-Nitroaniline	NA	0.36	U	0.014	0.35	U	0.013	0.36	U	0.013	0.360	U	0.014	0.350	U	0.013	0.36	U	0.014	0.39	U	0.015	0.36	U	0.014
4-Nitrophenol	NA	0.73	U	0.17	0.71	U	0.17	0.72	U	0.17	0.740	U	0.18	0.720	U	0.17	0.73	U	0.17	0.8	U	0.19	0.74	U	0.17
Acenaphthene	100	0.03	J *	0.0087	0.026	J *	0.0085	0.02	J *	0.0086	0.360	U *	0.0088	0.012	J *	0.0086	0.36	U	0.0087	0.14	J	0.0096	0.038	J	0.0088
Acenaphthylene	100	0.027	J	0.0093	0.041	J	0.009	0.013	J	0.0092	0.017	J	0.0094	0.350	U	0.0091	0.36	U	0.0092	0.073	J	0.010	0.062	J	0.0093
Acetophenone	NA	0.36	U *	0.0079	0.35	U *	0.0076	0.36	U *	0.0078	0.013	J *	0.008	0.350	U *	0.0077	0.36	U	0.0078	0.39	U	0.0086	0.36	U	0.0079
Anthracene	100	0.12	J	0.034	0.14	J	0.033	0.07	J	0.034	0.049	J	0.035	0.350	U	0.034	0.36	U	0.034	0.44		0.038	0.13	J	0.035
Atrazine	NA	0.15	U *	0.016	0.14	U *	0.016	0.14	U *	0.016	0.150	U *	0.016	0.140	U *	0.016	0.14	U *	0.016	0.16	U *	0.018	0.15	U *	0.016
Benzaldehyde	NA	0.36	U	0.028	0.35	U	0.027	0.36	U	0.027	0.360	U	0.028	0.350	U	0.027	0.36	U	0.027	0.39	U	0.030	0.36	U	0.028
Benzo[a]anthracene	1	**0.73**		0.030	**0.8**		0.029	**0.32**		0.030	**0.400**		0.031	0.170		0.030	0.078		0.030	**1.2**		0.033	**0.64**		0.030
Benzo[a]pyrene	1	**0.87**		0.011	**0.9**		0.011	**0.34**		0.011	**0.490**		0.011	**0.160**		0.011	**0.083**		0.011	**1.3**		0.012	**0.72**	*	0.011
Benzo[b]fluoranthene	1	**1.1**		0.014	**1.1**		0.014	**0.41**		0.014	**0.750**		0.014	**0.240**		0.014	0.13		0.014	**1.5**		0.015	**1.2**		0.014
Benzo[g,h,i]perylene	100	1		0.021	0.75		0.020	0.32	J	0.020	0.350	J	0.021	0.120	J	0.020	0.041	J	0.021	1.3		0.023	0.24	J	0.021
Benzo[k]fluoranthene	3.9	**0.45**		0.016	**0.45**		0.015	0.18		0.016	**0.290**		0.016	0.082		0.015	0.063		0.016	**0.64**		0.017	**0.45**		0.016
Bis(2-chloroethoxy)methane	NA	0.36	U	0.011	0.35	U	0.011	0.36	U	0.011	0.360	U	0.011	0.350	U	0.011	0.36	U	0.011	0.39	U	0.012	0.36	U	0.011
Bis(2-chloroethyl)ether	NA	0.036	U	0.0085	0.035	U	0.0082	0.036	U	0.0084	0.036	U	0.0086	0.035	U	0.0084	0.036	U	0.0084	0.039	U	0.0093	0.036	U	0.0086
Bis(2-ethylhexyl) phthalate	NA	0.094	J	0.014	0.03	J	0.014	0.025	J	0.014	0.094	J	0.014	0.021	J	0.014	0.36	U	0.014	0.11	J	0.015	0.1	J	0.014
Butyl benzyl phthalate	NA	0.083	J	0.011	0.042	J	0.011	0.36	U	0.011	0.089	J	0.011	0.012	J	0.011	0.36	U	0.011	0.042	J	0.012	0.079	J	0.011
Caprolactam	NA	0.36	U	0.026	0.35	U	0.025	0.36	U	0.026	0.360	U	0.026	0.350	U	0.026	0.36	U	0.026	0.39	U	0.028	0.36	U	0.026
Carbazole	NA	0.03	J	0.009	0.02	J	0.0087	0.0098	J	0.0088	0.030	J	0.0091	0.014	J	0.0088	0.36	U	0.0089	0.089	J	0.0098	0.037	J	0.009
Chrysene	3.9	**0.74**		0.0098	**0.79**		0.0095	0.33	J	0.0097	**0.520**		0.010	0.170	J	0.0097	0.1	J	0.0097	**1.2**		0.011	**0.66**		0.0099
Dibenz(a,h)anthracene	0.33	**0.19**		0.019	**0.16**		0.018	**0.074**		0.019	**0.086**		0.019	**0.031**	J	0.018	0.036	U	0.019	**0.24**		0.021	**0.069**		0.019
Dibenzofuran	59	0.015	J	0.011	0.014	J	0.011	0.36	U	0.011	0.360	U	0.011	0.350	U	0.011	0.36	U	0.011	0.063	J	0.012	0.02	J	0.011
Diethyl phthalate	NA	0.36	U	0.010	0.35	U	0.0099	0.36	U	0.010	0.360	U	0.010	0.350	U	0.010	0.36	U	0.010	0.39	U	0.011	0.36	U	0.010
Dimethyl phthalate	NA	0.031	J	0.010	0.35	U	0.010	0.36	U	0.010	0.360	U	0.011	0.350	U	0.010	0.36	U	0.010	0.39	U	0.011	0.36	U	0.011
Di-n-butyl phthalate	NA	**0.018**	J	0.011	0.35	U	0.010	0.36	U	0.011	**0.015**	J	0.011	0.350	U	0.011	0.36	U	0.011	0.39	U	0.012	**0.015**	J	0.011
Di-n-octyl phthalate	NA	0.36	U	0.018	0.35	U	0.018	0.36	U	0.018	0.360	U	0.019	0.350	U	0.018	0.36	U	0.018	0.39	U	0.020	0.36	U	0.018
Fluoranthene	100	1.2		0.011	1.3		0.010	0.59		0.011	0.860		0.011	0.290	J	0.011	0.14	J	0.011	2.6		0.012	1.4		0.011
Fluorene	100	0.022	J *	0.0079	0.027	J *	0.0076	0.02	J *	0.0078	0.013	J *	0.008	0.011	J *	0.0077	0.36	U	0.0078	0.14	J	0.0086	0.04	J	0.0079
Hexachlorobenzene	1.2	0.036	U	0.015	0.035	U	0.014	0.036	U	0.014	0.036	U	0.015	0.035	U	0.014	0.036	U	0.015	0.039	U	0.016	0.036	U	0.015
Hexachlorobutadiene	NA	0.073	U	0.010	0.071	U	0.0098	0.072	U	0.010	0.074	U	0.010	0.072	U	0.010	0.073	U	0.010	0.08	U	0.011	0.074	U	0.010
Hexachlorocyclopentadiene	NA	0.36	U *	0.023	0.35	U *	0.022	0.36	U *	0.022	0.360	U *	0.023	0.350	U *	0.022	0.36	U *	0.022	0.39	U *	0.025	0.36	U	0.023
Hexachloroethane	NA	0.036	U	0.013	0.035	U	0.013	0.036	U	0.013	0.036	U	0.013	0.035	U	0.013	0.036	U	0.013	0.039	U	0.014	0.036	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	**0.96**		0.024	**0.8**		0.023	0.33		0.024	0.380		0.024	0.110		0.024	0.045		0.024	**1.5**		0.026	0.28	*	0.024
Isophorone	NA	0.017	J	0.0078	0.14	U	0.0075	0.14	U	0.0077	0.150	U	0.0079	0.140	U	0.0076	0.14	U	0.0077	0.16	U	0.0085	0.15	U	0.0078
Naphthalene	100	0.017	J	0.0092	0.018	J	0.0089	0.36	U	0.0091	0.010	J	0.0093	0.350	U	0.009	0.36	U	0.0091	0.04	J	0.010	0.018	J	0.0092
Nitrobenzene	15	0.036	U	0.011	0.035	U	0.011	0.036	U	0.011	0.036	U	0.012	0.035	U	0.011	0.036	U	0.011	0.039	U	0.012	0.036	U	0.011
N-Nitrosodi-n-propylamine	NA	0.036	U	0.012	0.035	U	0.012	0.036	U	0.012	0.036	U	0.012	0.035	U	0.012	0.036	U	0.012	0.039	U	0.013	0.036	U	0.012
N-Nitrosodiphenylamine	NA	0.36	U	0.033	0.35	U	0.032	0.36	U	0.032	0.360	U	0.033	0.350	U	0.032	0.36	U	0.032	0.39	U	0.036	0.36	U	0.033
Pentachlorophenol	6.7	0.29	U	0.044	0.28	U	0.042	0.29	U	0.043	0.290	U	0.044	0.290	U	0.043	0.29	U	0.043	0.32	U	0.048	0.29	U	0.044
Phenanthrene	100	0.44		0.0096	0.42		0.0093	0.26	J	0.0095	0.230	J	0.0097	0.160	J	0.0094	0.05	J	0.0095	1.4		0.011	0.45		0.0097
Phenol	100	0.36	U	0.012	0.35	U	0.011	0.36	U	0.012	0.360	U	0.012	0.350	U	0.012	0.36	U	0.012	0.39	U	0.013	0.36	U	0.012
Pyrene	100	1.1		0.016	1.1		0.016	0.54		0.016	0.480		0.017	0.310	J	0.016	0.1	J	0.016	1.7		0.018	1		0.016
Total Conc	NA	9.294			8.938			3.8518			5.166			1.913			0.83			15.741			7.661		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	**SB-C1(18-24)**			**SB-C2(0-2)**			**SB-C2(6-12)**			**SB-C2(18-24)**			**SB-C3(0-2)**			**SB-C3(6-12)**			**FD04161501**			**SB-C3(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-72			460-93506-54			460-93506-56			460-93506-59			460-93506-61			460-93506-67			460-93506-66			460-93506-71		
Sampling Date	Restricted Residential	04/16/2015 10:30:00			04/16/2015 09:25:00			04/16/2015 09:30:00			04/16/2015 09:40:00			04/16/2015 09:45:00			04/16/2015 10:00:00			04/16/2015 00:00:00			04/16/2015 10:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			2			2			1			1			5		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.36	U	0.031	0.39	U	0.033	0.35	U	0.030	0.71	U	0.061	0.790	U	0.067	0.360	U	0.031	0.36	U	0.031	1.9	U	0.16
1,2,4,5-Tetrachlorobenzene	NA	0.36	U	0.027	0.39	U	0.029	0.35	U	0.026	0.71	U	0.053	0.790	U	0.059	0.360	U	0.027	0.36	U	0.027	1.9	U	0.14
2,2'-oxybis[1-chloropropane]	NA	0.36	U	0.015	0.39	U	0.016	0.35	U	0.015	0.71	U	0.029	0.790	U	0.032	0.360	U	0.015	0.36	U	0.015	1.9	U	0.079
2,3,4,6-Tetrachlorophenol	NA	0.36	U	0.034	0.39	U	0.036	0.35	U	0.033	0.71	U	0.067	0.790	U	0.074	0.360	U	0.034	0.36	U	0.034	1.9	U	0.18
2,4,5-Trichlorophenol	NA	0.36	U	0.036	0.39	U	0.038	0.35	U	0.035	0.71	U	0.071	0.790	U	0.078	0.360	U	0.036	0.36	U	0.036	1.9	U	0.19
2,4,6-Trichlorophenol	NA	0.15	U	0.010	0.16	U	0.011	0.14	U	0.010	0.29	U	0.020	0.320	U	0.022	0.150	U	0.010	0.15	U	0.010	0.77	U	0.054
2,4-Dichlorophenol	NA	0.15	U	0.0085	0.16	U	0.0091	0.14	U	0.0084	0.29	U	0.017	0.320	U	0.019	0.150	U	0.0086	0.15	U	0.0086	0.77	U	0.045
2,4-Dimethylphenol	NA	0.36	U	0.079	0.39	U	0.085	0.35	U	0.078	0.71	U	0.16	0.790	U	0.17	0.360	U	0.080	0.36	U	0.080	1.9	U	0.42
2,4-Dinitrophenol	NA	0.29	U	0.27	0.31	U	0.29	0.29	U	0.27	0.57	U	0.54	0.630	U	0.59	0.290	U	0.27	0.29	U	0.28	1.5	U	1.4
2,4-Dinitrotoluene	NA	0.073	U	0.014	0.078	U	0.015	0.072	U	0.014	0.14	U	0.028	0.160	U	0.031	0.073	U	0.014	0.074	U	0.014	0.39	U	0.076
2,6-Dinitrotoluene	NA	0.073	U	0.019	0.078	U	0.021	0.072	U	0.019	0.14	U	0.038	0.160	U	0.042	0.073	U	0.019	0.074	U	0.019	0.39	U	0.10
2-Chloronaphthalene	NA	0.36	U	0.0082	0.39	U	0.0088	0.35	U	0.0081	0.71	U	0.016	0.790	U	0.018	0.360	U	0.0082	0.36	U	0.0083	1.9	U	0.043
2-Chlorophenol	NA	0.36	U	0.0092	0.39	U	0.0098	0.35	U	0.009	0.71	U	0.018	0.790	U	0.020	0.360	U	0.0092	0.36	U	0.0093	1.9	U	0.049
2-Methylnaphthalene	NA	0.023	J	0.008	0.017	J	0.0085	0.03	J	0.0078	0.063	J	0.016	0.790	U	0.017	0.032	J	0.008	0.017	J	0.0081	0.34	J	0.042
2-Methylphenol	100	0.36	U	0.016	0.39	U	0.017	0.35	U	0.015	0.71	U	0.031	0.790	U	0.034	0.360	U	0.016	0.36	U	0.016	1.9	U	0.083
2-Nitroaniline	NA	0.36	U	0.012	0.39	U	0.013	0.35	U	0.012	0.71	U	0.024	0.790	U	0.026	0.360	U	0.012	0.36	U	0.012	1.9	U	0.063
2-Nitrophenol	NA	0.36	U	0.012	0.39	U	0.013	0.35	U	0.012	0.71	U	0.024	0.790	U	0.026	0.360	U	0.012	0.36	U	0.012	1.9	U	0.064
3,3'-Dichlorobenzidine	NA	0.15	U	0.040	0.16	U	0.043	0.14	U	0.040	0.29	U	0.080	0.320	U	0.088	0.150	U	0.040	0.15	U	0.041	0.77	U	0.21
3-Nitroaniline	NA	0.36	U	0.011	0.39	U	0.011	0.35	U	0.011	0.71	U	0.021	0.790	U	0.023	0.360	U	0.011	0.36	U	0.011	1.9	U	0.057
4,6-Dinitro-2-methylphenol	NA	0.29	U	0.096	0.31	U	0.10	0.29	U	0.095	0.57	U	0.19	0.630	U	0.21	0.290	U	0.097	0.29	U	0.098	1.5	U	0.51
4-Bromophenyl phenyl ether	NA	0.36	U	0.011	0.39	U	0.012	0.35	U	0.011	0.71	U	0.022	0.790	U	0.025	0.360	U	0.011	0.36	U	0.012	1.9	U	0.060
4-Chloro-3-methylphenol	NA	0.36	U	0.015	0.39	U	0.017	0.35	U	0.015	0.71	U	0.031	0.790	U	0.034	0.360	U	0.016	0.36	U	0.016	1.9	U	0.082
4-Chloroaniline	NA	0.36	U	0.0093	0.39	U	0.0099	0.35	U	0.0091	0.71	U	0.018	0.790	U	0.020	0.360	U	0.0093	0.36	U	0.0094	1.9	U	0.049
4-Chlorophenyl phenyl ether	NA	0.36	U	0.011	0.39	U	0.012	0.35	U	0.011	0.71	U	0.021	0.790	U	0.024	0.360	U	0.011	0.36	U	0.011	1.9	U	0.057
4-Methylphenol	100	0.36	U	0.0098	0.066	J	0.011	0.35	U	0.0097	0.71	U	0.019	0.230	J	0.021	0.360	U	0.0099	0.36	U	0.010	1.9	U	0.052
4-Nitroaniline	NA	0.36	U	0.014	0.39	U	0.015	0.35	U	0.013	0.71	U	0.027	0.790	U	0.030	0.360	U	0.014	0.36	U	0.014	1.9	U	0.072
4-Nitrophenol	NA	0.73	U	0.17	0.78	U	0.19	0.72	U	0.17	1.4	U	0.34	1.600	U	0.38	0.730	U	0.17	0.74	U	0.18	3.9	U	0.92
Acenaphthene	100	0.096	J	0.0087	0.033	J	0.0093	0.087	J	0.0086	0.32	J	0.017	0.790	U	0.019	0.069	J	0.0088	0.038	J	0.0088	1	J	0.046
Acenaphthylene	100	0.11	J	0.0093	0.028	J	0.0099	0.11	J	0.0091	0.15	J	0.018	0.027	J	0.020	0.063	J	0.0093	0.064	J	0.0094	1.3	J	0.049
Acetophenone	NA	0.36	U	0.0079	0.39	U	0.0084	0.35	U	0.0077	0.71	U	0.016	0.790	U	0.017	0.360	U	0.0079	0.36	U	0.008	1.9	U	0.042
Anthracene	100	0.39		0.034	0.099	J	0.037	0.43		0.034	1.2		0.068	0.790	U	0.075	0.210	J	0.034	0.14	J	0.035	2.7		0.18
Atrazine	NA	0.15	U *	0.016	0.16	U *	0.017	0.14	U *	0.016	0.29	U *	0.032	0.320	U *	0.035	0.150	U *	0.016	0.15	U *	0.016	0.77	U *	0.085
Benzaldehyde	NA	0.36	U	0.027	0.39	U	0.029	0.35	U	0.027	0.71	U	0.054	0.790	U	0.060	0.360	U	0.028	0.36	U	0.028	1.9	U	0.15
Benzo[a]anthracene	1	**1.4**		0.030	**0.52**		0.032	**1.6**		0.030	**2.8**		0.060	**0.330**		0.066	**0.840**		0.030	**0.68**		0.031	**10**		0.16
Benzo[a]pyrene	1	**1.4**	*	0.011	**0.55**	*	0.012	**1.7**	*	0.011	**3**	*	0.022	**0.290**	*	0.024	**0.860**	*	0.011	**0.73**	*	0.011	**9.1**	*	0.058
Benzo[b]fluoranthene	1	**2.3**		0.014	**0.97**		0.015	**2.8**		0.014	**4.1**		0.028	**0.500**		0.031	**1.400**		0.014	**1.1**		0.014	**15**		0.075
Benzo[g,h,i]perylene	100	0.44		0.021	0.22	J	0.022	0.63		0.020	1.1		0.041	0.140	J	0.045	0.290	J	0.021	0.3	J	0.021	2.3		0.11
Benzo[k]fluoranthene	3.9	**0.93**		0.016	**0.36**		0.017	**1**		0.015	**1.9**		0.031	0.190		0.034	**0.540**		0.016	**0.54**		0.016	**5.5**		0.083
Bis(2-chloroethoxy)methane	NA	0.36	U	0.011	0.39	U	0.012	0.35	U	0.011	0.71	U	0.022	0.790	U	0.025	0.360	U	0.011	0.36	U	0.011	1.9	U	0.060
Bis(2-chloroethyl)ether	NA	0.036	U	0.0085	0.039	U	0.0091	0.035	U	0.0084	0.071	U	0.017	0.079	U	0.019	0.036	U	0.0086	0.036	U	0.0086	0.19	U	0.045
Bis(2-ethylhexyl) phthalate	NA	0.069	J	0.014	0.2	J	0.015	0.35	U	0.014	0.71	U	0.028	0.088	J	0.031	0.290	J	0.014	0.24	J	0.014	0.091	J	0.075
Butyl benzyl phthalate	NA	0.053	J	0.011	0.16	J	0.012	0.066	J	0.011	0.71	U	0.022	0.130	J	0.024	0.340	J	0.011	0.8		0.011	1.9	U	0.059
Caprolactam	NA	0.36	U	0.026	0.39	U	0.028	0.35	U	0.026	0.71	U	0.051	0.790	U	0.057	0.360	U	0.026	0.36	U	0.026	1.9	U	0.14
Carbazole	NA	0.078	J	0.0089	0.051	J	0.0096	0.077	J	0.0088	0.23	J	0.018	0.027	J	0.020	0.100	J	0.009	0.057	J	0.0091	1.4	J	0.047
Chrysene	3.9	**1.3**		0.0098	**0.6**		0.011	**1.6**		0.0097	**2.8**		0.019	0.380	J	0.021	**0.930**		0.0099	**0.69**		0.010	**11**		0.052
Dibenz(a,h)anthracene	0.33	**0.13**		0.019	**0.055**		0.020	**0.18**		0.018	**0.29**		0.037	0.079	U	0.041	**0.088**		0.019	**0.068**		0.019	**0.79**		0.099
Dibenzofuran	59	0.058	J	0.011	0.023	J	0.012	0.057	J	0.011	0.23	J	0.022	0.790	U	0.024	0.058	J	0.011	0.022	J	0.011	0.77	J	0.058
Diethyl phthalate	NA	0.36	U	0.010	0.39	U	0.011	0.35	U	0.010	0.71	U	0.020	0.790	U	0.022	0.360	U	0.010	0.36	U	0.010	1.9	U	0.054
Dimethyl phthalate	NA	0.36	U	0.010	0.39	U	0.011	0.35	U	0.010	0.71	U	0.021	0.790	U	0.023	0.360	U	0.011	0.36	U	0.011	1.9	U	0.056
Di-n-butyl phthalate	NA	0.012	J	0.011	**0.021**	J	0.012	**0.023**	J	0.011	0.71	U	0.021	**0.034**	J	0.024	**0.046**	J	0.011	**0.19**	J	0.011	**0.13**	J	0.057
Di-n-octyl phthalate	NA	0.36	U	0.018	0.39	U	0.020	0.35	U	0.018	0.71	U	0.036	0.790	U	0.040	0.280	J	0.018	0.36	U	0.019	1.9	U	0.097
Fluoranthene	100	3.5		0.011	1.1		0.011	4.4		0.011	6.3		0.021	0.560	J	0.023	1.900		0.011	1.7		0.011	25		0.057
Fluorene	100	0.12	J	0.0079	0.032	J	0.0084	0.1	J	0.0077	0.43	J	0.016	0.790	U	0.017	0.072	J	0.0079	0.045	J	0.008	1.5	J	0.042
Hexachlorobenzene	1.2	0.036	U	0.015	0.039	U	0.016	0.035	U	0.014	0.071	U	0.029	0.079	U	0.032	0.036	U	0.015	0.036	U	0.015	0.19	U	0.077
Hexachlorobutadiene	NA	0.073	U	0.010	0.078	U	0.011	0.072	U	0.010	0.14	U	0.020	0.160	U	0.022	0.073	U	0.010	0.074	U	0.010	0.39	U	0.054
Hexachlorocyclopentadiene	NA	0.36	U	0.022	0.39	U	0.024	0.35	U	0.022	0.71	U	0.044	0.790	U	0.049	0.360	U	0.023	0.36	U	0.023	1.9	U	0.12
Hexachloroethane	NA	0.036	U	0.013	0.039	U	0.014	0.035	U	0.013	0.071	U	0.026	0.079	U	0.029	0.036	U	0.013	0.036	U	0.013	0.19	U	0.070
Indeno[1,2,3-cd]pyrene	0.5	0.5	*	0.024	0.24	*	0.026	**0.72**	*	0.024	**1.2**	*	0.047	0.140	*	0.052	0.330	*	0.024	0.32	*	0.024	**2.9**	*	0.13
Isophorone	NA	0.15	U	0.0077	0.16	U	0.0083	0.14	U	0.0076	0.29	U	0.015	0.320	U	0.017	0.150	U	0.0078	0.15	U	0.0079	0.77	U	0.041
Naphthalene	100	0.038	J	0.0092	0.027	J	0.0098	0.044	J	0.009	0.08	J	0.018	0.020	J	0.020	0.052	J	0.0092	0.032	J	0.0093	0.64	J	0.049
Nitrobenzene	15	0.036	U	0.011	0.039	U	0.012	0.035	U	0.011	0.071	U	0.022	0.079	U	0.025	0.036	U	0.011	0.036	U	0.012	0.19	U	0.060
N-Nitrosodi-n-propylamine	NA	0.036	U	0.012	0.039	U	0.013	0.035	U	0.012	0.071	U	0.024	0.079	U	0.026	0.036	U	0.012	0.036	U	0.012	0.19	U	0.064
N-Nitrosodiphenylamine	NA	0.36	U	0.033	0.39	U	0.035	0.35	U	0.032	0.71	U	0.065	0.790	U	0.071	0.360	U	0.033	0.36	U	0.033	1.9	U	0.17
Pentachlorophenol	6.7	0.29	U	0.044	0.31	U	0.047	0.29	U	0.043	0.57	U	0.086	0.630	U	0.095	0.290	U	0.044	0.29	U	0.044	1.5	U	0.23
Phenanthrene	100	1.3		0.0096	0.45		0.010	1.6		0.0095	3.5		0.019	0.210	J	0.021	1.100		0.0096	0.61		0.0097	16		0.051
Phenol	100	0.36	U	0.012	0.39	U	0.013	0.35	U	0.012	0.71	U	0.023	0.790	U	0.026	0.360	U	0.012	0.36	U	0.012	1.9	U	0.062
Pyrene	100	2.4		0.016	0.69		0.018	2.7		0.016	4.2		0.032	0.400	J	0.036	1.400		0.016	1.2		0.017	16		0.087
Total Conc	NA	16.647			6.512			19.954			33.893			3.696			11.290			9.583			123.461		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	**SB-C4(0-2)**			**SB-FD04151502**			**SB-C4(6-12)**			**SB-C4(18-24)**			**SB-C5(0-2)**			**SB-C5(6-12)**			**SB-C5(18-24)**			**SB-D2(0-2)**		
Lab Sample ID	& CP-51 T-1	460-93506-26			460-93506-25			460-93506-27			460-93506-32			460-93506-28			460-93506-31			460-93506-33			460-93506-38		
Sampling Date	Restricted Residential	04/15/2015 14:35:00			04/15/2015 00:00:00			04/15/2015 14:40:00			04/15/2015 14:50:00			04/15/2015 14:45:00			04/15/2015 14:50:00			04/15/2015 15:00:00			04/15/2015 15:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			1			1			1			1		
Unit	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.38	U	0.033	0.370	U	0.031	0.350	U	0.030	0.37	U	0.031	0.35	U	0.030	0.35	U	0.030	0.35	U	0.030	0.4	U	0.035
1,2,4,5-Tetrachlorobenzene	NA	0.38	U	0.028	0.370	U	0.027	0.350	U	0.026	0.37	U	0.027	0.35	U	0.026	0.35	U	0.026	0.35	U	0.026	0.4	U	0.030
2,2'-oxybis[1-chloropropane]	NA	0.38	U	0.016	0.370	U	0.015	0.350	U	0.014	0.37	U	0.015	0.35	U	0.014	0.35	U	0.014	0.35	U	0.015	0.4	U	0.017
2,3,4,6-Tetrachlorophenol	NA	0.38	U	0.036	0.370	U	0.035	0.350	U	0.033	0.37	U	0.034	0.35	U	0.033	0.35	U	0.033	0.35	U	0.033	0.4	U	0.038
2,4,5-Trichlorophenol	NA	0.38	U	0.038	0.370	U	0.037	0.350	U	0.035	0.37	U	0.036	0.35	U	0.035	0.35	U	0.035	0.35	U	0.035	0.4	U	0.040
2,4,6-Trichlorophenol	NA	0.15	U	0.011	0.150	U	0.010	0.140	U	0.010	0.15	U	0.010	0.14	U	0.0099	0.14	U	0.0099	0.14	U	0.010	0.16	U	0.012
2,4-Dichlorophenol	NA	0.15	U	0.009	0.150	U	0.0087	0.140	U	0.0083	0.15	U	0.0086	0.14	U	0.0082	0.14	U	0.0082	0.14	U	0.0084	0.16	U	0.0095
2,4-Dimethylphenol	NA	0.38	U	0.084	0.370	U	0.081	0.350	U	0.077	0.37	U	0.080	0.35	U	0.077	0.35	U	0.077	0.35	U	0.078	0.4	U	0.089
2,4-Dinitrophenol	NA	0.31	U	0.29	0.300	U	0.28	0.280	U	0.27	0.29	U	0.28	0.28	U	0.26	0.28	U	0.26	0.28	U	0.27	0.33	U	0.31
2,4-Dinitrotoluene	NA	0.077	U	0.015	0.074	U	0.015	0.071	U	0.014	0.074	U	0.014	0.071	U	0.014	0.071	U	0.014	0.072	U	0.014	0.082	U	0.016
2,6-Dinitrotoluene	NA	0.077	U	0.020	0.074	U	0.020	0.071	U	0.019	0.074	U	0.019	0.071	U	0.019	0.071	U	0.019	0.072	U	0.019	0.082	U	0.022
2-Chloronaphthalene	NA	0.38	U	0.0086	0.370	U	0.0083	0.350	U	0.008	0.37	U	0.0083	0.35	U	0.0079	0.35	U	0.0079	0.35	U	0.008	0.4	U	0.0092
2-Chlorophenol	NA	0.38	U	0.0097	0.370	U	0.0093	0.350	U	0.0089	0.37	U	0.0093	0.35	U	0.0089	0.35	U	0.0089	0.35	U	0.009	0.4	U	0.010
2-Methylnaphthalene	NA	0.38	U	0.0084	0.370	U	0.0081	0.014	J	0.0078	0.37	U	0.0081	0.35	U	0.0077	0.037	J	0.0077	0.35	U	0.0078	0.4	U	0.0089
2-Methylphenol	100	0.38	U	0.017	0.370	U	0.016	0.350	U	0.015	0.37	U	0.016	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015	0.4	U	0.018
2-Nitroaniline	NA	0.38	U	0.013	0.370	U	0.012	0.350	U	0.012	0.37	U	0.012	0.35	U	0.012	0.35	U	0.011	0.35	U	0.012	0.4	U	0.013
2-Nitrophenol	NA	0.38	U	0.013	0.370	U	0.012	0.350	U	0.012	0.37	U	0.012	0.35	U	0.012	0.35	U	0.012	0.35	U	0.012	0.4	U	0.014
3,3'-Dichlorobenzidine	NA	0.15	U	0.043	0.150	U	0.041	0.140	U	0.039	0.15	U	0.041	0.14	U	0.039	0.14	U	0.039	0.14	U	0.040	0.16	U	0.045
3-Nitroaniline	NA	0.38	U	0.011	0.370	U	0.011	0.350	U	0.010	0.37	U	0.011	0.35	U	0.010	0.35	U	0.010	0.35	U	0.010	0.4	U	0.012
4,6-Dinitro-2-methylphenol	NA	0.31	U	0.10	0.300	U	0.098	0.280	U	0.094	0.29	U	0.098	0.28	U	0.093	0.28	U	0.093	0.28	U	0.094	0.33	U	0.11
4-Bromophenyl phenyl ether	NA	0.38	U	0.012	0.370	U	0.012	0.350	U	0.011	0.37	U	0.012	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011	0.4	U	0.013
4-Chloro-3-methylphenol	NA	0.38	U	0.016	0.370	U	0.016	0.350	U	0.015	0.37	U	0.016	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015	0.4	U	0.017
4-Chloroaniline	NA	0.38	U	0.0098	0.370	U	0.0094	0.350	U	0.009	0.37	U	0.0094	0.35	U	0.009	0.35	U	0.009	0.35	U	0.0091	0.4	U	0.010
4-Chlorophenyl phenyl ether	NA	0.38	U *	0.011	0.370	U *	0.011	0.350	U	0.011	0.37	U	0.011	0.35	U	0.010	0.35	U *	0.010	0.35	U	0.011	0.4	U	0.012
4-Methylphenol	100	0.38	U	0.010	0.370	U	0.010	0.350	U	0.0096	0.37	U	0.010	0.35	U	0.0095	0.35	U	0.0095	0.35	U	0.0096	0.4	U	0.011
4-Nitroaniline	NA	0.38	U	0.014	0.370	U	0.014	0.350	U	0.013	0.37	U	0.014	0.35	U	0.013	0.35	U	0.013	0.35	U	0.013	0.4	U	0.015
4-Nitrophenol	NA	0.77	U	0.18	0.740	U	0.18	0.710	U	0.17	0.74	U	0.18	0.71	U	0.17	0.71	U	0.17	0.72	U	0.17	0.82	U	0.19
Acenaphthene	100	0.013	J *	0.0092	0.056	J *	0.0089	0.042	J *	0.0085	0.036	J	0.0089	0.35	U	0.0084	0.16	J *	0.0084	0.02	J	0.0086	0.4	U	0.0098
Acenaphthylene	100	0.02	J	0.0098	0.013	J	0.0094	0.091	J	0.009	0.028	J	0.0094	0.35	U	0.009	0.31	J	0.009	0.022	J	0.0091	0.016	J	0.010
Acetophenone	NA	0.38	U *	0.0083	0.370	U *	0.008	0.350	U *	0.0077	0.37	U	0.008	0.35	U	0.0076	0.35	U *	0.0076	0.35	U	0.0077	0.4	U	0.0088
Anthracene	100	0.038	J	0.036	0.150	J	0.035	0.180	J	0.033	0.11	J	0.035	0.35	U	0.033	0.85		0.033	0.071	J	0.034	0.4	U	0.038
Atrazine	NA	0.15	U *	0.017	0.150	U *	0.016	0.140	U *	0.016	0.15	U *	0.016	0.14	U *	0.016	0.14	U *	0.015	0.14	U *	0.016	0.16	U *	0.018
Benzaldehyde	NA	0.38	U	0.029	0.370	U	0.028	0.350	U	0.027	0.37	U	0.028	0.35	U	0.027	0.35	U	0.027	0.35	U	0.027	0.4	U	0.031
Benzo[a]anthracene	1	0.22		0.032	**0.650**		0.031	**0.920**		0.029	**0.41**		0.031	0.051		0.029	**3.6**		0.029	**0.29**		0.030	**0.25**		0.034
Benzo[a]pyrene	1	**0.24**		0.012	**0.640**		0.011	**1.100**		0.011	**0.41**		0.011	0.053		0.011	**3.9**		0.011	**0.25**		0.011	**0.28**		0.012
Benzo[b]fluoranthene	1	**0.35**		0.015	**0.900**		0.014	**1.500**		0.014	**0.58**		0.014	0.066		0.014	**5.3**		0.014	**0.33**		0.014	**0.4**		0.016
Benzo[g,h,i]perylene	100	0.14	J	0.022	0.370		0.021	0.820		0.020	0.16	J	0.021	0.038	J	0.020	2.2		0.020	0.097	J	0.020	0.33	J	0.023
Benzo[k]fluoranthene	3.9	0.14		0.017	**0.360**		0.016	**0.600**		0.015	0.21		0.016	0.037		0.015	**1.9**		0.015	0.15		0.015	0.15		0.018
Bis(2-chloroethoxy)methane	NA	0.38	U	0.012	0.370	U	0.011	0.350	U	0.011	0.37	U	0.011	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011	0.4	U	0.013
Bis(2-chloroethyl)ether	NA	0.038	U	0.009	0.037	U	0.0087	0.035	U	0.0083	0.037	U	0.0086	0.035	U	0.0082	0.035	U	0.0082	0.035	U	0.0084	0.04	U	0.0095
Bis(2-ethylhexyl) phthalate	NA	0.033	J	0.015	0.033	J	0.014	0.350	U	0.014	0.05	J	0.014	0.034	J	0.014	0.14	J	0.014	0.35	U	0.014	0.16	J	0.016
Butyl benzyl phthalate	NA	0.15	J	0.012	0.051	J	0.011	0.017	J	0.011	0.044	J	0.011	0.056	J	0.011	0.25	J	0.011	0.35	U	0.011	0.14	J	0.012
Caprolactam	NA	0.38	U	0.027	0.370	U	0.026	0.350	U	0.025	0.37	U	0.026	0.35	U	0.025	0.35	U	0.025	0.35	U	0.025	0.4	U	0.029
Carbazole	NA	0.014	J	0.0095	0.093	J	0.0091	0.047	J	0.0087	0.04	J	0.0091	0.35	U	0.0087	0.083	J	0.0086	0.024	J	0.0088	0.013	J	0.010
Chrysene	3.9	0.25	J	0.010	**0.710**		0.010	**0.990**		0.0096	**0.45**		0.010	0.049	J	0.0095	**3.1**		0.0095	0.33	J	0.0096	0.28	J	0.011
Dibenz(a,h)anthracene	0.33	**0.035**	J	0.020	**0.086**		0.019	**0.190**		0.018	**0.04**		0.019	0.035	U	0.018	**0.52**		0.018	**0.023**	J	0.018	**0.062**		0.021
Dibenzofuran	59	0.38	U	0.012	0.023	J	0.011	0.021	J	0.011	0.027	J	0.011	0.35	U	0.011	0.061	J	0.011	0.012	J	0.011	0.4	U	0.012
Diethyl phthalate	NA	0.38	U	0.011	0.370	U	0.010	0.350	U	0.010	0.37	U	0.010	0.35	U	0.0099	0.35	U	0.0099	0.35	U	0.010	0.4	U	0.012
Dimethyl phthalate	NA	0.38	U	0.011	0.370	U	0.011	0.350	U	0.010	0.37	U	0.011	0.35	U	0.010	0.35	U	0.010	0.35	U	0.010	0.4	U	0.012
Di-n-butyl phthalate	NA	0.38	U	0.011	0.370	U	0.011	0.350	U	0.011	**0.19**	J	0.011	0.35	U	0.010	**0.052**	J	0.010	0.35	U	0.011	**0.083**	J	0.012
Di-n-octyl phthalate	NA	0.38	U	0.019	0.370	U	0.019	0.350	U	0.018	0.37	U	0.019	0.35	U	0.018	0.35	U	0.018	0.35	U	0.018	0.4	U	0.021
Fluoranthene	100	0.49		0.011	1.600		0.011	1.700		0.010	0.82		0.011	0.073	J	0.010	7.5		0.010	0.52		0.010	0.39	J	0.012
Fluorene	100	0.01	J *	0.0083	0.053	J *	0.008	0.041	J *	0.0077	0.039	J	0.008	0.35	U	0.0076	0.17	J *	0.0076	0.027	J	0.0077	0.0099	J	0.0088
Hexachlorobenzene	1.2	0.038	U	0.015	0.037	U	0.015	0.035	U	0.014	0.037	U	0.015	0.035	U	0.014	0.035	U	0.014	0.035	U	0.014	0.04	U	0.016
Hexachlorobutadiene	NA	0.077	U	0.011	0.074	U	0.010	0.071	U	0.0099	0.074	U	0.010	0.071	U	0.0098	0.071	U	0.0098	0.072	U	0.010	0.082	U	0.011
Hexachlorocyclopentadiene	NA	0.38	U *	0.024	0.370	U *	0.023	0.350	U *	0.022	0.37	U *	0.023	0.35	U *	0.022	0.35	U *	0.022	0.35	U *	0.022	0.4	U *	0.025
Hexachloroethane	NA	0.038	U	0.014	0.037	U	0.013	0.035	U	0.013	0.037	U	0.013	0.035	U	0.013	0.035	U	0.013	0.035	U	0.013	0.04	U	0.015
Indeno[1,2,3-cd]pyrene	0.5	0.16		0.025	0.420		0.024	**0.850**		0.023	0.18		0.024	0.038		0.023	**2.3**		0.023	0.11		0.024	0.33		0.027
Isophorone	NA	0.15	U	0.0082	0.150	U	0.0079	0.140	U	0.0075	0.15	U	0.0079	0.14	U	0.0075	0.14	U	0.0075	0.14	U	0.0076	0.16	U	0.0087
Naphthalene	100	0.38	U	0.0097	0.010	J	0.0093	0.029	J	0.0089	0.019	J	0.0093	0.35	U	0.0089	0.062	J	0.0089	0.35	U	0.009	0.4	U	0.010
Nitrobenzene	15	0.038	U	0.012	0.037	U	0.012	0.035	U	0.011	0.037	U	0.012	0.035	U	0.011	0.035	U	0.011	0.035	U	0.011	0.04	U	0.013
N-Nitrosodi-n-propylamine	NA	0.038	U	0.013	0.037	U	0.012	0.035	U	0.012	0.037	U	0.012	0.035	U	0.012	0.035	U	0.012	0.035	U	0.012	0.04	U	0.014
N-Nitrosodiphenylamine	NA	0.38	U	0.035	0.370	U	0.033	0.350	U	0.032	0.37	U	0.033	0.35	U	0.032	0.35	U	0.032	0.35	U	0.032	0.4	U	0.037
Pentachlorophenol	6.7	0.31	U	0.046	0.300	U	0.044	0.280	U	0.043	0.29	U	0.044	0.28	U	0.042	0.28	U	0.042	0.28	U	0.043	0.33	U	0.049
Phenanthrene	100	0.14	J	0.010	0.830		0.0098	0.480		0.0094	0.51		0.0097	0.021	J	0.0093	2.1		0.0093	0.39		0.0094	0.14	J	0.011
Phenol	100	0.38	U	0.012	0.370	U	0.012	0.350	U	0.011	0.37	U	0.012	0.35	U	0.011	0.35	U	0.011	0.35	U	0.012	0.4	U	0.013
Pyrene	100	0.27	J	0.017	0.880		0.017	0.970		0.016	0.67		0.017	0.071	J	0.016	3.8		0.016	0.48		0.016	0.34	J	0.018
Total Conc	NA	2.713			7.928			10.602			5.023			0.587			38.395			3.146			3.3739		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-D2(6-12)			SB-D2(18-24)			SB-D3(0-2)			SB-D3(6-12)			SB-D3(18-24)			SB-D4(0-2)			SB-D4(6-12)			SB-D4(18-24)		
Lab Sample ID	& CP-51 T-1	460-93506-40			460-93506-43			460-93506-77			460-93506-79			460-93506-81			460-93506-76			460-93506-78			460-93506-82		
Sampling Date	Restricted Residential	04/15/2015 15:45:00			04/15/2015 16:00:00			04/16/2015 10:50:00			04/16/2015 10:55:00			04/16/2015 11:10:00			04/16/2015 10:50:00			04/16/2015 10:55:00			04/16/2015 11:10:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			2			2			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.35	U	0.030	0.35	U	0.030	0.35	U	0.030	0.71	U	0.060	0.7	U	0.060	0.35	U	0.030	0.35	U	0.030	0.35	U	0.030
1,2,4,5-Tetrachlorobenzene	NA	0.35	U	0.026	0.35	U	0.026	0.35	U	0.026	0.71	U	0.053	0.7	U	0.052	0.35	U	0.026	0.35	U	0.026	0.35	U	0.026
2,2'-oxybis[1-chloropropane]	NA	0.35	U	0.014	0.35	U	0.015	0.35	U	0.015	0.71	U	0.029	0.7	U	0.029	0.35	U	0.015	0.35	U	0.015	0.35	U	0.014
2,3,4,6-Tetrachlorophenol	NA	0.35	U	0.033	0.35	U	0.033	0.35	U	0.033	0.71	U	0.067	0.7	U	0.066	0.35	U	0.033	0.35	U	0.033	0.35	U	0.033
2,4,5-Trichlorophenol	NA	0.35	U	0.035	0.35	U	0.035	0.35	U	0.035	0.71	U	0.071	0.7	U	0.070	0.35	U	0.035	0.35	U	0.035	0.35	U	0.034
2,4,6-Trichlorophenol	NA	0.14	U	0.0099	0.14	U	0.010	0.14	U	0.010	0.29	U	0.020	0.28	U	0.020	0.14	U	0.010	0.14	U	0.010	0.14	U	0.0098
2,4-Dichlorophenol	NA	0.14	U	0.0082	0.14	U	0.0084	0.14	U	0.0083	0.29	U	0.017	0.28	U	0.017	0.14	U	0.0083	0.14	U	0.0083	0.14	U	0.0082
2,4-Dimethylphenol	NA	0.35	U	0.077	0.35	U	0.078	0.35	U	0.078	0.71	U	0.16	0.7	U	0.15	0.35	U	0.078	0.35	U	0.078	0.35	U	0.076
2,4-Dinitrophenol	NA	0.28	U	0.26	0.29	U	0.27	0.28	U	0.27	0.57	U	0.54	0.57	U	0.53	0.28	U	0.27	0.28	U	0.27	0.28	U	0.26
2,4-Dinitrotoluene	NA	0.071	U	0.014	0.072	U	0.014	0.071	U	0.014	0.14	U	0.028	0.14	U	0.028	0.071	U	0.014	0.072	U	0.014	0.07	U	0.014
2,6-Dinitrotoluene	NA	0.071	U	0.019	0.072	U	0.019	0.071	U	0.019	0.14	U	0.038	0.14	U	0.038	0.071	U	0.019	0.072	U	0.019	0.07	U	0.018
2-Chloronaphthalene	NA	0.35	U	0.0079	0.35	U	0.0081	0.35	U	0.008	0.71	U	0.016	0.7	U	0.016	0.35	U	0.008	0.35	U	0.008	0.35	U	0.0079
2-Chlorophenol	NA	0.35	U	0.0089	0.35	U	0.009	0.35	U	0.009	0.71	U	0.018	0.7	U	0.018	0.35	U	0.009	0.35	U	0.009	0.35	U	0.0088
2-Methylnaphthalene	NA	0.022	J	0.0077	0.06	J	0.0078	0.35	U	0.0078	0.026	J	0.016	0.044	J	0.016	0.35	U	0.0078	0.35	U	0.0078	0.35	U	0.0076
2-Methylphenol	100	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015	0.71	U	0.031	0.7	U	0.031	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015
2-Nitroaniline	NA	0.35	U	0.012	0.35	U	0.012	0.35	U	0.012	0.71	U	0.023	0.7	U	0.023	0.35	U	0.012	0.35	U	0.012	0.35	U	0.011
2-Nitrophenol	NA	0.35	U	0.012	0.35	U	0.012	0.35	U	0.012	0.71	U	0.024	0.7	U	0.024	0.35	U	0.012	0.35	U	0.012	0.35	U	0.012
3,3'-Dichlorobenzidine	NA	0.14	U	0.039	0.14	U	0.040	0.14	U	0.039	0.29	U	0.079	0.28	U	0.079	0.14	U	0.039	0.14	U	0.039	0.14	U	0.039
3-Nitroaniline	NA	0.35	U	0.010	0.35	U	0.011	0.35	U	0.010	0.71	U	0.021	0.7	U	0.021	0.35	U	0.010	0.35	U	0.010	0.35	U	0.010
4,6-Dinitro-2-methylphenol	NA	0.28	U	0.093	0.29	U	0.095	0.28	U	0.094	0.57	U	0.19	0.57	U	0.19	0.28	U	0.094	0.28	U	0.094	0.28	U	0.092
4-Bromophenyl phenyl ether	NA	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011	0.71	U	0.022	0.7	U	0.022	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011
4-Chloro-3-methylphenol	NA	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015	0.71	U	0.030	0.7	U	0.030	0.35	U	0.015	0.35	U	0.015	0.35	U	0.015
4-Chloroaniline	NA	0.35	U	0.009	0.35	U	0.0091	0.35	U	0.0091	0.71	U	0.018	0.7	U	0.018	0.35	U	0.0091	0.35	U	0.0091	0.35	U	0.0089
4-Chlorophenyl phenyl ether	NA	0.35	U	0.010	0.35	U	0.011	0.35	U	0.011	0.71	U	0.021	0.7	U	0.021	0.35	U	0.011	0.35	U	0.011	0.35	U	0.010
4-Methylphenol	100	0.35	U	0.0095	0.35	U	0.0097	0.35	U	0.0096	0.71	U	0.019	0.7	U	0.019	0.35	U	0.0096	0.35	U	0.0096	0.35	U	0.0094
4-Nitroaniline	NA	0.35	U	0.013	0.35	U	0.013	0.35	U	0.013	0.71	U	0.027	0.7	U	0.027	0.35	U	0.013	0.35	U	0.013	0.35	U	0.013
4-Nitrophenol	NA	0.71	U	0.17	0.72	U	0.17	0.71	U	0.17	1.4	U	0.34	1.4	U	0.34	0.71	U	0.17	0.72	U	0.17	0.7	U	0.17
Acenaphthene	100	0.24	J	0.0085	0.096	J	0.0086	0.024	J	0.0085	0.064	J	0.017	0.22	J	0.017	0.031	J	0.0085	0.35	U	0.0086	0.35	U	0.0084
Acenaphthylene	100	0.022	J	0.009	0.068	J	0.0091	0.039	J	0.0091	0.089	J	0.018	0.045	J	0.018	0.014	J	0.0091	0.011	J	0.0091	0.35	U	0.0089
Acetophenone	NA	0.35	U	0.0076	0.35	U	0.0077	0.35	U	0.0077	0.71	U	0.015	0.7	U	0.015	0.35	U	0.0077	0.0089	J	0.0077	0.35	U	0.0075
Anthracene	100	0.54		0.033	0.29	J	0.034	0.08	J	0.033	0.63	J	0.067	0.74		0.067	0.11	J	0.033	0.35	U	0.034	0.35	U	0.033
Atrazine	NA	0.14	U *	0.016	0.14	U *	0.016	0.14	U *	0.016	0.29	U	0.032	0.28	U	0.031	0.14	U *	0.016	0.14	U	0.016	0.14	U	0.015
Benzaldehyde	NA	0.35	U	0.027	0.35	U	0.027	0.35	U	0.027	0.71	U	0.054	0.7	U	0.054	0.35	U	0.027	0.35	U	0.027	0.35	U	0.026
Benzo[a]anthracene	1	**1.2**		0.029	**0.82**		0.030	**0.39**		0.029	**3.3**		0.059	**2.5**		0.059	**0.41**		0.029	0.16		0.030	0.032	J	0.029
Benzo[a]pyrene	1	**1.2**		0.011	**0.83**		0.011	**0.46**	*	0.011	**2.4**		0.021	**2.2**		0.021	**0.41**	*	0.011	**0.16**		0.011	0.035		0.010
Benzo[b]fluoranthene	1	**1.3**		0.014	**1.3**		0.014	**0.76**		0.014	**3.4**		0.028	**3**		0.027	**0.68**		0.014	**0.23**		0.014	0.053		0.014
Benzo[g,h,i]perylene	100	1		0.020	0.28	J	0.020	0.14	J	0.020	1.8		0.041	2		0.040	0.19	J	0.020	0.16	J	0.020	0.024	J	0.020
Benzo[k]fluoranthene	3.9	**0.58**		0.015	**0.52**		0.015	**0.28**		0.015	**1.5**		0.031	**1.3**		0.031	**0.3**		0.015	0.082		0.015	0.021	J	0.015
Bis(2-chloroethoxy)methane	NA	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011	0.71	U	0.022	0.7	U	0.022	0.35	U	0.011	0.35	U	0.011	0.35	U	0.011
Bis(2-chloroethyl)ether	NA	0.035	U	0.0082	0.035	U	0.0084	0.035	U	0.0083	0.071	U	0.017	0.07	U	0.017	0.035	U	0.0083	0.035	U	0.0083	0.035	U	0.0082
Bis(2-ethylhexyl) phthalate	NA	0.097	J	0.014	0.13	J	0.014	0.077	J	0.014	0.32	J	0.028	0.7	U	0.027	0.35	U	0.014	0.04	J	0.014	0.35	U	0.014
Butyl benzyl phthalate	NA	0.084	J	0.011	0.14	J	0.011	0.12	J	0.011	0.76		0.022	0.081	J	0.022	0.069	J	0.011	0.034	J	0.011	0.35	U	0.011
Caprolactam	NA	0.35	U	0.025	0.35	U	0.026	0.35	U	0.025	0.71	U	0.051	0.7	U	0.051	0.35	U	0.025	0.35	U	0.025	0.35	U	0.025
Carbazole	NA	0.087	J	0.0087	0.14	J	0.0088	0.042	J	0.0087	0.051	J	0.018	0.21	J	0.017	0.027	J	0.0087	0.35	U	0.0088	0.35	U	0.0086
Chrysene	3.9	**1.1**		0.0095	**0.87**		0.0097	**0.45**		0.0096	**3.2**		0.019	**2.5**		0.019	**0.42**		0.0096	0.16	J	0.0096	0.032	J	0.0094
Dibenz(a,h)anthracene	0.33	**0.19**		0.018	**0.091**		0.018	**0.036**		0.018	**0.52**		0.037	**0.44**		0.037	**0.042**		0.018	**0.039**		0.018	0.035	U	0.018
Dibenzofuran	59	0.098	J	0.011	0.089	J	0.011	0.012	J	0.011	0.054	J	0.021	0.14	J	0.021	0.013	J	0.011	0.35	U	0.011	0.35	U	0.010
Diethyl phthalate	NA	0.35	U	0.0099	0.35	U	0.010	0.35	U	0.010	0.71	U	0.020	0.7	U	0.020	0.35	U	0.010	0.35	U	0.010	0.35	U	0.0098
Dimethyl phthalate	NA	0.35	U	0.010	0.35	U	0.010	0.35	U	0.010	0.71	U	0.021	0.7	U	0.020	0.35	U	0.010	0.35	U	0.010	0.35	U	0.010
Di-n-butyl phthalate	NA	**0.037**	J	0.010	**0.045**	J	0.011	**0.052**	J	0.011	**5.3**		0.021	**0.14**	J	0.021	**0.02**	J	0.011	**0.015**	J	0.011	0.35	U	0.010
Di-n-octyl phthalate	NA	0.35	U	0.018	0.35	U	0.018	0.35	U	0.018	0.71	U	0.036	0.7	U	0.036	0.35	U	0.018	0.35	U	0.018	0.35	U	0.018
Fluoranthene	100	2.7		0.010	1.9		0.011	0.96		0.010	6.1		0.021	5.2		0.021	1.1		0.010	0.28	J	0.010	0.038	J	0.010
Fluorene	100	0.24	J	0.0076	0.15	J	0.0077	0.026	J	0.0077	0.068	J	0.015	0.17	J	0.015	0.031	J	0.0077	0.35	U	0.0077	0.35	U	0.0075
Hexachlorobenzene	1.2	0.035	U	0.014	0.035	U	0.014	0.035	U	0.014	0.071	U	0.029	0.07	U	0.029	0.035	U	0.014	0.035	U	0.014	0.035	U	0.014
Hexachlorobutadiene	NA	0.071	U	0.0098	0.072	U	0.010	0.071	U	0.0099	0.14	U	0.020	0.14	U	0.020	0.071	U	0.0099	0.072	U	0.0099	0.07	U	0.0097
Hexachlorocyclopentadiene	NA	0.35	U *	0.022	0.35	U *	0.022	0.35	U	0.022	0.71	U	0.044	0.7	U	0.044	0.35	U	0.022	0.35	U	0.022	0.35	U	0.022
Hexachloroethane	NA	0.035	U	0.013	0.035	U	0.013	0.035	U	0.013	0.071	U	0.026	0.07	U	0.026	0.035	U	0.013	0.035	U	0.013	0.035	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	**1.2**		0.023	0.33		0.024	0.17	*	0.023	**1.9**		0.047	**2**		0.047	0.18	*	0.023	0.18		0.024	0.031	J	0.023
Isophorone	NA	0.14	U	0.0075	0.14	U	0.0076	0.14	U	0.0076	0.29	U	0.015	0.28	U	0.015	0.14	U	0.0076	0.14	U	0.0076	0.14	U	0.0074
Naphthalene	100	0.026	J	0.0089	0.12	J	0.009	0.015	J	0.009	0.041	J	0.018	0.073	J	0.018	0.01	J	0.009	0.35	U	0.009	0.35	U	0.0088
Nitrobenzene	15	0.035	U	0.011	0.035	U	0.011	0.035	U	0.011	0.071	U	0.022	0.07	U	0.022	0.035	U	0.011	0.035	U	0.011	0.035	U	0.011
N-Nitrosodi-n-propylamine	NA	0.035	U	0.012	0.035	U	0.012	0.035	U	0.012	0.071	U	0.024	0.07	U	0.024	0.035	U	0.012	0.035	U	0.012	0.035	U	0.012
N-Nitrosodiphenylamine	NA	0.35	U	0.032	0.35	U	0.032	0.35	U	0.032	0.71	U	0.064	0.7	U	0.064	0.35	U	0.032	0.35	U	0.032	0.35	U	0.031
Pentachlorophenol	6.7	0.28	U	0.042	0.29	U	0.043	0.28	U	0.043	0.57	U	0.086	0.57	U	0.085	0.28	U	0.043	0.28	U	0.043	0.28	U	0.042
Phenanthrene	100	2		0.0093	1.3		0.0095	0.31	J	0.0094	2.5		0.019	3.8		0.019	0.4		0.0094	0.074	J	0.0094	0.01	J	0.0092
Phenol	100	0.35	U	0.011	0.35	U	0.012	0.35	U	0.012	0.71	U	0.023	0.7	U	0.023	0.35	U	0.012	0.35	U	0.012	0.35	U	0.011
Pyrene	100	2.1		0.016	1.3		0.016	0.55		0.016	5.9		0.032	5.3		0.032	0.84		0.016	0.26	J	0.016	0.045	J	0.016
Total Conc	NA	16.063			10.869			4.993			39.923			32.103			5.297			1.8939			0.321		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	SB-D5(0-2)			SB-D5(6-12)			SB-D5(18-24)			SB-E2(0-2)			SB-E2(6-12)			SB-E2(18-24)			SB-E3(0-2)			SB-E3(6-12)		
Lab Sample ID	& CP-51 T-1	460-93506-39			460-93506-42			460-93506-46			460-93506-44			460-93506-45			460-93506-47			460-93506-51			460-93506-55		
Sampling Date	Restricted Residential	04/15/2015 15:43:00			04/15/2015 15:50:00			04/15/2015 16:05:00			04/15/2015 16:00:00			04/15/2015 16:00:00			04/15/2015 16:10:00			04/16/2015 09:05:00			04/16/2015 09:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			2			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D																									
1,1'-Biphenyl	NA	0.35	U	0.030	0.35	U	0.030	0.34	U	0.029	0.36	U	0.031	0.71	U	0.061	0.35	U	0.030	0.34	U	0.029	0.35	U	0.030
1,2,4,5-Tetrachlorobenzene	NA	0.35	U	0.026	0.35	U	0.026	0.34	U	0.026	0.36	U	0.027	0.71	U	0.053	0.35	U	0.026	0.34	U	0.026	0.35	U	0.026
2,2'-oxybis[1-chloropropane]	NA	0.35	U	0.014	0.35	U	0.014	0.34	U	0.014	0.36	U	0.015	0.71	U	0.029	0.35	U	0.014	0.34	U	0.014	0.35	U	0.014
2,3,4,6-Tetrachlorophenol	NA	0.35	U	0.033	0.35	U	0.033	0.34	U	0.032	0.36	U	0.034	0.71	U	0.067	0.35	U	0.033	0.34	U	0.032	0.35	U	0.033
2,4,5-Trichlorophenol	NA	0.35	U	0.035	0.35	U	0.035	0.34	U	0.034	0.36	U	0.036	0.71	U	0.071	0.35	U	0.035	0.34	U	0.034	0.35	U	0.034
2,4,6-Trichlorophenol	NA	0.14	U	0.0099	0.14	U	0.010	0.14	U	0.0098	0.15	U	0.010	0.29	U	0.020	0.14	U	0.0099	0.14	U	0.0098	0.14	U	0.0098
2,4-Dichlorophenol	NA	0.14	U	0.0082	0.14	U	0.0083	0.14	U	0.0081	0.15	U	0.0085	0.29	U	0.017	0.14	U	0.0082	0.14	U	0.0081	0.14	U	0.0082
2,4-Dimethylphenol	NA	0.35	U	0.077	0.35	U	0.077	0.34	U	0.076	0.36	U	0.080	0.71	U	0.16	0.35	U	0.076	0.34	U	0.076	0.35	U	0.076
2,4-Dinitrophenol	NA	0.28	U	0.26	0.28	U	0.27	0.28	U	0.26	0.29	U	0.27	0.57	U	0.54	0.28	U	0.26	0.28	U	0.26	0.28	U	0.26
2,4-Dinitrotoluene	NA	0.071	U	0.014	0.071	U	0.014	0.07	U	0.014	0.073	U	0.014	0.14	U	0.028	0.07	U	0.014	0.07	U	0.014	0.07	U	0.014
2,6-Dinitrotoluene	NA	0.071	U	0.019	0.071	U	0.019	0.07	U	0.018	0.073	U	0.019	0.14	U	0.038	0.07	U	0.018	0.07	U	0.018	0.07	U	0.018
2-Chloronaphthalene	NA	0.35	U	0.0079	0.35	U	0.008	0.34	U	0.0078	0.36	U	0.0082	0.71	U	0.016	0.35	U	0.0079	0.34	U	0.0078	0.35	U	0.0079
2-Chlorophenol	NA	0.35	U	0.0089	0.35	U	0.0089	0.34	U	0.0087	0.36	U	0.0092	0.71	U	0.018	0.35	U	0.0088	0.34	U	0.0087	0.35	U	0.0088
2-Methylnaphthalene	NA	0.35	U	0.0077	0.35	U	0.0078	0.34	U	0.0076	0.36	U	0.008	0.043	J	0.016	0.35	U	0.0077	0.011	J	0.0076	0.35	U	0.0076
2-Methylphenol	100	0.35	U	0.015	0.35	U	0.015	0.34	U	0.015	0.36	U	0.016	0.71	U	0.031	0.35	U	0.015	0.34	U	0.015	0.35	U	0.015
2-Nitroaniline	NA	0.35	U	0.012	0.35	U	0.012	0.34	U	0.011	0.36	U	0.012	0.71	U	0.024	0.35	U	0.011	0.34	U	0.011	0.35	U	0.011
2-Nitrophenol	NA	0.35	U	0.012	0.35	U	0.012	0.34	U	0.012	0.36	U	0.012	0.71	U	0.024	0.35	U	0.012	0.34	U	0.012	0.35	U	0.012
3,3'-Dichlorobenzidine	NA	0.14	U	0.039	0.14	U	0.039	0.14	U	0.038	0.15	U	0.040	0.29	U	0.080	0.14	U	0.039	0.14	U	0.038	0.14	U	0.039
3-Nitroaniline	NA	0.35	U	0.010	0.35	U	0.010	0.34	U	0.010	0.36	U	0.011	0.71	U	0.021	0.35	U	0.010	0.34	U	0.010	0.35	U	0.010
4,6-Dinitro-2-methylphenol	NA	0.28	U	0.093	0.28	U	0.094	0.28	U	0.092	0.29	U	0.097	0.57	U	0.19	0.28	U	0.093	0.28	U	0.092	0.28	U	0.092
4-Bromophenyl phenyl ether	NA	0.35	U	0.011	0.35	U	0.011	0.34	U	0.011	0.36	U	0.011	0.71	U	0.022	0.35	U	0.011	0.34	U	0.011	0.35	U	0.011
4-Chloro-3-methylphenol	NA	0.35	U	0.015	0.35	U	0.015	0.34	U	0.015	0.36	U	0.016	0.71	U	0.031	0.35	U	0.015	0.34	U	0.015	0.35	U	0.015
4-Chloroaniline	NA	0.35	U	0.009	0.35	U	0.009	0.34	U	0.0088	0.36	U	0.0093	0.71	U	0.018	0.35	U	0.0089	0.34	U	0.0088	0.35	U	0.0089
4-Chlorophenyl phenyl ether	NA	0.35	U	0.010	0.35	U	0.011	0.34	U	0.010	0.36	U	0.011	0.71	U	0.021	0.35	U	0.010	0.34	U	0.010	0.35	U	0.010
4-Methylphenol	100	0.35	U	0.0095	0.35	U	0.0096	0.34	U	0.0094	0.36	U	0.0099	0.71	U	0.019	0.35	U	0.0095	0.34	U	0.0094	0.35	U	0.0094
4-Nitroaniline	NA	0.35	U	0.013	0.35	U	0.013	0.34	U	0.013	0.36	U	0.014	0.71	U	0.027	0.35	U	0.013	0.34	U	0.013	0.35	U	0.013
4-Nitrophenol	NA	0.71	U	0.17	0.71	U	0.17	0.7	U	0.17	0.73	U	0.17	1.4	U	0.34	0.7	U	0.17	0.7	U	0.17	0.7	U	0.17
Acenaphthene	100	0.035	J	0.0084	0.35	U	0.0085	0.34	U	0.0083	0.02	J	0.0088	0.29	J	0.017	0.35	U	0.0084	0.038	J	0.0083	0.35	U	0.0084
Acenaphthylene	100	0.028	J	0.009	0.35	U	0.009	0.048	J	0.0088	0.012	J	0.0093	0.041	J	0.018	0.0098	J	0.0089	0.035	J	0.0088	0.35	U	0.0089
Acetophenone	NA	0.35	U	0.0076	0.35	U	0.0077	0.34	U	0.0075	0.36	U	0.0079	0.71	U	0.016	0.35	U	0.0076	0.34	U	0.0075	0.35	U	0.0075
Anthracene	100	0.13	J	0.033	0.35	U	0.033	0.34	U	0.033	0.075	J	0.034	0.62	J	0.068	0.35	U	0.033	0.27	J	0.033	0.35	U	0.033
Atrazine	NA	0.14	U *	0.016	0.14	U *	0.016	0.14	U *	0.015	0.15	U *	0.016	0.29	U *	0.032	0.14	U *	0.015	0.14	U *	0.015	0.14	U *	0.015
Benzaldehyde	NA	0.35	U	0.027	0.35	U	0.027	0.34	U	0.026	0.36	U	0.028	0.71	U	0.054	0.35	U	0.026	0.34	U	0.026	0.35	U	0.026
Benzo[a]anthracene	1	**0.51**		0.029	0.087		0.029	0.17		0.029	**0.33**		0.030	**2.9**		0.060	0.053		0.029	**1.3**		0.029	0.034	J	0.029
Benzo[a]pyrene	1	**0.56**	*	0.011	**0.095**		0.011	**0.22**		0.010	**0.35**		0.011	**3**		0.022	**0.066**		0.011	**1.2**		0.010	0.041	*	0.010
Benzo[b]fluoranthene	1	**1**		0.014	0.14		0.014	**0.37**		0.013	**0.6**		0.014	**3.8**		0.028	0.14		0.014	**1.6**		0.013	0.07		0.014
Benzo[g,h,i]perylene	100	0.22	J	0.020	0.038	J	0.020	0.085	J	0.020	0.12	J	0.021	2.7		0.041	0.031	J	0.020	1.1		0.020	0.039	J	0.020
Benzo[k]fluoranthene	3.9	**0.33**		0.015	0.053		0.015	0.18		0.015	0.22		0.016	**1.6**		0.031	0.049		0.015	**0.56**		0.015	0.025	J	0.015
Bis(2-chloroethoxy)methane	NA	0.35	U	0.011	0.35	U	0.011	0.34	U	0.011	0.36	U	0.011	0.71	U	0.022	0.35	U	0.011	0.34	U	0.011	0.35	U	0.011
Bis(2-chloroethyl)ether	NA	0.035	U	0.0082	0.035	U	0.0083	0.034	U	0.0081	0.036	U	0.0085	0.071	U	0.017	0.035	U	0.0082	0.034	U	0.0081	0.035	U	0.0082
Bis(2-ethylhexyl) phthalate	NA	0.09	J	0.014	0.03	J	0.014	0.34	U	0.013	0.11	J	0.014	0.052	J	0.028	0.35	U	0.014	0.098	J	0.013	0.11	J	0.014
Butyl benzyl phthalate	NA	0.12	J	0.011	0.018	J	0.011	0.34	U	0.011	0.25	J	0.011	0.71	U	0.022	0.35	U	0.011	0.31	J	0.011	0.17	J	0.011
Caprolactam	NA	0.35	U	0.025	0.35	U	0.025	0.34	U	0.025	0.36	U	0.026	0.71	U	0.051	0.35	U	0.025	0.34	U	0.025	0.35	U	0.025
Carbazole	NA	0.053	J	0.0087	0.35	U	0.0087	0.34	U	0.0085	0.029	J	0.009	0.31	J	0.018	0.35	U	0.0086	0.032	J	0.0085	0.35	U	0.0086
Chrysene	3.9	**0.55**		0.0095	0.096	J	0.0096	0.25	J	0.0094	0.39		0.0099	**3.1**		0.019	0.078	J	0.0095	**1.3**		0.0094	0.046	J	0.0094
Dibenz(a,h)anthracene	0.33	**0.055**		0.018	0.035	U	0.018	**0.021**	J	0.018	**0.029**	J	0.019	**0.7**		0.037	0.035	U	0.018	**0.25**		0.018	0.035	U	0.018
Dibenzofuran	59	0.015	J	0.011	0.35	U	0.011	0.34	U	0.010	0.36	U	0.011	0.17	J	0.022	0.35	U	0.011	0.017	J	0.010	0.35	U	0.010
Diethyl phthalate	NA	0.35	U	0.0099	0.35	U	0.010	0.34	U	0.0098	0.36	U	0.010	0.71	U	0.020	0.35	U	0.0099	0.34	U	0.0098	0.017	J	0.0098
Dimethyl phthalate	NA	0.35	U	0.010	0.35	U	0.010	0.34	U	0.010	0.36	U	0.011	0.71	U	0.021	0.35	U	0.010	0.34	U	0.010	0.35	U	0.010
Di-n-butyl phthalate	NA	**0.018**	J	0.010	0.35	U	0.011	0.34	U	0.010	**0.074**	J	0.011	**0.24**	J	0.021	0.35	U	0.010	**0.14**	J	0.010	**0.046**	J	0.010
Di-n-octyl phthalate	NA	0.35	U	0.018	0.35	U	0.018	0.34	U	0.017	0.36	U	0.018	0.71	U	0.036	0.35	U	0.018	0.34	U	0.017	0.35	U	0.018
Fluoranthene	100	1.5		0.010	0.15	J	0.010	0.42		0.010	0.78		0.011	6.5		0.021	0.11	J	0.010	2.7		0.010	0.042	J	0.010
Fluorene	100	0.036	J	0.0076	0.35	U	0.0077	0.34	U	0.0075	0.021	J	0.0079	0.26	J	0.016	0.35	U	0.0076	0.038	J	0.0075	0.35	U	0.0075
Hexachlorobenzene	1.2	0.035	U	0.014	0.035	U	0.014	0.034	U	0.014	0.036	U	0.015	0.071	U	0.029	0.035	U	0.014	0.034	U	0.014	0.035	U	0.014
Hexachlorobutadiene	NA	0.071	U	0.0098	0.071	U	0.0099	0.07	U	0.0097	0.073	U	0.010	0.14	U	0.020	0.07	U	0.0098	0.07	U	0.0097	0.07	U	0.0097
Hexachlorocyclopentadiene	NA	0.35	U	0.022	0.35	U *	0.022	0.34	U *	0.021	0.36	U *	0.023	0.71	U *	0.044	0.35	U *	0.022	0.34	U *	0.021	0.35	U	0.022
Hexachloroethane	NA	0.035	U	0.013	0.035	U	0.013	0.034	U	0.013	0.036	U	0.013	0.071	U	0.026	0.035	U	0.013	0.034	U	0.013	0.035	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	0.24	*	0.023	0.046		0.023	0.1		0.023	0.14		0.024	**3.3**		0.047	0.03	J	0.023	**1.3**		0.023	0.037	*	0.023
Isophorone	NA	0.14	U	0.0075	0.14	U	0.0076	0.14	U	0.0074	0.15	U	0.0078	0.29	U	0.015	0.14	U	0.0075	0.14	U	0.0074	0.14	U	0.0074
Naphthalene	100	0.011	J	0.0089	0.35	U	0.0089	0.34	U	0.0087	0.36	U	0.0092	0.072	J	0.018	0.35	U	0.0088	0.018	J	0.0087	0.35	U	0.0088
Nitrobenzene	15	0.035	U	0.011	0.035	U	0.011	0.034	U	0.011	0.036	U	0.011	0.071	U	0.022	0.035	U	0.011	0.034	U	0.011	0.035	U	0.011
N-Nitrosodi-n-propylamine	NA	0.035	U	0.012	0.035	U	0.012	0.034	U	0.012	0.036	U	0.012	0.071	U	0.024	0.035	U	0.012	0.034	U	0.012	0.035	U	0.012
N-Nitrosodiphenylamine	NA	0.35	U	0.032	0.35	U	0.032	0.34	U	0.031	0.36	U	0.033	0.71	U	0.065	0.35	U	0.032	0.34	U	0.031	0.35	U	0.031
Pentachlorophenol	6.7	0.28	U	0.042	0.28	U	0.043	0.28	U	0.042	0.29	U	0.044	0.57	U	0.086	0.28	U	0.042	0.28	U	0.042	0.28	U	0.042
Phenanthrene	100	0.59		0.0093	0.042	J	0.0094	0.11	J	0.0092	0.35	J	0.0096	3.6		0.019	0.038	J	0.0092	1.1		0.0092	0.018	J	0.0092
Phenol	100	0.35	U	0.011	0.35	U	0.011	0.34	U	0.011	0.36	U	0.012	0.71	U	0.023	0.35	U	0.011	0.34	U	0.011	0.35	U	0.011
Pyrene	100	1.1		0.016	0.11	J	0.016	0.27	J	0.016	0.54		0.016	5.4		0.032	0.075	J	0.016	1.9		0.016	0.056	J	0.016
Total Conc	NA	7.191			0.905			2.244			4.44			38.698			0.6798			15.317			0.751		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 3: Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)	**SB-E3(18-24)**			**SB-E4(0-2)**			**SB-E4(6-12)**			**SB-E4(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-62			460-93506-49			460-93506-52			460-93506-57		
Sampling Date	Restricted Residential	04/16/2015 09:45:00			04/16/2015 09:00:00			04/16/2015 09:15:00			04/16/2015 09:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			5			5		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg		
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D													
1,1'-Biphenyl	NA	0.35	U	0.030	0.35	U	0.030	1.7	U	0.15	1.8	U	0.15
1,2,4,5-Tetrachlorobenzene	NA	0.35	U	0.026	0.35	U	0.026	1.7	U	0.13	1.8	U	0.13
2,2'-oxybis[1-chloropropane]	NA	0.35	U	0.014	0.35	U	0.015	1.7	U	0.071	1.8	U	0.073
2,3,4,6-Tetrachlorophenol	NA	0.35	U	0.033	0.35	U	0.033	1.7	U	0.16	1.8	U	0.17
2,4,5-Trichlorophenol	NA	0.35	U	0.035	0.35	U	0.035	1.7	U	0.17	1.8	U	0.18
2,4,6-Trichlorophenol	NA	0.14	U	0.0099	0.14	U	0.010	0.7	U	0.049	0.72	U	0.051
2,4-Dichlorophenol	NA	0.14	U	0.0082	0.14	U	0.0084	0.7	U	0.041	0.72	U	0.042
2,4-Dimethylphenol	NA	0.35	U	0.077	0.35	U	0.078	1.7	U	0.38	1.8	U	0.39
2,4-Dinitrophenol	NA	0.28	U	0.26	0.28	U	0.27	1.4	U	1.3	1.4	U	1.4
2,4-Dinitrotoluene	NA	0.071	U	0.014	0.072	U	0.014	0.35	U	0.069	0.36	U	0.071
2,6-Dinitrotoluene	NA	0.071	U	0.019	0.072	U	0.019	0.35	U	0.092	0.36	U	0.095
2-Chloronaphthalene	NA	0.35	U	0.0079	0.35	U	0.008	1.7	U	0.039	1.8	U	0.041
2-Chlorophenol	NA	0.35	U	0.0088	0.35	U	0.009	1.7	U	0.044	1.8	U	0.045
2-Methylnaphthalene	NA	0.35	U	0.0077	0.02	J	0.0078	0.076	J	0.038	0.19	J	0.039
2-Methylphenol	100	0.35	U	0.015	0.35	U	0.015	1.7	U	0.075	1.8	U	0.078
2-Nitroaniline	NA	0.35	U	0.011	0.35	U	0.012	1.7	U	0.057	1.8	U	0.059
2-Nitrophenol	NA	0.35	U	0.012	0.35	U	0.012	1.7	U	0.058	1.8	U	0.060
3,3'-Dichlorobenzidine	NA	0.14	U	0.039	0.14	U	0.040	0.7	U	0.19	0.72	U	0.20
3-Nitroaniline	NA	0.35	U	0.010	0.35	U	0.010	1.7	U	0.051	1.8	U	0.053
4,6-Dinitro-2-methylphenol	NA	0.28	U	0.093	0.28	U	0.094	1.4	U	0.46	1.4	U	0.48
4-Bromophenyl phenyl ether	NA	0.35	U	0.011	0.35	U	0.011	1.7	U	0.054	1.8	U	0.056
4-Chloro-3-methylphenol	NA	0.35	U	0.015	0.35	U	0.015	1.7	U	0.074	1.8	U	0.077
4-Chloroaniline	NA	0.35	U	0.0089	0.35	U	0.0091	1.7	U	0.045	1.8	U	0.046
4-Chlorophenyl phenyl ether	NA	0.35	U	0.010	0.35	U	0.011	1.7	U	0.052	1.8	U	0.053
4-Methylphenol	100	0.35	U	0.0095	0.35	U	0.0096	1.7	U	0.047	1.8	U	0.049
4-Nitroaniline	NA	0.35	U	0.013	0.35	U	0.013	1.7	U	0.065	1.8	U	0.068
4-Nitrophenol	NA	0.71	U	0.17	0.72	U	0.17	3.5	U	0.83	3.6	U	0.86
Acenaphthene	100	0.35	U	0.0084	0.011	J	0.0086	0.15	J	0.042	0.42	J	0.043
Acenaphthylene	100	0.012	J	0.0089	0.032	J	0.0091	0.21	J	0.045	0.33	J	0.046
Acetophenone	NA	0.35	U	0.0076	0.35	U	0.0077	1.7	U	0.038	1.8	U	0.039
Anthracene	100	0.35	U	0.033	0.097	J	0.034	1.1	J	0.16	2.4		0.17
Atrazine	NA	0.14	U *	0.015	0.14	U *	0.016	0.7	U *	0.077	0.72	U *	0.079
Benzaldehyde	NA	0.35	U	0.027	0.35	U	0.027	1.7	U	0.13	1.8	U	0.14
Benzo[a]anthracene	1	0.035	U	0.029	**0.98**		0.030	**5.8**		0.14	**12**		0.15
Benzo[a]pyrene	1	0.031	J *	0.011	**0.93**		0.011	**5.6**	*	0.052	**11**	*	0.054
Benzo[b]fluoranthene	1	0.053		0.014	**1.5**		0.014	**7.3**		0.068	**15**		0.070
Benzo[g,h,i]perylene	100	0.03	J	0.020	0.33	J	0.020	2.5		0.10	3.8		0.10
Benzo[k]fluoranthene	3.9	0.035	U	0.015	**0.66**		0.015	**2.8**		0.075	**6.1**		0.078
Bis(2-chloroethoxy)methane	NA	0.35	U	0.011	0.35	U	0.011	1.7	U	0.054	1.8	U	0.056
Bis(2-chloroethyl)ether	NA	0.035	U	0.0082	0.035	U	0.0084	0.17	U	0.041	0.18	U	0.042
Bis(2-ethylhexyl) phthalate	NA	0.029	J	0.014	0.49		0.014	1.7	U	0.068	1.8	U	0.070
Butyl benzyl phthalate	NA	0.051	J	0.011	1.6		0.011	1.7	U	0.053	1.8	U	0.055
Caprolactam	NA	0.35	U	0.025	0.35	U	0.025	1.7	U	0.12	1.8	U	0.13
Carbazole	NA	0.35	U	0.0086	0.015	J	0.0088	0.23	J	0.043	0.56	J	0.044
Chrysene	3.9	0.028	J	0.0095	**0.99**		0.0096	**5.4**		0.047	**13**		0.049
Dibenz(a,h)anthracene	0.33	0.035	U	0.018	**0.086**		0.018	**0.69**		0.090	**1.3**		0.093
Dibenzofuran	59	0.35	U	0.011	0.015	J	0.011	0.32	J	0.052	0.49	J	0.054
Diethyl phthalate	NA	0.35	U	0.0099	0.35	U	0.010	1.7	U	0.049	1.8	U	0.051
Dimethyl phthalate	NA	0.35	U	0.010	0.35	U	0.010	1.7	U	0.050	1.8	U	0.052
Di-n-butyl phthalate	NA	**0.023**	J	0.010	**0.21**	J	0.011	**0.064**	J	0.052	1.8	U	0.053
Di-n-octyl phthalate	NA	0.35	U	0.018	0.26	J	0.018	1.7	U	0.088	1.8	U	0.091
Fluoranthene	100	0.039	J	0.010	1.7		0.010	10		0.051	27		0.053
Fluorene	100	0.35	U	0.0076	0.011	J	0.0077	0.5	J	0.038	1.2	J	0.039
Hexachlorobenzene	1.2	0.035	U	0.014	0.035	U	0.014	0.17	U	0.070	0.18	U	0.072
Hexachlorobutadiene	NA	0.071	U	0.0098	0.072	U	0.010	0.35	U	0.049	0.36	U	0.050
Hexachlorocyclopentadiene	NA	0.35	U	0.022	0.35	U *	0.022	1.7	U	0.11	1.8	U	0.11
Hexachloroethane	NA	0.035	U	0.013	0.035	U	0.013	0.17	U	0.063	0.18	U	0.065
Indeno[1,2,3-cd]pyrene	0.5	0.035	U *	0.023	0.37		0.024	**2.9**	*	0.12	**4.6**	*	0.12
Isophorone	NA	0.14	U	0.0075	0.14	U	0.0076	0.7	U	0.037	0.72	U	0.038
Naphthalene	100	0.012	J	0.0088	0.028	J	0.009	0.16	J	0.044	0.3	J	0.045
Nitrobenzene	15	0.035	U	0.011	0.035	U	0.011	0.17	U	0.054	0.18	U	0.056
N-Nitrosodi-n-propylamine	NA	0.035	U	0.012	0.035	U	0.012	0.17	U	0.058	0.18	U	0.060
N-Nitrosodiphenylamine	NA	0.35	U	0.032	0.35	U	0.032	1.7	U	0.16	1.8	U	0.16
Pentachlorophenol	6.7	0.28	U	0.042	0.28	U	0.043	1.4	U	0.21	1.4	U	0.22
Phenanthrene	100	0.019	J	0.0093	0.35		0.0094	5.5		0.046	15		0.048
Phenol	100	0.35	U	0.011	0.35	U	0.012	1.7	U	0.057	1.8	U	0.058
Pyrene	100	0.026	J	0.016	1.5		0.016	9.3		0.079	18		0.081
Total Conc	NA	0.353			12.185			60.6			132.69		

Highlighted Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-A0(0-2)**			**SB-A1(0-2)**			**SB-A1(18-24)**			**SB-A1(30-36)**			**SB-A1(42-48)**		
Lab Sample ID	& CP-51 T-1	460-93506-36			460-93506-9			460-93506-10			460-93506-15			460-93506-19		
Sampling Date	Restricted Residential	04/15/2015 15:20:00			04/15/2015 13:40:00			04/15/2015 13:45:00			04/15/2015 14:05:00			04/15/2015 14:20:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4320		30.2	6270		22.2	6080		23.1	5430		23.3	3920		22.9
Antimony	NA	5.5	U	2.1	4	U	1.5	4.2	U	1.6	4.2	U	1.6	4.1	U	1.6
Arsenic	16	3.4	J	1.1	6.8		0.82	4.3		0.86	1.5	J	0.86	2	J	0.85
Barium	400	183		2.4	71.2		1.7	93.9		1.8	46.3		1.8	29.7	J	1.8
Beryllium	72	0.55	U	0.37	0.4	U	0.27	0.42	U	0.28	0.42	U	0.29	0.41	U	0.28
Cadmium	4.3	0.94	J	0.39	0.61	J	0.28	0.62	J	0.3	0.84	U	0.3	0.31	J	0.29
Calcium	NA	**16100**		104	**20500**		76.8	6600		80.1	6840		80.7	875	J	79.4
Chromium	110	18.1		1.1	16.2		0.8	11.4		0.84	9		0.84	7.2		0.83
Cobalt	NA	3.5	J	1.2	3.9	J	0.91	4.6	J	0.94	3	J	0.95	2.2	J	0.94
Copper	270	**54.2**		2.4	28.4		1.8	43.5		1.8	28.6		1.9	8.9		1.8
Iron	NA	**10500**		34	**10300**		25	**13900**		26.1	**10500**		26.3	**7000**		25.8
Lead	400	**592**		1.1	**87.6**		0.82	**316**		0.86	**116**		0.87	**70.3**		0.85
Magnesium	NA	3220		90.6	2990		66.6	3230		69.5	3700		70	645	J	68.9
Manganese	2000	189		1.2	183		0.87	211		0.9	213		0.91	109		0.89
Nickel	310	17.3		2.4	13.7		1.8	12.5		1.9	12.9		1.9	8.6		1.9
Potassium	NA	664	J	37.7	718	J	27.7	359	J	28.9	243	J	29.1	181	J	28.6
Selenium	180	5.5	U	1.6	4	U	1.1	4.2	U	1.2	4.2	U	1.2	4.1	U	1.2
Silver	180	2.7	U	0.53	2	U	0.39	2.1	U	0.41	2.1	U	0.41	2.1	U	0.4
Sodium	NA	1360	U	103	1000	U	75.9	1050	U	79.1	1050	U	79.7	1040	U	78.4
Thallium	NA	5.5	U	2.7	4	U	2	4.2	U	2.1	4.2	U	2.1	4.1	U	2
Vanadium	NA	15.1		1.1	19.7		0.83	17.5		0.87	12.5		0.87	7.2	J	0.86
Zinc	10000	**2540**		11.7	106		1.7	**231**		1.8	88.9		1.8	77.9		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-A2(0-2)**			**SB-A2(18-24)**			**SB-A2(30-36)**			**SB-A2(42-48)**			**SB-A3(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-1			460-93506-2			460-93506-3			460-93506-48			460-93506-4		
Sampling Date	Restricted Residential	/15/2015 12:30:00			04/15/2015 12:45:00			04/15/2015 13:00:00			04/15/2015 16:40:00			04/15/2015 12:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	6150		25.4	6380		24.2	5410		24	5690		20.7	3170		21.8
Antimony	NA	4.6	U	1.7	4.4	U	1.7	4.3	U	1.6	3.7	U	1.4	3.9	U	1.5
Arsenic	16	9.4		0.94	7.5		0.9	2.7	J	0.89	2.8	U	0.77	3.7		0.81
Barium	400	61.5		2.0	72.3		1.9	189		1.9	37.1	J	1.6	24.3	J	1.7
Beryllium	72	0.46	U	0.31	0.31	J	0.3	0.93		0.3	0.37	U	0.25	0.39	U	0.27
Cadmium	4.3	0.77	J	0.32	0.89		0.31	1		0.31	0.62	J	0.26	0.33	J	0.28
Calcium	NA	**24000**		87.9	**30500**		83.8	4990		83	4010		71.6	**71500**		189
Chromium	110	16.9		0.92	21.8		0.88	37.8		0.87	13.2		0.75	6.3		0.79
Cobalt	NA	3.7	J	1.0	6.9	J	0.99	7.3	J	0.98	3	J	0.84	2.9	J	0.89
Copper	270	41.4		2.0	**88.1**		1.9	**102**		1.9	6.5		1.6	17.6		1.7
Iron	NA	**9890**		28.6	**12500**		27.3	**22600**		27	**8210**		23.3	**7780**		24.6
Lead	400	**120**		0.94	**192**		0.9	**1350**		0.89	26		0.77	**87.2**		0.81
Magnesium	NA	3390		76.3	12100		72.8	2860		72	1440		62.2	39300		65.5
Manganese	2000	177		0.99	190		0.94	201		0.94	110		0.81	150		0.85
Nickel	310	18.1		2.1	**36**		2	29.1		1.9	10.3		1.7	8.5		1.8
Potassium	NA	602	J	31.7	508	J	30.2	280	J	29.9	344	J	25.8	371	J	27.2
Selenium	180	4.6	U	1.3	4.4	U	1.2	1.3	J	1.2	3.7	U	1.1	3.9	U	1.1
Silver	180	2.3	U	0.45	2.2	U	0.43	2.2	U	0.42	1.9	U	0.36	2	U	0.38
Sodium	NA	1150	U	86.8	123	J	82.8	159	J	82	936	U	70.8	86.2	J	74.6
Thallium	NA	4.6	U	2.3	4.4	U	2.1	4.3	U	2.1	3.7	U	1.8	3.9	U	1.9
Vanadium	NA	17.9		0.95	23.4		0.91	23.6		0.9	10.7		0.77	19.5		0.82
Zinc	10000	**152**		2.0	**234**		1.9	**330**		1.9	**310**		1.6	57		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-A3(30-36)**			**SB-A3(42-48)**			**SB-A4(0-2)**			**SB-A4(18-24)**			**SB-A4(30-36)**		
Lab Sample ID	& CP-51 T-1	460-93506-5			460-93506-12			460-93506-6			460-93506-11			460-93506-14		
Sampling Date	Restricted Residential	04/15/2015 13:30:00			04/15/2015 14:00:00			04/15/2015 13:15:00			04/15/2015 13:45:00			04/15/2015 14:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	5540		21.3	4050		21.2	5860		23.8	3230		22.8	8020		22.5
Antimony	NA	3.9	U	1.5	3.8	U	1.5	4.3	U	1.6	4.1	U	1.6	4.1	U	1.5
Arsenic	16	3.8		0.79	1.4	J	0.79	4.7		0.88	3	J	0.85	5.2		0.84
Barium	400	60.7		1.7	38.1	J	1.7	64.2		1.9	25.9	J	1.8	40.3	J	1.8
Beryllium	72	0.39	U	0.26	0.38	U	0.26	0.43	U	0.29	0.41	U	0.28	0.41	U	0.28
Cadmium	4.3	0.6	J	0.27	0.57	J	0.27	0.95		0.3	0.4	J	0.29	0.33	J	0.29
Calcium	NA	**22900**		73.8	590	J	73.5	**38300**		82.3	**75400**		198	**13200**		78
Chromium	110	28.4		0.77	7.4		0.77	15.4		0.86	7.6		0.83	13.8		0.82
Cobalt	NA	3.5	J	0.87	2.9	J	0.87	3.3	J	0.97	2.9	J	0.93	4	J	0.92
Copper	270	16.6		1.7	13.4		1.7	**72.6**		1.9	16.1		1.8	17.9		1.8
Iron	NA	**11800**		24	**7840**		23.9	**10800**		26.8	**8020**		25.7	**12300**		25.4
Lead	400	**158**		0.79	**97.9**		0.79	**563**		0.88	46.1		0.85	53.8		0.84
Magnesium	NA	13400		64.1	739	J	63.8	5610		71.4	42900		68.6	7390		67.7
Manganese	2000	178		0.83	144		0.83	192		0.93	160		0.89	178		0.88
Nickel	310	19		1.7	12.1		1.7	**50.6**		1.9	8.9		1.8	12.5		1.8
Potassium	NA	315	J	26.6	350	J	26.5	508	J	29.7	337	J	28.5	476	J	28.1
Selenium	180	3.9	U	1.1	3.8	U	1.1	1.7	J	1.2	4.1	U	1.2	4.1	U	1.2
Silver	180	1.9	U	0.37	1.9	U	0.37	2.2	U	0.42	2.1	U	0.4	2	U	0.4
Sodium	NA	965	U	72.9	961	U	72.6	84	J	81.3	120	J	78.1	1020	U	77.1
Thallium	NA	3.9	U	1.9	3.8	U	1.9	4.3	U	2.1	4.1	U	2	4.1	U	2
Vanadium	NA	14.4		0.8	6.7	J	0.79	16.5		0.89	14.9		0.85	18.1		0.84
Zinc	10000	**165**		1.6	**228**		1.6	**152**		1.8	69.2		1.8	62.7		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-A4(42-48)**			**SB-A5(0-2)**			**SB-A5(18-24)**			**SB-A5(30-36)**			**SB-A5(42-48)**		
Lab Sample ID	& CP-51 T-1	460-93506-17			460-93506-7			460-93506-8			460-93506-13			460-93506-16		
Sampling Date	Restricted Residential	04/15/2015 14:15:00			04/15/2015 13:35:00			04/15/2015 13:40:00			04/15/2015 14:00:00			04/15/2015 14:10:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	8950		22.2	5580		21.6	4490		22.2	6260		23.6	6280		23.3
Antimony	NA	4	U	1.5	3.9	U	1.5	4	U	1.5	1.6	J	1.6	4.2	U	1.6
Arsenic	16	3.9		0.82	6.9		0.8	2.3	J	0.82	11.1		0.88	3.6		0.86
Barium	400	32.9	J	1.7	166		1.7	18	J	1.7	29.4	J	1.9	26	J	1.8
Beryllium	72	0.31	J	0.27	0.51		0.27	0.4	U	0.27	0.43	U	0.29	0.42	U	0.29
Cadmium	4.3	0.8	U	0.28	1.4		0.28	0.8	U	0.28	1.1		0.3	0.58	J	0.3
Calcium	NA	3670		76.9	**17500**		74.7	505	J	76.9	2910		81.8	**15600**		80.5
Chromium	110	13.3		0.81	21.3		0.78	6.1		0.81	33.5		0.86	14		0.84
Cobalt	NA	4.3	J	0.91	6.3	J	0.88	1.8	J	0.91	7.7	J	0.96	4.1	J	0.95
Copper	270	13.9		1.8	**174**		1.7	6.4		1.8	**90**		1.9	19.7		1.9
Iron	NA	**13600**		25	**13000**		24.3	**8300**		25	**55500**		66.6	**33400**		26.2
Lead	400	24.8		0.83	**1390**		0.8	9.6		0.83	20.4		0.88	21.7		0.86
Magnesium	NA	2830		66.8	4900		64.8	618	J	66.8	1070		71	1910		69.9
Manganese	2000	171		0.87	183		0.84	74.7		0.87	426		0.92	249		0.91
Nickel	310	12.4		1.8	**30.4**		1.7	4.8	J	1.8	**108**		1.9	15		1.9
Potassium	NA	355	J	27.8	499	J	26.9	249	J	27.8	266	J	29.5	278	J	29
Selenium	180	1.2	J	1.1	3.9	U	1.1	4	U	1.1	4.3	U	1.2	4.2	U	1.2
Silver	180	2	U	0.39	2	U	0.38	2	U	0.39	2.1	U	0.42	2.1	U	0.41
Sodium	NA	1010	U	76	126	J	73.8	1010	U	76	1070	U	80.9	1050	U	79.6
Thallium	NA	4	U	2	3.9	U	1.9	4	U	2	4.3	U	2.1	4.2	U	2.1
Vanadium	NA	17.3		0.83	17.7		0.81	8.7	J	0.83	10.4	J	0.88	10.9		0.87
Zinc	10000	39.3		1.7	**357**		1.7	15		1.7	57.7		1.8	43.9		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-B0(0-2)**			**SB-B1(0-2)**			**SB-B1(6-12)**			**FD04161502**			**SB-B1(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-37			460-93506-85			460-93506-87			460-93506-86			460-93506-88		
Sampling Date	Restricted Residential	04/15/2015 15:30:00			04/16/2015 11:25:00			04/16/2015 11:45:00			04/16/2015 00:00:00			04/16/2015 12:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4660		26.7	5610		22.3	6460		23.6	6170		24.2	5880		22.8
Antimony	NA	4.8	U	1.8	4	U	1.5	4.3	U	1.6	4.4	U	1.7	4.1	U	1.6
Arsenic	16	5.6		0.99	9.4		0.82	7.4		0.87	5.4		0.9	6		0.84
Barium	400	127		2.1	59.7		1.7	51.3		1.8	48.6		1.9	98.6		1.8
Beryllium	72	0.48	U	0.33	0.4	U	0.27	0.43	U	0.29	0.44	U	0.3	0.41	U	0.28
Cadmium	4.3	0.91	J	0.34	0.81	U	0.28	0.85	U	0.3	0.88	U	0.31	0.82	U	0.29
Calcium	NA	**31300**		92.3	**40300**		77	**34300**		81.7	**29700**		83.8	**31300**		78.8
Chromium	110	24.2		0.97	23.3		0.81	24.1		0.86	26.8		0.88	12.7		0.82
Cobalt	NA	4.4	J	1.1	3.3	J	0.91	4.1	J	0.96	3.7	J	0.99	3.9	J	0.93
Copper	270	45.5		2.1	34		1.8	25		1.9	25.1		1.9	25.6		1.8
Iron	NA	**11400**		30	**8870**		25.1	**11900**		26.6	**10300**		27.3	**13000**		25.6
Lead	400	**321**		0.99	**77.1**		0.83	**73.8**		0.88	**94.2**		0.9	**222**		0.85
Magnesium	NA	8840		80.1	4490		66.9	3090		70.9	4270		72.7	8540		68.4
Manganese	2000	217		1	189		0.87	203		0.92	172		0.94	180		0.89
Nickel	310	20.5		2.2	11.3		1.8	17.5		1.9	16.6		2	12		1.8
Potassium	NA	510	J	33.3	502	J	27.8	530	J	29.5	570	J	30.2	331	J	28.4
Selenium	180	4.8	U	1.4	4	U	1.1	4.3	U	1.2	4.4	U	1.2	4.1	U	1.2
Silver	180	2.4	U	0.47	2	U	0.39	2.1	U	0.41	2.2	U	0.42	2.1	U	0.4
Sodium	NA	1210	U	91.2	1010	U	76.1	1070	U	80.7	1090	U	82.8	1030	U	77.8
Thallium	NA	4.8	U	2.4	4	U	2	4.3	U	2.1	4.4	U	2.1	4.1	U	2
Vanadium	NA	18.5		1	14.3		0.83	19.4		0.88	21.8		0.91	20.5		0.85
Zinc	10000	**727**		2.1	**173**		1.7	**173**		1.8	**142**		1.9	**147**		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-B2(0-2)**			**SB-B2(6-12)**			**SB-B2(18-24)**			**SB-FD04151501**			**SB-B3(0-2)**		
Lab Sample ID	& CP-51 T-1	460-93506-22			460-93506-29			460-93506-35			460-93506-23			460-93506-63		
Sampling Date	Restricted Residential	04/15/2015 14:30:00			04/15/2015 14:45:00			04/15/2015 15:10:00			04/15/2015 00:00:00			04/16/2015 09:55:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4060		24.6	6460		21.8	3670	J	2150	4700		22.4	6160		23.1
Antimony	NA	4.4	U	1.7	3.9	U	1.5	390	U	147	4.1	U	1.5	4.2	U	1.6
Arsenic	16	**13.1**		0.91	6.1		0.81	292	U	79.8	6.5		0.83	**31.2**		0.86
Barium	400	42.1	J	1.9	99.6		1.7	232	J	169	39.5	J	1.8	65.6		1.8
Beryllium	72	0.36	J	0.3	0.28	J	0.27	39	U	26.5	0.41	U	0.28	0.42	U	0.28
Cadmium	4.3	0.89	U	0.31	0.34	J	0.28	77.9	U	27.6	0.81	U	0.29	1.3		0.3
Calcium	NA	**15300**		85.1	**11600**		75.4	**25200**	J	7450	**14800**		77.5	**32700**		80
Chromium	110	37.2		0.89	13.7		0.79	195	U	78	15.4		0.81	28.4		0.84
Cobalt	NA	6.9	J	1	4.3	J	0.89	974	U	87.9	3	J	0.91	4.2	J	0.94
Copper	270	**75.8**		2	26.9		1.7	487	U	171	27.5		1.8	**58.6**		1.8
Iron	NA	**15500**		27.7	**12200**		24.5	**11400**		2430	**8490**		25.2	**12400**		26
Lead	400	**97.4**		0.91	**90.6**		0.81	**94900**		80	**67.3**		0.83	**154**		0.86
Magnesium	NA	2980		73.8	2920		65.4	7070	J	6470	2620		67.3	8240		69.4
Manganese	2000	141		0.96	184		0.85	153	J	84	118		0.87	353		0.9
Nickel	310	16.5		2	16.6		1.8	779	U	174	11.5		1.8	20.5		1.9
Potassium	NA	315	J	30.7	600	J	27.2	97400	U	2690	581	J	28	497	J	28.8
Selenium	180	4.4	U	1.3	3.9	U	1.1	390	U	111	4.1	U	1.2	4.2	U	1.2
Silver	180	2.2	U	0.43	2	U	0.38	195	U	37.8	2	U	0.39	2.1	U	0.41
Sodium	NA	1110	U	84.1	985	U	74.5	97400	U	7370	1010	U	76.6	91.1	J	79
Thallium	NA	4.4	U	2.2	3.9	U	1.9	390	U	191	4.1	U	2	4.2	U	2
Vanadium	NA	20.4		0.92	21		0.81	974	U	80.6	19.2		0.84	19.6		0.86
Zinc	10000	**434**		1.9	89.6		1.7	**306**	J	167	97.5		1.7	**239**		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-B3(6-12)**			**SB-B3(18-24)**			**SB-B4(0-2)**			**SB-B4(6-12)**			**SB-B4(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-70			460-93506-74			460-93506-18			460-93506-20			460-93506-21		
Sampling Date	Restricted Residential	04/16/2015 10:25:00			04/16/2015 10:45:00			04/15/2015 14:20:00			04/15/2015 14:25:00			04/15/2015 14:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	3030		23.9	5850		23.2	3940		24.2	7370		22.3	8280		23.2
Antimony	NA	4.3	U	1.6	4.2	U	1.6	4.4	U	1.7	3	J	1.5	4.2	U	1.6
Arsenic	16	6.3		0.88	5.8		0.86	3	J	0.9	4.8		0.83	4.5		0.86
Barium	400	26.9	J	1.9	205		1.8	42.7	J	1.9	103		1.7	63.7		1.8
Beryllium	72	0.43	U	0.29	0.42	U	0.29	0.44	U	0.3	2.4		0.27	1.2		0.29
Cadmium	4.3	0.86	U	0.31	0.6	J	0.3	0.51	J	0.31	0.78	J	0.29	0.84	U	0.3
Calcium	NA	**72600**		206	**31100**		80.3	**21800**		83.7	**18200**		77.2	6540		80.2
Chromium	110	8.8		0.86	12.5		0.84	12.2		0.88	41.3		0.81	26.9		0.84
Cobalt	NA	2.8	J	0.97	3.7	J	0.95	2.9	J	0.99	**27.8**		0.91	12.9		0.95
Copper	270	**171**		1.9	43.1		1.8	46.8		1.9	**561**		1.8	**137**		1.8
Iron	NA	**8150**		67.2	**16200**		26.1	**8770**		27.3	**25500**		25.1	**17200**		26.1
Lead	400	53.9		0.89	**643**		0.86	**125**		0.9	**348**		0.83	**176**		0.86
Magnesium	NA	37400		71.7	17800		69.7	8500		72.7	10200		67	4050		69.6
Manganese	2000	146		0.93	203		0.91	131		0.94	348		0.87	219		0.9
Nickel	310	10.5		1.9	10.5		1.9	14.8		2	**250**		1.8	**76.3**		1.9
Potassium	NA	300	J	29.8	310	J	29	373	J	30.2	366	J	27.8	320	J	28.9
Selenium	180	4.3	U	1.2	4.2	U	1.2	4.4	U	1.2	4	U	1.1	4.2	U	1.2
Silver	180	2.2	U	0.42	2.1	U	0.41	2.2	U	0.42	0.72	J	0.39	2.1	U	0.41
Sodium	NA	87.4	J	81.6	1050	U	79.4	1090	U	82.7	324	J	76.3	132	J	79.3
Thallium	NA	4.3	U	2.1	4.2	U	2.1	4.4	U	2.1	4	U	2	4.2	U	2.1
Vanadium	NA	19.6		0.89	12.6		0.87	13		0.91	28.2		0.83	20.9		0.87
Zinc	10000	60.9		1.8	**262**		1.8	**153**		1.9	**854**		1.7	**341**		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-B5(0-2)**			**SB-B5(6-12)**			**SB-B5(18-24)**			**SB-C0(0-2)**			**SB-C1(6-12)**		
Lab Sample ID	& CP-51 T-1	460-93506-24			460-93506-30			460-93506-34			460-93506-41			460-93506-69		
Sampling Date	Restricted Residential	04/15/2015 14:30:00			04/15/2015 14:45:00			04/15/2015 15:05:00			04/15/2015 15:50:00			04/16/2015 10:25:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4190		22.7	7840		21	4350		21.4	4990		24.7	5990		22.6
Antimony	NA	4.1	U	1.5	3.8	U	1.4	3.9	U	1.5	4.5	U	1.7	4.1	U	1.5
Arsenic	16	3.1		0.84	6.6		0.78	2.9	U	0.79	4.4		0.92	4.4		0.84
Barium	400	59.7		1.8	76.2		1.6	36.7	J	1.7	138		1.9	69.5		1.8
Beryllium	72	0.41	U	0.28	0.32	J	0.26	0.39	U	0.26	0.45	U	0.3	0.41	U	0.28
Cadmium	4.3	0.62	J	0.29	0.92		0.27	0.77	U	0.27	0.89	U	0.32	0.35	J	0.29
Calcium	NA	**17000**		78.5	1520		72.8	1280		74.1	**25000**		85.6	**27000**		78.1
Chromium	110	17.4		0.82	14.5		0.76	19.3		0.78	15.1		0.9	19.2		0.82
Cobalt	NA	2.9	J	0.93	4.3	J	0.86	3.9	J	0.87	3.6	J	1	3.3	J	0.92
Copper	270	**82.1**		1.8	25.5		1.7	21.3		1.7	30.7		2	24.4		1.8
Iron	NA	**9850**		25.5	**15000**		23.7	**57000**		121	**9910**		27.9	**8970**		25.4
Lead	400	**153**		0.84	**228**		0.78	**89.7**		0.79	**471**		0.92	**169**		0.84
Magnesium	NA	4430		68.1	1280		63.2	749	J	64.3	6780		74.3	4970		67.8
Manganese	2000	136		0.88	205		0.82	379		0.83	178		0.96	173		0.88
Nickel	310	19.1		1.8	12.7		1.7	13.6		1.7	12.5		2	12.4		1.8
Potassium	NA	393	J	28.3	275	J	26.3	174	J	26.7	709	J	30.9	432	J	28.2
Selenium	180	4.1	U	1.2	3.8	U	1.1	1.9	J	1.1	4.5	U	1.3	4.1	U	1.2
Silver	180	2.1	U	0.4	1.9	U	0.37	1.9	U	0.38	2.2	U	0.43	2	U	0.4
Sodium	NA	79	J	77.5	952	U	72	968	U	73.2	86.5	J	84.6	1020	U	77.2
Thallium	NA	4.1	U	2	3.8	U	1.9	3.9	U	1.9	4.5	U	2.2	4.1	U	2
Vanadium	NA	14.2		0.85	15.7		0.79	10		0.8	17.5		0.93	16.9		0.84
Zinc	10000	**207**		1.8	**249**		1.6	**365**		1.7	**564**		1.9	**123**		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
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U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-C1(18-24)**			**SB-C2(0-2)**			**SB-C2(6-12)**			**SB-C2(18-24)**			**SB-C3(0-2)**		
Lab Sample ID	& CP-51 T-1	460-93506-72			460-93506-54			460-93506-56			460-93506-59			460-93506-61		
Sampling Date	Restricted Residential	04/16/2015 10:30:00			04/16/2015 09:25:00			04/16/2015 09:30:00			04/16/2015 09:40:00			04/16/2015 09:45:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	5070		22.4	5520		25.1	4720		21.7	6170		23.6	7250		25.1
Antimony	NA	4	U	1.5	4.5	U	1.7	3.9	U	1.5	4.3	U	1.6	4.5	U	1.7
Arsenic	16	2.9	J	0.83	4.3		0.93	2.7	J	0.8	4		0.88	4.7		0.93
Barium	400	164		1.8	79.4		2	184		1.7	70		1.8	71.8		2
Beryllium	72	0.4	U	0.28	0.45	U	0.31	0.39	U	0.27	0.43	U	0.29	0.45	U	0.31
Cadmium	4.3	0.54	J	0.29	0.91	U	0.32	0.61	J	0.28	0.31	J	0.3	0.37	J	0.32
Calcium	NA	**13400**		77.4	**29400**		86.9	9890		75	9310		81.8	**15100**		86.8
Chromium	110	23		0.81	13.7		0.91	9.9		0.79	18.1		0.86	14.8		0.91
Cobalt	NA	3.7	J	0.91	3.7	J	1	2.9	J	0.88	4.4	J	0.96	3.9	J	1
Copper	270	34.9		1.8	23.5		2	27		1.7	29		1.9	31.4		2
Iron	NA	**9570**		25.2	**10400**		28.3	**9910**		24.4	**14000**		26.6	**10500**		28.3
Lead	400	**448**		0.83	**157**		0.93	**671**		0.81	**146**		0.88	**119**		0.93
Magnesium	NA	3210		67.2	9790		75.5	3640		65.1	5180		71	4660		75.3
Manganese	2000	213		0.87	189		0.98	213		0.85	196		0.92	174		0.98
Nickel	310	15.7		1.8	12.9		2	20.8		1.8	14.3		1.9	12		2
Potassium	NA	285	J	27.9	658	J	31.4	268	J	27.1	347	J	29.5	704	J	31.3
Selenium	180	4	U	1.2	4.5	U	1.3	3.9	U	1.1	4.3	U	1.2	4.5	U	1.3
Silver	180	2	U	0.39	2.3	U	0.44	2	U	0.38	2.1	U	0.41	2.3	U	0.44
Sodium	NA	1010	U	76.5	1140	U	85.9	981	U	74.1	1070	U	80.8	1130	U	85.8
Thallium	NA	4	U	2	4.5	U	2.2	3.9	U	1.9	4.3	U	2.1	4.5	U	2.2
Vanadium	NA	15.6		0.84	19.4		0.94	12.5		0.81	17.3		0.88	20.3		0.94
Zinc	10000	**228**		1.7	**135**		1.9	**248**		1.7	**117**		1.8	109		1.9

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	SB-C3(6-12)			FD04161501			SB-C3(18-24)			SB-C4(0-2)			SB-FD04151502		
Lab Sample ID	& CP-51 T-1	460-93506-67			460-93506-66			460-93506-71			460-93506-26			460-93506-25		
Sampling Date	Restricted Residential	04/16/2015 10:00:00			04/16/2015 00:00:00			04/16/2015 10:30:00			04/15/2015 14:35:00			04/15/2015 00:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	5570		22.3	5460		21.5	4500		24.8	**10100**		25.3	4720		24.4
Antimony	NA	4	U	1.5	3.9	U	1.5	2	J	1.7	4.6	U	1.7	4.4	U	1.7
Arsenic	16	5.2		0.83	4.4		0.8	10.8		0.92	4.5		0.94	4.8		0.9
Barium	400	129		1.7	150		1.7	**1560**		1.9	36.5	J	2	42.6	J	1.9
Beryllium	72	0.4	U	0.27	0.39	U	0.26	0.45	U	0.31	0.48		0.31	0.44	U	0.3
Cadmium	4.3	0.92		0.29	1.8		0.28	**3.4**		0.32	0.92	U	0.32	0.88	U	0.31
Calcium	NA	**28300**		77.2	**21000**		74.4	3550		86	**13200**		87.5	5370		84.5
Chromium	110	12.9		0.81	13.2		0.78	25.4		0.9	33.5		0.92	11.4		0.88
Cobalt	NA	3.7	J	0.91	3.3	J	0.88	4.9	J	1	11.1	J	1	2.8	J	1
Copper	270	31.8		1.8	29.8		1.7	**88.6**		2	24.1		2	25.4		1.9
Iron	NA	**11200**		25.1	**12900**		24.2	**35100**		70	**24300**		28.5	**8900**		27.5
Lead	400	**363**		0.83	**343**		0.8	**5840**		2.3	**101**		0.94	**106**		0.91
Magnesium	NA	3940		67	2890		64.6	1030	J	74.6	6290		76	2510		73.3
Manganese	2000	212		0.87	384		0.84	337		0.97	519		0.99	116		0.95
Nickel	310	19.4		1.8	14.1		1.7	17.1		2	**40.2**		2	9		2
Potassium	NA	476	J	27.8	501	J	26.8	250	J	31	438	J	31.6	474	J	30.5
Selenium	180	4	U	1.2	3.9	U	1.1	4.5	U	1.3	4.6	U	1.3	4.4	U	1.3
Silver	180	2	U	0.39	1.9	U	0.38	2.2	U	0.44	2.3	U	0.44	2.2	U	0.43
Sodium	NA	1010	U	76.3	972	U	73.5	1120	U	85	1140	U	86.5	1100	U	83.5
Thallium	NA	4	U	2	3.9	U	1.9	4.5	U	2.2	4.6	U	2.2	4.4	U	2.2
Vanadium	NA	17.4		0.83	16.1		0.8	13.4		0.93	**43.4**		0.95	13.4		0.91
Zinc	10000	**196**		1.7	**193**		1.7	**1010**		1.9	**124**		2	103		1.9

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-C4(6-12)**			**SB-C4(18-24)**			**SB-C5(0-2)**			**SB-C5(6-12)**			**SB-C5(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-27			460-93506-32			460-93506-28			460-93506-31			460-93506-33		
Sampling Date	Restricted Residential	04/15/2015 14:40:00			04/15/2015 14:50:00			04/15/2015 14:45:00			04/15/2015 14:50:00			04/15/2015 15:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	3820		21.7	5940		21.7	4260		22	4230		21.4	4840		21.3
Antimony	NA	3.9	U	1.5	3.9	U	1.5	4	U	1.5	3.9	U	1.5	3.9	U	1.5
Arsenic	16	3		0.8	**39.8**		0.8	1.6	J	0.82	3.3		0.79	2.8	J	0.79
Barium	400	64.9		1.7	213		1.7	19.9	J	1.7	49.9		1.7	50.6		1.7
Beryllium	72	0.39	U	0.27	0.39	U	0.27	0.4	U	0.27	0.39	U	0.26	0.39	U	0.26
Cadmium	4.3	0.34	J	0.28	0.95		0.28	0.8	U	0.28	0.5	J	0.27	0.77	U	0.27
Calcium	NA	**58300**		188	8600		75	1500		76.3	**26100**		74.1	735	J	73.7
Chromium	110	9.4		0.79	34.3		0.79	7.7		0.8	18.5		0.78	7.4		0.77
Cobalt	NA	1.8	J	0.89	3.7	J	0.88	1.8	J	0.9	5.5	J	0.87	2.3	J	0.87
Copper	270	30.4		1.7	**95.7**		1.7	12.7		1.8	38.3		1.7	13.4		1.7
Iron	NA	**6350**		61.2	**15400**		24.4	**6580**		24.8	**11200**		24.1	**7910**		24
Lead	400	**205**		0.81	**760**		0.81	42.3		0.82	**133**		0.8	**133**		0.79
Magnesium	NA	33000		65.3	1780		65.1	840	J	66.2	14100		64.3	792	J	64
Manganese	2000	103		0.85	173		0.85	67.3		0.86	148		0.84	132		0.83
Nickel	310	17.7		1.8	24.3		1.8	6.8	J	1.8	25.2		1.7	8.4		1.7
Potassium	NA	255	J	27.1	308	J	27.1	176	J	27.5	309	J	26.7	207	J	26.6
Selenium	180	3.9	U	1.1	3.9	U	1.1	4	U	1.1	3.9	U	1.1	3.9	U	1.1
Silver	180	2	U	0.38	2	U	0.38	2	U	0.39	1.9	U	0.38	1.9	U	0.37
Sodium	NA	88.2	J	74.3	981	U	74.2	997	U	75.4	95.8	J	73.2	963	U	72.8
Thallium	NA	3.9	U	1.9	3.9	U	1.9	4	U	2	3.9	U	1.9	3.9	U	1.9
Vanadium	NA	12.2		0.81	12.3		0.81	9.1	J	0.82	23.8		0.8	9	J	0.8
Zinc	10000	109		1.7	**367**		1.7	47.8		1.7	**124**		1.7	86.2		1.6

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-D2(0-2)**			**SB-D2(6-12)**			**SB-D2(18-24)**			**SB-D3(0-2)**			**SB-D3(6-12)**		
Lab Sample ID	& CP-51 T-1	460-93506-38			460-93506-40			460-93506-43			460-93506-77			460-93506-79		
Sampling Date	Restricted Residential	04/15/2015 15:30:00			04/15/2015 15:45:00			04/15/2015 16:00:00			04/16/2015 10:50:00			04/16/2015 10:55:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4320		25.6	3190		23.4	4220		23.3	5140		23.6	4270		22.2
Antimony	NA	4.6	U	1.7	4.2	U	1.6	4.2	U	1.6	4.3	U	1.6	**22.6**		1.5
Arsenic	16	2	J	0.95	1.3	J	0.87	5.1		0.86	3.4		0.88	5.3		0.82
Barium	400	43.8	J	2	101		1.8	316		1.8	74		1.9	285		1.7
Beryllium	72	0.46	U	0.31	0.42	U	0.29	0.42	U	0.29	0.43	U	0.29	0.4	U	0.27
Cadmium	4.3	0.49	J	0.33	0.84	J	0.3	1.4		0.3	0.51	J	0.3	**7.6**		0.28
Calcium	NA	8000		88.5	2770		81	6040		80.7	**11500**		81.8	5470		76.7
Chromium	110	13.1		0.93	9.7		0.85	12.7		0.85	13.9		0.86	17.4		0.8
Cobalt	NA	3.4	J	1	2.8	J	0.96	3.2	J	0.95	3.5	J	0.96	3.8	J	0.9
Copper	270	**54.7**		2	23.9		1.9	**50.5**		1.9	29.8		1.9	**114**		1.8
Iron	NA	**9110**		28.8	**10700**		26.4	**12600**		26.3	**9670**		26.6	**24700**		25
Lead	400	**123**		0.95	**165**		0.87	**2160**		0.87	**268**		0.88	**5690**		4.1
Magnesium	NA	2030		76.8	1230		70.3	1790		70.1	5350		71	1650		66.6
Manganese	2000	162		1	160		0.91	186		0.91	143		0.92	245		0.86
Nickel	310	11.2		2.1	13.7		1.9	12.6		1.9	15.8		1.9	26.8		1.8
Potassium	NA	330	J	31.9	226	J	29.2	235	J	29.1	641	J	29.5	286	J	27.7
Selenium	180	4.6	U	1.3	4.2	U	1.2	4.2	U	1.2	4.3	U	1.2	4	U	1.1
Silver	180	2.3	U	0.45	2.1	U	0.41	2.1	U	0.41	2.1	U	0.42	0.89	J	0.39
Sodium	NA	1160	U	87.5	1060	U	80.1	1060	U	79.8	1070	U	80.9	1000	U	75.8
Thallium	NA	4.6	U	2.3	4.2	U	2.1	4.2	U	2.1	4.3	U	2.1	4	U	2
Vanadium	NA	12.8		0.96	8.7	J	0.88	12.3		0.87	18.2		0.88	13.2		0.83
Zinc	10000	**175**		2	**271**		1.8	**517**		1.8	**137**		1.8	**606**		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-D3(18-24)**			**SB-D4(0-2)**			**SB-D4(6-12)**			**SB-D4(18-24)**			**SB-D5(0-2)**		
Lab Sample ID	& CP-51 T-1	460-93506-81			460-93506-76			460-93506-78			460-93506-82			460-93506-39		
Sampling Date	Restricted Residential	04/16/2015 11:10:00			04/16/2015 10:50:00			04/16/2015 10:55:00			04/16/2015 11:10:00			04/15/2015 15:43:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4040		23.6	5580		23.6	6160		21.5	3840		21.6	4720		22.2
Antimony	NA	1.6	J	1.6	4.3	U	1.6	3.9	U	1.5	3.9	U	1.5	4	U	1.5
Arsenic	16	3.3		0.87	3	J	0.87	2.4	J	0.8	2.9	U	0.8	5.5		0.82
Barium	400	63		1.8	30.3	J	1.8	32.5	J	1.7	12.6	J	1.7	35.9	J	1.7
Beryllium	72	0.43	U	0.29	0.43	U	0.29	0.39	U	0.26	0.39	U	0.27	0.4	U	0.27
Cadmium	4.3	1.3		0.3	0.85	U	0.3	0.78	U	0.28	0.78	U	0.28	0.81	U	0.28
Calcium	NA	1040	J	81.6	3550		81.7	4850		74.5	968	J	74.9	**16200**		77
Chromium	110	8.2		0.85	10.1		0.86	11.2		0.78	5.9		0.78	12.1		0.81
Cobalt	NA	2.3	J	0.96	2.8	J	0.96	3	J	0.88	1.9	J	0.88	3.6	J	0.91
Copper	270	19.1		1.9	12.5		1.9	12.4		1.7	4.4	J	1.7	24.7		1.8
Iron	NA	**7490**		26.6	**8320**		26.6	**8610**		24.3	**5290**		24.4	**8530**		25.1
Lead	400	**459**		0.88	55.4		0.88	**71.9**		0.8	8		0.8	**86.2**		0.83
Magnesium	NA	643	J	70.9	1390		70.9	1330		64.7	627	J	65	8390		66.8
Manganese	2000	127		0.92	99.4		0.92	113		0.84	73.3		0.84	139		0.87
Nickel	310	10.8		1.9	8	J	1.9	10		1.7	7.2	J	1.8	12.6		1.8
Potassium	NA	212	J	29.5	362	J	29.5	301	J	26.9	200	J	27	373	J	27.8
Selenium	180	4.3	U	1.2	4.3	U	1.2	3.9	U	1.1	3.9	U	1.1	4	U	1.1
Silver	180	2.1	U	0.41	2.1	U	0.41	1.9	U	0.38	2	U	0.38	2	U	0.39
Sodium	NA	1070	U	80.7	1070	U	80.7	974	U	73.6	979	U	74	1010	U	76.1
Thallium	NA	4.3	U	2.1	4.3	U	2.1	3.9	U	1.9	3.9	U	1.9	4	U	2
Vanadium	NA	10.6	J	0.88	12.9		0.88	13.3		0.81	6.9	J	0.81	14.5		0.83
Zinc	10000	**113**		1.8	65		1.8	63.8		1.7	16.8		1.7	105		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-D5(6-12)**			**SB-D5(18-24)**			**SB-E2(0-2)**			**SB-E2(6-12)**			**SB-E2(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-42			460-93506-46			460-93506-44			460-93506-45			460-93506-47		
Sampling Date	Restricted Residential	04/15/2015 15:50:00			04/15/2015 16:05:00			04/15/2015 16:00:00			04/15/2015 16:00:00			04/15/2015 16:10:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Aluminum	NA	4800		23	3590		21.6	3540		23.5	4880		23.6	2980		21.4
Antimony	NA	4.2	U	1.6	3.9	U	1.5	1.9	J	1.6	5.4		1.6	3.9	U	1.5
Arsenic	16	3.4		0.85	1.7	J	0.8	1.4	J	0.87	3.1	J	0.88	1.6	J	0.79
Barium	400	33.8	J	1.8	18.3	J	1.7	67.8		1.8	62		1.9	22.2	J	1.7
Beryllium	72	0.42	U	0.28	0.39	U	0.27	0.43	U	0.29	0.43	U	0.29	0.39	U	0.26
Cadmium	4.3	0.83	U	0.29	0.78	U	0.28	**5.9**		0.3	**2.9**		0.3	**3.3**		0.27
Calcium	NA	4900		79.7	1020		74.7	1630		81.5	2010		81.8	341	J	73.9
Chromium	110	13.9		0.83	6.5		0.78	15		0.85	20.1		0.86	6.7		0.77
Cobalt	NA	10.3	J	0.94	2.2	J	0.88	3.6	J	0.96	4.8	J	0.96	3.2	J	0.87
Copper	270	33.4		1.8	9.1		1.7	23.9		1.9	**71.1**		1.9	37.3		1.7
Iron	NA	**9620**		25.9	**6010**		24.3	**15400**		26.5	**28100**		26.6	**7940**		24.1
Lead	400	**105**		0.86	20.1		0.8	**310**		0.87	**690**		0.88	**90.2**		0.79
Magnesium	NA	2680		69.2	769	J	64.8	966	J	70.7	1680		71	466	J	64.2
Manganese	2000	181		0.9	101		0.84	190		0.92	207		0.92	174		0.83
Nickel	310	12.4		1.9	9.3		1.7	16.8		1.9	15.9		1.9	9.9		1.7
Potassium	NA	301	J	28.8	433	J	27	302	J	29.4	279	J	29.5	152	J	26.7
Selenium	180	1.2	J	1.2	3.9	U	1.1	4.3	U	1.2	4.3	U	1.2	3.9	U	1.1
Silver	180	2.1	U	0.4	2	U	0.38	2.1	U	0.41	2.1	U	0.42	1.9	U	0.38
Sodium	NA	1040	U	78.8	976	U	73.8	1070	U	80.5	1070	U	80.9	967	U	73.1
Thallium	NA	4.2	U	2	3.9	U	1.9	4.3	U	2.1	4.3	U	2.1	3.9	U	1.9
Vanadium	NA	10.4		0.86	7.2	J	0.81	11		0.88	13.5		0.88	7.8	J	0.8
Zinc	10000	**250**		1.8	22.1		1.7	**220**		1.8	**147**		1.8	59.6		1.7

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 4: Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**SB-E3(0-2)**			**SB-E3(6-12)**			**SB-E3(18-24)**			**SB-E4(0-2)**			**SB-E4(6-12)**			**SB-E4(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-51			460-93506-55			460-93506-62			460-93506-49			460-93506-52			460-93506-57		
Sampling Date	Restricted Residential	04/16/2015 09:05:00			04/16/2015 09:30:00			04/16/2015 09:45:00			04/16/2015 09:00:00			04/16/2015 09:15:00			04/16/2015 09:30:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil		
	Criteria																		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																			
Aluminum	NA	2900		21.5	2910		22.3	2920		21	3310		21.7	4400		21.5	6620		23.5
Antimony	NA	3.9	U	1.5	4	U	1.5	3.8	U	1.4	3.9	U	1.5	3.9	U	1.5	4.2	U	1.6
Arsenic	16	2.3	J	0.8	2.5	J	0.83	4.2		0.78	3.6		0.81	2.8	J	0.8	2.8	J	0.87
Barium	400	99.4		1.7	79.3		1.7	56.5		1.6	116		1.7	40.4		1.7	32.1	J	1.8
Beryllium	72	0.39	U	0.26	0.4	U	0.27	0.38	U	0.26	0.39	U	0.27	0.39	U	0.26	0.42	U	0.29
Cadmium	4.3	**2.7**		0.28	1.1		0.29	0.71	J	0.27	**3.5**		0.28	0.74	J	0.27	0.85	U	0.3
Calcium	NA	1010		74.5	3650		77.1	1120		72.6	2140		75.3	994		74.3	1230		81.2
Chromium	110	15.5		0.78	9.6		0.81	14		0.76	32		0.79	9.3		0.78	12.5		0.85
Cobalt	NA	3.2	J	0.88	3.1	J	0.91	3.3	J	0.86	4.6	J	0.89	3.6	J	0.88	4	J	0.96
Copper	270	37.9		1.7	19.8		1.8	33		1.7	**62.1**		1.7	15.9		1.7	15		1.9
Iron	NA	**10700**		24.2	**9880**		25.1	**15600**		23.6	**22100**		24.5	**10700**		24.2	**12000**		26.4
Lead	400	**308**		0.8	**101**		0.83	**145**		0.78	**599**		0.81	58.6		0.8	55.4		0.87
Magnesium	NA	748	J	64.6	656	J	66.9	592	J	63	1590		65.3	1150		64.5	1410		70.5
Manganese	2000	147		0.84	311		0.87	191		0.82	206		0.85	175		0.84	213		0.92
Nickel	310	17.4		1.7	14		1.8	15.3		1.7	28.6		1.8	12.9		1.7	13.1		1.9
Potassium	NA	217	J	26.9	212	J	27.8	186	J	26.2	234	J	27.2	249	J	26.8	340	J	29.3
Selenium	180	1.1	J	1.1	4	U	1.1	3.8	U	1.1	3.9	U	1.1	3.9	U	1.1	4.2	U	1.2
Silver	180	1.9	U	0.38	2	U	0.39	1.9	U	0.37	2	U	0.38	1.9	U	0.38	2.1	U	0.41
Sodium	NA	973	U	73.6	1010	U	76.2	949	U	71.8	984	U	74.4	971	U	73.4	1060	U	80.3
Thallium	NA	3.9	U	1.9	4	U	2	3.8	U	1.9	3.9	U	1.9	3.9	U	1.9	4.2	U	2.1
Vanadium	NA	15.1		0.8	9.8	J	0.83	10.4		0.78	14.8		0.81	14.9		0.8	14		0.88
Zinc	10000	**267**		1.7	**116**		1.7	**215**		1.6	**423**		1.7	**197**		1.7	79.8		1.8

Highlighted Concentrations shown in bold type face exceed
Restricted Residential Soil Cleanup Objectives
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 5: Discrete Soil Sample Results for VOCs

Client ID	NY 375-6.8(b)	**WC-A3(0-2)**			**WC-C3(0-2)**			**WC-C2(18-24)**			**WC-B3(0-2)**			**WC-C1(0-2)**			**WC-B3(18-24)**			**WC-B1(18-24)**		
Lab Sample ID	& CP-51 T-1	460-93506-53			460-93506-58			460-93506-60			460-93506-64			460-93506-65			460-93506-73			460-93506-89		
Sampling Date	Restricted Residential	04/16/2015 09:25:00			04/16/2015 09:40:00			04/16/2015 09:40:00			04/16/2015 09:55:00			04/16/2015 09:55:00			04/16/2015 10:45:00			04/16/2015 12:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Dilution Factor	Criteria	1			1			1			1			1			1			1		
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
VOA-8260C-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 8260C																						
1,1,1-Trichloroethane	100	0.0011	U	0.00042	0.0011	U	0.00043	0.0011	U	0.00040	0.0015	U	0.00057	0.0017	U	0.00065	0.0011	U	0.00043	0.0012	U	0.00044
1,1,2,2-Tetrachloroethane	NA	0.0011	U	0.00019	0.0011	U	0.00019	0.0011	U	0.00018	0.0015	U	0.00026	0.0017	U	0.00029	0.0011	U	0.00019	0.0012	U	0.00020
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	0.0011	U	0.00049	0.0011	U	0.00050	0.0011	U	0.00047	0.0015	U	0.00066	0.0017	U	0.00076	0.0011	U	0.00050	0.0012	U	0.00051
1,1,2-Trichloroethane	NA	0.0011	U	0.00031	0.0011	U	0.00032	0.0011	U	0.00030	0.0015	U	0.00042	0.0017	U	0.00048	0.0011	U	0.00032	0.0012	U	0.00033
1,1-Dichloroethane	26	0.0011	U	0.00038	0.0011	U	0.00038	0.0011	U	0.00036	0.0015	U	0.00051	0.0017	U	0.00059	0.0011	U	0.00039	0.0012	U	0.00040
1,1-Dichloroethene	100	0.0011	U	0.00045	0.0011	U	0.00046	0.0011	U	0.00044	0.0015	U	0.00062	0.0017	U	0.00071	0.0011	U	0.00047	0.0012	U	0.00048
1,2,3-Trichlorobenzene	NA	0.0011	U	0.00012	0.0011	U	0.00012	0.0011	U	0.00012	0.0015	U	0.00017	0.0017	U	0.00019	0.0011	U	0.00013	0.0012	U	0.00013
1,2,4-Trichlorobenzene	NA	0.0011	U	0.00035	0.0011	U	0.00036	0.0011	U	0.00034	0.0015	U	0.00048	0.0017	U	0.00055	0.0011	U	0.00036	0.0012	U	0.00037
1,2-Dibromo-3-Chloropropane	NA	0.0011	U	0.00052	0.0011	U	0.00053	0.0011	U	0.00050	0.0015	U	0.00071	0.0017	U	0.00081	0.0011	U	0.00053	0.0012	U	0.00055
1,2-Dichlorobenzene	100	0.0011	U	0.00015	0.0011	U	0.00016	0.0011	U	0.00015	0.0015	U	0.00021	0.0017	U	0.00024	0.0011	U	0.00016	0.0012	U	0.00016
1,2-Dichloroethane	3.1	0.0011	U	0.00012	0.0011	U	0.00012	0.0011	U	0.00012	0.0015	U	0.00017	0.0017	U	0.00019	0.0011	U	0.00013	0.0012	U	0.00013
1,2-Dichloropropane	NA	0.0011	U	0.00019	0.0011	U	0.00019	0.0011	U	0.00018	0.0015	U	0.00026	0.0017	U	0.00029	0.0011	U	0.00019	0.0012	U	0.00020
1,3-Dichlorobenzene	49	0.0011	U	0.00013	0.0011	U	0.00014	0.0011	U	0.00013	0.0015	U	0.00018	0.0017	U	0.00021	0.0011	U	0.00014	0.0012	U	0.00014
1,4-Dichlorobenzene	13	0.0011	U	0.00014	0.0011	U	0.00015	0.0011	U	0.00014	0.0015	U	0.00020	0.0017	U	0.00022	0.0011	U	0.00015	0.0012	U	0.00015
1,4-Dioxane	13	0.022	U	0.0071	0.023	U	0.0072	0.021	U	0.0068	0.030	U	0.0096	0.034	U *	0.011	0.023	U	0.0073	0.023	U	0.0074
2-Butanone (MEK)	NA	0.0055	U	0.00085	0.0057	U	0.00087	0.0053	U	0.00082	0.0075	U	0.0012	0.0086	U	0.0013	0.0057	U	0.00088	0.0058	U	0.00089
2-Hexanone	NA	0.0055	U	0.001	0.0057	U	0.0011	0.0053	U	0.001	0.0075	U	0.0014	0.0086	U	0.0016	0.0057	U	0.0011	0.0058	U	0.0011
4-Methyl-2-pentanone (MIBK)	NA	0.0055	U	0.0024	0.0057	U	0.0025	0.0053	U	0.0024	0.0075	U	0.0033	0.0086	U	0.0038	0.0057	U	0.0025	0.0058	U	0.0026
Acetone	100	0.0055	U	0.0012	0.034	B	0.0012	0.0053	U	0.0011	0.0075	U	0.0016	0.0086	U	0.0018	0.0057	U	0.0012	0.0058	U	0.0012
Benzene	4.8	0.0011	U	0.00022	0.0011	U	0.00023	0.0011	U	0.00021	0.0015	U	0.00030	0.0017	U	0.00034	0.0011	U	0.00023	0.0012	U	0.00023
Bromoform	NA	0.0011	U	0.00014	0.0011	U	0.00015	0.0011	U	0.00014	0.0015	U	0.00020	0.0017	U	0.00022	0.0011	U	0.00015	0.0012	U	0.00015
Bromomethane	NA	0.0011	U	0.00035	0.0011	U	0.00036	0.0011	U	0.00034	0.0015	U	0.00048	0.0017	U	0.00055	0.0011	U	0.00036	0.0012	U	0.00037
Carbon disulfide	NA	0.0011	U	0.00047	0.0011	U	0.00049	0.0011	U	0.00046	0.0015	U	0.00065	0.0017	U	0.00074	0.0011	U	0.00049	0.0012	U	0.00050
Carbon tetrachloride	2.4	0.0011	U	0.00047	0.0011	U	0.00049	0.0011	U	0.00046	0.0015	U	0.00065	0.0017	U	0.00074	0.0011	U	0.00049	0.0012	U	0.00050
Chlorobenzene	100	0.0011	U	0.00015	0.0011	U	0.00016	0.0011	U	0.00015	0.0015	U	0.00021	0.0017	U	0.00024	0.0011	U	0.00016	0.0012	U	0.00016
Chlorobromomethane	NA	0.0011	U	0.00019	0.0011	U	0.00019	0.0011	U	0.00018	0.0015	U	0.00026	0.0017	U	0.00029	0.0011	U	0.00019	0.0012	U	0.00020
Chlorodibromomethane	NA	0.0011	U	0.00017	0.0011	U	0.00017	0.0011	U	0.00016	0.0015	U	0.00023	0.0017	U	0.00026	0.0011	U	0.00017	0.0012	U	0.00017
Chloroethane	NA	0.0011	U	0.00039	0.0011	U	0.00040	0.0011	U	0.00037	0.0015	U	0.00053	0.0017	U	0.00060	0.0011	U	0.00040	0.0012	U	0.00041
Chloroform	49	0.0011	U	0.00023	0.0011	U	0.00024	0.0011	U	0.00022	0.0015	U	0.00032	0.0017	U	0.00036	0.0011	U	0.00024	0.0012	U	0.00024
Chloromethane	NA	0.0011	U	0.00042	0.0011	U	0.00043	0.0011	U	0.00040	0.0015	U	0.00057	0.0017	U	0.00065	0.0011	U	0.00043	0.0012	U	0.00044
cis-1,2-Dichloroethene	100	0.0011	U	0.00024	0.0011	U	0.00025	0.0011	U	0.00023	0.0015	U	0.00033	0.0017	U	0.00038	0.0011	U	0.00025	0.0012	U	0.00026
cis-1,3-Dichloropropene	NA	0.0011	U	0.00017	0.0011	U	0.00017	0.0011	U	0.00016	0.0015	U	0.00023	0.0017	U	0.00026	0.0011	U	0.00017	0.0012	U	0.00017
Cyclohexane	NA	0.0011	U	0.00051	0.0011	U	0.00052	0.0011	U	0.00049	0.0015	U	0.00069	0.0017	U	0.00079	0.0011	U	0.00052	0.0012	U	0.00053
Dichlorobromomethane	NA	0.0011	U	0.00042	0.0011	U	0.00043	0.0011	U	0.00040	0.0015	U	0.00057	0.0017	U	0.00065	0.0011	U	0.00043	0.0012	U	0.00044
Dichlorodifluoromethane	NA	0.0011	U	0.00035	0.0011	U	0.00036	0.0011	U	0.00034	0.0015	U	0.00048	0.0017	U	0.00055	0.0011	U	0.00036	0.0012	U	0.00037
Ethylbenzene	41	0.0011	U	0.00020	0.0011	U	0.00020	0.0011	U	0.00019	0.0015	U	0.00027	0.0017	U	0.00031	0.0011	U	0.00020	0.0012	U	0.00021
Ethylene Dibromide	NA	0.0011	U	0.00013	0.0011	U	0.00014	0.0011	U	0.00013	0.0015	U	0.00018	0.0017	U	0.00021	0.0011	U	0.00014	0.0012	U	0.00014
Isopropylbenzene	NA	0.0011	U	0.00019	0.0011	U	0.00019	0.0011	U	0.00018	0.0015	U	0.00026	0.0017	U	0.00029	0.0011	U	0.00019	0.0012	U	0.00020
Methyl acetate	NA	0.0055	U	0.00099	0.0057	U	0.001	0.0053	U	0.00096	0.0075	U	0.0014	0.0086	U	0.0016	0.0057	U	0.001	0.0058	U	0.001
Methyl tert-butyl ether	100	0.0011	U	0.00019	0.0011	U	0.00019	0.0011	U	0.00018	0.0015	U	0.00026	0.0017	U	0.00029	0.0011	U	0.00019	0.0012	U	0.00020
Methylcyclohexane	NA	0.0011	U	0.00055	0.0011	U	0.00057	0.0011	U	0.00053	0.0015	U	0.00075	0.0017	U	0.00086	0.0011	U	0.00057	0.0012	U	0.00058
Methylene Chloride	100	0.0011	U	0.00035	0.0011	U	0.00036	0.0011	U	0.00034	0.0015	U	0.00048	0.0017	U	0.00055	0.0011	U	0.00036	0.0012	U	0.00037
m-Xylene & p-Xylene	NA	0.0011	U	0.00012	0.0011	U	0.00012	0.0011	U	0.00012	0.0015	U	0.00017	0.0017	U	0.00019	0.0011	U	0.00013	0.0012	U	0.00013
o-Xylene	NA	0.0011	U	0.00018	0.0011	U	0.00018	0.0011	U	0.00017	0.0015	U	0.00024	0.0017	U	0.00028	0.0011	U	0.00018	0.0012	U	0.00019
Styrene	NA	0.0011	U	0.00017	0.0011	U	0.00017	0.0011	U	0.00016	0.0015	U	0.00023	0.0017	U	0.00026	0.0011	U	0.00017	0.0012	U	0.00017
Tetrachloroethene	19	0.0011	U	0.00031	0.0011	U	0.00032	0.0011	U	0.00030	0.0015	U	0.00042	0.0017	U	0.00048	0.0011	U	0.00032	0.0012	U	0.00033
Toluene	100	0.0011	U	0.00021	0.0011	U	0.00021	0.0011	U	0.00020	0.0015	U	0.00029	0.0017	U	0.00033	0.0011	U	0.00022	0.0012	U	0.00022
trans-1,2-Dichloroethene	100	0.0011	U	0.00043	0.0011	U	0.00044	0.0011	U	0.00041	0.0015	U	0.00059	0.0017	U	0.00067	0.0011	U	0.00044	0.0012	U	0.00045
trans-1,3-Dichloropropene	NA	0.0011	U	0.00011	0.0011	U	0.00011	0.0011	U	0.00011	0.0015	U	0.00015	0.0017	U	0.00017	0.0011	U	0.00011	0.0012	U	0.00012
Trichloroethene	21	0.0011	U	0.00029	0.0011	U	0.00029	0.0011	U	0.00028	0.0015	U	0.00039	0.0017	U	0.00045	0.0011	U	0.00030	0.0012	U	0.00030
Trichlorofluoromethane	NA	0.0011	U	0.00038	0.0011	U	0.00038	0.0011	U	0.00036	0.0015	U	0.00051	0.0017	U	0.00059	0.0011	U	0.00039	0.0012	U	0.00040
Vinyl chloride	0.9	0.0011	U	0.00043	0.0011	U	0.00044	0.0011	U	0.00041	0.0015	U	0.00059	0.0017	U	0.00067	0.0011	U	0.00044	0.0012	U	0.00045
Total Conc	NA	0			0.034			0			0			0			0			0		

B : The analyte was found in an associated blank, as well as in the sample.
U : Analyzed for but not detected.
U * : Analyzed for but not detected.
Bold Highlighted Results Exceed the Restricted Residential SCO

TABLE 6: Composite TCLP Sample Results for VOCs

Client ID	**NY-371**	**WC-D3(6-12)/D4(6-12)**			**WC-C1(18-24)/A3(18-24)**			**WC-C2(0-2)/A4(0-2)**		
Lab Sample ID	**Characteristic**	460-93506-80			460-93506-83			460-93506-84		
Sampling Date	**Toxicity**	04/16/2015 11:00:00			04/16/2015 11:10:00			04/16/2015 11:30:00		
Matrix		TCLP			TCLP			TCLP		
Dilution Factor		10			10			10		
Unit	**mg/L**	mg/l			mg/l			mg/l		
VOA-8260C-TCLP		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
TCLP BY 8260C										
1,1-Dichloroethene	NA	0.010	U	0.0034	0.010	U	0.0034	0.010	U	0.0034
1,2-Dichloroethane	0.5	0.010	U	0.0025	0.010	U	0.0025	0.010	U	0.0025
1,4-Dichlorobenzene	7.5	0.010	U	0.0033	0.010	U	0.0033	0.010	U	0.0033
2-Butanone (MEK)	200	0.050	U	0.022	0.050	U	0.022	0.050	U	0.022
Benzene	0.5	0.010	U	0.0019	0.010	U	0.0019	0.010	U	0.0019
Carbon tetrachloride	0.5	0.010	U	0.0033	0.010	U	0.0033	0.010	U	0.0033
Chlorobenzene	100	0.010	U	0.0024	0.010	U	0.0024	0.010	U	0.0024
Chloroform	6	0.010	U	0.0022	0.010	U	0.0022	0.010	U	0.0022
Tetrachloroethene	0.7	0.010	U	0.0036	0.010	U	0.0036	0.010	U	0.0036
Trichloroethene	0.5	0.010	U	0.0022	0.010	U	0.0022	0.010	U	0.0022
Vinyl chloride	0.2	0.010	U	0.0020	0.010	U	0.0020	0.010	U	0.0020
Total Conc		0.0			0.0			0.0		

TCLP SUMMARY										
Leachate Initial Amt		0.02503	Kg		0.025	Kg		0.02501	Kg	
Leachate Final Amt		0.5	L		0.5	L		0.5	L	
Leachate Final pH		4.92	SU		5.87	SU		5.43	SU	

U : Analyzed for but not detected.
Bold Highlighted Exceed Part-371 Standard

TABLE 7: Composite Soil Sample Results for SVOCs

Client ID	NY 375-6.8(b)			**WC-Shallow**			**WC-Deep**
Lab Sample ID	& CP-51 T-1			460-93506-50			460-93506-75
Sampling Date	Restricted Residential			04/16/2015 09:00:00			04/16/2015 10:45:00
Matrix	Soil Cleanup			Soil			Soil
Dilution Factor	Criteria			1			1
Unit	mg/kg			mg/kg			mg/kg
SVOA-8270D-SOIL		Result	Q	MDL	Result	Q	MDL
SOIL BY 8270D							
1,1'-Biphenyl	NA	0.36	U	0.031	0.36	U	0.031
1,2,4,5-Tetrachlorobenzene	NA	0.36	U	0.027	0.36	U	0.027
2,2'-oxybis[1-chloropropane]	NA	0.36	U	0.015	0.36	U	0.015
2,3,4,6-Tetrachlorophenol	NA	0.36	U	0.034	0.36	U	0.034
2,4,5-Trichlorophenol	NA	0.36	U	0.036	0.36	U	0.036
2,4,6-Trichlorophenol	NA	0.14	U	0.010	0.15	U	0.010
2,4-Dichlorophenol	NA	0.14	U	0.0084	0.15	U	0.0086
2,4-Dimethylphenol	NA	0.36	U	0.079	0.36	U	0.080
2,4-Dinitrophenol	NA	0.29	U	0.27	0.29	U	0.27
2,4-Dinitrotoluene	NA	0.073	U	0.014	0.074	U	0.014
2,6-Dinitrotoluene	NA	0.073	U	0.019	0.074	U	0.019
2-Chloronaphthalene	NA	0.36	U	0.0081	0.36	U	0.0082
2-Chlorophenol	NA	0.36	U	0.0091	0.36	U	0.0092
2-Methylnaphthalene	NA	0.021	J	0.0079	0.079	J	0.008
2-Methylphenol	100	0.36	U	0.016	0.36	U	0.016
2-Nitroaniline	NA	0.36	U	0.012	0.36	U	0.012
2-Nitrophenol	NA	0.36	U	0.012	0.36	U	0.012
3,3'-Dichlorobenzidine	NA	0.14	U	0.040	0.15	U	0.041
3-Nitroaniline	NA	0.36	U	0.011	0.36	U	0.011
4,6-Dinitro-2-methylphenol	NA	0.29	U	0.096	0.29	U	0.097
4-Bromophenyl phenyl ether	NA	0.36	U	0.011	0.36	U	0.011
4-Chloro-3-methylphenol	NA	0.36	U	0.015	0.36	U	0.016
4-Chloroaniline	NA	0.36	U	0.0092	0.36	U	0.0093
4-Chlorophenyl phenyl ether	NA	0.36	U	0.011	0.36	U	0.011
4-Methylphenol	100	0.36	U	0.0097	0.36	U	0.0099
4-Nitroaniline	NA	0.36	U	0.014	0.36	U	0.014
4-Nitrophenol	NA	0.73	U	0.17	0.74	U	0.17
Acenaphthene	100	0.36	U	0.0087	0.25	J	0.0088
Acenaphthylene	100	0.014	J	0.0092	0.22	J	0.0093
Acetophenone	NA	0.36	U	0.0078	0.36	U	0.0079
Anthracene	100	0.36	U	0.034	0.75		0.035
Atrazine	NA	0.14	U *	0.016	0.15	U *	0.016
Benzaldehyde	NA	0.36	U	0.027	0.36	U	0.028
Benzo[a]anthracene	1	0.17		0.030	**3.1**		0.030
Benzo[a]pyrene	1	**0.19**		0.011	**2.7**	*	0.011
Benzo[b]fluoranthene	1	**0.33**		0.014	**4.1**		0.014
Benzo[g,h,i]perylene	100	0.3	J	0.021	1.1		0.021
Benzo[k]fluoranthene	3.9	0.098		0.016	**1.9**		0.016
Bis(2-chloroethoxy)methane	NA	0.36	U	0.011	0.36	U	0.011
Bis(2-chloroethyl)ether	NA	0.036	U	0.0084	0.036	U	0.0086
Bis(2-ethylhexyl) phthalate	NA	0.2	J	0.014	0.28	J	0.014
Butyl benzyl phthalate	NA	0.84		0.011	0.055	J	0.011
Caprolactam	NA	0.36	U	0.026	0.36	U	0.026
Carbazole	NA	0.011	J	0.0089	0.34	J	0.009
Chrysene	3.9	0.22	J	0.0097	**3.3**		0.0099
Dibenz(a,h)anthracene	0.33	**0.047**		0.019	**0.33**		0.019
Dibenzofuran	59	0.36	U	0.011	0.15	J	0.011
Diethyl phthalate	NA	0.36	U	0.010	0.36	U	0.010
Dimethyl phthalate	NA	0.36	U	0.010	0.36	U	0.011
Di-n-butyl phthalate	NA	**0.12**	J	0.011	**0.025**	J	0.011
Di-n-octyl phthalate	NA	0.36	U	0.018	0.36	U	0.018
Fluoranthene	100	0.3	J	0.011	8		0.011
Fluorene	100	0.0092	J	0.0078	0.3	J	0.0079
Hexachlorobenzene	1.2	0.036	U	0.015	0.036	U	0.015
Hexachlorobutadiene	NA	0.073	U	0.010	0.074	U	0.010
Hexachlorocyclopentadiene	NA	0.36	U *	0.022	0.36	U	0.023
Hexachloroethane	NA	0.036	U	0.013	0.036	U	0.013
Indeno[1,2,3-cd]pyrene	0.5	0.29		0.024	**1.2**	*	0.024
Isophorone	NA	0.14	U	0.0077	0.15	U	0.0078
Naphthalene	100	0.018	J	0.0091	0.11	J	0.0092
Nitrobenzene	15	0.036	U	0.011	0.036	U	0.011
N-Nitrosodi-n-propylamine	NA	0.036	U	0.012	0.036	U	0.012
N-Nitrosodiphenylamine	NA	0.36	U	0.032	0.36	U	0.033
Pentachlorophenol	6.7	0.29	U	0.043	0.29	U	0.044
Phenanthrene	100	0.12	J	0.0095	3.9		0.0097
Phenol	100	0.36	U	0.012	0.36	U	0.012
Pyrene	100	0.28	J	0.016	6.5		0.016
Total Conc	NA	3.5782			38.689		

Highlighted Concentrations shown in bold type face exceed the Restricted Residential SCO
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.
U * : LCS or LCSD is outside acceptance limits.

TABLE 8: TCLP Composite Sample Results for SVOCs

Client ID	**NY Part 371**	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	**Characteristic**	460-93506-50			460-93506-75		
Sampling Date	**Toxicity**	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix		TCLP			TCLP		
Dilution Factor		1			1		
Unit	**mg/L**	mg/l			mg/l		
SVOA-8270D-TCLP		Result	Q	MDL	Result	Q	MDL
TCLP BY 8270D							
1,4-Dichlorobenzene	7.5	0.010	U	0.0019	0.010	U	0.0019
2,4,5-Trichlorophenol	400	0.010	U	0.0022	0.010	U	0.0022
2,4,6-Trichlorophenol	2	0.010	U	0.0014	0.010	U	0.0014
2,4-Dinitrotoluene	0.13	0.0020	U	0.00028	0.0020	U	0.00028
2-Methylphenol	NA	0.010	U	0.0014	0.010	U	0.0014
3 & 4 Methylphenol	NA	0.010	U	0.0011	0.010	U	0.0011
Hexachlorobenzene	0.13	0.0010	U	0.00020	0.0010	U	0.00020
Hexachlorobutadiene	0.5	0.0020	U	0.00068	0.0020	U	0.00068
Hexachloroethane	3	0.0010	U	0.00015	0.0010	U	0.00015
Nitrobenzene	2	0.0010	U	0.00034	0.0010	U	0.00034
Pentachlorophenol	100	0.030	U	0.0027	0.030	U	0.0027
Pyridine	5	0.010	U	0.0015	0.010	U	0.0015
Total Conc		0.0			0.0		

TCLP SUMMARY							
Leachate Initial Amt		0.10007	Kg		0.10008	Kg	
Leachate Final Amt		2	L		2	L	
Leachate Final pH		5.15	SU		5.12	SU	

* : Surrogate is outside acceptance limits.
U : Analyzed for but not detected.
Bold Highlighted Exceeds Part 371 Standard

TABLE 9: Composite Soil Sample Results for Pesticides

Client ID	NY 375-6.8(b)	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	& CP-51 T-1	460-93506-50			460-93506-75		
Sampling Date	Restricted Residential	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix	Soil Cleanup	Soil			Soil		
Dilution Factor	Criteria	1			1		
Unit	mg/kg	mg/kg			mg/kg		
GCSVOA-8081B-SOIL		Result	Q	MDL	Result	Q	MDL
SOIL BY 8081B							
4,4'-DDD	13	0.0073	U	0.0014	0.0074	U	0.0014
4,4'-DDE	8.9	0.0073	U	0.0014	0.0074	U	0.0014
4,4'-DDT	7.9	0.0073	U	0.0017	0.0074	U	0.0018
Aldrin	0.097	0.0073	U	0.0015	0.0074	U	0.0015
alpha-BHC	0.48	0.0022	U	0.0016	0.0022	U	0.0017
beta-BHC	0.36	0.0022	U	0.0017	0.0022	U	0.0018
Chlordane (technical)	NA	0.073	U	0.021	0.039	J	0.021
delta-BHC	100	0.0022	U	0.0013	0.0022	U	0.0013
Dieldrin	0.2	0.0022	U	0.0013	0.0022	U	0.0013
Endosulfan I	24	0.0073	U	0.0016	0.0074	U	0.0017
Endosulfan II	24	0.0073	U	0.0014	0.0074	U	0.0014
Endosulfan sulfate	24	0.0073	U	0.0014	0.0074	U	0.0014
Endrin	11	0.0073	U	0.0017	0.0074	U	0.0018
Endrin aldehyde	NA	0.0073	U	0.0011	0.0074	U	0.0011
Endrin ketone	NA	0.0073	U	0.0014	0.0074	U	0.0014
gamma-BHC (Lindane)	1.3	0.0022	U	0.0013	0.0022	U	0.0013
Heptachlor	2.1	0.0073	U	0.0017	0.0074	U	0.0018
Heptachlor epoxide	NA	0.0073	U	0.0016	0.0074	U	0.0017
Methoxychlor	NA	0.0073	U	0.0017	0.0074	U	0.0018
Toxaphene	NA	0.073	U	0.020	0.074	U	0.020

Highlighted Bold Exceeds Restricted Residential SCO
J : Indicates an estimated value.
U : Analyzed for but not detected.

TABLE 10: TCLP Composite Sample Results for Pesticides

Client ID	**Part NY - 371**	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	**Characteristic**	460-93506-50			460-93506-75		
Sampling Date	**Toxicity**	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix		TCLP			TCLP		
Dilution Factor		1			1		
Unit	**mg/L**	mg/l			mg/l		
GCSVOA-8081B-TCLP		Result	Q	MDL	Result	Q	MDL
TCLP BY 8081B							
Chlordane (technical)	0.03	0.0050	U	0.00021	0.0050	U	0.00021
Endrin	0.02	0.00050	U	0.000017	0.00050	U	0.000017
gamma-BHC (Lindane)	0.4	0.00050	U	0.000014	0.00050	U	0.000014
Heptachlor	0.008	0.00050	U	0.000014	0.00050	U	0.000014
Heptachlor epoxide	0.008	0.00050	U	0.000016	0.00050	U	0.000016
Methoxychlor	10	0.00050	U	0.000015	0.00050	U	0.000015
Toxaphene	0.5	0.0050	U	0.00034	0.0050	U	0.00034

TCLP SUMMARY							
Leachate Initial Amt		0.10007	Kg		0.10008	Kg	
Leachate Final Amt		2	L		2	L	
Leachate Final pH		5.15	SU		5.12	SU	

U : Analyzed for but not detected.
Bolded highlighted Exceed Part 371 Standard for Hazardous Material.

TABLE 11: Composite Soil Sample Results for PCBs

Client ID	NY 375-6.8(b)	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	& CP-51 T-1	460-93506-50			460-93506-75		
Sampling Date	Restricted Residential	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix	Soil Cleanup	Soil			Soil		
Dilution Factor	Criteria	1			1		
Unit	mg/kg	mg/kg			mg/kg		
GCSVOA-8082A-SOIL		Result	Q	MDL	Result	Q	MDL
SOIL BY 8082A							
Aroclor 1016	NA	0.073	U	0.016	0.074	U	0.017
Aroclor 1221	NA	0.073	U	0.016	0.074	U	0.017
Aroclor 1232	NA	0.073	U	0.016	0.074	U	0.017
Aroclor 1242	NA	0.073	U	0.016	0.074	U	0.017
Aroclor 1248	NA	0.073	U	0.016	0.074	U	0.017
Aroclor 1254	NA	0.073	U	0.021	0.074	U	0.021
Aroclor 1260	NA	0.073	U	0.021	0.074	U	0.021
Aroclor 1268	NA	0.073	U	0.021	0.074	U	0.021
Aroclor-1262	NA	0.073	U	0.021	0.074	U	0.021
Total PCBs	1	0.073	U	0.021	0.074	U	0.021

U : Analyzed for but not detected.
Bold Highlighted Exceed standard for Restricted Residential SCO

TABLE 12: TCLP Composite Sample Results for PCBs

Client ID	**Part NY-371**	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	**Characteristic**	460-93506-50			460-93506-75		
Sampling Date	**Toxicity**	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix		TCLP			TCLP		
Dilution Factor		1			1		
Unit	**mg/L**	mg/l			mg/l		
GCSVOA-8082A-TCLP		Result	Q	MDL	Result	Q	MDL
TCLP BY 8082A							
Aroclor 1016	NA	0.00050	U	0.000076	0.00050	U	0.000076
Aroclor 1221	NA	0.00050	U	0.000076	0.00050	U	0.000076
Aroclor 1232	NA	0.00050	U	0.000076	0.00050	U	0.000076
Aroclor 1242	NA	0.00050	U	0.000076	0.00050	U	0.000076
Aroclor 1248	NA	0.00050	U	0.000076	0.00050	U	0.000076
Aroclor 1254	NA	0.00050	U	0.000083	0.00050	U	0.000083
Aroclor 1260	NA	0.00050	U	0.000083	0.00050	U	0.000083
Aroclor 1268	NA	0.00050	U	0.000083	0.00050	U	0.000083
Aroclor-1262	NA	0.00050	U	0.000083	0.00050	U	0.000083
Total PCBs		0.00050	U	0.000076	0.00050	U	0.000076

TCLP SUMMARY							
Leachate Initial Amt		0.10007	Kg		0.10008	Kg	
Leachate Final Amt		2	L		2	L	
Leachate Final pH		5.15	SU		5.12	SU	

U : Analyzed for but not detected.
Bold Highlighted Exceeds the Part NY-371 Standard

TABLE 13 : Composite Soil Sample Results for Metals

Client ID	NY 375-6.8(b)	**WC-Shallow**			**WC-Deep**		
Lab Sample ID	& CP-51 T-1	460-93506-50			460-93506-75		
Sampling Date	Restricted Residential	04/16/2015 09:00:00			04/16/2015 10:45:00		
Matrix	Soil Cleanup	Soil			Soil		
	Criteria						
Unit	mg/kg	mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C							
Aluminum	NA	4020		20.5	6350		22.1
Antimony	NA	3.7	U	1.4	4.0	U	1.5
Arsenic	16	4.1		0.76	8.1		0.82
Barium	400	103		1.6	**584**		1.7
Beryllium	72	0.37	U	0.25	0.40	U	0.27
Cadmium	4.3	1.8		0.26	0.96		0.28
Calcium	NA	7540		71.0	6100		76.7
Chromium	NA	24.4		0.74	22.6		0.80
Cobalt	NA	4.0	J	0.84	4.4	J	0.90
Copper	270	47.1		1.6	**67.4**		1.8
Iron	NA	**27300**		23.1	**35000**		25.0
Lead	400	**384**		0.76	**1830**		0.82
Magnesium	NA	3180		61.6	1810		66.5
Manganese	2000	237		0.80	252		0.86
Nickel	310	22.9		1.7	24.0		1.8
Potassium	NA	300	J	25.6	314	J	27.7
Selenium	180	3.7	U	1.1	4.0	U	1.1
Silver	180	1.9	U	0.36	2.0	U	0.39
Sodium	NA	928	U	70.2	1000	U	75.8
Thallium	NA	3.7	U	1.8	4.0	U	2.0
Vanadium	NA	15.6		0.77	15.4		0.83
Zinc	10000	**295**		1.6	**409**		1.7
SOIL BY 7471B							
Mercury	0.81	0.13		0.013	**0.34**		0.013

Highlighted Concentrations shown in bold type face exceed Restricted Residential SCOs
J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.

TABLE 14: TCLP Composite Sample Results for Metals

Client ID	**Part NY-371**			**WC-Shallow**			**WC-Deep**
Lab Sample ID	**Characteristic**			460-93506-50			460-93506-75
Sampling Date	**Toxicity**			04/16/2015 09:00:00			04/16/2015 10:45:00
Matrix				TCLP			TCLP
Unit	**ug/L**			ug/l			ug/l
METALS-TCLP		Result	Q	MDL	Result	Q	MDL
TCLP BY 6010C							
Arsenic	5000	75.0	U	21.7	75.0	U	21.7
Barium	100000	1140		32.3	1620		32.3
Cadmium	1000	29.0		5.8	13.2	J	5.8
Chromium	5000	50.0	U	22.8	50.0	U	22.8
Lead	5000	602		23.2	**10700**		23.2
Selenium	1000	100	U	33.7	100	U	33.7
Silver	5000	50.0	U	9.3	50.0	U	9.3
TCLP BY 7470A							
Mercury	200	0.20	U	0.14	0.20	U	0.14
TCLP SUMMARY							
Leachate Initial Amt		0.10007	Kg		0.10008	Kg	
Leachate Final Amt		2	L		2	L	
Leachate Final pH		5.15	SU		5.12	SU	

J : Sample result is greater than the MDL but below the CRDL
U : Indicates analyzed for but not detected.
Bold Highlighted Results Exceed the Part-371 standard

TABLE 15: Supplemental Soil Sample Results for Lead and TCLP Metals

Client ID	NY 375-6.8(b)	**A2-30-36-72015**			**A5-0-2-72015**			**B2-18-24-72015**			**B3-18-24-72015**			**C0-0-2-72015**		
Lab Sample ID	& CP-51 T-1	460-98146-4			460-98146-5			460-98146-1			460-98146-7			460-98146-8		
Sampling Date	Restricted Residential	07/16/2015 09:25:00			07/16/2015 09:15:00			07/16/2015 09:00:00			07/16/2015 09:45:00			07/16/2015 09:35:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Lead	400	**210**		0.73	**422**		0.90	**206**		0.80	20.9		0.76	**269**		0.87
Unit	**ug/L**	ug/l			ug/l			ug/l			ug/l			ug/l		
METALS-TCLP		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
TCLP BY 6010C																
Arsenic	5000	75.0	U	22.1	75.0	U	22.1	75.0	U	22.1	75.0	U	22.1	23.0	J	22.1
Barium	100,000	1210		27.5	658	J	27.5	526	J	27.5	411	J	27.5	567	J	27.5
Cadmium	1000	20.0	U	11.6	20.0	U	11.6	20.0	U	11.6	20.0	U	11.6	20.0	U	11.6
Chromium	5000	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5
Lead	5000	342		20.8	595		20.8	42.7	J	20.8	31.2	J	20.8	94.3		20.8
Selenium	1000	100	U	33.8	100	U	33.8	100	U	33.8	100	U	33.8	100	U	33.8
Silver	5000	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3

Highlighted Yellow Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives

Highlighted Pink Concentrations shown in bold type face exceed Part 371 standards for Hazardous material

TABLE 15: Supplemental Soil Sample Results for Lead and TCLP Metals

Client ID	NY 375-6.8(b)	**C3-18-24-72015**			**C4-18-24-72015**			**D2-18-24-72015**			**D3-6-12-72015**			**DUP-72015**		
Lab Sample ID	& CP-51 T-1	460-98146-2			460-98146-6			460-98146-9			460-98146-3			460-98146-10		
Sampling Date	Restricted Residential	07/16/2015 09:05:00			07/16/2015 09:25:00			07/16/2015 09:45:00			07/16/2015 09:00:00			07/16/2015 00:00:00		
Matrix	Soil Cleanup	Soil			Soil			Soil			Soil			Soil		
	Criteria															
Unit	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg
METALS-SOIL		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
SOIL BY 6010C																
Lead	400	**5830**		3.9	**1230**		0.77	**628**		0.78	**363**		0.75	**221**		0.75
Unit	**ug/L**			ug/l			ug/l			ug/l			ug/l			ug/l
METALS-TCLP		Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL
TCLP BY 6010C																
Arsenic	5000	75.0	U	22.1	23.2	J	22.1	75.0	U	22.1	75.0	U	22.1	75.0	U	22.1
Barium	100,000	1770		27.5	1940		27.5	1570		27.5	1140		27.5	503	J	27.5
Cadmium	1000	24.0		11.6	20.7		11.6	23.0		11.6	56.7		11.6	20.0	U	11.6
Chromium	5000	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5	50.0	U	22.5
Lead	5000	**34500**		20.8	**13200**		20.8	3350		20.8	550		20.8	33.1	J	20.8
Selenium	1000	100	U	33.8	100	U	33.8	100	U	33.8	100	U	33.8	100	U	33.8
Silver	5000	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3	50.0	U	9.3

Highlighted Yellow Concentrations shown in bold type face exceed Restricted Residential Soil Cleanup Objectives

Highlighted Pink Concentrations shown in bold type face exceed Part 371 standards for Hazardous material

TABLE 16: Excavation & Backfill Depth and Materials

Cell	Excavation Depth (ft)	SVOCs Depth of Contamination (ft)		Metals Depth of Contamination (ft)		Haz or Non-Haz	Approx Excavation (cu yd)	Approx. Backfill Depth (ft)	Backfill Material (cu yd)
		Dirty	Clean	Dirty	Clean				
A1	2.5	2	2.5	0	0	Non-haz	42.0	1.5	25.2
A2	3.5	2	2.5	2.5	3.5	Non-haz	59.9	1.5	25.7
A3	3.5	3	3.5	0	0	Non-haz	59.2	2	33.8
A4	2.5	2	2.5	0-2"	1.5	Non-haz	43.1	0.5	8.6
A5	1.5	0-2"	1.5	0-2"	1.5	Non-haz	34.6	0.5	0.0
B1	3	2	UNK	0	0	Non-haz	67.8	2	50.9
B2	3	2	UNK	2	UNK	Non-haz	99.7	2	83.1
B3	3	0-2"	0.5	2	UNK	Non-haz	98.5	2	82.1
B4	1.5	1	1.5	1	1.5	Non-haz	51.0	1	34.0
B5	0	0	0	0	0	NA	0.0	0	0.0
C1	2	0-2"	0.5	2	UNK	Non-haz	74.0	4	185.0
C2	2	2	UNK	1	1.5	Non-haz	66.8	4	150.4
C3 C3	0-1' 1-2'	1	1.5	2	UNK	Non-haz Haz	32.6 32.6	4	146.8
C4 C4	0-1' 1-2'	1	1.5	2	UNK	Non-haz Haz	33.2 33.2	2	66.4
C5	1.5	1	1.5	0	0	Non-haz	34.3	1.5	34.3
D2	2	2	UNK	2	UNK	Non-haz	55.6	2	69.5
D3	2	0	0	2	UNK	Non-haz	45.6	2	45.6
D4	0	0	0	0	0	NA	0.0	0	0.0
D5	0	0	0	0	0	NA	0.0	0	0.0
E2	1.5	1	1.5	1	1.5	Non-haz	15.2	1.5	15.2
E3	0	0	0	0	0	NA	0.0	0	0.0
E4	2	2	UNK	0-2"	0.5'	Non-haz	30.0	2	30.0
Totals						Non-haz Haz	877.3 65.8		1086.6

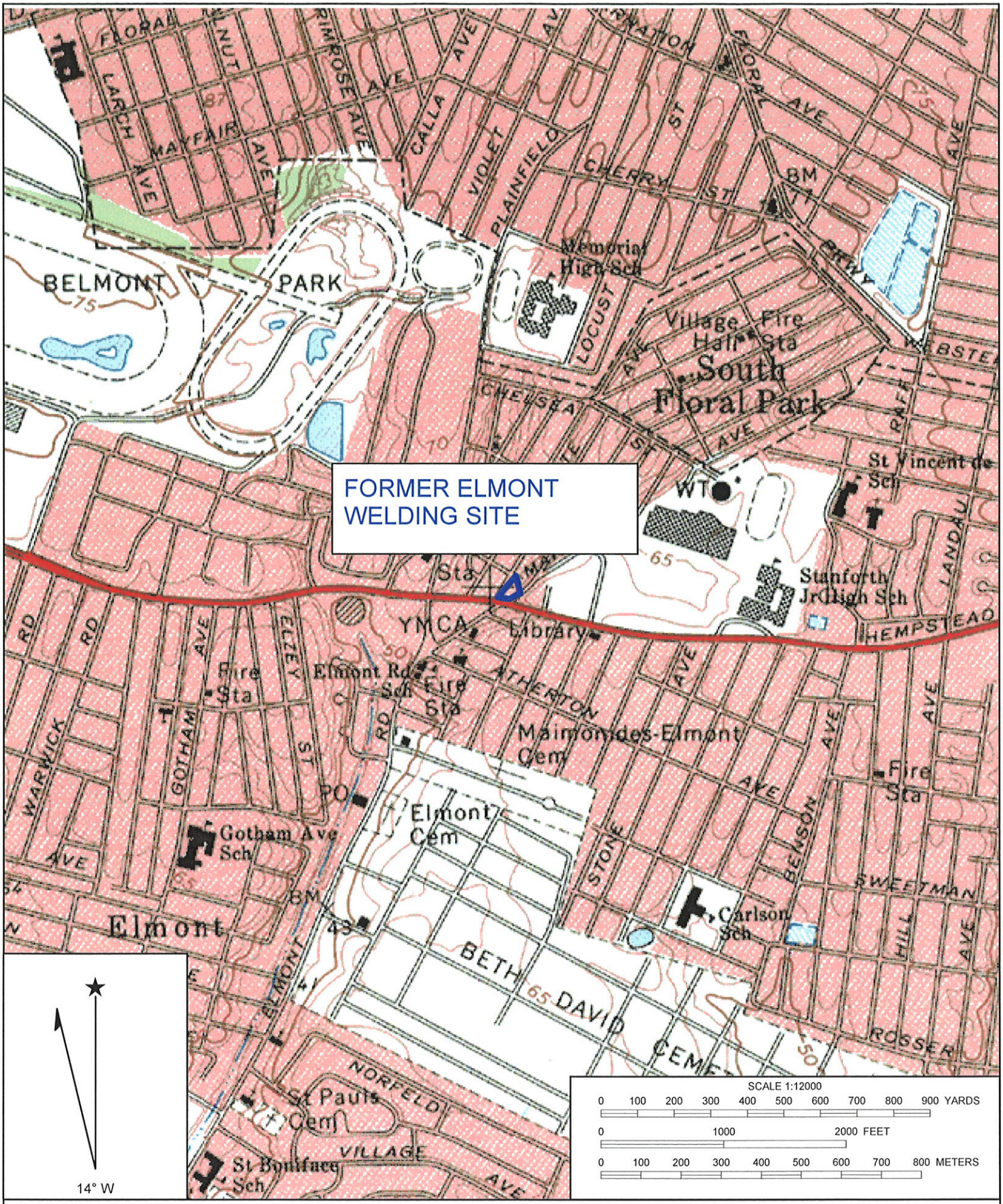
Notes:
Depth of Contamination based on Restricted Residential Soil Cleanup Objective (RRSCO)
Clean - Indicated depth at which sample result was below RRSCO.
Dirty - Indicates depth at which sample result was above RRSCO.
non-haz - non-hazardous characteristics
haz - hazardous characteristics
highlighted cells indicate that contamination will remain within cell following excavation activities.
Excavation depth based on depth of contamination and Grading Plan.
SVOCs - Semi-Volatile Compounds
NA - Not Applicalbe
UNK - Unknown

Table 17: Grid Cell Vertices Coordinate Points

	Coordinates	
Vertex	x	y
1	1998701.068	14787376.110
2	1998727.368	14787360.573
3	1998660.632	14787365.892
4	1998685.890	14787350.201
5	1998711.799	14787335.261
6	1998715.557	14787340.978
7	1998645.194	14787339.677
8	1998670.926	14787324.660
9	1998696.506	14787309.910
10	1998714.447	14787299.501
11	1998698.810	14787272.704
12	1998680.364	14787283.886
13	1998655.289	14787297.970
14	1998629.748	14787313.255
15	1998729.779	14787324.514
16	1998698.762	14787272.712

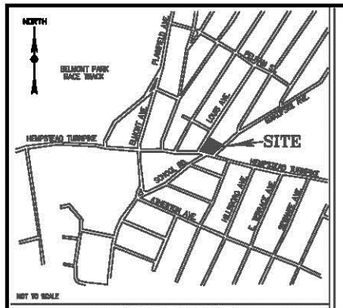
Cell	North	South	East	West
A1	TBD	16	TBD	TBD
A2	TBD	3	16	TBD
A3	TBD	7	3	TBD
A4	TBD	14	7	TBD
A5	TBD	TBD	14	TBD
B1	TBD	1	TBD	16
B2	16	4	1	3
B3	3	8	4	7
B4	7	13	7	8
B5	14	TBD	13	TBD
C1	TBD	2	TBD	1
C2	1	5	2	4
C3	4	9	5	8
C4	8	12	9	13
C5	13	TBD	12	TBD
D2	TBD	TBD	TBD	6
D3	5	10	15	9
D4	9	11	10	12
D5	12	TBD	TBD	TBD
E2	6	TBD	TBD	5
E3	15	TBD	TBD	10
E4	10	TBD	TBD	11

TBD: To Be Determined; Will be provided by the surveyor based on sidewalk/site boundary.



Name: LYNBROOK
Date: 7/13/2006
Scale: 1 inch equals 1000 feet

Location: 040° 42' 28.64" N 073° 42' 28.79" W
Caption: FIGURE 1
SITE LOCATION MAP
NYSDEC 1-30-150



VICINITY MAP

LEGEND

- ST — STORM LINE
- OE — OVERHEAD ELECTRIC
- UTILITY POLE W/LIGHT
- UTILITY POLE
- SIGN POST
- SURVEY CONTROL POINT

TABULATED SAMPLE LOCATIONS

SB POINT	NORTHING	EASTING	GROUND ELEV.	GW POINT
SB-01	197439.7	1065365.2	55.8	GW-01
SB-02	197508.4	1065376.6	52.5	GW-02
SB-03	197501.6	1065412.5	53.0	GW-03
SB-04	197507.4	1065438.9	52.3	GW-04
SB-05	197560.5	1065412.2	51.5	GW-05
SB-06	197547.6	1065442.3	51.6	GW-06
SB-07	197439.5	1065429.3	56.1	GW-07
SB-08	197462.4	1065447.1	59.6	GW-08
SB-09	197468.7	1065427.5	56.86	GW-09
SB-10	197436.3	1065412.7	56.97	GW-10
SB-11	197445.4	1065441.9	59.3	----------
SB-12	197553.6	1065430.5	51.6	----------
SB-13	197429.7	1065410.5	56.95	----------

REFERENCES

1) DEEDS AS SHOWN ON MAP ARE FILED IN THE NASSAU COUNTY CLERK'S OFFICE. ALL REFERENCE A MAP ENTITLED "JAMAICA SQUARE NO. 2 AMENDED MAP SURVEYED BY H. S. THOMPSON, CIVIL ENGINEER & SURVEYOR, OYSTER BAY, NEW YORK' DATED OCTOBER 1905 AND FIELD IN THE NASSAU COUNTY CLERK'S OFFICE ON SEPTEMBER 8, 1906 AS MAP NO. 41 (NEW NO. 304).

2) NASSAU COUNTY DEPARTMENT OF ASSESSMENT LAND & TAX MAP SECTION 32 BLOCK 362, SECTION 32 BLOCK 365 AND SECTION 32 BLOCK D.

3) AN UN-DATED COMPOSITE OF MAPS BY SEAR-BROWN ASSOC. APPEARING TO SHOW SIX SUBDIVIDED PARCELS ALONG HEMPSTEAD TPKE., LOUIS AVE. & MAKOFSKE AVE.

SURVEY NOTES:

1) HORIZONTAL LOCATIONS SHOWN HEREON ARE BASED ON THE NEW YORK STATE PLANE GRID COORDINATE SYSTEM (NAD 83/96), LONG ISLAND ZONE (3104). A COMBINED SCALE FACTOR OF 1.00000028 WAS COMPUTED FOR THIS PROJECT.

2) VERTICAL LOCATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

3) DISTANCES SHOWN ARE GROUND DISTANCES. BEARINGS SHOWN ARE GRID BEARINGS. CONTOUR INTERVAL IS 1 FOOT.

CERTIFICATION:

WE, OM P. POPLI, P.E., L.S., P.C., HEREBY DECLARE THAT THIS MAP WAS PREPARED FROM THE NOTES OF A BOUNDARY AND TOPOGRAPHIC SURVEY COMPLETED ON MARCH 23, 2006 AND FROM THE REFERENCES LISTED HEREON.

MICHAEL A. VENTURO, P.L.S. No. 50079 — DATE

POPLi
CONSULTING ENGINEERS & SURVEYORS
535 PENBROOKE DRIVE
PENFIELD, NEW YORK 14526
(585) 388-2060

20 10 0 5 10 15
SCALE: 1"=10'

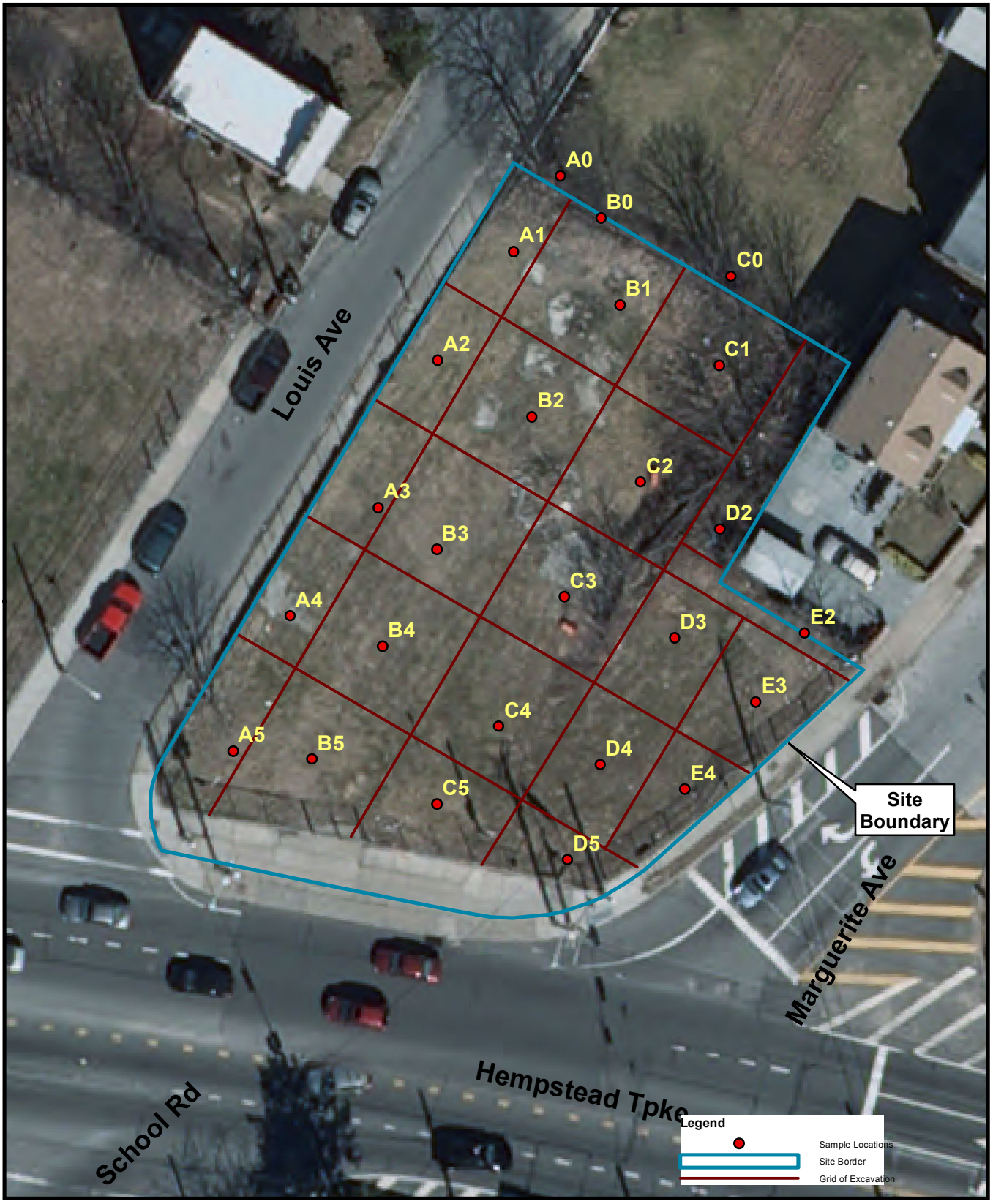
TITLE

SITE SURVEY
FORMER ELMONT WELDING
NYSDEC SITE NO.: 1-30-150

PREPARED FOR
NYSDEC

ERM Environmental Resources Management

DRAWN	JOB NO.	FILE NAME	SCALE	DATE	FIGURE
POPLi	0037437	0037437-02-001	Graphic	10/29/06	2



N
W E
S

0 15 30
Feet

Figure 3

Sampling Locations

Former Elmont Welding
Town of Hempstead,Nassau County
Site No. E130150

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

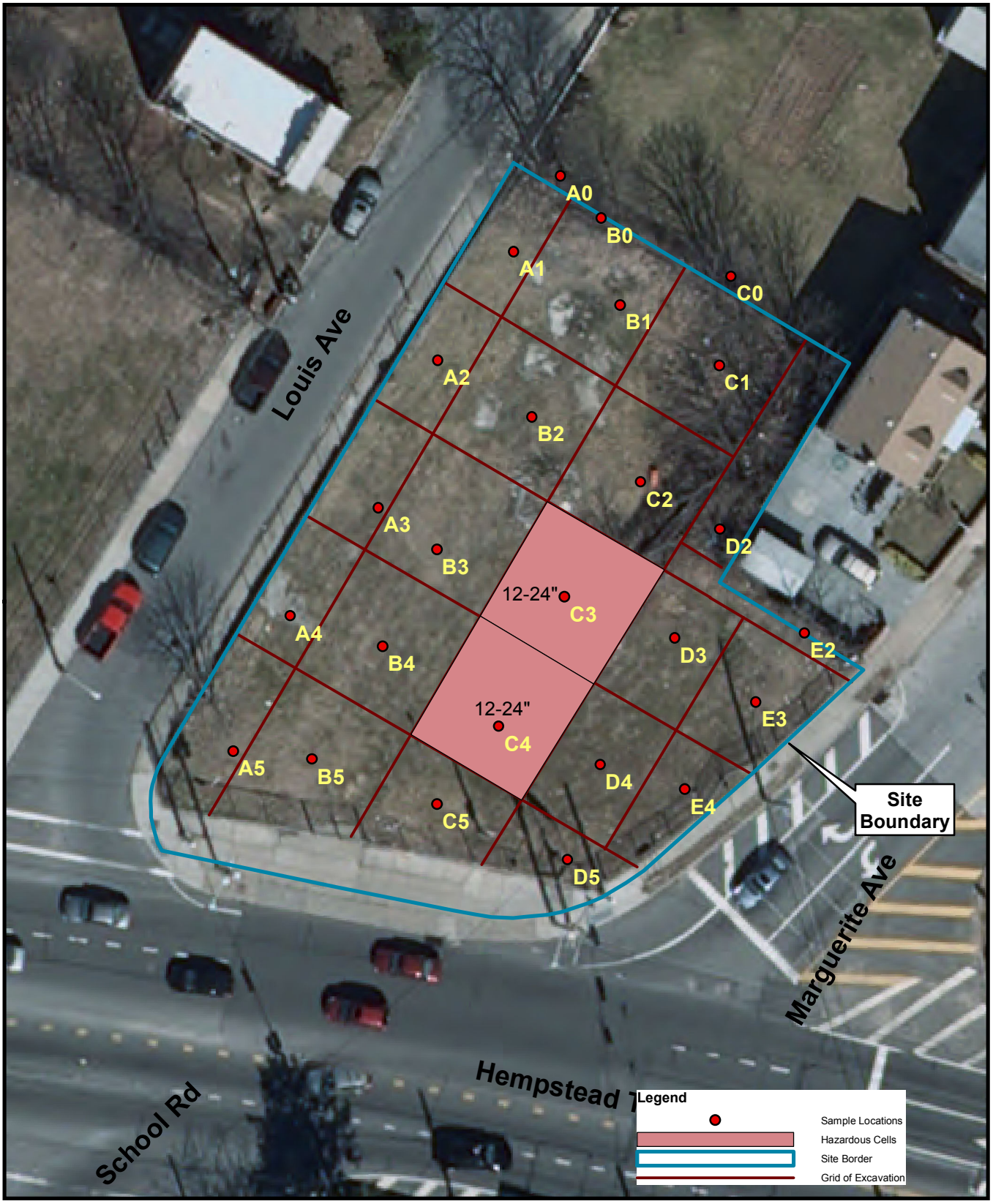
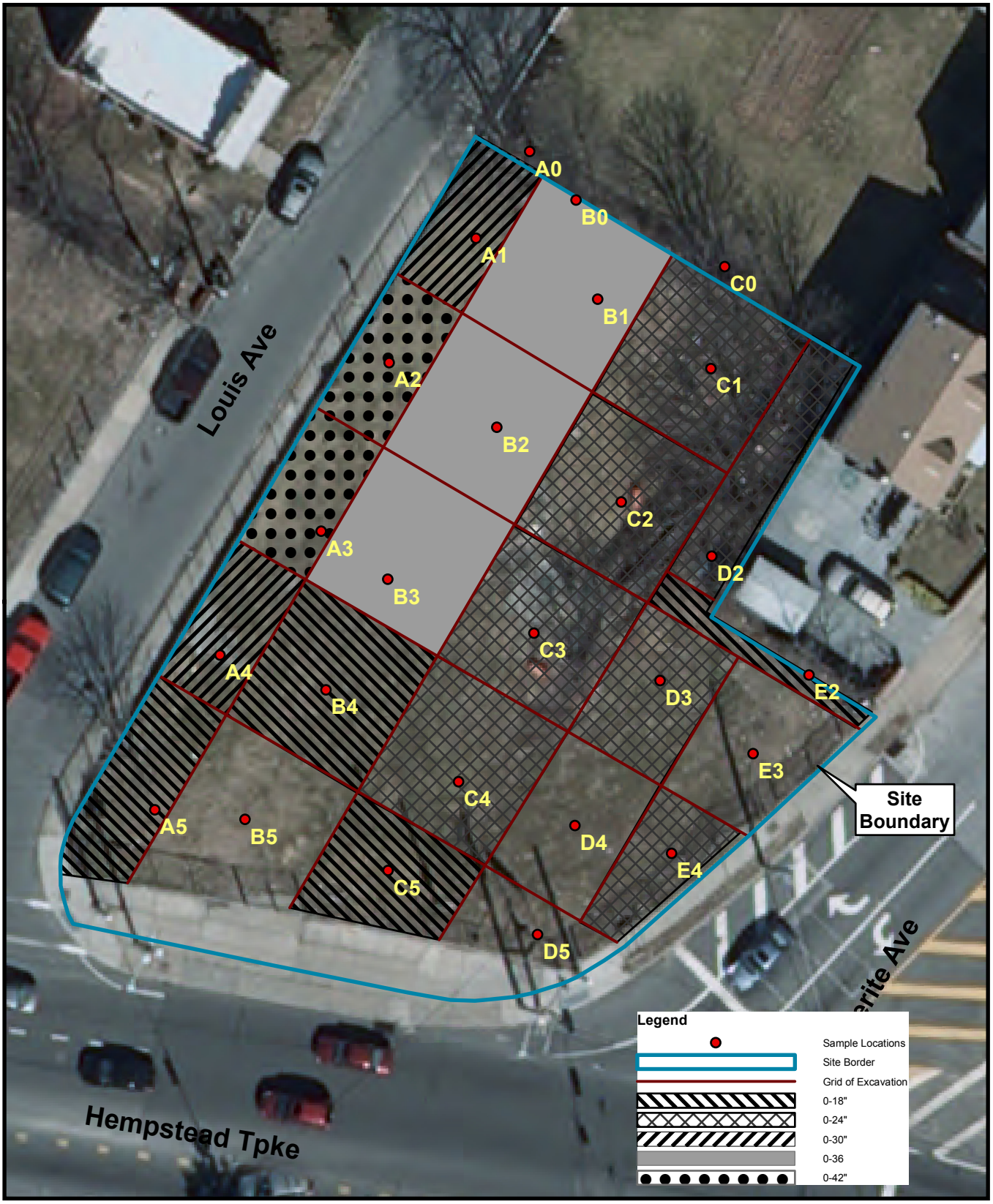


Figure 4

Cells with Hazardous Material

Former Elmont Welding
Town of Hempstead,Nassau County
Site No. E130150

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation



N
W E
S

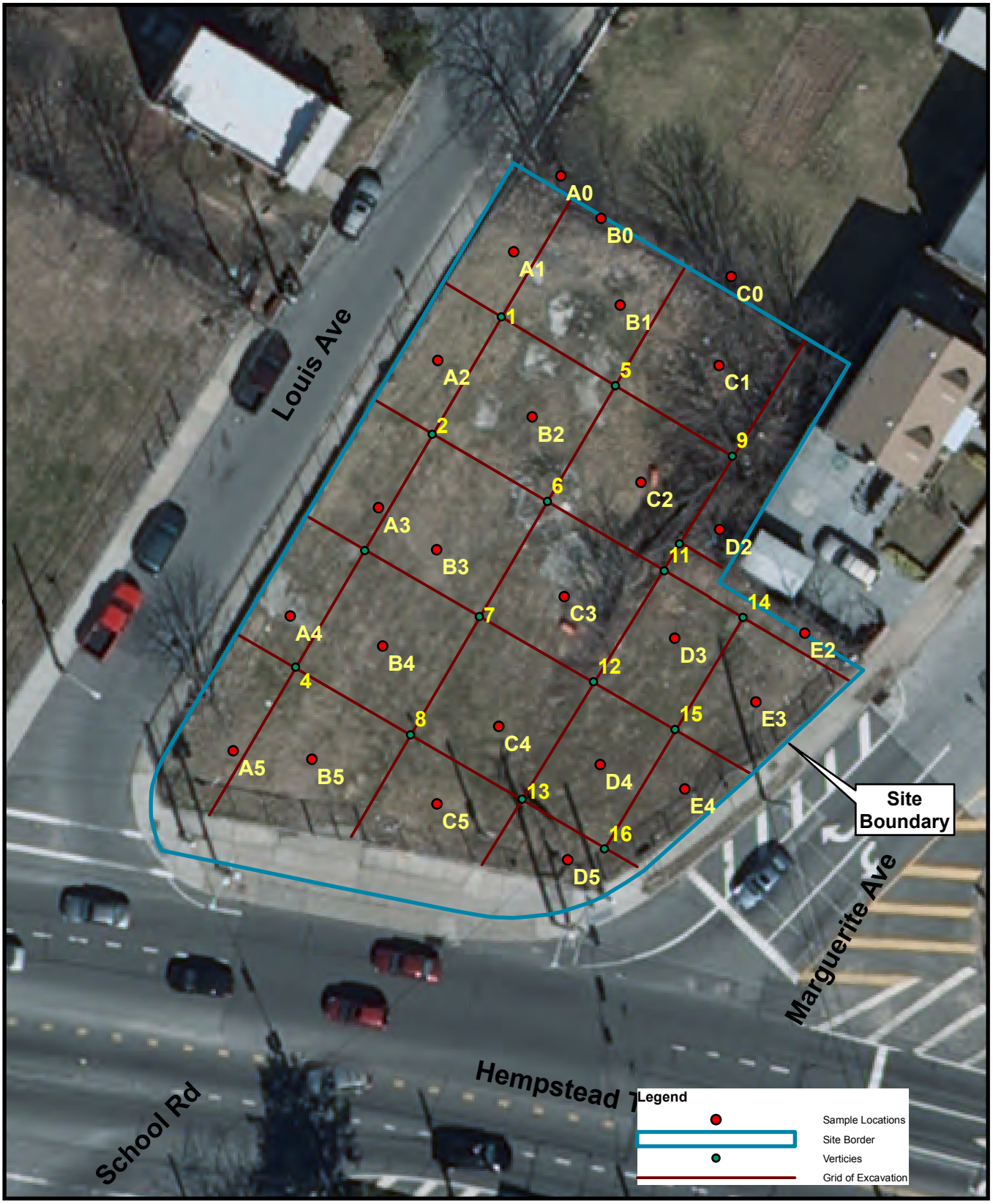
0 12.5 25
Feet

Figure 5

Excavation Plan

Former Elmont Welding
Town of Hempstead,Nassau County
Site No. E130150

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation



N
W E
S

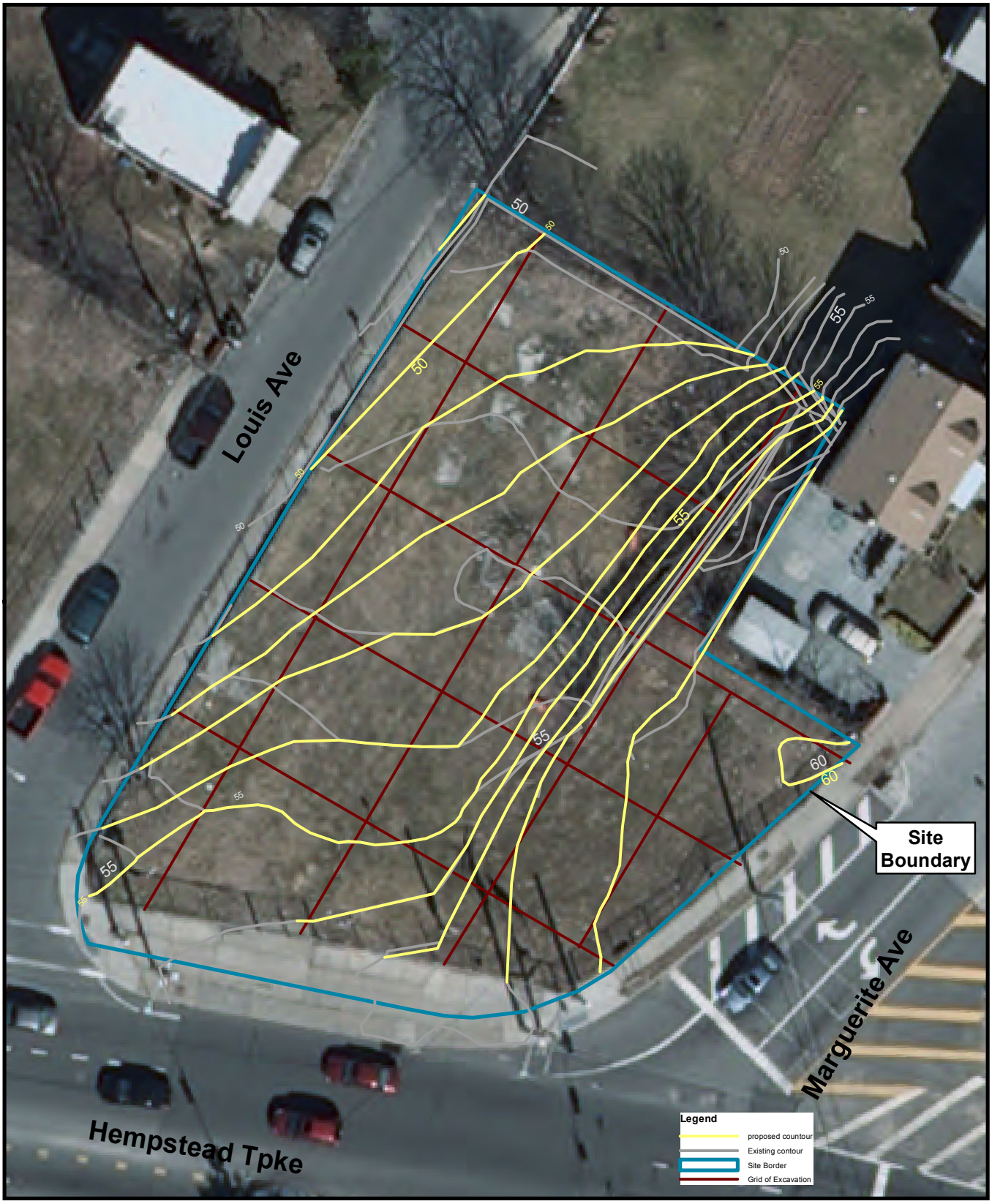
0 15 30
Feet

Figure 6

Cell Vertices

Former Elmont Welding
Town of Hempstead,Nassau County
Site No. E130150

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation



N
W E
S

0 15 30
Feet

Figure 7

Grading Plan

Former Elmont Welding
Town of Hempstead,Nassau County
Site No. E130150

NEW YORK STATE OF OPPORTUNITY
Department of Environmental Conservation

Appendix A

Soil Classification Logs

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A0
Total Depth: 0-2" ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: 4/15/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
							SP	dark brown mf Sand, and loose compost frg., concrete, plastic.	A0 - 0-2"
0.5	-0.5								
1.0	-1.0								
1.5	-1.5								
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1 Located north of low retaining wall (railroad tie) by ~6' but south of fence.

DRILLING INFORMATION

Method: spoon

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A-1
Total Depth: 4 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 4" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SW/SP	0-2" M-F sand trace fine gravel dry trace silt, brown soil trace black	"0-2" A1 0-2"
1.0	-1.0								
1.5	-1.5						SW/SP	18-24" M-F sand trace cobbles trace gravel trace fines, dark brown, ~~slightly damp~~ at bottom of ~~sample~~	18-24" "A1 18-24"
2.0	-2.0								
2.5	-2.5								
3.0	-3.0						SP	30-36" M-F sand, trace cinders, trace gravel med-dark brown, dry	30-36" "A1-30-36"
3.5	-3.5								
4.0	-4.0						SP	42-48" M-F sand, trace gravel trace fines, brown, dry	42-48" A1-42-48"
4.5	-4.5								
5.0	-5.0							4' total depth	
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand-auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A2
Total Depth: ~~3.5~~ 4 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: BF3

Start Date: 4/15/15
Finish Date: 4/15/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	m-f Sand, ~~Stone~~ f gravel, trace silt, dry trace brick, brown	0-2" A2 0-2"
1.0	-1.0								
1.5	-1.5							cinders	18-24 A2 18-24
2.0	-2.0								
2.5	-2.5								
3.0	-3.0							less brick / fill	30-36 A2 30-36
3.5	~~-3.5~~							~~Bottom of Borehole 3.5'~~ 4'	42-48 A2 42-48
4.0	-4.0						SW	m-c sand, few gravel, trace silt dry, very light, almost yellow, sand well graded transition from overlying fill/ soil, may be the native soil	~~42-48 A2 42-48~~
4.5	-4.5								* moved borehole a foot over to start a new borehole to grab the deepest sample. Couldn't penetrate original borehole
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A-3
Total Depth: ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/14
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0"- 12" DARK BROWN FINE SAND WITH SOME GRAVEL. TRACE SILT	collect composite samples 0-6" Full 6-12 VOC
1.0	-1.0								
1.5	-1.5						SP	NOTE REFUSAL @ 16". MOVED TO ADJACANT LOCATION.	
2.0	-2.0								
2.5	-2.5							16": BROWN FINE SAND WITH TRACE SILT. FILL MATERIAL	Collected sample at 18"-24"
3.0	-3.0								
3.5	-3.5							18-48":	
4.0	-4.0								
4.5	-4.5							BROWN FINE SAND WITH SOME SILT and trace GRAVEL. FILL MATERIAL PRESENT.	Collected sample at 30"-36"
5.0	-5.0								
5.5	-5.5						SW		Collected Sample at 42"-48"
6.0	-6.0								
6.5	-6.5								
7.0	-7.0							END OF BORING: 48"	
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A4
Total Depth: 4 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							ROOTS 1"	
1.0	-1.0							DK BRWN FINE SAND w/ SUB ROUNDED GRAV. YELLOWISH GRAVEL	
1.5	-1.5								
2.0	-2.0								
2.5	-2.5							12" DK BRWN FS w/ SUB ANGULAR TO ANGULAR GRAVEL YELLOWISH GRAVEL (SOME BLACK)	
3.0	-3.0								
3.5	-3.5								
4.0	-4.0							18" BRWN F/M SAND w/ BLACK SUBANG. GRAVEL MOSTLY BLACK GRAVEL	
4.5	-4.5								
5.0	-5.0								
5.5	-5.5							24" BROWN/ ORANGE M/C SAND w/ SUB ROUND GRAV. 20-30% YELLOWISH GRAVEL	
6.0	-6.0								
6.5	-6.5								
7.0	-7.0							30 BROWN F/M SAND w/ SILT	
7.5	-7.5								
8.0	-8.0							36 ORANGE F/M SILTY SAND MOIST 10% GRAV	
8.5	-8.5								
9.0	-9.0							42 INCREASING CLUMPINESS < 10%	
9.5	-9.5							48	

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1

DRILLING INFORMATION

Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: A-5

Total Depth: ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0"-2" Dark Brown fine sd red sand with occational gravel FILL material present color change to @ 18"	0"-2" collected Sample
1.0	-1.0						SP		
1.5	-1.5								
2.0	-2.0								18"-24" collected Sample
2.5	-2.5							Light Brown Fine Sand and Silt with trace Clay. DRY	
3.0	-3.0								
3.5	-3.5							24"-30" Dark Brown fine sd red material - FILL material. DRY	
4.0	-4.0								
4.5	-4.5								
5.0	-5.0						SP	30"-36" Dark Brown fine sd medium Sand with Some FILL MATERIAL. DRY	30"-36" collected Sample
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0							Brown fine Sand with trace Silt Limited FILL MATERIAL. DRY	42'-48" collected sample
7.5	-7.5								
8.0	-8.0								
8.5	-8.5							Bottom of BORING = 48"	
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: BO
Total Depth: 2" ~~ft~~

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: RFS

Start Date: 4/15/15
Finish Date: 4/15/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	dark brown, m-f Sand, some silt, little compost, dry concrete, ~~brick~~	BO - 0-2"
1.0	-1.0								
1.5	-1.5								
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1 Located north of low retaining wall (railroad tie) by ~ 6" but south of fence

DRILLING INFORMATION

Method: Spoon

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: B1
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: C. Shea

Start Date: 4/16/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0-2": BRWN M/F SAND, TRACE SILT, FEW F GRAVEL, DRY	SAMPLED B1 0-2
1.0	-1.0								
1.5	-1.5							2-6": BRN M/F SAND, TRACE SILT LITTLE F GRAVEL, DRY/MOIST	
2.0	-2.0								
2.5	-2.5							6-12": BRWN M/F SAND, TR. SILT, LITTLE F GRAVEL (CONCRETE BITS), MOIST	SAMPLED B1 6-12 & FD 041615 02
3.0	-3.0								
3.5	-3.5								
4.0	-4.0							12"-16" SAME	
4.5	-4.5								
5.0	-5.0							16-18" ORANGE M/F SAND, TRACE GRAVEL, MOIST	→ HIT COBBLES, MOVED 3' TOWARD WALL
5.5	-5.5								
6.0	-6.0							18"-24" BROWN M/F SAND FEW F GRAVEL, MOIST	SAMPLED WC B1 (18-24) SBB1 (18-24)
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY — Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: B2
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 4 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SW	0-2" M-F sand, few gravel, trace fines trace cinders, dry, brown	0-2" B2 0-2
1.0	-1.0						SW	6-12" M-F sand, few gravel, trace cobbles trace fines, dry, brown	0-2" DUP SBFD 04/15 1501
1.5	-1.5								6-12" B2 6-12
2.0	-2.0						SW	18-24" 18-21"-brown, 21-24" Black M-F sand few gravel, trace cobbles trace fines, dry	18-24" B2 18-24
2.5	-2.5							2' total depth	
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand Auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: B3
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: BFS

Start Date: 4/16/15
Finish Date: 4/16/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 6" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0	0						GP	brown, cF Gravel, some mf Sand, dry concrete asphalt	~~B3~~ B3-0-2
0.5	-0.5								B3-6-12
1.0	-1.0								
1.5	-1.5						SP	brown mf Sand, some f gravel, dry concrete, glass	B3-18-24 metals, SVOCs, VOCs Composite (1/ent) PCB Test, metals, SVOC Totals & TCLP
2.0	-2.0							Soil Boring bottom X	
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1 attempted soil boring on multiple locations, unable to get past 6" of lots of gravel or concrete (past is presumed).

DRILLING INFORMATION

Method: hand dig

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: B-4
Total Depth: ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0"-2": Dark Brown Fine Sand with trace fine Gravel. some organic Material. DRY	Sample collected 0"-2"
1.0	-1.0								
1.5	-1.5								
2.0	-2.0						SP	2"-12": Dark Brown fine Sand with some Gravel and trace SILT. DRY. NO ODOR.	
2.5	-2.5								Sample collect 6"-12"
3.0	-3.0								
3.5	-3.5							12"-14" SAME as above	
4.0	-4.0							14"-24": Brown fine and medium Sand. well sorted. increase % of Gravel with Depth. DRY NO ODOR	
4.5	-4.5								
5.0	-5.0								Sample collect 18"-24"
5.5	-5.5						SW		
6.0	-6.0								
6.5	-6.5								
7.0	-7.0							Bottom of BORING = 24"	
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: B5
Total Depth: 2 ft.

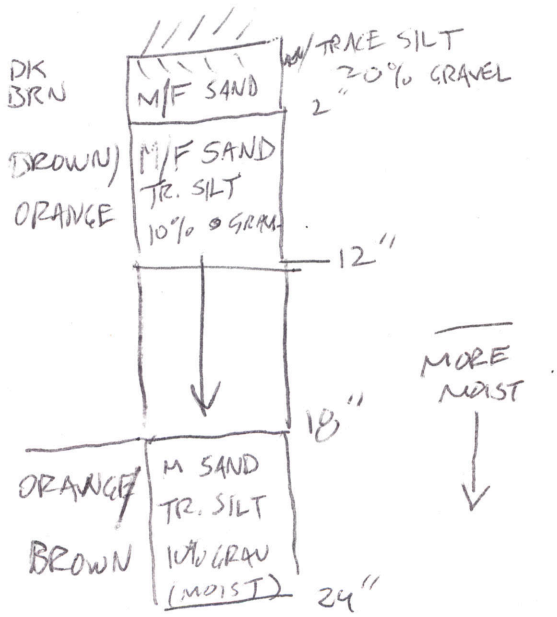
Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 9/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol
0.5	-0.5						
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						
4.0	-4.0						
4.5	-4.5						
5.0	-5.0						
5.5	-5.5						
6.0	-6.0						
6.5	-6.5						
7.0	-7.0						
7.5	-7.5						
8.0	-8.0						
8.5	-8.5						
9.0	-9.0						
9.5	-9.5						

Stratum and Field Descriptions:



Field Notes, Lab Samples:

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1

DRILLING INFORMATION

Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: CO
Total Depth: 2" ~~ft.~~

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: 4/15/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3" in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	dark brown, mf Sand, few silt, trace leave debris, few concrete pieces.	CO-0-2"
1.0	-1.0								
1.5	-1.5								
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:

1 No retaining wall at this location. Collected south of fence

DRILLING INFORMATION

Method: Spoon

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: C1
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: C. Shea

Start Date: 4/16/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0-2": DK BROWN M/F SAND/SILT, TRACE SOME ≤ 3/4" GRAVEL, MOIST	STYROFOM BITS
1.0	-1.0							6"-12": DK BROWN M/F SAND/SILT, FEW FINE GRAVEL, MOIST	TRACE BRICK BITS
1.5	-1.5							12"-18" SAME	
2.0	-2.0							18"-24": BRWN M/F SAND, TRACE SILT, FEW FINE GRAVEL, MOIST	TRACE CINDERS
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: C2
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/16/15
Finish Date: 4/16/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SF	brown mf Sand, little f gravel, trace brick, concrete, dry.	C2-0-2'
1.0	-1.0								C2-6-12'
1.5	-1.5							part of clay pipe (broken piece) ~2" in size	C2-18-24' metals, SVOCs, VOCs
2.0	-2.0							Bottom of boring 2'	
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: hand auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: C3
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/16/16
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	M-F sand, few stone, trace fines 0-2 brown, dry	0-2 C3 0-2 + VOC's
1.0	-1.0						SP	6-12 M-F sand, few gravel, trace fines brown, dry, trace glass	6-12 C3 6-12 + FD04161501
1.5	-1.5						SP	18-24 M-F sand trace gravel, trace fines trace bricks/glass fragments, dry brown	18-24 C3 18-24 + deep composite
2.0	-2.0							total depth 2ft	had to move hole over 3' to collect last sample
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY — Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: C4
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: 4/15/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	brown, mf Sand, some F gravel, trace silt, dry, piece of metal	C4 0-2 DUP FD041515-02
1.0	-1.0								C4 6-12
1.5	-1.5							brown, mf sand, some F gravel trace silt, concrete and a nail	C4 18-24
2.0	-2.0							Bottom of Borehole 2'	
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: C-5

Total Depth: ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0"-2" light Brown fine Sand with trace Silt and occational Gravel. DRY NO ODOR.	Note: collected Sample at 0"-2". ALSO collected MS/MSD
1.0	-1.0								
1.5	-1.5								
2.0	-2.0						SP	2"-12" Brown fine sand with Silt, trace gravel. DRY. NO ODOR.	collected sample at 6"-12".
2.5	-2.5								
3.0	-3.0								
3.5	-3.5							12"-24": Brown fine Sand with Silt, trace gravel. DRY. NO ODOR.	Collect Sample at 18"-24"
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0						24"	Bottom of BORING: 24"	
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: D-2
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 4 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	0-2" light brown & dark OM mixed, m-F sand few gravel, trace fines, some brick, trace glass dry	0-2" D2-02
1.0	-1.0						SP	6-12" brown, dry, m-F Sand trace gravel trace fines, trace brick, trace glass	6-12" D2 6-12
1.5	-1.5								
2.0	-2.0						SP	18-24" brown, dry m-F Sand, trace gravel trace fines, trace glass	18-24" D2 18-24
2.5	-2.5							Total depth 2'	
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand Auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: D3
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: C. Shea

Start Date: 9/16/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0-2": BROWN M/F SAND, TRACE SILT, FEW FINE GRAVEL, DRY	GLASS SHARDS
1.0	-1.0								
1.5	-1.5							2-6": LT. BROWN M SAND, TRACE SILT, FEW F GRAV., MOIST	
2.0	-2.0								
2.5	-2.5							6-12": DK BRWN, M SAND, TR. SILT, TR. F GRAV, FEW C GRAV	BLACK (CINDERS)
3.0	-3.0								
3.5	-3.5							12-18": SAME, WITH TRACE RUSTY METAL (<1/2") BIT	
4.0	-4.0								
4.5	-4.5							18"-24": SAME AS 6-12"	
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

MOIST

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: D4
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/16/16
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP	0-2 m-F sand, few gravel, trace fines dry, light brown	0-2 D4 0-2
1.0	-1.0						SW	6-12 m-F sand, trace fines, some gravel dry, light brown -looks like it may be native soil	6-12 D4 6-12 also 6-12 composite sample w/ D3
1.5	-1.5								
2.0	-2.0						SP	18-24 m-F sand, trace fines, trace cinders few gravel, dry, light brown	18-24 D4 18-24
2.5	-2.5							total depth 2ft	
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand Auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

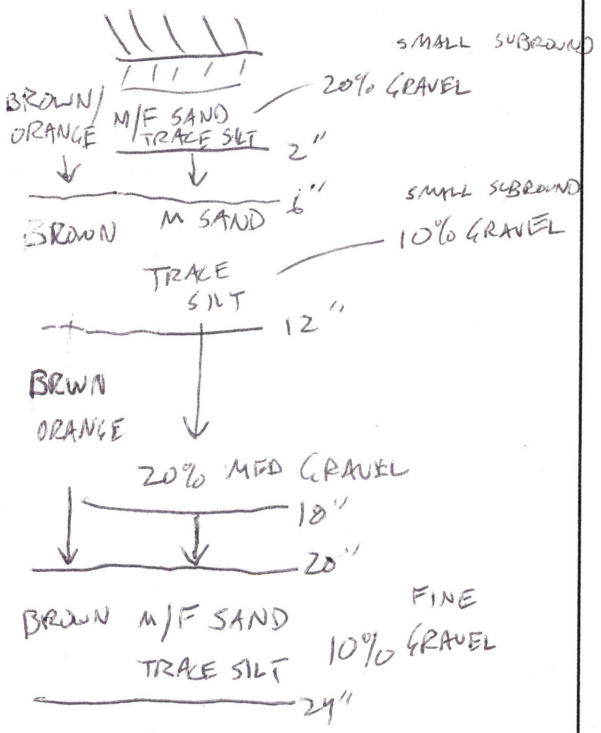
Location ID: DS
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/15/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5								
1.0	-1.0								
1.5	-1.5								
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								



STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: E2
Total Depth: 2' ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: BF3

Start Date: 4/07/15
Finish Date: 4/07/15
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
							SP	Brown, mf sand trace silt, dry.	E2 0-2
0.5	-0.5						SP	orange brown, mf sand & trace silt dry metal piece debris also and mix of dark brown soil.	E2-6-12
1.0	-1.0								
1.5	-1.5							rusty nail at 12"	
2.0	-2.0						SP	brown, mf sand, trace silt, dry	E2-18-24
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: hand auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: F3
Total Depth: 2 ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector: C. Shen

Start Date: 4/16/15
Finish Date:
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 3 in.
Depth to Water: ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5							0-2": M/F SAND, BRWN, TRACE SILT, 10% M/C GRAVEL, TRACE CINDERS	DRY/MOIST
1.0	-1.0							ENCOUNTERED BRICKS ~6", MOVED BORING 1 FT TOWARD HEMPSTEAD AVE.	
1.5	-1.5								
2.0	-2.0								
2.5	-2.5							2-6": M/F SAND, BROWN, TRACE SILT, FEW MED. GRAVEL	DRY/MOIST
3.0	-3.0								
3.5	-3.5							6-12": MED. SAND, BROWN, LT. FEW 1" BRICK/STONE SHARDS, FEW F GRAV	MOIST
4.0	-4.0								
4.5	-4.5							12"-18": MED. BROWN/ORANGE SAND, TRACE SILT, LITTLE FINE GRAVEL,	MOIST; COLOR SEEMS NON-HOMOGENEOUS
5.0	-5.0								
5.5	-5.5							18"-24": MED. BRWN SAND, TRACE SILT, FW FINE GRAVEL, MOIST	RUSTED METAL BITS FOUND
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method:

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

BORING LOG

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PROJECT: Elmont Welding
PROJECT NO.: E130150
LOCATION: Elmont, NY

Location ID: E4
Total Depth: ft.

Contractor: NA
Drill Rig: NA
Driller: NA
Inspector:

Start Date: 4/16/15
Finish Date: "
El. Datum: NA
Northing:
Easting:
G.S. Elevation: NA

Borehole Dia.: 4" in.
Depth to Water: NA ft.
Depth to Rock: NA ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Blow Counts	Recovery (Inches)	PID (ppm)	Group Symbol	Stratum and Field Descriptions:	Field Notes, Lab Samples:
0.5	-0.5						SP 0-2	M-F sand, trace brick, trace fines, few gravel, dry, brown	0-2 E4 0-2
1.0	-1.0						SP 6-12	M-F sand, trace brick, trace cinders, trace fines few gravel, dry, brown	6-12 E4 6-12
1.5	-1.5								
2.0	-2.0						SP 18-24	M-F sand trace cinders, trace fines, few gravel, dry, brown	18-24 E4 18-24
2.5	-2.5								
3.0	-3.0							total depth 21	
3.5	-3.5								
4.0	-4.0								
4.5	-4.5								
5.0	-5.0								
5.5	-5.5								
6.0	-6.0								
6.5	-6.5								
7.0	-7.0								
7.5	-7.5								
8.0	-8.0								
8.5	-8.5								
9.0	-9.0								
9.5	-9.5								

STANDARD NOTE: Samples classified in accordance with ASTM D-2488 unless otherwise noted.

ADDITIONAL NOTES:
1

DRILLING INFORMATION
Method: Hand Auger

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

D3 6-12 m-f Sand, trace silt, trace fill (glass, slag, welding slag) brown to dark brown, dry.

B2/DUP 18-24 - Dark brown cmf SAND and mf GRAVEL trace SILT (dry, np.) Fill directly above 16" ~ deteriorated concrete, asphalt.

C3 18-24 m-f Sand medium dark brown, trace (gravel, fines, brick, glass) dry

A5 02 m-f Sand, trace silt, trace brick, dry, roots

A-2 30"-34" Brown cmf SAND and mf GRAVEL (dry, np.) asphalt fill

C4 18-24" med brown, m-f Sand, few gravel, trace (cobbles, fines, brick, concrete, glass) dry

C-0 0-2" Brown cmf SAND little f GRAVEL (dry, np)

D2 18-24 med brown, m-f Sand, few gravel, trace (gravel, asphalt, glass) dry, trace fines

B3 18-24 cmf Sand, some gravel, trace silt, fill / dark gray to gray to brown

Appendix B

Data Reviews

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau E
625 Broadway, 12th Floor, Albany, NY 12233-7017
P: (518) 402-9813 I F: (518) 402-9819
www.dec.ny.gov

Data Review Report

NYSDEC Elmont Welding

Site No. E130150

Brian Jankauskas – Project Manager

Analytical Laboratory: TestAmerica
Job No.: 460-93506-1
Sample Date(s): 04/15/2015, 04/16/2015
Received Date(s): 04/17/2015 at 9:30AM
Analysis Date(s): 04/22/2015, 04/23/2015, 04/25/2015, 04/26/2015, 04/27/2015, 04/28/2015, 04/29/2015, 04/30/2015, 05/01/2015, and 05/13/2015

Chain-of-Custody –

All samples were collected and shipped under COC record and received at TestAmerica – Edison within one (1) to two (2) days of sampling. All samples were received intact and in good condition. All samples met preservation and integrity requirements. The receiving laboratory did report that no container quantities were listed on the COC and type of analyses was not checked off on the COC for samples – SB-C3(18-24) and SB-C1(18-24). If was confirmed that these two samples were to be analyzed by Methods 6010C and 8270D.

One sample – SB-C1(0-2) was analyzed for volatiles by Method 8260C.

Seventy-six samples were analyzed for semi-volatiles and metals by Methods 8270D and 6010C.

Sample Matrix = solid

Holding Times –

All samples and/or sample extracts were analyzed within the contract specified holding times of:

- Volatiles 7 days (sample)
- Semi-Volatiles 40 days (extract)
- Metals 180 days (digestate)

from date of receipt.

Volatile Organic Analysis – Solid –

One solid sample, one laboratory control sample, one laboratory control sample duplicate, and one method blank were analyzed using method 8260C, for TCL VOCs. The following items were reviewed for compliancy –

Tune Criteria – all samples were analyzed within 12 hours of a passing BFB tune.

Initial Calibration – the multi-point calibration had a Response Factor (%RSD) of ≤20% for all reported analytes. All reported analytes were detected at the appropriate levels in the multi-point calibration to support the reporting limits provided.

Continuing Calibration Verification – the calibration verification exhibited a % difference of less than 20% for all analytes except for:

- 1,2-Dichloro-1,1,2-trifluoroethane = %difference of 25.1
- 1,1,2-Trichloro-1,2,2-trifluoroethane = % difference of 26.4
- Vinyl acetate = % difference of 51.8
- n-Butyl acetate = % difference of 31.4
- Camphor = % difference of 31.0

These exceedances have no effect on the sample report since these analytes were all reported as non-detects.

Method Blank- a blank was run within the 12 hour window of analysis. The method blank was reported as non-detect.

Laboratory Control Sample – the LCS recoveries were all within method acceptance limits.

Laboratory Control Sample Duplicate – the LCSD recoveries and relative percent difference (%RD) were all within method acceptance limits.

Sample Data – the sample was analyzed within 12 hours of an acceptable tune and calibration or calibration verification. The Internal Standard areas are within +/- 50% of the internal standard area count of the associated calibration areas. All Surrogate Recoveries are within the control limits of 70 – 130%. In the summarized analytical report no qualifiers were needed.

Field Duplicate precision was not calculated because the lab did not analyze for a duplicate sample.

Semi-Volatile Organic Analysis – Solid –

Seventy-six samples, five method blanks, ten laboratory control samples, five matrix spike/matrix spike duplicate samples, and four field duplicate samples were analyzed using method 8270D for TCL SVOCs. The following items were reviewed for compliancy –

Tune Criteria – all samples were analyzed within 12 hours of a passing DFTPP tune.

Initial Calibration – the multi-point calibration had a Response Factor (%RSD) of ≤20% for all reported analytes. All reported analytes were detected at the appropriate levels in the multi-point calibration to support the reporting limits provided.

Continuing Calibration Verification – the calibration verifications exhibited a % difference of less than 20% for all analytes except for –

- Batch #294342 – analysis date 04/23/15 time: 18:52:
  - benzoic acid = % D of 22.2
  - bis(2-ethylhexyl)phthalate = % D of 20.2
  - di-n-octyl phthalate = % D of 24.5

  None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #294732 – analysis date 04/26/15 time: 11:47:
  - benzoic acid = % D of 41.5
  - hexachlorocyclopentadiene = % D of 33.5
  - 3,5-di-tert-butyl-4-hydroxytol = % D of 29.0
  - 2,4-dinitrophenol = % D of 29.9
  - 4-nitrophenol = % D of 25.0
  - pentachlorophenol = % D of 21.9
  - bis(2-ethylhexyl)phthalate = % D of 21.6

  Of these target analytes only bis(2-ethylhexyl)phthalate was detected in any of the samples associated with this calibration verification run. Those affected samples were:
  - SB-D5(0-2)
  - SB-C2(18-24)
  - SB-B3(0-2)
  - SB-C3(18-24)
  - SB-B3(18-24).
  - SB-E3(6-12)
  - SB-C3(0-2)
  - SB-C3(6-12)
  - SB-C1(18-24)

  Reported detections for bis(2-ethylhexyl)phthalate in these samples should be considered estimated and qualified with a ‘J’.

- Batch #294794 – analysis date 04/27/15 time: 02:59:
  - N-nitrosodimethylamine = % D of 20.5
  - pyridine = % D of 20.1
  - hexachlorocyclopentadiene = % D of 49.2
  - 1,2,4,5-tetrachlorobenzene = % D of 54.9
  - 1,1’-biphenyl = % D of 36.2
  - 2-chloronaphthalene = % D of 28.3
  - 1,3-dimethylnaphthalene = % D of 30.9
  - coumarin = % D of 27.5
  - 3,5-di-tert-butyl-4-hydroxytol = % D of 76.1
  - acenaphthene = % D of 48.2
  - fluorene = % D of 31.0
  - 4-chlorophenyl phenyl ether = % D of 37.8
  - benzidine = % D of 22.0
  - dibenz(a,h)anthracene = % D of 23.2
  - 2-fluorobiphenyl = % D of 32.9

  Of these target analytes only dibenz(a,h)anthracene was detected in any of the samples associated with this calibration verification run. Those affected samples were:

- SB-A3(42-48)
- SB-A5(30-36)
- SB-A5(42-48)
- SB-A1(42-48)

Reported detections for dibenz(a,h)anthracene in these samples should be considered estimated and qualified with a 'J'.

- Batch #295024 – analysis date 04/28/15 time: 02:10:
  - 1,4-dioxane = % D of 21.3
  - benzoic acid = % D of 22.9
  - hexachlorocyclopentadiene = % D of 26.9
  - 3,5-di-tert-butyl-4-hydroxytol = % D of 29.4
  - bis(2-ethylhexyl)phthalate = % D of 21.8
  - di-n-octyl phthalate = % D of 24.0
  - 2,4,6-tribromophenol (surr) = % D of 20.1

  Of these target analytes only bis(2-ethylhexyl)phthalate was detected in any of the samples associated with this calibration verification run. Those affected samples were:
  - SB-C2(0-2)
  - SB-E3(18-24)
  - FD04161501

  Reported detections for bis(2-ethylhexyl)phthalate in these samples should be considered estimated and qualified with a 'J'.

- Batch #295206 – analysis date 04/28/15 time: 16:16:
  - benzyl alcohol = % D of 24.1
  - 3,4-methylphenol = % D of 25.7
  - 4-methylphenol = % D of 25.7
  - hexachlorocyclopentadiene = % D of 28.5
  - benzidine = % D of 25.8

  None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #295277 – analysis date 04/29/15 time: 07:13:
  - pyridine = % D of 20.5
  - benzoic acid = % D of 34.1
  - hexachlorocyclopentadiene = % D of 26.9
  - pentachlorophenol = % D of 25.8

  None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #295473 – analysis date 04/29/15 time: 22:09:
  - 4-nitrophenol = % D of 20.7
  - 2,4-Dinitrotoluene = % D of 20.2
  - 2,4,6-tribromophenol (surr) = % D of 29.5

  None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #295618 – analysis date 04/30/15 time: 10:31:
  - hexachlorocyclopentadiene = % D of 32.9
  - coumarin = % D of 24.1

- 4-nitrophenol = % D of 32.2
- 2,4-dinitrotoluene = % D of 26.4
- benzidine = % D of 31.3
- di-n-octyl phthalate = % D of 30.3
- 2,4,6-tribromophenol (surr) = % D of 31.1

None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #295762 – analysis date 04/30/15 time: 22:01:
  - pyridine = % D of 20.4
  - benzoic acid = % D of 38.7
  - 4-nitrophenol = % D of 21.7
  - 2,4-dinitrotoluene = % D of 22.5
  - benzidine = % D of 62.4
  - carbamazepine = % D of 32.8
  - di-n-octyl phthalate = % D of 36.4
  - indeno(1,2,3-cd)pyrene = % D of 20.4
  - dibenz(a,h)anthracene = % D of 20.5
  - 2,4,6-tribromophenol (surr) = % D of 23.1

  Of these target analytes indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene were detected in the samples associated with this calibration verification run. Those affected samples were:
  - SB-D2(0-2)
  - SB-D2(6-12)
  - SB-C0(0-2)

  Reported detections for indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene in these samples should be considered estimated and qualified with a 'J'.

- Batch #295840 – analysis date 05/01/15 time: 09:04:
  - coumarin = % d of 22.7
  - 4-nitrophenol = % D of 33.2
  - 2,4-dinitrotoluene = % D of 27.2
  - 4-nitroaniline = % d of 23.0
  - di-n-octyl phthalate = % D of 23.3
  - 2,4,6-tribromophenol (surr) = % D of 37.3

  None of these target analytes were detected in the samples associated with this calibration verification run. These exceedances did not affect the quality of the analytical data.

- Batch #295782 – analysis date 05/01/15 time: 09:24:
  - di-n-octyl phthalate = % D of 27.5
  - benzo(g,h,i) perylene = % D of 22.0
  - caprolactam = % D of 22.2
  - 2,4,6-tribromophenol (surr) = % D of 31.2

  Of these target analytes only benzo(g,h,i)perylene was detected in any of the samples associated with this calibration verification run. Those affected samples were:
  - SB-D3(6-12)
  - SB-D3(18-24)
  - SB-B1(0-2)
  - FD04161502
  - SB-B1(6-12)

  Reported detections of benz(g,h,i)perylene in these samples should be considered estimated and qualified with a 'J'.

Method Blank – a method blank was run in each 24 hour window of analysis. All blanks associated with the analysis of these samples for semi-volatiles were reported as non-detects and met acceptance criteria.

Laboratory Control Samples –

- Batch #294342 – the LCS recoveries were all within method acceptance limits.

- Batch #294794 – the LCS recoveries for analytes – 4-chlorophenyl phenyl ether, acenaphthene, acetophenone, fluorene, and hexachlorocyclopentadiene were high. Results for these compounds in samples:

- SB-A5(18-24)	- SB-A3(42-48)	- SB-A5(30-36)
- SB-A5(42-48)	- SB-A4(42-48)	- SB-A1(42-48)

should be qualified with a 'J+' - estimated with a possible high bias.

- Batch #294732 – the LCS recoveries were all within method acceptance limits.

- Batch #295277 – the LCS recoveries for analytes hexachlorocyclopentadiene and atrazine were high. Results for these compounds in samples:

- SB-A2(30-36)	- SB-A4(0-2)	- SB-A1(18-24)
- SB-C5(0-2)	- SB-C4(18-24)	- SB-C5(18-24)
- SB-B5(18-24)	- SB-D5(6-12)	- SB-D2(18-24)
- SB-E2(0-2)	- SB-D5(18-24)	- SB-E2(18-24)
- SB-A2(42-48)	- SB-E4(0-2)	

should be qualified with a 'J+' - estimated with a possible high bias.

- Batch #295473 – the LCS recoveries were all within method acceptance limits.

Matrix Spike/Matrix Spike Duplicate –

Sample SB-A5(18-24) – both the matrix spike and matrix spike duplicate show recoveries and duplicate correlations (%RPD) within acceptance ranges except for: 2,3,4,6-tetrachlorophenol, 2,4-dinitrophenol, hexachlorocyclopentadiene, 4,6-dinitro-2-methyl phenol, and pentachlorophenol. Results for these compounds in the parent sample should be considered as estimated and qualified with a 'J'.

Sample SB-B5(0-2) – both the matrix spike and matrix spike duplicate show recoveries and duplicate correlations (%RPD) within acceptance ranges except for: 2,3,4,6-tetrachlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, acenaphthene, benzo(a)pyrene, benzo(g,h,i)perylene, caprolactam, dibenz(a,h)anthracene, indeno(1,2,3,-cd)pyrene), phenol, and 1,2,4,5-tetrachlorobenzene. Results for these compounds in the parent sample should be considered as estimated and qualified with a 'J'.

Sample SB-C5(0-2) – both the matrix spike and matrix spike duplicate show recoveries and duplicate correlations (%RPD) within acceptance ranges except for: 1,2,4,5-

tetrachlorobenzene, 2,3,4,6-tetrachlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol. Results for these compounds in the parent sample should be considered as estimated and qualified with a 'J'.

Sample SB-D5(0-2) – both the matrix spike and matrix spike duplicate show recoveries and duplicate correlations (%RPD) within acceptance ranges except for: 1,1-biphenyl, 2,3,4,6-tetrachlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, indeno(1,2,3,-cd)perylene, phenanthrene, and pyrene. Results for these compounds in the parent sample should be considered as estimated and qualified with a 'J'.

Sample SB-D4(18-24) – both the matrix spike and matrix spike duplicate show recoveries and duplicate correlations (%RPD) within acceptance ranges except for: 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4-chloro-3-methylphenol, bis(2-chloroethoxy)methane, fluoranthene, naphthalene, pentachlorophenol, and phenol. Results for these compounds in the parent sample should be considered as estimated and qualified with a 'J'.

Sample Data –

All samples were analyzed within 12 to 24 hours of an acceptable tune and initial calibration or calibration verification.

The Internal Standard responses are compliant with method and validation criteria.

The Surrogate Recoveries are compliant with method and validation criteria except for samples SB-B5(18-24) and SB-E5(0-2). Surrogate compound 2-Fluorophenol was outside the established recovery limits. And for samples SB-C4(18-24) and SB-D4(6-12) where surrogate compound Phenol-d5 was outside the established recovery limits. Analytes associated with these surrogates in the four samples were qualified as estimated.

The following samples were diluted prior to analysis:

- SB-A2(18-24) 2:1 dilution
- SB-A3(18-24) 10:1 dilution
- SB-A3(30-36) 2:1 dilution
- SB-E2(6-12) 2:1 dilution
- SB-B3(0-2) 2:1 dilution
- SB-C3(18-24) 5:1 dilution
- SB-D3(18-24) 2:1 dilution
- SB-E4(6-12) 5:1 dilution
- SB-E4(18-24) 5:1 dilution
- SB-C2(18-24) 2:1 dilution
- SB-C3(0-2) 2:1 dilution
- SB-B3(6-12) 5:1 dilution
- SB-D3(6-12) 2:1 dilution
- SB-B1(18-24) 5:1 dilution

The reporting limits for these samples have been adjusted accordingly. The results were not qualified with a 'D' in the reports.

The blind field duplicate evaluations were performed on four samples:

- SB-B2(0-2)/FD04151501
- SB-C3(6-12)/FD04161501
- SB-C4(0-2)/FD04151502
- SB-B1(6-12)/FD161502

For sample SB-B2(0-2), the reported analytes were within the acceptable Relative Percent Difference of 30%, except for – bis(2-ethylhexyl)phthalate at 58%, butyl benzyl phthalate at 39%, and dibenz(a,h)anthracene at 40%. Results for these analytes should be considered as estimated and qualified with a 'J'.

For sample SB-C4(0-2), all of the reported analytes exceeded the acceptable Relative Percent Difference of 30%. This may be due to an error in sample identification, matrix interference, or lab precision. All the results for this sample should be considered as estimated and qualified with a 'J'.

For sample SB-C3(6-12), nine of the reported twenty-two analytes exceeded the acceptable Relative Percent Difference of 30%. These analytes were – 2-methylnaphthalene at 61%, acenaphthene at 58%, anthracene 40%, butyl benzyl phthalate at 80%, carbazole at 55%, dibenzofuran at 90%, di-n-butyl phthalate at 122%, fluorene at 46%, and naphthalene at 47%. These analyte results in this sample should be considered as estimated and qualified with a 'J'.

For sample SB-B1(6-12), twelve of the reported nineteen analytes exceeded the acceptable Relative Percent Difference of 30%. These analytes were – anthracene at 35%, benzo(a)anthracene at 36%, benzo(g,h,i)perylene at 44%, bis(2-ethylhexyl)phthalate at 69%, carbazole at 48%, chrysene at 40%, dibenz(a,h)anthracene at 51%, fluoranthene at 36%, fluorene at 64%, indeno(1,2,3,-cd)pyrene at 36%, phenanthrene at 51%, and pyrene at 50%. These analyte results in this sample should be considered as estimated and qualified with a 'J'.

All reported analytes have appropriate spectral match for positive compound ID, except in –

- Sample SB-A2(0-2), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-A2(18-24), where detection of benzo(k)fluoranthene and bis(2-ethylhexyl)phthalate should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-A1(0-2), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-A5(30-36), where detection of benzo(k)fluoranthene and dibenz(a,h)anthracene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-A1(42-48), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-B2(0-2), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-FD04151501, where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-FD04151502, where detection of benzo(k)fluoranthene and dibenz(a,h)anthracene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C4(0-2), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C5(0-2), where detection of benzo(k)fluoranthene should be qualified with a 'NJ' - tentative identification and estimated in value due to poor mass spectral quality.

- Sample SB-C4(18-24), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C5(18-24), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-D2(0-2), where detection of benzo(k)fluoranthene and dibenz(a,h)anthracene should be qualified with ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C0(0-2), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-D5(18-24), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-E2(18-24), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-E4(0-2), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C2(0-2), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C2(18-24), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-B3(0-2), where detection of benzo(k)fluoranthene and naphthalene should be qualified with a ’NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample FD04161501, where detection of benzo(k)fluoranthene and naphthalene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C3(6-12), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C3(18-24), where detection of bis(2-ethylhexyl)phthalate should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-C1(18-24), where detection of bis(2-ethylhexyl)phthalate should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-B3(18-24), where detection of bis(2-ethylhexyl)phthalate should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-D4(6-12), where detection of benzo(k)fluoranthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.
- Sample SB-B1(0-2), where detection of acenaphthene should be qualified with a ‘NJ’ - tentative identification and estimated in value due to poor mass spectral quality.

Tentatively identified compounds (TICs) were not reported for the semi-volatile analysis.

TAL Metals Analysis – Solid –

Seventy-six samples, five method blanks, five matrix spike/matrix spike duplicate samples, and four field duplicate samples were analyzed using method 6010C for TAL Metals. The following items were reviewed for compliancy –

Instrument Calibration – All initial calibration requirements have been met for all of the samples analyzed.

Interference Check Samples – All interference check samples (ICS) associated with the analyzed sample met the established acceptance criteria.

Continuing Calibration Verification - All continuing calibration verifications (CCV) bracketing the analytical batches of samples met the acceptance criteria.

Method Blank (MB) – The method blanks analyzed with the analytical batches of the samples met the acceptance criteria for method 6010C.

Laboratory Control Sample (LCS) – All LCSs run as Certified Reference Material met the acceptance criteria for percent recovery.

Matrix Spike (MS) Recovery – The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes in the selected samples with the exception of:

- Sample SB-A5(18-24) – aluminum, iron, and antimony – results should be considered as estimated and qualified with a 'J'.
- Sample SB-B5(0-2) – aluminum, calcium, copper, iron, magnesium, lead, antimony, and zinc – results should be considered as estimated and qualified with a 'J'.
- Sample SB-C5(0-2) – aluminum, iron, manganese, lead, antimony and zinc – results should be considered as estimated and qualified with a 'J'.
- Sample SB-D5(0-2) – aluminum, calcium, iron, magnesium, manganese and zinc – results should be considered as estimated and qualified with a 'J'.
- Sample SB-E3(6-12) – aluminum, iron, manganese and antimony – results should be considered as estimated and qualified with a 'J'.

Laboratory Duplicate Samples – the following samples were selected by the laboratory for duplicate runs:

- Sample SB-A5(18-24) – all analytes met the Percent Recovery criteria of $\leq$ 20%
- Sample SB-B5(0-2) – all analytes met the Percent Recovery criteria of $\leq$ 20 % except for – calcium at 26%, cadmium at 28%, and copper at 23%. These three analytes should be considered as estimated and qualified with a 'J' in the parent sample.
- Sample SB-C5(0-2) – all analytes met the Percent Recovery criteria of $\leq$ 20%.
- Sample SB-D5(0-2) – all analytes met the Percent Recovery criteria of $\leq$ 20%.
- Sample SB-E3(6-12) – all analytes met the Percent Recovery criteria of $\leq$ 20% except for – chromium at 69% and manganese at 62%. These two analytes should be considered as estimated and qualified with a 'J' in the parent sample.

Serial Dilution % Difference – the following samples were selected by the laboratory for serial dilution evaluations:

- Sample SB-A5(18-24)
- Sample SB-B5(0-2)
- Sample SB-C5(0-2)
- Sample SB-D5(0-2)
- Sample SB-E3(6-12).

Agreement within ± 10% between the concentrations for the undiluted sample and the diluted sample indicates the absence of matrix interferences for the undiluted samples. All five of the above samples met the ± 10% criteria.

Post-Digestion Spiked Samples – the following samples were selected by the laboratory for post-digestion spike evaluations:

- Sample SB-A5(18-24)
- Sample SB-B5(0-2)
- Sample SB-C5(0-2)
- Sample SB-D5(0-2)
- Sample SB-E3(6-12).

A post-digestion spike is a spike added to the sample after the digestion preparation and just before analysis. The post-digestion spike provides information regarding matrix-related interferences on the analytical system that may be present in the sample following digestion. Aluminum and Iron were not within the control limit of 80-120 for each of the above samples except for sample SB-E3(6-12) where only Iron was not within the control limit of 80-120. Aluminum and/or Iron should be considered estimated and qualified with a 'J' in these samples.

Sample Data Info –

The following samples were diluted prior to analysis:

- 4:1 Dilutions:
  - SB-A2(0-2)
  - SB-A2(18-24)
  - SB-A2(30-36)
  - SB-A3(18-24)
  - SB-A3(30-36)
  - SB-A4(0-2)
  - SB-A5(0-2)
  - SB-SB-A5(18-24)
  - SB-A1(0-2)
  - SB-SB-A1(18-24)
  - SB-A4(18-24)
  - SB-A3(42-48)
  - SB-A5(30-36)
  - SB-SB-A4(30-36)
  - SB-A1(30-36)
  - SB-SB-A5(42-48)
  - SB-A4(42-48)
  - SB-B4(0-2)
  - SB-A1(42-48)
  - SB-B4(6-12)
  - SB-B4(18-24)
  - SB-B2(0-2)
  - SB-FD04151501
  - SB-B5(0-2)
  - SB-D2(0-2)
  - SB-D5(0-2)
  - SB-D2(6-12)
  - SB-C0(0-2)
  - SB-D5(6-12)
  - SB-D2(18-24)
  - SB-E2(0-2)
  - SB-E2(6-12)
  - SB-D5(18-24)
  - SB-E2(18-24)
  - SB-A2(42-48)
  - SB-E4(0-2)
  - SB-E3(0-2)
  - SB-E4(6-12)
  - SB-C2(0-2)
  - SB-E3(6-12)
  - SB-C2(6-12)
  - SB-E4(18-24)
  - SB-C2(18-24)
  - SB-C3(0-2)
  - SB-E3(18-24)
  - SB-B3(0-2)
  - SB-FD04161501
  - SB-C3(6-12)
  - SB-FD04161502
  - SB-B1(6-12)
  - SB-B1(18-24)

- SB-FD04151502
- SB-C4(0-2)
- SB-C4(6-12)
- SB-C5(0-2)
- SB-B2(6-12)
- SB-B5(6-12)
- SB-C5(6-12)
- SB-C4(18-24)
- SB-C5(18-24)
- SB-B5(18-24)
- SB-A0(0-2)
- SB-B0(0-2)
- SB-C1(6-12)
- SB-B3(6-12)
- SB-C3(18-24)
- SB-C1(18-24)
- SB-B3(18-24)
- SB-D4(0-2)
- SB-D3(0-2)
- SB-D4(6-12)
- SB-D3(6-12)
- SB-D3(18-24)
- SB-D4(18-24)
- SB-B1(0-2)

- 10:1 Dilutions:
  - SB-A3(18-24)
  - SB-A4(18-24)
  - SB-A5(30-36)
  - SB-C4(6-12)
  - SB-B3(6-12)
  - SB-C3(18-24)

- 20:1 Dilutions:
  - SB-B5(18-24)
  - SB-A0(0-2)
  - SB-D3(6-12)

- 400:1 Dilution:
  - SB-B2(18-24)

The reporting limits for these samples have been adjusted accordingly. The results were not qualified with a 'D' in the reports.

Sample SB-B5(18-24) was diluted due to the nature of its sample matrix which was high in iron.

Sample SB-B2(18-24) was diluted due to the nature of its sample matrix which was high in lead.

The blind field duplicate evaluations were performed on four samples:

- SB-B2(0-2)/FD04151501
- SB-C3(6-12)/FD04161501
- SB-C4(0-2)/FD04151502
- SB-B1(6-12)/FD161502

For sample SB-B2(0-2), the reported metal analytes aluminum, barium, calcium, magnesium, manganese, and vanadium were within the acceptable Relative Percent Difference of 30%. All the other metal analytes reported exceeded the Relative Percent Difference. Those analyte reports should be considered as estimated and qualified with a 'J'.

For sample SB-C4(0-2), the reported metal analytes arsenic, barium, copper, potassium, lead, and zinc were within the acceptable Relative Percent Difference of 30%. All the other metal analytes reported exceeded the Relative Percent Difference. Those analyte reports should be considered as estimated and qualified with a 'J'.

For sample SB-C3(6-12), four of the reported sixteen analytes exceeded the acceptable Relative Percent Difference of 30%. These analytes were – cadmium at 65%, magnesium at 31%, manganese at 56%, and nickel at 32%. These analyte results for this sample should be considered as estimated and qualified with a 'J'.

For sample SB-B1(6-12), two of the reported fifteen analytes exceeded the acceptable Relative Percent Difference of 30%. These analytes were – arsenic at 31% and magnesium at 32%. These analyte results for this sample should be considered as estimated and qualified with a 'J'.

Validation Data Qualifier Definitions

U The analyte was analyzed for, but was not detected above the level of the associated quantitation limit.

J The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

J+ The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.

UJ The analyte analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

NJ The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

EMPC The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

This report addresses analytical performance as defined in EPA Methods 8260C, 8270D, 6010C-Metals, and the July 2005 NYSDEC Analytical Services Protocol (ASP).

All data reviewed addresses those compounds which are represented on the final laboratory reports. Results should be considered usable with qualifiers taken into consideration.

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Appendix C

Specifications

SPECIFICATIONS

Division 1

01003	Minimum requirements for health and safety
01004	Survey
01005	Project Coordination
01009	Traffic Control
01010	Temporary Facilities and controls
01011	Site Security
01013	Sampling
01014	Work Plan
01016	Quality Control
01018	List of Abbreviations
01019	Clearing and Grubbing
01020	Fencing
01021	Submittals
01022	Dewatering
01024	Shop Drawing Procedures
01600	Erosion and surface water control*

Division 2

02010	Backfill
02020	Topsoil
02030	Seed and Mulch
02111	Excavation and Handling of Impacted Material
02223	Off-Site Transportation and Disposal

SECTION 01003

MINIMUM REQUIREMENTS FOR HEALTH AND SAFETY

1. GENERAL

1.1 Description

The **CONTRACTOR** is solely responsible and liable for the health and safety of all on-site personnel and any off-site community potentially impacted by the remediation.

This section describes the minimum health and safety requirements for this project including the requirements for the development of a written Health and Safety Plan (HASP). All on-site workers must comply with the requirements of the HASP. The **CONTRACTOR's** HASP must comply with all applicable federal and state regulations protecting human health and the environment from the hazards posed by activities during this site remediation. The HASP is a required deliverable for this project. The HASP will be reviewed by the **ENGINEER**. The **CONTRACTOR** will resubmit the HASP, addressing all review comments from the **ENGINEER**. The **CONTRACTOR** shall not initiate on-site work in contaminated areas until an acceptable HASP addressing all comments has been developed.

Consistent disregard for the provision of these health and safety specifications shall be deemed just and sufficient cause for immediate stoppage of work and/or termination of the Contract or any Subcontract without compromise or prejudice to the rights of the **DEPARTMENT** or the **ENGINEER**.

Any discrepancies between this HASP and the specifications (or OSHA requirements) shall be resolved in favor of the more stringent requirements as determined by the **ENGINEER**.

1.2 Basis

The Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (20 CFR 1910 and 1926) and subsequent additions and/or modifications, the New York State Labor Law Section 876 (Right-to-Know Law), the Standard Operating Safety Guidelines by the United States Environmental Protection Agency (EPA), Office of Emergency and Remedial Response and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, OSHA, USCG, and EPA) provide the basis for the safety and health program. Additional specifications within this section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupation Safety and Health (NIOSH) regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.

The safety and health of the public and project personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. Any additional costs will be considered only after the cause for suspension of operations is addressed and work is resumed. The **ENGINEER's** on-site representative and the **CONTRACTOR's** Superintendent will be kept appraised, by the Safety Officer, of conditions which may adversely affect the safety and health of project personnel and the community. The **ENGINEER** may stop work for health

and safety reasons. If work is suspended for health and/or safety reasons, it shall not resume until approval is obtained from the **ENGINEER**. The cost of work stoppage due to health and safety is the responsibility of the **CONTRACTOR** under this Contract.

1.3 Health and Safety Definitions

The following definitions shall apply to the work of this Contract:

A. Project Personnel: Project personnel include the **ENGINEER**, the **ENGINEER's** On-site Representatives, **CONTRACTOR**, Subcontractors, and Federal and State Representatives, working or having official business at the Project Site.

B. Authorized Visitor: Authorized visitors who work for the State of New York shall receive approval to enter the site from the **DEPARTMENT**. The Safety Officer has primary responsibility on determining who is qualified and may enter the site. The Site Safety Officer will only allow authorized visitors with written proof that they have been medically certified and trained in accordance with 29 CFR 1910.120 to enter the contamination reduction zone and/or exclusion area.

C. Health and Safety Coordinator (HSC): The HSC shall be a Certified Industrial Hygienist (CIH) or Certified Safety Professional (CSP) retained by the **CONTRACTOR**. The HSC will be responsible for the development and implementation of the HASP.

D. Safety Officer (SO): The SO will be the **CONTRACTOR's** on-site person who will be responsible for the day-to-day implementation and enforcement of the HASP.

E. Health and Safety Technicians (HST): The HST(s) will be the **CONTRACTOR's** on-site personnel who will assist the SO in the implementations of the HASP, in particular, with air monitoring in active work areas and maintenance of safety equipment.

F. Medical Consultant (MC): The MC is a physician retained by the **CONTRACTOR** who will be responsible for conducting physical exams as specified under the Medical Monitoring Programs in this section.

G. Project Site: The area designated on the Site Sketch, which includes the Contractor Work Area.

H. Contractor Work Area: An area of the project site including the Support Zone, access road, staging area, and Exclusion Zone.

I. Contractor Support Zone: An area of the Contractor Work Area outside the Exclusion Zone, accessible for deliveries and visitors. No persons, vehicles, or equipment may enter these areas from the Exclusion Zone without having gone through specified decontamination procedures in the adjacent Contamination Reduction Zone.

J. Staging Areas: Areas within the Exclusion Zone for the temporary staging of contaminated soil and debris.

K. Exclusion Zone: The innermost area within the Contractor Work Area that encloses the area of contamination. Protective clothing and breathing apparatus as specified in the health and safety requirements and in the **CONTRACTOR's** approved HASP must be worn.

L. Contamination Reduction Zone: An area at the Exit Point of the Exclusion Zone through which all personnel, vehicles, and equipment must enter and exit. All decontamination of vehicles and equipment and removal of personal protective clothing and breathing apparatus must take place at the boundary between the Exclusion Zone and the Contamination Reduction Zone.

M. **ENGINEER's** on-site representative: The **ENGINEER's** representative assigned responsibility and authority by the **ENGINEER** for day-to-day field surveillance duties.

N. Work: Work includes all labor, materials, and other items that are shown, described, or implied in the Contract and includes all extra and additional work and material that may be ordered by the **ENGINEER**.

O. Monitoring: The use of direct reading field instrumentation to provide information regarding the levels of gases and/or vapor, which are present during remedial action. Monitoring shall be conducted to evaluate employee exposures to toxic materials and hazardous conditions.

1.4 Responsibilities

The **ENGINEER** will be responsible for the following:

A. Reviewing the HASP for the acceptability for its personnel and the impact on the site and human health.

B. Reviewing modifications to the HASP.

The **CONTRACTOR** will be responsible for the following:

The **CONTRACTOR** will perform all work required by the Contract Documents in a safe and environmentally acceptable manner. The **CONTRACTOR** will provide for the safety of all project personnel and the community for the duration of the Contract.

The **CONTRACTOR** shall:

A. Employ an SO who shall be assigned full-time responsibility for all tasks herein described under this HASP. In the event the SO cannot meet his responsibilities, the **CONTRACTOR** shall be responsible for obtaining the services of an "alternate" SO meeting the minimum requirements and

qualifications contained herein. No work will proceed on this project in the absence of an approved SO.

B. Ensure that all project personnel have obtained the required physical examination prior to and at the termination of work covered by the contract.

C. Be responsible for the pre-job indoctrination of all project personnel with regard to the HASP and other safety requirements to be observed during work, including but not limited to (a) potential hazards, (b) personal hygiene principles, (c) personal protection equipment, (d) respiratory protection equipment usage and fit testing, and (e) emergency procedures dealing with fire and medical situations.

D. Be responsible for the implementation of this HASP, and the Emergency Contingency and Response Plan.

E. Provide and ensure that all project personnel are properly clothed and equipped and that all equipment is kept clean and properly maintained in accordance with the manufacturer's recommendations or replaced as necessary.

F. Alert appropriate emergency services before starting any hazardous work and provide a copy of the Emergency Contingency Plan to the respective emergency services.

G. Have sole and complete responsibility of safety conditions for the project, including safety of all persons (including employees).

H. Be responsible for protecting the project personnel and the general public from hazards due to the exposure, handling, and transport of contaminated materials. Barricades, lanterns, roped-off areas, and proper signs shall be furnished in sufficient amounts and locations to safeguard the project personnel and public at all times.

I. Ensure all OSHA health and safety requirements are met.

J. Maintain a chronological log of all persons entering the project site. It will include organization, date, and time of entry and exit. Each person must sign in and out.

1.5 Health and Safety Plan

The HASP is a deliverable product of this project. The **ENGINEER** will review and comment on the **CONTRACTOR's** HASP. Agreed upon responses to all comments will be incorporated into the final copy of the HASP. The HASP shall govern all work performed for this contract. The HASP shall address, at a minimum, the following items in accordance with 29 CFR 1910.120(I)(2):

A. Health and Safety Organization.

B. Site Description and Hazard Assessment.

C. Training.

D. Medical Surveillance.

E. Work Areas.

F. Standard Operating Safety Procedures and Engineering Controls.

G. Personal Protective Equipment (PPE).

H. Personnel Hygiene and Decontamination.

I. Equipment Decontamination.

J. Air Monitoring.

K. Emergency Equipment/First Aid Requirements.

L. Emergency Response and Contingency Plan.

M. Confined-Space Entry Procedures.

N. Spill Containment Plan.

O. Heat & Cold Stress.

P. Record Keeping.

Q. Community Protection Plan.

The following sections will describe the requirements of each of the above-listed elements of the HASP.

1.6 HEALTH AND SAFETY ORGANIZATION

The **CONTRACTOR** shall list in the HASP a safety organization with specific names and responsibilities. At a minimum, the **CONTRACTOR** shall provide the services of a Health and Safety Coordinator, SO, Health and Safety Technician, and a Medical Consultant.

Health and Safety Coordinator: The **CONTRACTOR** must retain the services of a Health and Safety Coordinator (HSC). The HSC must be an American Board of Industrial Hygiene (ABIH), Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP). The HSC must have a minimum of two years experience in hazardous waste site remediation or related industries and have a working knowledge of federal and state occupational health and safety regulations. The HSC must be familiar with air monitoring techniques and the development of health and safety programs for personnel working in potentially toxic atmospheres.

In addition to meeting the above requirements the HSC will have the following responsibilities:

A. Responsibility for the overall development and implementation of the HASP.

B. Responsibility for the initial training of on-site workers with respect to the contents of the HASP.

C. Availability during normal business hours for consultation by the Safety Officer.

D. Availability to assist the Safety Officer in follow-up training and if changes in site conditions occur.

Safety Officer: The designated SO must have, at a minimum, two years of experience in the remediation of hazardous waste sites or related field experience. The SO must have formal training in health and safety and be conversant with federal and state regulations governing occupational health and safety. The SO must be certified in CPR and first aid and have experience and training in the implementation of personal protection and air monitoring programs. The SO must have "hands-on" experience with the operation and maintenance of real-time air monitoring equipment. The SO must be thoroughly knowledgeable of the operation and maintenance of air-purifying respirators (APR) and supplied-air respirators (SAR) including SCBA and airline respirators.

In addition to meeting the above qualifications, the SO will be responsible for the following minimum requirements:

A. Responsibility for the implementation, enforcement, and monitoring of the health and safety plan.

B. Responsibility for the pre-construction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including:

1. Potential hazards.

2. Personal hygiene principles.

3. PPE.

4. Respiratory protection equipment usage and fit testing.

5. Emergency procedures dealing with fire and medical situations.

6. Conduct daily update meetings in regard to health and safety.

C. Responsibility for alerting the **ENGINEER's** on-site representative prior to the **CONTRACTOR** starting any particular hazardous work.

D. Responsibility for informing project personnel of the New York State Labor Law Section 876 (Right-to-Know Law).

E. Responsibility for the maintenance of separation of Exclusion Zone (Dirty) from the Support Zone (Clean) areas as described hereafter.

Health and Safety Technicians: The Health and Safety Technician (HST) must have one year of hazardous waste site or related experience and be knowledgeable of applicable occupational health and safety regulations. The HST must be certified in CPR and first aid. The HST will be

under direct supervision of the SO during on-site work. The HST must be familiar with the operations, maintenance and calibration of monitoring equipment used in this remediation. An HST will be assigned to each work crew or task in potentially hazardous areas.

Medical Consultant: The **CONTRACTOR** is required to retain a Medical Consultant (MC) who is a physician, certified in occupational medicine. The physician shall have experience in the occupational health area and shall be familiar with potential site hazards of remedial action projects. The MC will also be available to provide annual physicals and to provide additional medical evaluations of personnel when necessary.

1.7 SITE DESCRIPTION AND HAZARD ASSESSMENT

The **CONTRACTOR** shall perform a hazard assessment to provide information to assist in selection of PPE and establish air monitoring guidelines to protect on-site personnel, the environment, and the public. The **CONTRACTOR** shall provide a general description of the site, its location, past history, previous environmental sampling results, and general background on the conditions present at the site.

A. Chemical Hazards: A qualitative evaluation of chemical hazards shall be based on the following:

- Nature of potential contaminants;
- Location of potential contaminants at the project site;
- Potential for exposure during site activities; and
- Effects of potential contaminants on human health.

B. Biological Hazards: A qualitative evaluation of biological hazards consisting of the elements listed for chemical hazards.

C. Physical Hazards: The **CONTRACTOR** shall assess the potential for physical hazards affecting personnel during the performance of on-site work.

The **CONTRACTOR** shall develop a hazard assessment for each site task and operation established in the HASP.

1.8 TRAINING

OSHA Training

The **CONTRACTOR** is responsible to ensure that all project personnel have been trained in accordance with OSHA 1910.120 regulations.

The **CONTRACTOR** shall ensure that all employees are informed of the potential hazards of toxic chemicals to the unborn child and of the risks associated with working at the project site.

The **CONTRACTOR** shall be responsible for, and guarantee that, personnel not successfully completing the required training are not permitted to enter the project site to perform work.

Safety Meetings

The SO will conduct daily safety meetings for each working shift that will be mandatory for all project personnel. The meetings will provide refresher courses for existing equipment and protocols, and will examine new site conditions as they are encountered.

Additional safety meetings will be held on an as-required basis.

Should any unforeseen or site-specific safety-related factor, hazard, or condition become evident during the performance of work at this site, the **CONTRACTOR** will bring such to the attention of the SO in writing as quickly as possible for resolution. In the interim, the **CONTRACTOR** will take prudent action to establish and maintain safe working conditions and to safeguard employees, the public, and the environment.

1.9 MEDICAL SURVEILLANCE

The **CONTRACTOR** shall utilize the services of a Physician to provide the minimum medical examinations and surveillance specified herein. The name of the Physician and evidence of examination of all **CONTRACTOR** and Subcontractor on-site personnel shall be kept by the SO.

CONTRACTOR and Subcontractor project personnel involved in this project shall be provided with medical surveillance prior to onset of work. Immediately at the conclusion of this project, and at any time there is suspected excessive exposure to substances that would be medically detectable, all project personnel will be medically monitored. The costs for these medical exams, including state field representatives, (four maximum) are to be borne by the **CONTRACTOR**.

Physical examinations are required for:

A. Any and all personnel entering hazardous or transition zones or performing work that required respiratory protection.

B. All **CONTRACTOR** personnel on site who are dedicated or may be used for emergency response purposes in the Exclusion Zone.

C. **CONTRACTOR** supervisors entering hazardous or transition zones, or on site for more than 16 hours during the length of the contract.

Physical examinations are not required for people making periodic deliveries provided they do not enter hazardous or transition zones.

In accordance with good medical practice, the examining Physician or other appropriate representative of the Physician shall discuss the results of such medical examination with the individual examined. Such discussion shall include an explanation of any medical condition that the Physician believes required further evaluation or treatment and any medical condition which the Physician believes would be adversely affected by such individual's employment at the project site. A written report of such examination shall be transmitted to the individual's private physician upon written request by the individual.

The examining Physician or Physician group shall notify the SO in writing that the individual has received a medical examination and shall advise the SO as to any specific limitations upon such individual's ability to work at the project site that were identified as a result of the examination. Appropriate action shall be taken in light of the advice given pursuant to this subparagraph.

The physical examination shall also include but not be limited to the following minimum requirements:

A. Complete blood profile;

B. Blood chemistry to include: chloride, CO_2, potassium, sodium, BUN, glucose, globulin, total protein, albumin, calcium, cholesterol, alkaline phosphatase, triglycerides, uric acid, creatinine, total bilirubin, phosphorous, lactic dehydrogenase, SGPT, SGOT;

C. Urine analysis;

D. "Hands on" physical examination to include a complete evaluation of all organ systems including any follow-up appointments deemed necessary in the clinical judgement of the examining physician to monitor any chronic conditions or abnormalities;

E. Electrocardiogram;

F. Chest X-ray (if recommended by examining physician in accordance with good medical practice);

G. Pulmonary function;

H. Audiometry - To be performed by a certified technician, audiologist, or physician. The range of 500 to 8,000 hertz should be assessed.

I. Vision screening - Use a battery (TITMUS) instrument to screen the individual's ability to see test targets well at 13 to 16 inches and at 20 feet. Tests should include an assessment of muscle balance, eye coordination, depth perception, peripheral vision, color discrimination, and tonometry.

J. Tetanus booster shot (if no inoculation has been received within the last five years); and

K. Complete medical history.

1.10 Site Control

Security

Security shall be provided and maintained by the **CONTRACTOR** as specified in Section 01011. Security identification, specific to the project site, shall be provided by the **CONTRACTOR** for all project personnel entering the project site. The **CONTRACTOR** shall be responsible for and ensure that such identification shall be worn by each individual, visible at all times, while the

individual is on the site. Vehicular access to the site, other than to designated parking areas, shall be restricted to authorized vehicles only.

Use of on-site designated parking areas shall be restricted to vehicles of the **ENGINEER**, **ENGINEER's** on-site representative, **CONTRACTOR**, subcontractor, and service personnel assigned to the site and actually on duty but may also be used on short-term basis for authorized visitors.

The **CONTRACTOR** shall be responsible for maintaining a log of security incidents and visitor access granted.

The **CONTRACTOR** shall require all personnel having access to the project site to sign-in and sign-out, and shall keep a record of all site access.

All approved visitors to the site shall be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit.

Site visitors shall not be permitted to enter the hazardous work zone unless approved by the **DEPARTMENT** with appropriate site access agreement.

Project sites shall be posted, "Warning Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fence or equal at a minimum. Warning signs shall be posted at a minimum of every 500 feet.

Site Control

The **CONTRACTOR** shall provide the following site control procedures as a minimum:

- A site map;
- A map showing site work zones;
- The use of a "buddy system"; and
- Standard operating procedures or safe work practices.

Work Areas

The **CONTRACTOR** will clearly lay out and identify work areas in the field and will limit equipment, operations and personnel in the areas as defined below:

A. Exclusion Zone (EZ) - This will include all areas where potential environmental monitoring has shown or it is suspected that a potential hazard may exist to workers. The level of PPE required in these areas will be determined by the SO after air monitoring and on-site inspection has been conducted. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing).

B. Contamination Reduction Zone - This zone will occur at the interface of "Hazardous" and "Clean" areas and will provide for the transfer of equipment and materials from the Support Zone to the Exclusion Zone, the decontamination of personnel and clothing prior to entering the "Clean" area, and for the physical

segregation of the "Clean" and "Hazardous" areas. This area will contain all required emergency equipment, etc. This area will be clearly delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing). It shall also delineate an area that although not contaminated at a particular time may become so at a later date.

C. Support Zone - This area is the remainder of the work site and project site. The Support Zone will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site. The function of the Support Zone includes:

1. An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;

2. An exit for decontamination personnel, materials and equipment from the "Decontamination" area of site operations;

3. The housing of site special services; and

4. A storage area for clean, safety, and work equipment.

1.11 Standard Operating Safety Procedures, Engineering Controls

GENERAL SOP

A. The **CONTRACTOR** will ensure that all safety equipment and protective clothing is kept clean and well maintained.

B. All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators.

C. All disposable or reusable gloves worn on the site will be approved by the SO.

D. During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough. Respirator filters will always be changed daily.

E. Footwear used on site will be covered by rubber overboots or booties when entering or working in the Exclusion Zone area or Contamination Reduction Zone. Boots or booties will be washed with water and detergents to remove dirt and contaminated sediment before leaving the Exclusion Zone or Contamination Reduction Zone.

F. All PPE used on site will be decontaminated or disposed of at the end of the work day. The SO will be responsible for ensuring decontamination of PPE before reuse.

G. All respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.

H. **CONTRACTOR**, subcontractor and service personnel unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.

I. The **CONTRACTOR** will ensure that all project personnel shall have vision or corrected vision to at least 20/40 in one eye.

J. On-site personnel found to be disregarding any provision of this plan will, at the request of the SO, be barred from the project.

K. Used disposable outerwear such as coveralls, gloves, and boots shall not be reused. Used disposable outerwear will be removed upon leaving the hazardous work zone and will be placed inside disposable containers provided for that purpose. These containers will be stored at the site at the designated staging area and the **CONTRACTOR** will be responsible for proper disposal of these materials at the completion of the project. This cost shall be borne by the **CONTRACTOR**.

L. Protective coveralls that become torn or badly soiled will be replaced immediately.

M. Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the hazardous work zones and neutral zones.

N. All personnel will thoroughly cleanse their hands, face, and forearms and other exposed areas prior to eating, smoking or drinking.

O. Workers who have worked in a hazardous work zone will shower at the completion of the work day.

P. All personnel will wash their hands, face, and forearms before using toilet facilities.

Q. No alcohol, firearms or drugs (without prescriptions) will be allowed on site at any time.

R. All personnel who are on medication should report it to the SO who will make a determination whether or not the individual will be allowed to work and in what capacity. The SO may require a letter from the individual's personal physician stating what limitations (if any) the medication may impose on the individual.

Engineering Controls - Air Emissions

The **CONTRACTOR** shall provide all equipment and personnel necessary to monitor and control air emissions.

1.12 Personal Protective Equipment

General

The **CONTRACTOR** shall provide all project personnel with the necessary safety equipment and protective clothing, taking into consideration the chemical wastes at the site. The **CONTRACTOR** shall supply the **ENGINEER's** on-site personnel (average two people for the project duration) with PPE as specified. The **ENGINEER** will require specific manufacturers and styles of PPE, which are detailed in the Safety Equipment Specifications portion of this section. At a minimum, the **CONTRACTOR** shall supply all project personnel with the following:

A. Two (2) sets of cotton work clothing to include underwear, socks, work shirts, and work pants. Leather steel-toed work boots, and such other clothing and outer garments as required by weather conditions (e.g., insulated coveralls and winter jacket);

B. Sufficient disposable coveralls;

C. One pair splash goggles;

D. Chemical-resistant outer and inner gloves;

E. Rubber overshoes (to be washed daily);

F. Hard hat;

G. One full-face mask with appropriate canisters. The **ENGINEER** and the **DEPARTMENT** will supply their own full-face mask. The **CONTRACTOR** will supply the appropriate canisters to all on-site project personnel including the **ENGINEER** and the **DEPARTMENT**. The **CONTRACTOR** shall supply MSA canisters; and

H. For all project personnel involved with Level B protection, a positive-pressure SCBA or in-line air. A 5-minute escape bottle must be included with the in-line air apparatus.

Levels of Protection

It is planned that Levels C and D PPE will be required in this remediation. Although Levels A and B are not planned, site conditions may be encountered that require their use. The following sections described the requirements of each level of protection.

A. Level A Protection

1. PPE:

a. Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and NIOSH. Respirators may be:

- Positive-pressure SCBA; or

- Positive-pressure airline respirator (with escape bottle for Immediately Dangerous to Life and Health [IDLH] or potential for IDLH atmosphere).

b. Fully encapsulating chemical-resistant suit.

c. Coveralls.

d. Cotton long underwear.*

e. Gloves (inner), chemical-resistant.

f. Boots, chemical-resistant, steel toe and shank. (Depending on suit construction, worn over or under suit boot.)

g. Hard hat (under suit).*

h. Disposal gloves and boot covers (worn over fully encapsulating suit).

i. Cooling unit.*

j. Two-way radio communications (inherently safe).*

* Optional

2. Criteria for Selection:

Meeting any of these criteria warrants use of Level A protection:

a. The chemical substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on:

- Measures (or potential for) high concentration of atmospheric vapors, gases, or particulates, or

- Site operations and work functions involves high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials highly toxic to the skin.

b. Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.

c. Operations must be conducted in confined, poorly ventilated areas until the absence of substances requiring Level A protection is determined.

d. Direct readings on field Flame Ionization Detectors (FID) or Photoionization Detectors (PID) and similar instruments indicate high levels of unidentified vapors and gases in the air.

3. Guidance on Selection:

a. Fully encapsulating suits are primarily designed to provide a gas- or vapor-tight barrier between the wearer and atmospheric contaminants. Therefore, Level A is generally worn when high concentrations of airborne substances could severely effect the skin. Since Level A requires the use of SCBA, the eyes and respiratory system are also more protected.

Until air surveillance data become available to assist in the selection of the appropriate level of protection, the use of Level A may have to be based on indirect evidence of the potential for atmospheric contamination or other means of skin contact with severe skin affecting substances.

Conditions that may require Level A protection include:

- Confined spaces: Enclosed, confined, or poorly ventilated areas are conducive to the buildup of toxic vapors, gases, or particulates. (Explosive or oxygen-deficient atmospheres are also more probable in confined spaces). Confined-space entry does not automatically warrant wearing Level A protection, but should serve as a cue to carefully consider and to justify a lower level of protection.

- Suspected/known highly toxic substances: Various substances that are highly toxic, especially skin absorption, for example, fuming corrosives, cyanide compounds, concentrated pesticides, **DEPARTMENT** of Transportation Poison "A" materials, suspected carcinogens, and infectious substances may be known or suspected to be involved. Field instruments may not be available to detect or quantify air concentrations of these materials. Until these substances are identified and concentrations measured, maximum protection may be necessary.

- Visible emissions: Visible air emissions from leaking containers or railroad/vehicular tank cars, as well as smoke from chemical fires and others, indicate high potential for concentrations of substances that could be extreme respiratory or skin hazards.

- Job Functions: Initial site entries are generally walk-throughs, in which instruments and visual observations are used to make a preliminary evaluation of the hazards.

In initial site entries, Level A should be worn when:

- There is a probability for exposure to high concentrations of vapors, gases, or particulates; and
- Substances are known or suspected of being extremely toxic directly to the skin or by being absorbed.

Subsequent entries are to conduct the many activities needed to reduce the environmental impact of the incident. Levels of protection for later operations are based not only on data obtained from the initial and subsequent environmental monitoring, but also on the probability of contamination and ease of decontamination.

Examples of situations where Level A has been worn are:

- Excavating of soil to sample buried drums suspected of containing high concentrations of dioxin;
- Entering a cloud of chlorine to repair a valve broken in a railroad accident;
- Handling and moving drums known to contain oleum; and
- Responding to accidents involving cyanide, arsenic, and undiluted pesticides.

b. The fully encapsulating suit provides the highest degree of protection to skin, eyes, and respiratory system if the suit material resists chemicals during the time the suit is worn. While Level A provides maximum protection, all suit material may be rapidly permeated and degraded by certain chemicals from extremely high air concentrations, splashes, or immersion of boots or gloves in concentrated liquids or sludges. These limitations should be recognized when specifying the type of fully encapsulating suit. Whenever possible, the suit material should be matched with the substance it is used to protect against.

B. Level B Protection

1. PPE:

a. Positive-pressure SCBA (MSHA/NIOSH approved); or

b. Positive-pressure air line respirator (with escape bottle for IDLH or potential for IDLH atmosphere) MSHA/NIOSH approved;

c. Chemical-resistant clothing (overalls and long-sleeved jacket; coveralls or hooded, one- or two-piece chemical-splash suit; disposable chemical-resistant, one-piece suits);

d. Cotton long underwear;*

e. Coveralls;

f. Gloves (outer), chemical-resistant;

g. Gloves (inner), chemical-resistant;

h. Boots (inner), leather work shoe with steel toe and shank;

i. Boots (outer), chemical-resistant, (disposable);

j. Hard hat (face shield*);

k. 2-way radio communication;* and

l. Taping between suit and gloves, and suit and boots.

*Optional

2. Criteria for Selection:

Any one of the following conditions warrants use of Level B Protection:

a. The type and atmospheric concentration of toxic substances have been identified and require a high level of respiratory protection, but less skin protection than Level A. These atmospheres would:

- Have IDLH concentrations; or
- Exceed limits of protection afforded by an air-purifying mask; or
- Contain substances for which air-purifying canisters do not exist or have low removal efficiency; or
- Contain substances requiring air-supplied equipment, but substances and/or concentrations do not represent a serious skin hazard.

b. The atmosphere contains less than 19.5% oxygen.

c. Site operations make it highly unlikely that the work being done will generate high concentrations of vapors, gases or particulates, or splashes of material that will affect the skin of personal wearing Level B protection.

d. Working in confined spaces.

e. Total atmospheric concentrations, sustained in the breathing zone, of unidentified vapors or gases range from 5 ppm above background to 500 ppm above background as measured by direct reading instruments such as the FID or PID or similar instruments, but vapors and gases are not suspected of containing high levels of chemicals toxic to skin.

3. Guidance on Selection Criteria:

Level B equipment provides a reasonable degree of protection against splashes and to lower air contaminant concentrations, but a somewhat lower level of protection to skin than Level A. The chemical-resistant clothing required in Level B is available in a wide variety of styles, materials, construction detail, permeability, etc. Taping joints between the gloves, boots and suit, and between hood and respirator reduces the possibility for splash and vapor or gas penetration. These factors all affect the degree of protection afforded. Therefore, the SO should select the most effective chemical-resistant clothing based on the known or anticipated hazards and/or job function. (It is anticipated that Level B protection will not be required under this contract.)

Level B does provide a high level of protection to the respiratory tract. Generally, if SCBA is required, Level B clothing rather than a fully encapsulating suit (Level A) is selected based on needing less protection against known or anticipated substances affecting the skin. Level B skin protection is selected by:

a. Comparing the concentrations of known or identified substances in air with skin toxicity data;

b. Determining the presence of substances that are destructive to or readily absorbed through the skin by liquid splashes, unexpected high levels of gases, vapor or particulates, or other means of direct contact; and

c. Assessing the effect of the substance (at its measured air concentrations or splash potential) on the small area of the head and neck left unprotected by chemical-resistant clothing.

For initial site entry at an open site, Level B protection should protect site personnel, providing the conditions described in selecting Level A are known or judged to be absent.

C. Level C Protection

1. PPE

a. Full-face, air-purifying, cartridge- or canister-equipped respirator (MSHA/NIOSH approved) with cartridges appropriate for the respiratory hazards;

b. Chemical-resistant clothing (coveralls, hooded, one-piece or two-piece chemical splash suit; chemical-resistant hood and apron; disposable chemical-resistant coveralls);

c. Coveralls;

d. Cotton long underwear;*

e. Gloves (outer), chemical-resistant;

f. Gloves (inner), chemical-resistant;

g. Boots (inner), leather work shoes with steel toe and shank;

h. Boots (outer), chemical-resistant (disposable);*

i. Hard hat (face shield);*

j. Escape SCBA of at least 5-minute duration;

k. 2-way radio communications (inherently safe);* and

l. Taping between suit and boots, and suit and gloves.

* Optional

2. Criteria for Selection

Meeting all of these criteria permits use of Level C protection:

a. Measured air concentrations of identified substances will be reduced by the respirator to, at or below, the substance's Threshold Limit Value (TLV) or appropriate occupational exposure limit and the concentration is within the service limit of the canister.

b. Atmospheric contaminant concentrations do not exceed IDLH levels.

c. Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of the skin left unprotected by chemical-resistant clothing.

d. Job functions do not require SCBA.

e. Total readings register between background and 5 ppm above background as measured by instruments such as the FID or PID.

f. Oxygen concentrations are not less than 19.5% by volume.

g. Air will be monitored continuously.

3. Guidance on Selection Criteria

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing air-purifying devices. The air-purifying device must be a full-face mask (OSHA/NIOSH approved) equipped with a cartridge suspended from the chin or on a harness. Cartridges must be able to remove the substances encountered.

A full-face, air-purifying mask can be used only if:

a. Oxygen content of the atmosphere is at least 19.5% by volume;

b. Substance(s) is identified and its concentrations(s) measured;

c. Substance(s) has adequate warning properties;

d. Individual passes a qualitative fit-test for the mask; and

e. Appropriate cartridge is used, and its service limits concentration is not exceeded.

An air monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators (Level C). Continual surveillance using direct-reading instruments and air sampling is needed to detect any changes in air quality necessitating a higher level of respiratory protection. Total unidentified vapor/gas concentrations exceeding 5 ppm above background require Level B.

D. Level D Protection

1. PPE:

a. Coveralls, chemical resistant;

b. Gloves (outer), chemical resistant;

c. Gloves (inner), chemical resistant;*

d. Boots (inner), leather work shoes with steel toe and shank;

e. Boots (outer), chemical resistant (disposable);*

f. Hard hat;

g. Face shield;*

h. Safety glasses with side shields or chemical splash goggles;* and

i. Taping between suit and boots, and suit and gloves.

* Optional

2. Criteria for Selection:

a. No atmospheric contaminant is present.

b. Direct reading instruments do not indicate any readings above background.

c. Job functions have been determined not to require respirator protection.

3. Guidance on Selection Criteria:

Level D protection is distinguished from Level C protection in the requirement for respiratory protection. Level D is used for non-intrusive activities or intrusive activities with continuous air monitoring. It can be worn only in areas where there is no possibility of contact with contamination.

E. Anticipated Levels of Protection

It is anticipated that most of the work shall be performed in Level D. A respirator shall be immediately available in the event that air monitoring indicates an upgrade to Level C is required. The determination of the proper level of protection for each task shall be the responsibility of the **CONTRACTOR**. These task specific levels of protection shall be stated in the **CONTRACTOR's** HASP.

Safety Equipment Specifications

Note: Prior to purchasing any equipment or supplies required by this HASP, the **CONTRACTOR** shall notify the **ENGINEER** of the type, model and manufacturer/supplier of that particular safety equipment he is proposing to use or purchase for use on this project. The specifications for PPE that the **CONTRACTOR** is to supply to the **ENGINEER** and which differ from the minimum requirements shown below are provided at the end of this section.

Self-Contained Breathing Apparatus

The **CONTRACTOR** shall provide positive-pressure SCBA for possible upgrades in respiratory protection. The **CONTRACTOR** shall further supply all the SCBA for all field personnel for the

duration of normal work activities. The units must be a MSHA/NIOSH-approved pressure-demand type with a 30-minute service life, manufactured/supplied by Scott, MSA, or other appropriate manufacturers. The **CONTRACTOR** shall inspect and maintain respirators in accordance with OSHA regulations (29 CFR 1910.13-4) and as recommended by the manufacturer.

Disposable Coveralls

The **CONTRACTOR** shall provide, as necessary, protective coveralls for all project personnel each day with extra sets provided for authorized visitors. The coveralls shall be of the disposable type made of Tyvek or equivalent material, and shall be manufactured/supplied by Durafab, Koppler, or other appropriate manufacturers. To protect project personnel from exposure to liquids, splash-resistant suits (Saranex suits, from appropriate manufacturers) shall be provided. Ripped suits will be immediately replaced after all necessary decontamination has been completed to the satisfaction of the SO.

Hard Hat

The **CONTRACTOR** shall provide and maintain one hard hat per person on site (authorized visitors included). The hard hats shall comply with OSHA Health and Safety Standards (29 CFR 1910.135).

Face Shields

The **CONTRACTOR** shall provide and maintain one face shield per person on site. The face shields shall be of the full face type meeting OSHA Health and Safety Standards (29 CFR 1910.133) and shall have brackets for mounting on hard hats. Hard hats and face shields shall be from the same manufacturer to ensure proper fit and shall be manufactured/supplied by Bullard, Norton, or other appropriate manufacturers.

Work Clothing

The **CONTRACTOR** shall provide a minimum of two sets of work clothing per personnel to allow for changing if contaminated. The work clothing shall include a minimum of underwear, socks, work shirts, work pants, and other clothing as weather conditions dictate. All work clothes shall be put on clean, before entering the site and shall not be kept in same lockers as the workers street clothes.

Escape-Type Respirator

The **CONTRACTOR** shall provide and maintain one self-contained breathing escape-type respirator per person working on site. The small self-contained device shall be capable of providing oxygen to the worker while protecting an escaping worker from toxic gases. The respirator shall be made by Scott, MSA, or other appropriate manufacturer. The **CONTRACTOR** shall inspect and ensure all devices are in working order before issuing to personnel. Employees must be trained to use equipment prior to being allowed to work on site and carry the escape-type respirator with them. An escape-type respirator must be provided if positive-pressure SCBA are not part of the ensemble worn by each person on site.

Full Face Organic Vapor Respirator

The **CONTRACTOR** shall provide and maintain a dedicated air-purifying organic vapor respirator per person working in hazardous work and neutral work zones. The respirator shall be of the full-face canister type with cartridges appropriate for the respiratory hazards. Respirators and cartridges shall be MSHA/NIOSH approved, manufactured/supplied by MSA, Scott, or other appropriate manufacturers. The **CONTRACTOR** shall inspect and maintain respirators and canisters in accordance with OSHA regulations (29 CFR 1910.134) and in accordance with manufacturer's instructions. The **CONTRACTOR** shall ensure that proper fit testing training and medical surveillance of respirator users is in accordance with OSHA regulations (29 CFR 1910.134).

Gloves (outer)

The **CONTRACTOR** shall supply a minimum of one pair of gloves per workman in areas where skin contact with hazardous material is possible. Work gloves shall consist of nitrile (NCR) or Neoprene material. Other gloves may be selected if required based on the potential chemical present. Cotton liners will be provided by the **CONTRACTOR** during cold weather.

Gloves (inner)

The **CONTRACTOR** shall supply Latex or equivalent surgical gloves to be worn inside the outer gloves.

Boots (inner)

The **CONTRACTOR** shall supply one pair of safety shoes or boots per workman and shall be of the safety-toe type meeting the requirements of 29 CFR 1910.136.

Boots (outer)

The **CONTRACTOR** shall provide and maintain one pair of overshoes for the on-site person entering a hazardous work area. The overshoes shall be constructed of rubber and shall be 12 inches high minimum.

PERSONAL PROTECTIVE EQUIPMENT SPECIFICATIONS				
Description	**Manufacturer**	**Model Number**	**Size**	**Comments**
Tyvek coveralls	Kappler/Abanda	1427/1428	xl/lg	NA
Saranex coveralls	Kappler/Abanda	77427/77428/77434	xl/lg	NA
Sijal acid suit	Chemtex Bata	91522-G	xl/lg	NA
Surgical gloves	Best	7005	xl/lg	NA
Neoprene gloves	Edmont	8-354	xl/lg	NA
Nitrile gloves	Granet	1711	10	NA
Butyl gloves	North	B-161	10	NA
Viton gloves	North	F-124	10/11	NA
Long gauntlet neoprene	Edmont	19-938	xl	NA
Cotton work gloves	North	Grip-N/K511M	men's	or equal
Latex booties	Rainfair	1250-Y	xl	NA
PAPR pesticide cartridges	Racal	AP-3	NA	NA
PAPR asbestos cartridges	Racal	SP-3	NA	NA
APR organic cartridges	MSA	GMC-H	NA	NA
APR asbestos cartridges	MSA	Type H	NA	NA
APR pesticide cartridges	MSA	GMP	NA	NA

1.13 Personnel Hygiene and Decontamination

On-Site Hygiene Facility

The **CONTRACTOR** shall provide a hygiene facility on site. The hygiene facility shall include the following:

- Adequate lighting and heat;
- Shower facilities for project personnel;
- Laundry facilities for washing work clothes and towels;

- Areas for changing into and out of work clothing. Work clothing should be stored separately from street clothing;
- Clean and "dirty" locker facilities; and
- Storage area for work clothing, etc.

Portable "Boot Wash" Decontamination Equipment

The **CONTRACTOR** shall provide a portable decontamination station, commonly referred to as a "Boot Wash" facility for each hazardous work zone requiring decontamination for project personnel. These facilities shall be constructed to contain spent wash water, contain a reservoir of clean wash water, a power supply to operate a pump for the wash water, a separate entrance and exit to the decontamination platform, with the equipment being mobile, allowing easy transport from one hazardous work zone to the next. All such wash water shall be disposed of at the dewatering facility. An appropriate detergent such as trisodium phosphate shall be used.

Personnel Decontamination

The **CONTRACTOR** shall provide full decontamination facilities at all hazardous zones. Decontamination facilities must be described in detail in the HASP.

Disposal of Spent Clothing and Material

Contaminated clothing, used respirator cartridges and other disposable items will be put into drums/containers for transport and proper disposal in accordance with TSCA and RCRA requirements.

Containers/55-gallon capacity drums shall conform to the requirements of 40 CFR Part 178 for Transportation of Hazardous Materials. The containers/drums containing excavated and other hazardous material shall be transported by the **CONTRACTOR** to the staging area.

The **CONTRACTOR** is responsible for the proper container packaging, labeling, transporting, and disposal.

1.14 Equipment Decontamination

General

All equipment and material used in this project shall be thoroughly washed down in accordance with established federal and state procedures before it is removed from the project. With the exception of the excavated materials, all other contaminated debris, clothing, etc. that cannot be decontaminated shall be disposed at the **CONTRACTOR's** expense by a method permitted by appropriate regulatory agencies. The cost for this element of work shall be incorporated in the lump sum bid for mobilization/demobilization the unit prices bid for disposal of decontamination liquids or as otherwise directed on this project. All vehicles and equipment used in the "Dirty Area" will be decontaminated to the satisfaction of the SO in the decontamination area on site prior to leaving the

project. The **CONTRACTOR** will certify, in writing, that each piece of equipment has been decontaminated prior to removal from the site.

Decontamination shall take place within the designated equipment and materials decontamination area. The decontamination shall consist of degreasing (if required), followed by high-pressure, hot-water cleaning, supplemented by detergents as appropriate. Wash units shall be portable, high-pressure with a self-contained water storage tank and pressurizing system (as required). Each unit shall be capable of heating wash waters to 180 degrees Fahrenheit and providing a nozzle pressure of 150 psi.

Personnel engaged in vehicle decontamination will wear protective clothing and equipment as determined in the HASP. If the **CONTRACTOR** cannot or does not satisfactorily decontaminate his tools or equipment at the completion of the project, the **CONTRACTOR** will dispose of any equipment which cannot be decontaminated satisfactorily and will bear the cost of such tools and equipment and its disposal without any liability to the **ENGINEER**. At the completion of the project the **CONTRACTOR** shall completely decontaminate and clean the decontamination area.

Decontamination Station

The **CONTRACTOR** shall construct a decontamination station as described in Section 01100, Decontamination Station. The decontamination station shall be located in the Contamination Reduction Zone and shall be used to clean all vehicles leaving the Exclusion Zone prior to entering the Support Zone or leaving the site.

1.15 Air Monitoring Program

General

The **CONTRACTOR** shall develop, as part of the HASP, an air monitoring program (AMP). The purpose of the AMP is to determine that the proper level of personnel protective equipment is used, to document that the level of worker protection is adequate, and to assess the migration of contaminants to off-site receptors as a result of site work.

The **CONTRACTOR** shall supply all personnel, equipment, facilities, and supplies to develop and implement the air monitoring program described in this section. Equipment shall include at a minimum real-time aerosol monitors, depending on work activities and environmental conditions.

The **CONTRACTOR's** AMP shall include both real-time and documentation air monitoring (personal and area sampling as needed). The purpose of real-time monitoring will be to determine if an upgrade (or downgrade) of PPE is required while performing on-site work and to implement engineering controls, protocols, or emergency procedures if **CONTRACTOR**-established action levels are encountered.

The **CONTRACTOR** shall also use documentation monitoring to ensure that adequate PPE is being used and to determine if engineering controls are mitigating the migration of contamination to off-site receptors. Documentation monitoring shall include the collection and analysis of samples for total nuisance dust.

To protect the public in the neighboring residential neighborhood, the **CONTRACTOR** must include in the AMP provisions for suspending work and implementing engineering controls based upon detectable odors, as well as upon instrument monitoring results.

During the progress of active remedial work, the **CONTRACTOR** will monitor the quality of the air in and around each active hazardous operation with real-time instrumentation prior to personnel entering these areas. Sampling at the hazardous work site will be conducted on a continuous basis. Any departures from general background will be reported to the SO prior to entering the area. The SO will determine when and if operations should be shut down.

Air monitoring (both real time and documentation monitoring) shall be conducted by a minimum of one dedicated person with communication to the foreman whenever intrusive activities (such as excavation, tank removal, and soil treatment) are performed in an exclusion zone. After completion of intrusive activities involving contaminated materials and removal of the exclusion zone, air monitoring may be discontinued.

Air monitoring equipment will be operated by personnel trained in the use of the specific equipment provided and will be under the control of the SO. A log of the location, time, type and value of each reading and/or sampling will be maintained. Copies of log sheets will be provided on a daily basis to the **ENGINEER's** on-site representative.

Action Levels

The **CONTRACTOR** is responsible for developing level of protection site action levels for organic vapors and/or inorganic species.

The SO, **CONTRACTOR**, and their personnel will be responsible for implementing, maintaining and enforcing the respirator program.

In addition to these on-site action levels, the following action levels will be established for work area and perimeter monitoring of particulates. If the following levels are attained at the perimeter of the exclusion zone, then work will cease until engineering controls bring levels down to acceptable limits. These levels are general and shall be used as minimum action levels. The **CONTRACTOR** shall develop site-specific work area and perimeter monitoring action levels based on contaminants found in the work areas.

Parameter	Action Level	Action
Total particulates	2.5 times background and/or greater than 150 $\mu g/m^3$	Work ceases until mitigated
Visible Dust	Visible dust as determined by the **ENGINEER**.	Work ceases until mitigated

(Continued on next page)

The following action levels shall be used as minimum action levels for organic vapors and odors.

Parameter	Action Level	Action
Total Organic Vapors	5 ppm at work zone	Workers use respirators
	25 ppm at work zone	Work ceases until mitigated
Odors	Noticable odors outside the exclusion zone as determined by the **ENGINEER**.	Work ceases until mitigated

Real-Time Monitoring

The **CONTRACTOR** shall submit a written copy of the real time air monitoring results for each Workday, by 10:00 a.m. the following Workday, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (if necessary).

Real-time monitoring shall be conducted using the following equipment:

Organic vapor photoionizers shall be Photovac TIP, total organic vapor analyzer as manufactured by Photovac International, 739B Park Avenue, Huntington, New York 11743 or equal. The **CONTRACTOR** shall provide one Photovac TIP for each and every hazardous work zone operation.

Particulate monitoring must be performed using real-time particulate monitors (MiniRam Model MIEPDM-3, or equal) and shall monitor particulate matter in the range of 0-10 microns diameter (PM_{10}) with the following minimum performance standards:

Object to be measured: Dust, Mists, Aerosols
Measurement Ranges: 0.001 to 400 mg/m^3 (1 to 400,000 $\mu g/m^3$)
Precision (2-sigma) at constant temperature:
+/- 10 $\mu g/m^3$ for one second averaging; +/- 1.5 $\mu g/m^3$ for sixty second averaging
Accuracy:
+/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 μm, g= 2.5, as aerosolized)
Resolution: 0.1% of reading or 1 $\mu g/m^3$, whichever is larger
Particle Size Range of Maximum Response: 0.1-10 μ
Total Number of Data Points in Memory: 10,000
Logged Data:
Each Data Point: average concentration, time/date, and data point number

Run Summary:
overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number.
Alarm Averaging Time (user selectable):
real-time (1-60 seconds) or STEL (15 minutes)
Operating Time: 48 hours (fully charged NiMH battery); continuously with charger
Operating Temperature: -10 to 50°C (14 to 122°F)

Automatic alarms are suggested.

Particulate levels will be monitored and integrated over a period not to exceed 15 minutes. Consequently, instrumentation shall require necessary averaging hardware to accomplish this task. A monitor such as the personal DataRAM, manufactured by Monitoring Instruments for the Environment, Inc., or equivalent, can be used as a real time particulate screening tool. Although the instrument's design does not allow it to make a sharp differentiation of particulates at the PM_{10} standard, the instrument could be used in the passive mode without a pump to provide readings in the 0.1 to 10µ range in the immediate vicinity of construction activities.

Monitor the air, using the same equipment, for 10-15 minutes upwind of the work site to establish background level. The background level shall be established before the start of each shift every day. In the event that downwind particulates are detected at levels in excess of 150 ug/m^3 or 2.5 times the established background level at the work site, re-measure the background concentrations upwind of the work zone using the same equipment. If the measured particulate level at the work zone is 100 ug/m^3 above background, monitor the downwind site perimeter and implement additional dust controls in the work zone. Continue to take hourly measurements of the upwind background concentrations and compare such concentrations with the particulate level at the work zone, until the downwind level at the work zone is less than 100 ug/m^3 above the upwind level. If at any time the measured particulate level at the work zone is more than 150 ug/m^3 over background concentration, the CONTRACTOR shall immediately suspend work at the site, promptly notify the Safety Officer, and implement suitable corrective action or engineering controls before work resumes.

Real-time monitoring will be conducted at any excavation of contaminated soil or sediments. Real-time monitoring will also be conducted at perimeter locations including an upwind (background) and three downwind locations. A background reading will be established daily at the beginning of the work shift. If the wind direction changes during the course of the day, a new background reading will be made. Downwind readings at the perimeter will be made when **CONTRACTOR** action levels have been exceeded at the excavation face or at a minimum of twice a day.

If action levels are exceeded at the perimeter location for fugitive dust, work must be suspended and engineering controls must be implemented to bring concentrations back down to acceptable levels.

Construction activities generate dust which could potentially transport contaminants off site. There may be situations when visible dust is being generated and leaving the site and the monitoring equipment does not measure PM_{10} at or above the action level. Therefore, if dust is observed leaving the working site, additional dust suppression techniques must be employed by the **CONTRACTOR**.

Documentation Monitoring

Documentation monitoring will be conducted at the perimeter at a minimum of four locations (one upwind and three downwind) for total dust. Documentation monitoring will be conducted only during excavation, consolidation, staging, removal, or decontamination activities (i.e., intrusive activities).

A. Collect total nuisance dust using PVC collection filter and personnel sampling pump and analyze gravimetrically according to NIOSH 89-127 Method 0500.

B. Documentation samples will be collected at established perimeter locations. The four locations will be chosen according to site activities and expected wind direction.
C. The perimeter locations will be established and marked with high visibility paint or flagging at approximately equidistant points around the site. Samples will be collected at a height of 6 feet above ground surface.

D. Documentation samples will be collected continuously, during the normal work hours when activities are occurring on site. At the end of the week two samples will be selected by the **ENGINEER** for analysis.

E. The documentation samples will be collected over an eight (8) hour work period.

F. In addition to perimeter monitoring, personnel documentation samples will be collected on site once a week. On-site samples will be collected by choosing "high risk" workers to wear appropriate collection media for pesticides, metals, and particulate. "High risk" workers are those who are most likely to encounter contamination on a particular task. At a minimum, two high risk workers will be chosen to wear collection media for a particular day each week and the media will be analyzed with the documentation air monitoring samples.

G. The **CONTRACTOR** shall submit a written copy of the documentation air monitoring results within 7 days of sampling, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (if necessary).

H. The documentation sampling submitted shall also identify the "high risk" workers chosen to wear appropriate collection media for contaminants; date media was worn; task involved; analytical results and applicable standards.

I. Payment for air monitoring will not be approved until the above submittals have been received and approved by the **ENGINEER**.

Community Air Monitoring

Real-time air monitoring, for particulate levels at the perimeter of the work area is necessary:

A. Particulates should be continuously monitored upwind, downwind and within the work area at temporary particulate monitoring stations. If the downwind particulate level is 150 ug/m^3 greater than the upwind particulate level, then dust suppression techniques must be employed. All readings must be recorded and be available for **ENGINEER**'s review.

The **CONTRACTOR** shall install a meteorological station on site that will be capable of recording, at a minimum, wind velocity and direction.

1.16 Emergency Equipment and First Aid Requirements

Communications

The **CONTRACTOR** shall provide telephone communication at the site field office. Emergency numbers, such as police, sheriff, fire, ambulance, hospital, poison control, NYSDEC, EPA, NYSDOH, and utilities, applicable to this site shall be prominently posted near the telephone.

The **CONTRACTOR** shall establish a signaling system for emergency purposes.

Emergency Shower and Emergency Eye Wash

The **CONTRACTOR** shall supply and maintain one portable eyewash/body wash facility per active hazardous work zone. The facility shall have a minimum water capacity of 10 gallons and shall conform to OSHA regulations 29 CFR 1910.151. The portable eyewash/body wash facility shall be manufactured/ supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

Fire Extinguishers

The **CONTRACTOR** shall supply and maintain at least one fire extinguisher in the **CONTRACTOR's** office and one at each hazardous work zone. The fire extinguisher shall be a 20-pound Class ABC dry fire extinguisher with UL-approval per OSHA Safety and Health Training Standards 29 CFR 1910.157. The fire extinguisher shall be manufactured/supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

First Aid Kit

The **CONTRACTOR** shall supply and locate in his project office and at each and every hazardous work zone one 24-unit (minimum size) "industrial" or "Contractor" first aid kit, required by OSHA requirements 29 CFR 1910.151. The first aid kit shall be manufactured/supplied by Norton, Scott, or other appropriate suppliers.

Emergency Inventory

In addition to those items specified elsewhere, the SO will maintain the following inventory of equipment and protective clothing for use at the site in the event of emergencies.

a. Washable coveralls;

b. Gloves (outer);

c. Gloves (inner);

d. SCBA;

e. Escape SCBA (authorized visitor use);

f. Face shields;

g. Safety glasses;

h. Respirators and appropriate cartridges;

i. Disposable coveralls;

j. Chemical-resistent boots and latex boot covers;

k. Hard hats;

l. Bottled breathing air; and

m. Rain suits.

1.17 Emergency Responses/contingency Plan and Procedures

Daily Work

During the progress of work, the **CONTRACTOR** will monitor the quality of the air in and around each active hazardous operation prior to personnel entering these areas. Sampling shall be conducted on a continuous basis. Based on the air monitoring data, the proper level of protection will be chosen by the SO.

Emergency Vehicle Access

In the event that emergency services vehicles (police, fire, ambulance) need access to a location which is blocked by the working crew operations, those operations (equipment, materials, etc.) will be immediately moved to allow those vehicles access. Emergency crews will be briefed as to site conditions and hazards by the SO. All vehicles and personnel will be decontaminated prior to leaving the site.

The **CONTRACTOR** shall schedule a site briefing with the local Fire Department at the completion of mobilization to familiarize emergency response personnel with his operations and site layout.

Personal Injury Response Plan

In cases of personal injuries, the injured person or the crew personnel in charge will notify the SO. The SO will assess the seriousness of the injury, give first aid treatment if advisable, consult by telephone with a physician if necessary, and arrange for hospitalization if required. The SO will arrange for an ambulance if required.

If soiled clothing cannot be removed, the injured person will be wrapped in blankets for transportation to the hospital.

Personnel, including unauthorized personnel, having skin contact with chemically contaminated liquids or soils shall be flushed with water after any wet or soiled clothing has been removed.

These personnel should be observed by the SO to ascertain whether there are any symptoms resulting from the exposure. If there is any visible manifestation of exposure such as skin irritation, the project personnel will refer to a consulting physician to determine whether the symptoms were the result of a delayed or acute exposure, a secondary response to exposure such as skin infection, or occupational dermatitis. All episodes of obvious chemical contamination will be reviewed by the SO in order to determine whether changes are needed in work procedures.

Route to the Hospital

The **CONTRACTOR** shall post in conspicuous places in the Support Zone a map with written directions to the nearest hospital or emergency medical treatment facility.

Fire Service

The **CONTRACTOR** will make arrangements to take immediate fire fighting and fire protection measures with the local Fire Chief. If there is a fire, the crewmen or their person in charge will immediately call the SO. The SO will immediately call the fire personnel.

The air downwind from any fire or explosion will be monitored immediately in order to protect workers and the nearby community. If personal injuries result from any fire or explosion, the procedures outlined in the Personal Injury Response Plan are to be followed.

Master Telephone List

The attached master telephone list will be completed and prominently posted at the field office. The list will have telephone numbers of all project personnel, emergency services including hospital, fire, police, and utilities. In addition, two copies with telephone numbers are to be given to the **DEPARTMENT** for emergency reference purposes.

Emergency Service	Telephone Number
Fire Department	911
Police Department	911
Ambulance	911

Hospital/Emergency Care Facility (Franklin Hospital)		(516) 256-6000
Poison Control Center		(800) 336-6997
Chemical Emergency Advice (CHEMTREC)		(800) 424-9300
NYSDEC Albany Office	Work Hours After Hours	(518) 457-7878 (800) 342-9296 (leave message)
NYSDEC Stonybrook Office	Work Hours	(631) 444-0345
Nassau County Dept. of Health		(516)227-9697
New York State Dept. of Health - Albany		(518) 402-7860

1.18 Heat Stress Monitoring

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

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

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

One method of measuring the effectiveness of employees' rest-recovery regime is by monitoring the heart rate. The "Brouha guideline" is one such method:

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

- Double the count.

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

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

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

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

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

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

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

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

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

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

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

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

- Assure that frequent breaks are scheduled so overheating does not occur; and

- Revise work schedules, when necessary, to take advantage of the cooler parts of the day (i.e., 5:00 a.m. to 1:00 p.m., and 6:00 p.m. to nightfall).

Cold Stress

Whole-body protection shall be provided to all site personnel that have prolonged exposure to cold air. The right kind of protective clothing shall be provided to site personnel to prevent cold stress. The following dry clothing shall be provided by the **CONTRACTOR** as deemed necessary by the SO:

- Appropriate underclothing (wool or other);
- Outer coats that repel wind and moisture;
- Face, head, and ear coverings;
- Extra pair of socks;
- Insulated safety boots; and
- Glove liners (wool) or wind- and water-repellant gloves.

The SO will use the equivalent chill temperature when determining the combined cooling effect of wind and low temperatures on exposed skin or when determining clothing insulation requirements.

Site personnel working continuously in the cold are required to warm themselves on a regular basis in the on-site hygiene facility. Warm, sweet drinks will also be provided to site personnel to prevent dehydration. The SO shall follow the work practices and recommendations for cold stress threshold limit values as stated by the 1991-1992 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices by the American Conference of Governmental Industrial Hygienists or equivalent cold stress prevention methods.

1.19 Logs, Reports and Record Keeping

Security Log

A daily log of security incidents and visitors granted access to the site will be maintained, as well as a log of all personnel entering and exiting the site.

All approved visitors to the site will be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Site visitors will not be permitted to enter a hazardous work zone.

Project site shall be posted, "Warning: Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fence.

Safety Log

The **CONTRACTOR's** SO will maintain a bound safety logbook. The log will include all health and safety matters on site and include, but not be limited to, the following information:

- Date and weather conditions on site;
- A description of the proposed work for the day;
- Times when site personnel arrive and depart;
- Air monitoring data;
- Heat and/or cold stress monitoring;
- Decontamination procedures;
- Type and calibration of air sampling/monitoring equipment used;
- Safety meeting summaries; and
- Accidents.

Emergency Or Accident Report

Any emergency or accident will be reported immediately to the SO. The **ENGINEER** will also be notified. The **CONTRACTOR** will submit a written report immediately, but no later than 24 hours of its concurrence. The report will include, but not be limited to, the nature of the problem, time, location, areas affected, manner and methods used to control the emergency, sampling and/or monitoring data, impact, if any, to the surrounding community, and corrective actions the **CONTRACTOR** will institute to minimize future occurrences. All spills will be treated as emergencies.

Daily Work Report

The **CONTRACTOR** shall maintain a daily work report that summarizes the following:

- Work performed,
- Level of protection,
- Air monitoring results,
- Safety-related problems, and
- Corrective actions implemented.

1.20 Posting Regulations

The **CONTRACTOR** will post signs at the perimeter of the Exclusion Zone that state "Warning, Hazardous Work Area, Do Not Enter Unless Authorized." In addition, a notice directing visitors to sign in will be posted at the project site. Also, the **CONTRACTOR** will post a sign stating that any questions about the site should be directed to the New York State Department of Environmental Conservation.

Safety regulations and safety reminders will be posted at conspicuous locations throughout the project area. The following safety regulations and safety reminders are at a minimum to be posted around the job site.

SAFETY REGULATIONS

(To be Posted for Project Personnel)

The main safety emphasis is on preventing personal **contact** with gases, soils, sludge and water. Towards that end, the following rules have been established.

Regulations

A. Eating, drinking and smoking on the site is PROHIBITED except in specifically designated areas.

B. All project personnel on the site must wear clean or new gloves daily.

C. If you get wet to the skin, you must wash the affected area with soap and water immediately. If clothes in touch with the skin are wet, these must be changed.

D. You must wash your hands and face before eating, drinking or smoking.

E. Observe regulations on washing and removing boots before entering the dressing room or a clean area and showering before going home.

Recommendations

A. Do not smoke on site with dirty hands; better yet, do not smoke.

B. Check for any personal habit which could get soil or water into your body.

Examples: food off your fingers, wiping your face or nose with a dirty hand or running a dirty hand through your hair.

C. Check that any regularly worn clothing is clean. Examples include dirty watchbands, neck chains and a dirty liner on your safety helmet. Safety practices with poisonous chemicals can be summed up with a few words:

Don't breathe in chemical odors and don't touch the water, soil, and sludge.

If you do get dirty or wet, clean up as soon as possible.

SAFETY REMINDER FOR TOXIC CHEMICALS

(Post for Project Personnel)

Chemicals can't cause problems unless you breathe them, eat them, or put them on your skin.

Chemicals in Gases, Soils, Sludge, and Water

Don't let them go into your mouth, nose, or stay on your skin.

Use common personal hygiene.

A. Don't eat or drink on the site.

B. No smoking in the area of work.

C. Wear protective clothing.

D. Glove liners must be **clean**.

E. Wash your hands whenever practical. Wash before eating, drinking, or smoking.

F. Don't carry chemicals home to your family. (For example, on clothing, mud in the car, dirty hands.)

G. Follow strictly the HASP.

1.21 Community Protection

1.22 Confined Space Work

2. PRODUCTS

Not Used.

3. EXECUTION

Not Used.

*** END OF SECTION ***

SPEC 01004

SURVEYS

1. GENERAL

1.1 References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION - NYSDOT Spec., Standard Specifications --- Construction and Materials (Latest Edition)

1.2 Related Sections

Not used.

1.3 Submittals

Submit the following in accordance with Section 01021 –PROJECT SUBMITTALS. The submittals described below are minimum requirements for surveying. Additional surveys needed to document quantities for payment will also be performed as directed by the ENGINEER.

1.3.1 Drawings

A. Initial remedial area drawing

Provide and initial site survey drawing delineating the remedial area. The drawing shall include topography of the remedial area and surrounding area surrounding areas, and a minimum area of the site work as shown on the Contract Drawings. This drawing shall include the site grid and vertices as shown on the design drawings.

B. Intermediate drawings

Provide an intermediate survey drawing delineating the area and depth of all excavations prior to backfilling and the location of all confirmatory soil sample points, upon completion of all rough shaping and grading and prior to placement of cover materials.

C. As-built topographic maps

Upon completion of the final backfill materials and restoration of all disturbed surfaces.

1.3.2 Records

A. AutoCad 2010 and Adobe Acrobat 9 or higher compatible electronic files of all surveys (provide data in electronic format - CD-ROM).

B. Field Data

Original final survey book (hard bound) upon completion of each phase of survey work. Include all field notes, notations, and descriptions used and compiled during the field survey. Photocopies or carbon copies are not acceptable.

C. Coordinate List

Final coordinate list of all survey points with specific coordinates and elevations. (provide data in .txt or .csv format – CD ROM)

D. Volume Quantity Calculations

All calculations required to support requests for payments and verifications of volumes and areas involved.

2. PRODUCTS

Provide in accordance with NYSDOT Specification Section 625.

3. EXECUTION

3.1 General

A. The following surveys must be conducted during the project, and will form the basis of measurement for payment of most cubic yard, linear foot, and square foot pay items:

1. An initial site survey to establish and verify existing site conditions, and to properly lay out the work as shown on the Drawings. Establish a 30-ft grid network, as shown on the drawings and with coordinates provided on Figure 6 and Table 17 within the remediation limits for use during construction. Where excavation limits do not align with grids and at area near the remediation limits, extra nodes may be required by the ENGINEER to properly delineate the limits of excavation.

2. Spot elevations and locations shall be established and surveyed as necessary to ensure that work is installed to the grades shown on the Drawings, including spot elevations of any drainage structures.

3. Following soil/waste excavations, the limits shall be surveyed to document the volumes of material that have been removed, as a base survey for measurement of materials. This survey shall include the locations and elevations

of all final verification samples which were the basis of limiting further excavations.

4. As-built final grading survey shall be completed following final grading of site to verify the proposed final grades are met.

B. All work in this section shall be performed by a licensed professional land surveyor registered to practice in the State of New York.

C. Provide in accordance with NYSDOT Specification Section 625, latest revision

D. All survey work required by the contract shall consist of the measurement of spot elevation at each node of the grid network. Aerial surveys will not be accepted.

3.1 Horizontal and Vertical Control

Horizontal and vertical control points shall be referenced to the permanent site control monuments to an accuracy of one part in ten thousand. Provide control points at each location of work using closed traverse and leveling loops. A minimum of four temporary benchmarks shall be established outside the work limits for use during the work.

Provide grade and offset stakes to control the location and depth of excavation and fill. Survey the location and elevation of all excavation and fill limits to document the areas remediated.

3.2 As-built Topographic Maps

Reproducible base map at a scale of 1 inch = 10 feet, maximum with 1-foot elevation contours upon which the **CONTRACTOR** shall plot the required survey information for each required submittal.

Mapping shall conform to the National Map Accuracy Specifications and shall bear the seal of a licensed land surveyor registered in New York. Map shall contain a title block with the name and address of the **CONTRACTOR** and the seal and signature of the registered surveyor. As-built drawings shall include labeled contour lines, property line locations, horizontal grid systems, cross-sections and details modified to show “as-built” conditions, details and cross-sections not on original drawings, and any field changes of elevations, dimensions, and details.

Indicate locations of physical features on the site including: utilities, roadways, culverts, manholes, utility poles, fences, gates, drainage ditches, monitoring wells, piezometers, leachate pipes, tanks, bench marks and other significant items.

Indicate on a separate drawing: excavation limits and confirmation sampling points.

Provide a drawing that meets the requirements of the Department per the website (http://www.dec.ny.gov/chemical/65118.html) for the completion of a survey for an environmental easement.

3.4 Coordinate List

Compute the coordinates of each surveyed point on the New York State Plane Coordinate System using the 1983 North American Datum. The elevations shall be on the National Geodetic Vertical Datum.

3.5 Site Control

Provide two permanent site control monument with elevations referenced to a National Geodetic Vertical Datum (NGVD) benchmark and coordinates referenced to the New York State Plane (NAD 83) Datum. The monument locations and elevations shall meet the Federal Geodetic Control Committee Standard for second order (horizontal and vertical). Final locations will be reviewed by the **ENGINEER** for acceptability.

3.6 Survey Notes

Record all field work in a clear, legible, and complete manner. The Field Notes shall contain a complete description of the nature and location of the new and existing points. The record shall also include a sketch of the point locations, and the monument witness points.

3.7 Utilities

Scan the construction site with electromagnetic or sonic equipment, and mark the surface of the ground where existing underground utilities are discovered. Verify the elevations of existing pipe, utilities, and any type of underground obstruction not indicated or specified to be removed but indicated or discovered during scanning in locations to be traversed by piping, ducts and other work to be installed. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be made.

Record locations and elevations of all utilities.

3.8 Grid Stakes

Grid stakes shall be utilized at grid nodes to measure the depth of excavation as work proceeds. A land surveyor licensed in the state of New York shall place grid stakes as required by the CONTRACTOR or as required by the ENGINEER to track excavation depth, in accordance with Section 02111 – Excavation and Handling of Impacted Material.

*** END OF SECTION ***

SPEC 01005

PROJECT COORDINATION

1. GENERAL

1.1 Description

This section includes: requirements for contractor coordination, subcontractor approvals and project schedule statusing and updating.

1.2 Submittals

Submit the following in accordance with Section 01024 "Shop Drawings Procedures."

1. Subcontractor List: submit for review and approval. This list shall be updated and submitted each time a new subcontractor is proposed for employment on the project.

2. Uniform Contracting Questionnaire: submit in accordance with instructions in Section V, Article 2(e). Submit properly executed New York State Uniform Contracting Questionnaire for subcontracts valued at greater than $10,000. The **DEPARTMENT** requires a minimum of two (2) weeks to review.

3. Project Schedule Status Reports: submit biweekly 48 hours prior to project meetings.

4. Project Schedule Updates: submit proposed updates for approval prior to updating the project schedule.

2. PRODUCTS

2.1 Subcontractor List

The **CONTRACTOR** shall submit a complete list of proposed subcontractors (including disposal facilities) identifying name, address, telephone number, contact, type of work to be subcontracted, dollar amount and M/WBE status. No subcontractors can begin work without the written approval of the **DEPARTMENT**.

2.2 Project Schedule Status Reports and Updates

Project Schedule status reports shall be based on the current approved Project Schedule and shall show the previous two weeks and succeeding two weeks as of the corresponding project meeting date. The schedule shall be statused for actual progress.

3. EXECUTION

3.1 Schedule

The **CONTRACTOR** shall be solely responsible for the coordination of schedules for any and all of his subcontractors. The **ENGINEER** shall approve all schedules and the **CONTRACTOR** shall coordinate with the ENGINEER to make any appropriate changes to the schedule.

The **CONTRACTOR** shall cooperate with the **ENGINEER'S** review of the project schedule and promptly furnish the **ENGINEER** with such data as may be requested in accordance with **ENGINEER's** review of the project schedule and incorporate required revisions.

It shall be the duty of the **CONTRACTOR** to conform to the specified schedule and to arrange his work in such a manner that it will be completed within the time limits indicated.

The **CONTRACTOR** shall coordinate his letting of subcontracts (if any), material purchases, delivery of materials and sequence of operations to conform to the schedule and shall furnish proof of same as required by the **ENGINEER**.

3.2 Shop drawings, Product Data and Samples

The **CONTRACTOR** shall coordinate a list of required submittal packages with the **ENGINEER** prior to any submittals being made.

The **CONTRACTOR** shall coordinate with the **ENGINEER** the transmittal form and content prior to any submittals.

3.3 Time and Material (T&M) Work

If T&M work is initiated, the **CONTRACTOR** shall submit labor classes, materials and equipment, along with associated rates for time and material work to the **ENGINEER** for review and approval.

The **ENGINEER** and **CONTRACTOR** shall agree on the format of a time and material work sheet prior to initiating any T&M work. The attached forms Murk 11a, 12c and 17 shall be used as a basis for the developing the format of the time and material work sheets.

ENGINEER'S and **CONTRACTOR'S** field representatives will sign a T&M record of work on a daily basis. Signatures from field representatives do not represent that the work shown is an extra or that rates are acceptable; rather, it is merely to document that the materials, labor and equipment shown were in fact used for the work in question.

Agreements for additional costs (if any) will be formalized in a change order in accordance with the terms of the Contract Documents.

Daily T&M worksheets without the signature of the **ENGINEER'S** representative will not be the basis for a claim for additional compensation. The **CONTRACTOR** is solely responsible for the costs arising from the **CONTRACTOR'S** own inefficiencies.

*** END OF SECTION ***

SPEC 01009
TRAFFIC CONTROL

PART 1 GENERAL

This section covers minimum requirements for temporary traffic regulation and control during the course of the project.

1.01 REFERENCES

The publications listed below forms a part of this specification to the extent referenced. The publication is referred to in the text by basic designation only.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

MUTCD	Manual of Uniform Traffic Control Devises
NYSDOT	Standard Specifications (17 NY CRR, Chapter V)

1.02 SUBMITTALS

Submit the following in accordance with Specification 01024, "Shop Drawings and Samples."

Traffic Control Plan: incorporate the anticipated impacts of traffic controls into the work plan for various work areas. The Plan shall include, but not be limited to:

1. Access routes for project traffic to each work area.
2. Estimated daily project traffic flows for each phase of the work.
3. Procedures for cleaning debris and spillage from public roads.
4. This plan shall identify equipment and describe procedures to minimize the creation and dispersion of dust and the removal of earthen materials tracked onto site and off-site roadways by construction vehicles. The plan shall address major construction activities that will contribute to these situations and the Contractor's approach to control them.

1.03 INTENT

Maintain safe conditions for the **Contractor's** workers, the general public and all vehicles.

Minimize the inconvenience to the general public and adjacent property owners affected. Give the right of way to emergency vehicles in all situations.

PART 2 PRODUCTS

2.01 OWNERSHIP

The products specified herein shall be leased or owned by the **Contractor** and will not become the property of the **Department**. All products specified herein shall be removed from the work site when no longer needed.

2.02 TRAFFIC CONTROL DEVICES

All the following items shall conform to NYSDOT Section 619-2 and MUTCD requirements:

Flashing barricade lights

Construction and maintenance signs

Channelizing devices

Arrow boards

Barricades

Traffic cones

2.03 MISCELLANEOUS EQUIPMENT

Other items, which include orange safety vests, flags or signs for flagmen, and communication devices, shall be standard and adequate for their intended function. They shall be in accordance with the NYSDOT-MUTCD where applicable or as required by NYSDOT Work Permit.

PART 3 EXECUTION

3.01 GENERAL

All work under this section shall be performed in accordance with NYSDOT Standard Specifications, the MUTCD, and as stated herein.

Protect workers and provide for safe and convenient public travel by furnishing, erecting, and maintaining all signs, signals, markings, traffic cones, barricades, warning lights, flaggers, and other traffic control devices required for the type of operation being performed.

Close off sidewalks adjacent to the site.

Keep all roads free of debris and spillage from hauling equipment at all times. Haul routes shall be cleaned at least once per day to limit dust generation. Dry brooming is prohibited.

Provide access at all times to private property.

All work related vehicles and non-operating equipment that are parked for a short period of time (2 hours or less) shall be parked at the support area. Longer periods of time shall be in accordance with requirements for non-working hours.

Furnish the name of the individual in direct employ of the **Contractor** who is to be responsible for the installation and maintenance of the traffic control for the project. If the installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the **Engineer** at the time of the pre-construction conference. This shall not relieve the **Contractor** of the foregoing requirement for a responsible individual in his direct employ.

The Contractor shall take necessary measures, in addition to those required by Federal, State and local laws and regulations, to minimize the migration of dust and earthen material from construction areas including the utilization of wind indicators and air monitoring.

Dust generating surfaces within the active work limits shall be sprayed with water to provide complete moistening of the ground, or as otherwise directed by the Engineer.

The Contractor shall be responsible for the removal and disposal of earthen material that is tracked onto site and off-site roadways by construction vehicles. The Contractor shall continually inspect roadways and remove the materials immediately to maintain a clean and hazard free driving surface.

3.02 COORDINATION AND SCHEDULE

No traffic shall be disrupted over holiday weekends.

Permits for work in all rights of way shall be prepared, submitted and accepted prior to any work in the areas affected.

END OF SECTION

SPEC 01010

TEMPORARY FACILITIES AND CONTROLS

1. GENERAL

1.1 Scope of Work

A. Provide temporary facilities or contingency equipment as required herein to properly carry out the Project scope of work.

1.2 Submittals

Submit the following in accordance with Specification 01024, "Shop Drawings and Samples."

Manufacturer's Catalogue Data

1. Silt fences for approval
2. Erosion control matting for approval

Records

Emergency services meeting minutes for the project record within seven days of the meeting.

2. PRODUCTS

2.1 Materials and Equipment

A. Provide new or used materials and equipment that are undamaged and in working condition.

B. Provide only materials and equipment that are recognized as being suitable for the intended use (through compliance with appropriate standards and regulations).

C. Materials for erosion control shall comply with the guidelines contained in the approved storm water and erosion control plan.

D. Temporary fencing shall be Tenax Alpi or equal if necessary.

3. EXECUTION

3.1 General

A. Use qualified tradesmen for installation of temporary utilities, facilities, and constructions. Provide utility services as required to perform the work for the duration of the project.

B. Locate all temporary items where they are approved and in such a manner to cause minimum interference with the project work and operation of the other site activities. Locate services per approved work plan.

C. Relocate, modify, and extend services and facilities as required to accommodate the Project, or as directed by the **ENGINEER**, throughout the course of the work.

D. Install temporary utilities in accordance with the servicing utility's requirements.

3.2 Temporary Utilities

A. Temporary Light

1. The **CONTRACTOR** shall provide temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work. Minimum lighting shall be five foot candles.

2. Wiring in the work area shall be in UL-approved cable and located in such a manner that visual surveillance is easily accomplished.

3.3 Temporary Facilities

A. Staging Areas

1. Staging areas shall be located on the site in areas (exclusion zone) approved by the **ENGINEER** in order to minimize possible cross contamination.

2. The staging areas for waste materials shall have a lined bottom with a minimum 40-mil sealed, HDPE watertight liner. Remove the liners when the staging area is no longer needed, and dispose off-site.

3. Waste materials shall be covered at all times with a minimum 20-mil HDPE sealed, watertight liner to prevent contaminated runoff. Remove the liners when the staging area is no longer needed, and dispose off-site.

4. All staging areas shall be constructed to prevent the spread of any contamination to the surrounding soils, surfaces, and/or groundwater.

5. Water spray or equivalent shall be utilized as necessary to prevent dust generation. Monitoring shall be provided to ensure that unacceptable levels of dust generated from the movement and handling of soil do not migrate from the site.

6. Shop Drawings of all staging areas shall be submitted by the **CONTRACTOR** to the **ENGINEER** for review and approval prior to the start of work.

7 Clean soil staging areas: Can be located outside the exclusion zone. Cover staged clean materials with 10 mil liner. Dispose of cover when staging area is no longer needed.

8. Materials staging area: provide and maintain material staging areas as needed in locations indicated on the **Contractor's** work site layout, or as approved by the **Engineer.**

B. Sanitary Facilities

1. The **CONTRACTOR** shall provide self-contained chemical toilet units from mobilization to demobilization in an amount based on the total number of workers employed on the Project in accordance with the provisions of the Health and Sanitary Codes of the State of New York. A combination toilet/urinal unit shall count as one facility. The **CONTRACTOR** may locate some of them in the work area. Those that are located outside the work area shall be located where approved by NYSDEC and screened from public view. At the completion of the abatement work, units within the work area shall be decontaminated prior to their removal from the enclosures. Units shall be maintained throughout the work. Provide separate facilities for males and females. Include provisions for pest control and elimination of odors.

C. Temporary Access Roads

Construct and maintain temporary access roads for the duration of the contract as necessary to ensure unimpeded completion of this contract. This includes areas necessary for installation of the decontamination station, staging areas and all work site facilities.

D. Temporary Fencing

Provide a temporary, secure 5 foot high, high strength polyethylene orange plastic fence around the operations and work areas to control access. Fence posts shall be a minimum of 7 feet in total length and shall adequately support the fence and prevent leaning. Fence posts shall be set a maximum 10 feet apart. All temporary fencing is to be removed and properly disposed at the completion of the contract.

E. Truck Wash Station

Provide a temporary Truck wash station. Provide drawing details that must be reviewed and approved by DEC.

3.4 Temporary Controls

A. Fire Prevention

1. Take all precautions necessary and required to prevent fires.

2. Do not use or store flammable liquids, other than those specified, within a building or temporary facility.

3. Provide a minimum of two extinguishers for each separate and active enclosure. Locate one in the dirty room of the decontamination unit and one in the clean room.

4. The **CONTRACTOR** shall contact the local Fire Company, schedule, and conduct a site visit for Fire Company personnel after mobilization is complete to ensure familiarity with the **CONTRACTOR's** operations. Discuss the operation plan and fire safety considerations. Provide minutes of the meeting for the project record.

B. Noise, Vibration, and Dust Control

1. Conduct operations to cause least annoyance to residents in vicinity of work, and comply with applicable local ordinances.

2. Equip compressors, hoists, and other apparatus with such mechanical devices as may be necessary to minimize noise, vibration and dust. Equip compressors with silencers on intake lines.

3. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.

4. Provide unpaved roads, detours, or haul roads used in construction areas with water treatment to minimize dust. No visible dust, as determined by the **ENGINEER**, will be permitted beyond the limits of the exclusion zone.

5. **CONTRACTOR** is responsible for providing all sound barriers needed to meet the requirements of these specifications. **CONTRACTOR** is responsible for all costs related to the manufacturer's representatives or consultants (contractors) who specialize in addressing such problems.

6. Control noise levels associated with site operations to not exceed the energy equivalent ambient sound level (Leq) of 35 dBA at the site perimeter.

7. Measure noise levels in decibels with a sound level meter conforming to the American National Standard Specification, S 1.4 (1971) Type S2A, and set to use the A-weighted network with slow meter response.

8. Measurements shall be made at site perimeter.

9. Measurements shall be continuous during the first week of construction activities. Additional measurements may be directed by the **Engineer** throughout the course of the project.

10. Measurements shall be documented and reported to the **Engineer**.

11. If the Leq levels are not maintained the **Contractor** shall take appropriate measures to bring the noise under control at no additional cost to the **Department**.

12. Comply with DER-10 CAMP requirements.

13. No visible dust shall be permitted. Use work procedures and dust suppression techniques to achieve this, including such as the following:

    Apply water or dust suppressants to exposed soil, haul roads or routes, and other areas disturbed by operations.

    Provide a means of removing dirt or mud from vehicle wheels before they are permitted to exit the site.

    Dry power brooming will not be permitted.

    Only wet cutting of concrete will be permitted.

    Do not unnecessarily shake bags of dry product such as cement, concrete mortar or fertilizer.

C. Water Control

1. Exercise care in project drainage practice to prevent pollution of watercourses.

2. The **CONTRACTOR** shall be fully responsible for any and all damages to life and property that occur as a result of his activities. Damages resulting from polluting watercourses shall be repaired, restored, or compensated for by the **CONTRACTOR**.

3. Grade construction areas so as to minimize retention of rainwater, except as specified hereafter. Provide temporary rainwater runoff diversion around construction areas.

4. Comply with procedures outlined in EPA manuals entitled, "Guidelines for Erosion and Sedimentation Control Planning and Implementation," EPA-72-015, and "Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity," EPA 43019-73-007.

5. Temporary erosion controls may include, but are not limited to, surface stabilization which shall be accomplished with vegetation and mulch, dewatering, erosion matting, temporary earthen diversion berms and ditches; and minimization of disturbed acreage. Contractor is responsible for preventing excessive on-site erosion during construction as well as protecting the work included in this Contract.

6. Temporary sedimentation controls may include, but are not limited to, silt fences, traps, temporary earthen diversion berms and ditches, rock dams, stabilized construction entrance and appurtenances at the foot of sloped surfaces. Contractor is responsible for preventing migration of sediment into wetland areas, streams, and adjacent properties during construction. The performance of Contractor's sedimentation controls is subject to approval by NYSDEC.

7. Stockpiles shall be protected from transfer of material due to erosion by providing sedimentation controls along the toe of the slopes, seeding the side slopes (with the exception of soil-bentonite mixture stockpiles which shall be covered with plastic) and by maintaining stable slopes.

8. Contractor shall be responsible for maintaining all temporary and existing permanent erosion control structures on the site. Maintenance shall include but not be limited to making all repairs necessary to maintain the structures as well as remove all accumulated sediment as necessary to maintain the structures in proper working condition. The frequency of sediment removal from all on-site erosion control structures shall be bi-monthly at a minimum. Silt fence shall be installed as needed to insure against off-site runoff until all diversion structures are constructed and operational.

9. Should any of the temporary erosion and sediment control measures employed by the Contractor fail to produce results which comply with the requirements of NYSDEC, Contractor shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

D. Pollution Control

1. Maintain work areas on and off site free from further environmental pollution that would be in violation of any federal, state, or local regulations.

2. Minimize air pollution by wetting down bare soils with clean water, requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by **CONTRACTORS**, and encouraging shutdown of motorized equipment not actually in use.

3. Any emissions during site activities that may have an adverse health effect on workers or the community shall be suppressed to the extent possible.

4. Chemicals used, whether herbicide, pesticide, disinfectant, polymer, reactant, or other classification, must be approved by either the EPA or USDA or any other applicable regulatory agency and the **ENGINEER** and be used in a manner as their original purpose was intended.

5. Use of such chemicals and disposal of residues shall be in conformance with manufacturers' instructions.

6. Use of chemicals must be approved in advance by the **ENGINEER**.

7. Disposal of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) in storm or sanitary sewer system or into streams or waterways is not permitted.

8. Volatile wastes generated will be handled as hazardous wastes and reported to NYSDEC.

9. The **CONTRACTOR** shall provide that the generated project hazardous waste (if any) and any existing hazard waste to be removed under this project shall be transported, manifested, and disposed in accordance with the current regulations.

10. More specific requirements are given in other sections of this document.

E. Traffic Control

1. The **CONTRACTOR** shall maintain all temporary road access routes. Temporary access roads will be repaired as necessary to insure unimpeded daily operations. This may include at a minimum, routine grading of the temporary access roads.

2. Park vehicles in areas designated and approved in the Work Plan.

3. Keep the designated parking areas clear of dirt and debris resulting from the work.

F. Rubbish Control (Noncontaminated)

1. Clean up the debris resulting from the work at the end of each day and leave work areas broom clean. Locate containers where directed.

2. Remove debris from the site at least once a week or more often if it presents a fire hazard or becomes excessive. Burning of waste material will not be permitted.

3. Containers shall have secure tops.

3.5 Protection of Natural Resources

A. General

1. Preserve the natural resources within the project site that are not specified for removal or change.
2. Preserve the natural resources outside the project site impacted by the work.
3. Conform to federal, state and local permitting requirements.
4. Restore disturbed resources to an equivalent or improved condition upon completion of work.
5. Vehicles, equipment and machinery delivered or used at the site that have visible oil or hydraulic leaks will not be allowed on site. Clean up any oil or hydraulic fluid spills immediately.

B. Land Resources

1. Except in areas specified to be cleared, do not remove, cut, deface, injure, or destroy existing vegetation.
2. Protect vegetation that is to remain, from damage by construction operations.
3. Vegetation, intended to remain, that is scarred or damaged by construction operations shall be removed and replaced with equivalent undamaged vegetation.
4. Removal of scarred or damaged vegetation shall be in accordance with the specifications.
5. Trees or shrubs with 30 percent or more of their root systems damaged shall require removal and replacement.
6. Replacement vegetation shall be approved by the Engineer before replacement.

A. Water Resources

1. Prevent oily or hazardous substances from entering the ground, drainage areas, or local bodies of water.

2. Provide secondary containment of temporary fuel oil, petroleum, or hazardous substance storage tanks of sufficient size and strength to contain the contents of the tanks.

B. Fish and Wildlife Resources

1. Do not alter or significantly disturb water floes on or adjacent to the project site, except as indicated or specified.

2. Do not later or significantly disturb native habitat on or adjacent to the project site, except as indicated or specified.

3.6 Protection of Existing Facilities

A. Fencing

1. Protect existing fencing from damage due to construction operations.
2. Where fences and posts are temporarily removed for access they shall be reinstalled or replaced with new.
3. Reuse of existing fence shall be allowed only if it can be reinstalled to the same or better condition than when it was removed.

3.7 Removal

A. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the work.

B. Remove all such temporary facilities and controls as soon as safe progress of the work will permit.

*** END OF SECTION ***

SPEC 01011

SITE SECURITY

1. GENERAL

1.1 Summary

The **CONTRACTOR** is solely responsible for the security of the **ENGINEER's** and **CONTRACTOR's** work areas, equipment, materials, and supplies provided under this contract. Furthermore, **CONTRACTOR** is responsible for ensuring site visitors related to this contract are escorted as necessary (to get where they are going) and do not enter contaminated areas without authorization.

1.2 Submittals

2. Submit three (3) copies of the site entrance/exit log as part of the project record documents.

3. Interim submittals:
   Submit one (1) copy of logs monthly.

2. PRODUCTS

2.1 Site Entrance/Exit Log

1. Log shall contain signed entry and exit record for project personnel and visitors.

2. Log shall record time of entry and exit and firm of the individual.

3. EXECUTION

1. Report problems noted to **CONTRACTOR's** authorized representative and expeditiously correct problems noted. Provide written report of problems and corrective actions to **ENGINEER** within 24 hours of occurrence.

2. The **CONTRACTOR** shall be responsible for the control of all persons and vehicles entering and leaving the project site, and shall:

   a. Require personnel to print full name and employer and sign in on entering the project site and to sign out when leaving and maintain the logs.

b. Maintain a log of project-related vehicles and equipment entering and leaving the work areas.

c. Persons not associated with the project will require the **ENGINEER's** acceptance to be admitted on site.

d. Maintain a log of visitors, separate from the project personnel log.

5. A log of all security incidents shall be maintained and furnished to the **ENGINEER** upon request.

6. The **CONTRACTOR** shall ensure that all warning signs are in place and temporary fences around work areas are closed and any breaks or gaps are attended immediately. The **ENGINEER** shall be informed immediately of any incident of vandalism in the work areas.

7. The **CONTRACTOR** shall contact law enforcement officials, emergency medical care units, local fire departments and utility emergency teams to ascertain the type of response required in any emergency situation and to coordinate the responses of the various units. A standard operating procedure describing security force response to foreseeable contingencies shall be developed. The **CONTRACTOR** shall also prepare and update a list of emergency points of contact, telephone numbers, radio frequencies, and call signs to ensure dependable responses.

8. The **CONTRACTOR** shall maintain a current list of authorized persons and shall submit copies of the updated list to the **ENGINEER**.

9. Maintain security of the site such that site access is only granted for project personnel or approved visitors.

10. Maintain the security of materials, supplies, equipment, and facilities at the site from theft or vandalism.

*** END OF SECTION ***

SPEC 01013
SAMPLING

PART 1 GENERAL

1.01 SUMMARY

This section includes requirements for sampling, analysis and reporting. Requirements for project sampling for chemical analysis are specified in the Supplementary Specifications.

1.02 SPECIAL PROJECT PROCEDURES

The Department retains the option to modify sampling procedures and frequency.

1.03 SUBMITTALS

1. Plans

Submit the following in accordance with the RDWP and DER-10.

a. Sampling Plan; and

b. Quality Assurance Project Plan (QAPP)

2. Results

Submit the following:

a. Analytical results

Submit a hard copy of the analytical results from the laboratory, including QA/QC summaries, within the specified turnaround time of sample receipt (VTSR).

Submit the ASP Category B reporting and deliverable package in CLP format within 3 days of VSTR.

PART 2 PRODUCTS

2.01 SAMPLING PLAN

The Sampling Plan shall include the following:

1. A chart and/or map indicating the approximate number of samples to be collected and the matrices of each, including anticipated QA/QC samples.

2. Procedures for sample collection.

3. Description of sampling equipment and maintenance procedures for the equipment.

4. Procedures for decontamination of sampling equipment.

5. Sample handling, labeling and regulatory compliance procedures for shipping.

6. Training requirements for environmental sampling for new employees and refresher training requirements for current employees.

2.02 QUALITY ASSURANCE PROJECT PLAN (QAPP)

The QAPP shall be project specific and include the following:

1. Organizational chart, including a designated QA Officer.

2. Data quality objectives for the site.

3. A chart reflecting types of samples, approximate number of samples, matrices, holding times, analytical protocols and anticipated QA/QC samples to be collected or analyzed.

4. Specific limits of concern for each analyte for each matrix to be sampled.

5. The matrix specific method detection limit that must be obtained for each of the analytes and matrices listed.

6. The analytical laboratory to be used and evidence of their certification for all subcategories of solid and hazardous waste, including CLP metals, under the NYSDOH ELAP CLP.

7. Criteria for laboratory selection and audits.

8. Criteria for field sampling audits.

9. Record maintenance and archive methods.

10. Review and checking procedures for the sampling plan and the analytical results reporting.

11. Copy of the QAO's resume and training certificates.

2.03 ANALYTICAL RESULTS

1. Results for all samples (characterization, verification, disposal, etc.) shall be submitted timely.

2. Category B presentation of the reporting and deliverables package as per Volume I of the NYSDEC ASP is required.

3. All analytical results for soils shall be reported on a dry weight basis.

PART 3 EXECUTION

3.01 PLAN PREPARATION

1. When preparing the QAPP, designate the analytical protocols by method number contained in the NYSDEC ASP.

2. The designated QA Officer shall meet the following criteria:

   a. Is an employee of the firm generating the sampling plan and QAPP.

   b. Shall have no other position on the project that involves productivity or profitability as a job performance criteria.

   c. Shall not be the Contractor's Health and Safety Officer.

   d. Shall have a bachelor's degree in chemistry or natural science, with 20 credit hours in chemistry.

   e. Shall be proficient in analytical methodology, data interpretation and validation, the development of sampling plans, QC procedures and auditing procedures.

   f. Shall have a 40 hour OSHA safety training and be current in refresher training.

   g. The QAO shall be independent of the analytical laboratory.

3. The QAO shall assist the project manager in the preparation of the sampling plan.

4. The QAPP and all revisions to it must be signed by the QAO prior to submission.

5. The method detection limit of the QAPP shall be one-fifth of the site specific limit of concern (cleanup goal).

3.02 SAMPLING

1. Collect samples as specified in the Supplementary Specifications. The Contractor shall provide a minimum 24 hour notice to the Engineer prior to sampling. Sampling and analytical methods and procedures for sampling shall be in accordance with the approved sampling plan and QAPP.

2. Collect samples from the depths and locations identified in the specifications.

3. Samples shall have VTSR at the laboratory within 48 hours of collection. Results shall be available within the specified turnaround time of VTSR and data packages within 3 days.

3.03 QUALITY CONTROL

1. Samples

   a. Samples will be considered environmental samples, not waste samples, and require strict adherence to QA/QC requirements for environmental samples.

   b. Laboratory QA/QC samples include analysis of one matrix spike/matrix spike duplicate (MS/MSD) set per 20 samples, per batch, or per samples collected within seven days, whichever is more frequent. One matrix spike blank analysis for every MS/MSD set is also required to substantiate any matrix interferences.

   c. Field duplicates and field rinsate blank QC samples are required. Field duplicate samples shall be collected and analyzed at a rate of one per every 10 field samples. Field rinsate blank samples are not required if dedicated sampling equipment is used.

2. Results

a. Laboratory results that are not within acceptable QA/QC ranges as stated in the Contractor's approved QAPjP shall require resampling and reanalysis of the affected samples at no additional cost to the Department. This shall include resampling and reanalysis, further excavation, backfilling and topsoiling, seeding and mulching.

b. Resampling and reanalysis as stated in this paragraph shall not increase the contract time for completion of the work.

c. No deviations from analytical protocols approved in the QAPjP shall be made prior to notification of and acceptance from the Engineer.

d. QAD shall audit the laboratory during this project.

END OF SECTION

SPEC 01014
WORK PLAN

PART 1 GENERAL

This section includes the requirements for the **CONTRACTOR'S** Work Plan.

1.1 REFERENCES

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC)

DEC-SCM	1986 Stream Corridor Management: A Basic Reference Manual
SPDES GP-02-01	SPDES General Permit for Stormwater Discharge frm Construction Activities
NYSDEC	April 1992 Reducing the Impacts of Stormwater Runoff from New Development

SOIL AND WATER CONSERVATION SOCIETY - EMPIRE STATE CHAPTER

SWCS	1991 (or latest version) New York Guidelines for Urban Erosion and Sediment Control

CODES, RULES, AND REGULATIONS OF THE STATE OF NEW YORK

6 NYCRR Part 700	Definitions, Samples and Tests
6 NYCRR Part 360	Solid Waste Management Facilities

LAWS OF THE STATE OF NEW YORK

ECL Article 15	Water Resources

1.2 SUBMITTALS

A. Submit the Work Plan in accordance with the timing stated in the Progress Schedule.

PART 2 PRODUCTS

2.1 WORK PLAN

The Work Plan shall, at a minimum, include:

A. Procedures for adequate and safe excavation of soils and materials including a contingency plan detailing procedures and methods to be employed to prevent, contain, and recover spills during the work.

B. Description of equipment to be used on site with appropriate safety devices needed to undertake the remediation of the site.

C. Identification of the permitted treatment, storage, and disposal facilities (TSDF) proposed to receive liquid or solid wastes to be transported off-site.

D. Identification of permits required to conduct the work.

E. Worksite layout showing, at a minimum, equipment and material staging areas, trailers, decontamination station, and staging procedures.

F. Detailed construction drawing(s) of the proposed decontamination station.

G. Procedures for excavating, handling, storing, and placing soils.

H. Procedures for handling liquid wastes and groundwater.

I. Provisions for control of fugitive air emissions and dust control.

J. Other requirements necessary to provide security, staging, sampling, testing, removal, and disposal of wastes.

K. Procedures for completing any other major aspect of the work.

2.1.1 Stormwater Management for Erosion Control Plan (SMECP)

Include a SMECP with the Work Plan.

A. Stormwater Management and Erosion Control

1. General

CONTRACTOR is responsible for utilizing a system of vegetation and structural measures which can be used to control the increased volume and rate of surface runoff during the project. Stormwater management on this project is to include measures to mitigate pollutants carried by surface runoff.

Stormwater management objectives for this project include:

a. Prevent increased runoff from new land development to reduce potential flooding and flood damage.

b. Minimize the erosion potential from the construction project.

c. Enhance the quality of stormwater runoff to prevent water quality degradation in receiving waterbodies; and

d. Reduce stream bank erosion to maintain stream channels for their biological functions as well as for drainage.

Mitigation of stormwater impacts shall:

a. Provide for erosion and sediment control during all stages of development from the land clearing stage to the final stage;

b. Provide for the attenuation of peak storm volume and discharge rate to prevent flooding.

c. Provide for reduce post development runoff volumes;

d. Provide for safe conveyance of stormwater on the project site;

e. Provide for the protection of stream corridors; and

f. Provide for the protection of water quality by treating the “first flush.”

Stormwater management systems such as (a) infiltration, (b) retention, and (c) extended detention shall be used to capture and treat the “first flush”. Supplemental stormwater management practices include water quality inlets, open vegetated swales, vegetated buffer zones and filter strips to provide water quality treatment by filtration, attenuation, buffering, sedimentation, biological removal and practical retention.

Three basic approaches for controlling erosion and sedimentation shall be employed: (a) soil stabilization - initially control sheet and rill erosion to prevent gully and channel erosion, (b) runoff control - then control gully, channel and

stream erosion to prevent transport of sediment and (c) sediment control - then control sediment transport to protect off-site areas.

Erosion and sediment control measures should be constructed prior to beginning any land disturbances. All runoff from disturbed areas should be directed to the sediment control devices. These devices shall not be removed until the disturbed land areas are stabilized.

The **CONTRACTOR's** bid price includes all costs necessary to provide for stormwater management and erosion and sedimentation control during construction. The **CONTRACTOR** is solely responsible for sizing and providing any and all stormwater management and erosion control measures necessary to meet Federal, State and local requirements and guidelines. The **CONTRACTOR** is responsible at **CONTRACTOR'S** own cost for any corrective measures required by **CONTRACTOR'S** failure to comply with these specifications or any Federal, State or local requirements and guidelines.

2. The SMECP shall follow guidelines for structure and content contained in SPDES GP-02-01.

The SMECP shall include:

a. Information regarding site background, description of work, analysis of site limitations for stormwater facilities, and potential impact to natural resources;

b. All calculations and assumptions used for the sizing and siting of proposed temporary erosion and sedimentation control facilities.

c. Information regarding maintenance needs and safety considerations of stormwater management and erosion and sediment control facilities;

d. Implementation schedule for staging of stormwater management facilities and conveyance systems;

e. Description of the coordination of staging of erosion and sedimentation control facilities and construction activities; and

f. Description of winterization provisions.

2.1.1.1 Erosion and Sediment Control Guidelines

A. Existing vegetation on the project site shall be retained and protected to minimize soil loss on the project site and to minimize erosion control costs.

B. Sediment control practices and measures, where necessary, shall be designed to protect the natural character of rivers, streams, lakes, coastal waters or other waterbodies on-site and minimize erosion and sedimentation off-site from the start of land disturbance activities to establishment of permanent stabilization.

1. The off-site impacts of erosion and sedimentation related to land clearing, grading and construction activities shall not be any greater during and following land disturbance activities than under pre-development conditions.

2. Pursuant to 6 NYCRR Part 700:

a. Toxic and other deleterious substances shall not be discharged in amounts that will adversely affect the taste, color, or odor thereof, or impair the waters of the state or their classified usages.

b. Suspended, colloidal and settleable solids shall not be discharged in amounts that cause substantial visible contrast to natural conditions, or causes deposition or impairs the waters for their classified usages.

Stream reaches on site and downstream of construction areas shall not have substantial visible contrast relative to color, taste, odor, turbidity and sediment deposition from the reaches upstream of the construction area. Impacts such as these which result from construction or developmental activities are a violation of 6 NYCRR Part 700 water quality standards and may be subject to enforcement actions.

C. Erosion and sediment control measures shall be constructed in accordance with an erosion and sediment control plan. The plan shall:

1. Describe the temporary structural and vegetative measures that will be used to control erosion and sedimentation for each stage of the project from land clearing to the finished stage.

2. Provide a map showing the location of erosion and sediment control measures.

3. Provide dimensional details of proposed erosion and sediment control facilities as well as calculations used in the siting and sizing of sediment basins.

4. Identify temporary erosion and sediment control facilities which will be

converted to permanent stormwater management facilities.

5. Provide an implementation schedule for staging temporary and permanent erosion and sediment control facilities.

6. Provide a maintenance schedule for soil erosion and sediment control facilities and describe maintenance activities to be performed.

D. Erosion and sediment control measures shall be constructed prior to beginning any other land disturbances. The devices shall not be removed until the disturbed land areas are stabilized.

E. Guidance.

1. Erosion Restrictions: No more than 5 acres of unprotected soil shall be exposed at any one time. Previous earthwork shall be stabilized in accordance with SWCS before additional area is exposed. Site factors including topograph, soil erosion potential, proximity to wetlands and water courses may require limiting the amount of raw earth that can be exposed at any one time to less than 5 acres.

2. Grading: Perimeter grading shall blend with adjoining properties.

3. Vegetative Protection: Where protection of trees or other vegetation is required, the location of the site to be protected shall be shown on the erosion control plan. The method of protecting vegetation during construction shall conform to the design criteria in SWCS.

4. Drainage control.

a. Surface runoff that is relatively clean and sediment free shall be diverted or otherwise prevented from flowing through areas of construction activity on the project site.

b. A fill associated with an approved temporary sediment control structure or permanent stormwater management structure shall not be created which causes water to pond off-site on adjacent property, without first having obtained ownership or permanent easement for such use from the owner of the off-site or adjacent property.

c. Natural drainage channels shall not be altered or relocated without the proper approvals. Pursuant to ECL, Article 15, a protected stream and the bed and banks thereof shall not be altered or

relocated without the approval of the **DEPARTMENT**.

d. Runoff from any land disturbing activity shall not be discharged for have the potential to be discharged off site or into storm drains or into watercourses unless such discharge is directed through a properly designed, installed and maintained structure such as a sediment trap, to retain sediment on site. Accumulated sediment shall be removed when 60% of the storage capacity of the sediment retention structure is filled with sediment.

e. For finished grading, adequate gradients shall be provided so as to prevent water from standing on the surface of lawns for more than 24 hours after the end of a rainfall, except in a swale flow area which may drain as long as 48 hours after the end of rainfall.

f. Permanent swales or other points of concentrated water flow shall be stabilized with sod, riprap, paving, or covered with an approved erosion-control matting as provided for in the design criteria in SWCS.

g. Surface flows over cut and fill slopes shall be controlled as provided for in the design criteria for vegetating waterways in SWCS.

5. Timing.

a. Except as noted below, all sites shall be seeded and stabilized with erosion control materials such as straw mulch, jute mesh, or excelsior within 5 days of final grading. If construction has been suspended, or sections completed, areas shall be seeded immediately and stabilized with erosion control materials. Maintenance shall be performed as necessary to ensure continued stabilization.

i. For active construction areas such as borrow or stockpile areas, roadway improvements, and areas within 50 feet of a building under construction, a perimeter sediment control system consisting of silt fencing or hay bales shall be installed and maintained to contain soil.

ii. On cut side of roads, ditches shall be stabilized immediately with rock riprap or other non-erodible liners, or where appropriate, vegetative measures such as sod. When seeding is approved, an anchor mulch shall be used

and soil shall be limed and fertilized in accordance with SWCS.

iii. Permanent seeding shall optimally be undertaken in the spring from March 21 through May 20, and in later summer and early fall from August 25 to October 15. During the peak summer months and in the fall after October 15 when seeding is found to be impracticable, an appropriate mulch shall be applied. Permanent seeding shall be undertaken during summer if plans provide for adequate watering of the seedbed.

iv. All slopes steeper than 3:1 (h:v), as well as basin or trap embankments and perimeter dikes shall, upon completion, be immediately stabilized with sod, seed and anchored straw mulch or other approved stabilization measures. Areas outside of the perimeter sediment control system shall not be disturbed. Maintain as necessary to ensure continued stabilization.

b. Temporary sediment trapping devices shall be removed within 30 calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

6. Stream Protection.

a. The bed and banks of all on- and off-site streams that may be impacted by land clearing, grading, and construction activities shall be protected to prevent stream, river, lake or coastal sedimentation, streambank erosion, stream enlargement and degradation or loss of fisheries habitat. Measures for protecting the bed and banks of a stream include: riprap, log cribbing, and vegetative measures.

b. Where temporary work roads or haul roads cross stream channels, adequate waterway openings shall be constructed using spans, culverts, washed rock backfill or other acceptable, clean methods that will ensure that road construction and use do not result in turbidity and sediment downstream. All stream crossing activities and appurtenances shall be in compliance with a permit issued pursuant to ECL, Article 15, and shall be carried out in conformance with guidelines in DEC-SCM.

7. Maintenance.

a. An erosion control plan for the project site shall identify maintenance requirements for erosion and sediment control practices utilized, and it shall provide a maintenance schedule. All erosion and sediment control measures shall be inspected periodically and maintained in conformance with the schedule so as to ensure they remain in effective operating condition until such times as they are removed.

b. All points of construction ingress and egress shall be protected to prevent the deposition of materials onto traversed public thoroughfare, either by installing and maintaining a stabilized construction entrance, or by washing all vehicle wheels in a safe disposal area. All materials deposited onto public thoroughfares shall be removed immediately. Proper precautions shall be taken to ensure that materials deposited onto public thoroughfares are removed so that they do not enter catch basins, storm sewers, or combined sewers.

c. Accumulated sediment shall be removed when 60 percent of the storage capacity of the retention structure is filled with sediment.

PART 3 EXECUTION

A. The **CONTRACTOR** shall adhere strictly to the provisions of the Work Plan as approved and shall control and manage surface water in every area where his/her activities take place. The actual methods shall be chosen by the **CONTRACTOR**; however, the **ENGINEER** must approve any method before construction begins.

B. Surface water from areas of the excavation which have not been disturbed shall be prevented from entering areas where construction or work is in progress or contaminated areas.

C. Surface water from known areas of contamination shall be collected prior to leaving those areas and transported or pumped through watertight pipes to a temporary storage tank for later treatment through the water treatment system. Disposal shall be in accordance with all Federal and State regulations at **CONTRACTOR's** cost.

D. In the event surface runoff is the cause of existing clean areas, or subsequently cleaned areas, becoming contaminated, the affected areas shall be cleaned in accordance with instructions given by the **ENGINEER.** The **CONTRACTOR** shall be responsible for all costs associated with mitigating the affects of contaminated runoff migrating to clean areas or off site during the duration of the contract.

E. Groundwater which is visibly flowing from the excavation shall be collected at each exit point and piped or transported into a temporary storage facility for on-site treatment in accordance with Federal and State regulations.

END OF SECTION

SPEC 01016
QUALITY CONTROL

PART I GENERAL

1.01 SECTION INCLUDES

A. Quality assurance and control of installation.
B. References and Standards.
C. Tolerances.
D. Field samples.
E. Inspection and testing services.
F. Testing by Contractor.
G. Manufacturers' field services and reports.

1.02 SUBMITTALS

A. Manufacturers' instructions and certificates.

1.03 QUALITY ASSURANCE/CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
B. Comply fully with manufacturers' instructions, including each step in sequence.
C. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
D. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
E. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
F. Perform work by persons qualified to produce workmanship of specified quality.
G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.04 REFERENCES AND STANDARDS

A. Conform to reference standard
B. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
C. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

1.05 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
B. Comply with -manufacturers' tolerances. Should manufacturers' tolerances- conflict with Contract Documents, request clarification from Engineer before

proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.06 FIELD SAMPLES

A. Furnish field samples at the site as required by individual Specification Sections for review.
B. Acceptable samples represent a quality level for the Work.
C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Engineer.

1.07 TESTING BY LABORATORY SERVICES

A. Contractor shall employ and pay for the services of an independent testing firm, acceptable to Department and Engineer, to perform tests.
B. Independent testing firm shall:
    1. Perform tests and other services specified in the individual Specification Sections and as required by Engineer and Department.
    2. Prepare and submit reports to the Engineer, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
C. Engineer will forward copy of report(s) to Contractor.
D. Contractor shall:
    1. Cooperate with independent firm; furnish samples of materials; furnish design mix, equipment, tools, storage and assistance as requested.
    2. Notify Engineer and independent firm 48 hours prior to expected time for operations requiring services.
    3. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's own use.
E. Retesting required because of non-conformance to specified requirements shall be performed, on.instructions by the Engineer, by the same independent firm which performed the initial tests and inspections.
F. Payment for retesting will be the Contractor's cost with no change in the contract price.

PART 2 PRODUCTS Not used.
PART 3 EXECUTION Not used.

END OF SECTION

SPEC 01018
ABBREVIATIONS

PART 1 GENERAL

1.01 LIST OF ABBREVIATIONS

The following is a list of abbreviations and acronyms that may be found in these specifications. Abbreviations and acronyms not included here are defined elsewhere in the specifications or are industry standard abbreviations.

ACGIH	-	American Conference of Governmental Industrial Hygienists
AMP	-	Air Monitoring Plan
AMS	-	Agricultural Marketing Service
ASP	-	Analytical Services Protocol
bgs	-	below ground surface
C&D	-	Construction & Demolition debris
CERCLA	-	Comprehensive Environmental Response, Compensation and Liability Act.
CEM	-	Continuous Emissions Monitoring
CLP	-	Contract Laboratory Program
CSP	-	Certified Safety Professional
DDW	-	Decontamination derived wastes
DER	-	Division of Environmental Remediation
ELAP	-	Environmental Laboratory Approval Program
FID	-	flame ionization detector
FS	-	feasibility study
GCL	-	gas collection layer
HTW	-	hazardous and toxic waste
IDLH	-	immediately dangerous to life or health
MSDS	-	material safety data sheet
MSHA	-	Mine Safety and Health Administration
NAD	-	North American Datum
NFPA	-	National Fire Protection Association
NGVD	-	national geodetic vertical datum
NIOSH	-	national institute of occupational safety and health
NTP	-	notice to proceed
NTU	-	nephelometric turbidity units
NYCRR	-	new york codes, rules and regulations
O&M	-	operation and maintenance
PID	-	photoionization detector
PPE	-	personal protective equipment
QA/QC	-	quality assurance/quality control

QCP	-	quality control plan
RCRA	-	resource conservation and recovery act
RI	-	remedial investigation
ROD	-	record of decision
SAP	-	sampling and analysis plan
SCBA	-	self contained breathin apparatus
SVOC	-	semi-volatile organic compounds
TLV	-	thresh hold limit value
TSCA	-	toxic substances control act
TSDF	-	treatment, storage and disposal facility
VOC	-	volatile organic compound
VSTR	-	verified time of sample receipt

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SPEC 01019
CLEARING AND GRUBBING

PART 1 GENERAL

1.01 SUMMARY

This section includes the requirements for clearing and grubbing.

The Contractor shall stake out the limits of the clearing and grubbing. Clearing and grubbing shall not proceed without the Owner's approval of the limits staked.

1.03 PROJECT REQUIREMENTS

1. No burn off is permitted.

2. Cleared and grubbed material will be chipped and remain on-site for use during site restoration.

3. All miscellaneous wastes/rubbish present on-site shall be removed by the CONTRACTOR and disposed of properly.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 PREPARATION

Protection:

Keep roads and walks free of dirt and debris at all times.

Protection of land resources, utility lines and poles, and existing facilities shall be in accordance with SPEC 01010, "Temporary Facilities and Controls."

Protect existing utility lines and poles that are indicated to remain from damage.

Notify the **Engineer** immediately of damage to or an encounter with an unknown existing utility line.

Repair damage to existing utility lines at no additional cost to the **Department**.

Notify the **Engineer** prior to interruption of utility services and be responsible for minimizing the time period of such interruption.

3.02 CLEARING

Clear debris, rubbish, light structures and living or dead vegetation growth where indicated or specified to complete the required Work.

Top and limb trees before felling, unless otherwise approved by the **Engineer**.

Cut stumps off flush with ground surface or below.

Conduct the clearing in a manner that prevents, to the extent possible, soil or soil like material from being collected with the cleared material.

Clearing operations shall be conducted in a manner to prevent falling trees from damaging trees designated to remain or other existing features.

3.04 GRUBBING

Grubbing shall only be performed in areas designated by the **Engineer**.

Contaminated areas shall not be grubbed. Stumps, roots and other subsurface vegetation in contaminated areas shall be excavated and handled in the same manner as the contaminated soils or sediments.

3.05 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

1. On-Site Disposal

   Chip and stockpile on site in an uncontaminated area all tree trunks, limbs, brush, foliage and other vegetation free of soils and soil like materials.

   Cover chipped material and protect until used.

   Spread chipped materials in a thin layer prior to placement of topsoil.

   Dumping of spoil material into any stream corridor, wetland, flood plain or surface water is prohibited.

2. Consolidate rubbish/debris encountered during clearing and grubbing and dispose

off-site, as directed by **Engineer**.

END OF SECTION

SPEC 01020
FENCES

PART 1 GENERAL

1.01 SUMMARY

This section includes the requirements for installation of fence at locations identified on the plan sheets.

Any portion of the perimeter fence or entrance gate that is damaged during the construction shall be repaired or preplaced immediately; fence and gate shall provide site security following construction completion. The CONTRACTOR shall replace any fencing and/or entrance gates that do not adequately secure the site prior to final completion, as requested by the DEPARTMENT.

1.02 REFERENCES

New York State Department of Transportation Standard Specifications, Constructions and Materials, January 2, 1995 (or most recent edition).

New York State Department of Transportation Standard Sheets 607-11 and 607-12

1.03 PERFORMANCE REQUIREMENTS

In addition to the requirements specified elsewhere in this contract, fence installation shall comply with NYSDOT Specifications Section 607.

1.04 SUBMITTALS

Fence manufacturer and material specifications.

Fence location plan and details.

Shop drawings of typical fence sections showing application to project.

1.05 PROJECT CONDITIONS

Ensure adequate depth of cover for proper installation of fence posts.

Verify proper location of fence prior to installation. Identify and employ NYSDOT standards where applicable.

PART 2 PRODUCTS

2.01 MATERIALS

Chain-Link Fence

NYSDOT optional chain link fence, Type I with top tension wire (NYSDOT Item 607.3102)

PART 3 EXECUTION

3.01 CHAIN LINK FENCE

Fence shall be installed in conformance with NYSDOT specification, Section 607.

END OF SECTION

SPEC 01021

SUBMITTALS

1. General

1.1 Description

The **CONTRACTOR** shall prepare and submit technical plans and drawings as listed below and as scheduled for **DEPARTMENT's** review.

1.2 Submittal Procedures

A. Prepare a complete listing of all submittals required for the project noting the number of each submittal and the date each submittal is to be submitted. The CONTRACTOR shall identify submittals that are time critical to completion of the project. The listing shall be submitted within 7 days of award of project and shall be a prerequisite to the first payment.

1. Health and Safety Plan (Refer to SPEC 01003)

a. Health and Safety.
b. Decontamination of Equipment and Personnel.
c. Contingency Measures.
d. Community Air Monitoring.
e. Odor Control Plan.

2. Work Plan (Refer to SPEC 01014)

a. Quality Control.
b. Sequencing of Work.
c. Soil Erosion and Sedimentation Control Measures.
e. Transportation Plan
f. Site Security.
g. Miscellaneous Requirements.

1.3 Required for Award and Notice to Proceed

A. The **CONTRACTOR** shall submit the following plans for the Work by the time of the Notice to Proceed, following receipt of the Notice to Intent to Award:

1. Final Health and Safety Plan.
2. Final Work Plan.
3. Final Sampling and Analysis Plan.
4. Shop Drawings, including the following:

c. Temporary Site Facilities.

d. Other shop drawings required by the specifications or as requested by the **ENGINEER**.

1.4 Submittals following Notice to Proceed

A. Major submittal requirements identified in other sections of the Specifications are listed below, however, this list is not inclusive of all submittals required elsewhere:

1. Progress Schedule Submittal.
2. List of selected TSDFs.
3. Waste manifest forms and bills of lading.
4. Weigh Station tickets.
5. Meteorological monitoring results.
6. Security logs and tickets.
7. Identification of backfill suppliers.
8. Samples and grain size analyses of backfill materials.
9. Demarcation layer
10. Topsoil gradation, certification, and testing results.
11. Seed mix certification and analysis.
12. Daily air monitoring logs and results.
13. Laboratory results of documentation monitoring.
14. Dust control and roadway maintenance plan.
15. Survey data (SPEC 01004)
16. Traffic Control Plan (SPEC 01009)
17. Temporary Facilities and Controls (SPEC 01010)
18. Analytical Results
19. Transportation Plan and Disposal Records
20. All other submittals as required by the Specifications applicable to the Work being performed or as requested by the **ENGINEER**.

*** END OF SECTION ***

SPEC 01022

DEWATERING

1. GENERAL

1.1 Scope of Work

A. The **CONTRACTOR** shall furnish all labor, tools, materials, equipment, and incidentals necessary for the proper dewatering as needed of work areas during excavation and backfill, and all related work as specified herein. Dewatering shall be coordinated with the stormwater management plan.

1.2 Description of Work

A. The work involved with excavation dewatering shall include, but is not necessarily limited to, the following:

1. Dewatering as needed during excavation.

2. Proper storage, treatment, and discharge or disposal of water removed.

3. Proper dewatering as needed of materials to be disposed off-site.

B. The actual dewatering methods shall be chosen by the **CONTRACTOR**; however, the **ENGINEER** must approve any method before dewatering begins. **CONTRACTOR** is responsible for handling water in accordance with 00010 Temporary Facilities & Controls.

1.3 Related Sections

A. Spec 01014 - Work Plan.
Spec 02111 – Excavation and Handling of Impacted Material
Spec 02223 - Off-Site Transportation and Disposal.

1.4 Submittals

A. Dewatering plan with (as part of) the work plan.

B. Shop drawings of dewatering details (i.e., well points, pump system, drain construction, contaminant tanks and other equipment necessary to complete the work).

C. Treatment System Design. Plans for start-up and performance testing of the treatment system shall be submitted to the Department at least two weeks prior to commencement of start-up operations.

D. Treatment System Demonstration Test Report including analytical results. During the start-up and testing, the Contractor shall make and submit daily log reports. A copy of the log shall be submitted to the Engineer each day. Upon completion, the reports shall be submitted in booklet form showing all field tests to adjust each component and all field tests performed to prove compliance with the specified performance criteria. Daily entries shall include process control procedures, equipment maintenance logs, general observations, and all monitoring activities. These monitoring activities shall include schedule process control monitoring, and performance-verification testing.

E. Certification by equipment suppliers of proper installation before start-up testing.

2. PRODUCTS

2.01 DEWATERING PLAN

A. This plan shall include a 1-inch, 30-foot scaled site map locating proposed operations, list of required equipment and materials, contingency plans and actions, description of system operations addressing relation to excavating, backfilling, consolidation, collection, transport, storage and disposal operations. This plan shall include:

1. Dewatering methods;
2. Quantities anticipated by **CONTRACTOR**;
3. Maximum rates anticipated by **CONTRACTOR**;
4. Liquid handling methods;
5. Phasing/scheduling of work;
6. Contingencies;
7. Effect on nearby wells,
8. Off-site disposal facility; and
9. Flow metering equipment.

B. The dewatering plan shall anticipate and calculate the need for dewatering systems from Notice to Proceed until Substantial Completion. The calculations shall consider the Storm Water Management Plan’s control of run-on and run-off of the work areas. Include assumptions and calculations.

C. Provide flexibility in the plan to handle variations in conditions that will also minimize the quantities of groundwater.

2.02 TREATMENT SYSTEM FOR WATER FROM DEWATERED AREAS

A. System shall provide sufficient capacity to support excavation and backfill operations.

B. System design shall be capable of removing particulates and contaminants and be based on the effluent meeting New York State Water Quality Standards, SPDES permit standards or pre-treatment standards provided by off-site disposal facility.

C. Vapor emissions from dewatering treatment system operation will be treated as necessary to meet the State air guidance criteria (Air Guide 1).

D. Provide temporary on-site storage for dewatering wastes based on Contractor's operations, while accounting for treatment system limitations, variations in volumes and approval of effluent sampling results.

E. Dewatering treatment system must be operational prior to excavation. Install all equipment in accordance with manufacturer's instructions and as shown in approved shop drawings. Ensure all equipment and materials are compatible as a system.

F. The treatment system shall be designed to adequately meet the groundwater treatment requirements and expected capacities and shall be sealed by a New York State Professional Engineer. It is anticipated that the treatment system may consist of oil/water separator; settling tanks; particulate filtration system; carbon adsorption; supplemental frac or polyethylene tanks for storage and other components necessary to meet applicable treatment standards.

3. EXECUTION

A. The **CONTRACTOR** shall select a proposed method of dewatering that complements his plan of excavation.

B. Excavation of material and placement of backfill will not be allowed while there is standing water in the excavation.

C. Dewatering wastes of the project that have been in contact with contaminated soils shall require treatment or proper off-site disposal.

D. All waters encountered within the excavation limits of contaminated areas will require treatment or off-site disposal unless otherwise directed by the **Department** or **Engineer**.

E. Dewatering systems must be operational prior to excavation work. Install all equipment in accordance with manufacturer's instructions and as shown in approved shop drawings. Ensure all equipment and materials are compatible as a system.

F. Control run on surface water within an excavation or backfill area by pumping or other methods to prevent softening of surfaces exposed by excavation.

G. Use filters on dewatering devices to prevent removal of fines from soils.

H. If on-site discharge of water is permitted, there can be no visible turbidity from the discharge.

3.01 DEWATERING TREATMENT SYSTEM START-UP AND DEMONSTRATION

A. Visually inspect all parts of the dewatering treatment system. Inspect inside of pipes, tanks, and equipment for debris and foreign objects. Correct any deficiencies found.

B. Perform rotational checks of all equipment with moving parts (unpowered).

C. Disconnect motor leads. Using control system sensors to the extent practical, activate sensors and test voltages to ensure control system is operating as intended. If sensors cannot be activated without water, use simulators to mimic sensor signals. Perform repairs as necessary.

D. Using potable water, fill the system and check all components for leaks. Pressure test, at 25 psi above working pressure of the system, all components and piping for a period of two hours. For the equipment designed to operate at lower pressure, isolate them from the rest of the system and pressure test them at appropriate working pressure. After pressure testing, turn the power on while feeding clean water and check for leaks. Repair any leaks found.

E. Empty clean water from process equipment.

F. Connect liquid effluent discharge to temporary holding tank(s) to be provided by the Contractor. This storage facility shall have sufficient capacity for at least 8 hours of full capacity operation.

G. Startup the system and make adjustment to the system as necessary to maintain smooth operation. Once all necessary adjustments are made, run the system continuously for 8 hours. Make sure that all valves open and close properly.

H. During the startup period, system influent and effluent samples will be collected after 4 hours of continuous operation. The effluent should be temporarily stored in a

Contractor provided storage tank.

I. Air sampling of emission control/treatment elements of the dewatering system is required during the startup and demonstration.

J. After the samples are collected, shut down the dewatering treatment system until confirmed analytical results are received.

K. The effluent stored during system tests must meet analytical discharge requirements prior to being discharged.

L. Parameters for operation and maintenance of the dewatering treatment system shall be established during the startup and demonstration.

M. The Contractor shall provide all the required labor, project equipment and materials, tools, construction equipment, transportation, and test equipment for start-up and testing of the treatment system. Demonstration that the systems meet the performance requirements stated in these specifications and that the complete functioning unit meets the required performance objectives shall be the responsibility of the Contractor. The Contractor must provide all materials to allow the treatment system to operate effectively. This shall include valves, piping, or other items required to complete the process and utility systems.

N. The Contractor shall ensure that all treatment units and the associated piping is equipped with sufficient sampling ports to allow sampling to determine their performance. Sampling capability must be included at all pumps.

O. The Contractor shall provide any equipment or operational modifications required for the system to meet the performance requirements.

3.02 SYSTEM OPERATION AND MAINTENANCE

A. Operate and maintain dewatering treatment system as long as necessary to complete the work.

B. Dewatering Treatment Operation Processes:

1. During normal operation, grab samplings shall be collected from the effluent discharge(s) at the frequency specified in the SPDES permit. Samples will be analyzed for the parameters identified in the SPDES permit.

2. Flow rates and the cumulative total volume of water treated shall

be recorded daily.

3. Meet the specified sampling frequency and laboratory turnaround time.

4. Follow the maintenance procedures specified in the manufacturer's manuals for all equipment.

5. Replenish all spare parts or supplies with the same types and amounts used.

3.03 REPORTING

A. A detailed startup and demonstration test report shall be submitted to the Department/Engineer for the approval prior to the commencement of source removal.

B. Biweekly discharge reports shall be provided during the excavation dewatering period. These reports shall include the period covered and all data required at the frequencies required in the Effluent Limitations and Monitoring Requirements. Submit reports within 14 days of the end of the bi-weekly period being monitored.

*** END OF SECTION ***

SPEC 01024

SHOP DRAWING PROCEDURES

1.1 GENERAL

A. Shop Drawing procedures shall conform to requirements as described in this Section.

B. Shop Drawings shall be submitted electronically (Adobe Acrobat 7.0 pdf file or newer). Hard copy (paper) versions of oversize documents or large submissions will be provided in addition to electronic files as required by the Engineer.

1.2 PROCEDURE

A. Submit Shop Drawings to ENGINEER. Submit additional copies to the Department at address(es) provided by ENGINEER.

B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.

C. At the beginning of each letter of transmittal, provide a reference heading indicating the following:
   1. Owner's Name _____
   2. Project Name _____
   3. Contract No. _____
   4. Transmittal No. _____
   5. Section No. _____

D. If a Shop Drawing deviates from the requirements of the Contract Documents, CONTRACTOR shall specifically note each variation.

E. All Shop Drawings submitted for approval shall have a title block with complete identifying information satisfactory to ENGINEER.

F. All Shop Drawings submitted shall bear the stamp of approval and signature of CONTRACTOR as evidence that they have been reviewed by CONTRACTOR. All Shop Drawings submitted shall bear the certification. Submittals without this stamp of approval will not be reviewed by ENGINEER and will be returned to CONTRACTOR. CONTRACTOR's stamp shall contain the following minimum information:

   Project Name: _____

CONTRACTOR'S Name: _____

Date: _____

----------Reference----------

Item: _____

Specifications:

Section: _____

Page No.: _____

Para. No.: _____

Drawing No.: _____ of _____

Location: _____

Submittal No.: _____

Approved By: _____

G. A number shall be assigned to each submittal by CONTRACTOR starting with No. 1 and thence numbered consecutively. Resubmittals shall be identified by the original submittal number followed by the suffix "A" for the first resubmittal, the suffix "B" for the second resubmittal, etc.

H. If hard copy (paper) versions are required by ENGINEER, CONTRACTOR shall initially submit to ENGINEER a minimum of 4 copies. The Department shall receive two copies of each hard copy submittal.

I. After ENGINEER completes his review, Shop Drawings will be marked with one of the following notations:
   1. Approved.
   2. Approved as Noted.
   3. Resubmit with Revisions.
   4. Disapproved.

J. If a submittal is acceptable, it will be marked "Approved" or "Approved as Noted". Two prints or copies of the submittal will be returned to CONTRACTOR, two prints or copies will be forwarded to the Department and two prints or copies will be retained by the Engineer (one in the field office).

K. Upon return of a submittal marked "Approved" or "Approved as Noted", CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.

L. If a Shop Drawing marked "Approved as Noted" has extensive corrections or corrections affecting other Drawings or Work, ENGINEER may require that CONTRACTOR make the corrections indicated thereon and resubmit the Shop Drawings for record purposes. Such drawings will have the notation, "Approved as Noted - Resubmit."

M. If a submittal is unacceptable, 2 copies will be returned to CONTRACTOR with one of the following notations:
   1. "Resubmit with Revisions"
   2. "Disapproved"

N. Upon return of a submittal marked "Resubmit with Revisions", CONTRACTOR shall make the corrections indicated and repeat the initial approval procedure. The "Disapproved" notation is used to indicate material or equipment that is not acceptable. Upon return of a submittal so marked, CONTRACTOR shall repeat the initial approval procedure utilizing acceptable material or equipment.

O. Any related Work performed or equipment installed without an "Approved" or "Approved as Noted" Shop Drawing will be at the sole responsibility of the CONTRACTOR.

P. Shop Drawings shall be submitted well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment which are fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.

Q. ENGINEER will review and approve or disapprove Shop Drawings and samples within 14 days of receipt from CONTRACTOR. The ENGINEER will process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.

R. It is CONTRACTOR'S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper coordination of the Work and to determine that each submittal is in accordance with his desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract

Documents. Incomplete or inadequate submittals will be returned for revision without review.

S. CONTRACTOR shall furnish required submittals with complete information and accuracy in order to achieve required approval of an item within two submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be backcharged to CONTRACTOR, at the rate equal to the ENGINEER's charges to the DEPARTMENT under the terms of the ENGINEER's agreement with the DEPARTMENT. In the event CONTRACTOR fails to pay such costs within 30 days after receipt of an invoice from DEPARTMENT, funds will be withheld from payment requests and at the completion of Work, a Change Order or proposed Change Order will be issued incorporating the unpaid amount, and DEPARTMENT will be entitled to an appropriate decrease in Contract price. In the event that CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be backcharged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

** END OF SECTION **

SPEC 02010

BACKFILL

1. GENERAL

1.1 Scope of Work

A. Due to the hazardous nature of the site, the **CONTRACTOR** shall confine all backfilling operations within the limits as specified by the **ENGINEER,** including limits of easement lines and right-of-way, and shall not enter any area outside these limits without prior written consent of the **ENGINEER**.

B. The **CONTRACTOR** shall furnish all labor, tools, materials, equipment and incidentals necessary to backfill and compact excavation areas as shown and specified.

C. The **CONTRACTOR** shall be responsible for placing suitable fill and following proper compaction methods to properly fill the specified excavation areas.

D. The **CONTRACTOR** shall be responsible for dewatering of the excavation areas as necessary to provide an unsaturated bottom for placement of backfill as directed by the **ENGINEER**.

1.2 Related Sections

The excavation, backfill, topsoil and other earthwork of this project are interrelated.

1.3 Submittals

The **CONTRACTOR** shall submit:

A. The name and location of each proposed source of backfill.

B. Certification from suppliers that all fill materials to be supplied for use on this Project meet the requirements of this Specification section, and that the materials are clean (meet analytical criteria specified - provide one analytical sample per source of material to be used: the list of analytes must include each compound on the target compound list in the NYSDEC ASP). The **ENGINEER** shall use **DEPARTMENT** Part 375 and DER-

10 as the basis for acceptance of the fill materials. Certification must be received and approved by the **ENGINEER** prior to delivery of fill materials to the Site. For on-site soil used as backfill, one analytical sample shall be collected and analyzed as above prior to use as fill.

C. Samples of all fill.

D. A typical grain-size analysis, including hydrometer analysis of all proposed fill materials.

E. The liquid limit of the fill materials.

F. The moisture density curve for the fill material.

G. Compaction testing results.

H. NYSDOT approved source or NYSDEC mining permits.

I. A description of the equipment and methods proposed to be used for compaction.

J. Copies of all compaction test reports. The test reports shall include the test methods used, results, a narrative of tests conducted, locations, elevations material tested, equipment used, the name of the technician conducting the tests and a signed certification from the laboratory.

K. Certification that soil supplements meet the requirements of the New York State Agriculture and Marketing Law.

1.4 References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the base designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C136 Sieve analysis of fine and coarse aggregates
ASTM D422 Particle Size analysis of soils
ASTM D1140 Amount of material in soils finer than No. 200 sieve
ASTM D698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM D2487 Classification of soils for engineering purposes
ASTM D2850 Standard test method for unconsolidated, undrained compressive

strength of cohesive soils in triaxial compression
ASTM D2922 Density of soil and soil aggregate in place by nuclear methods
ASTM D3017 Water content of soil and rock in place by nuclear methods

USDA - SOIL CONSERVATION SERVICE - NEW YORK (SCS)

SCS 1991 1991 Guidelines for urban erosion and sediment control

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Part 375 Soil Cleanup Objectives

DER-10 Technical Guidance for Site Investigation and Remediation

2. PRODUCTS

2.1 Common Fill

A. Common fill shall be well-graded granular material from fine to coarse, obtained from approved natural deposits and unprocessed except for the removal of unacceptable material and stones larger than the maximum size permitted. It shall be substantially free from loam and other organic matter, clay and other fine or harmful substances. Backfill shall not be delivered to the site or used while in a frozen or muddy condition.

B. Common fill shall meet the following gradation:

Sieve	Percent by Weight Passing
2"	100
1½"	45-80
No. 40	20-50
No. 200	15-30

C. Any material containing vegetative or organic matter, such as peat, organic silt, sod, snow, or other deleterious material is not acceptable. Material that contains large voids when placed, which will allow migration of the overlying and surrounding materials and soil, is also not acceptable.

3. EXECUTION

3.1 General

A. The **ENGINEER** must approve all areas for backfill based on results of verification sampling prior to the start of backfilling.

B. Material shall be placed in uniform lifts not greater than six (6) inches in thickness, unless greater thicknesses are allowed by the **ENGINEER** upon demonstration by the **CONTRACTOR** that the materials and compaction efforts are adequate to obtain the required compaction. The fill shall be built up in horizontal layers as evenly as possible. The **CONTRACTOR** will backfill to the pre-excavation elevations unless otherwise shown on the Drawings or directed by the Engineer.

C. Each lift shall be compacted as specified below in Subsection 3.2. Each lift shall be compacted using suitable mechanical compactors as necessary. At the approval of the Engineer, the fill shall be compacted at a moisture content within 2 percent of optimum at the time of placement. Improperly compacted fill materials shall be replaced at the Contractor's expense. Compaction or consolidation achieved by traveling trucks, machines or other equipment is not acceptable.

D. Following any winter shutdown period, before site restoration in the spring the **CONTRACTOR** shall perform the final grading, and, if the fill has settled more than three inches below the desired grade, shall place additional backfill to bring the affected areas back to grade.

E. Where required, the **CONTRACTOR** shall, at his own expense, add sufficient water during the compaction effort to assure proper density. If, due to the rain or other causes, the material exceeds the optimum moisture content acceptable range for satisfactory compaction, it shall be allowed to dry, assisted by dicing or harrowing, if necessary, before compaction or filling effort is resumed.

F. Erosion protection shall be provided to all areas not having topsoil and seed thereon and seeded areas where an adequate grass cover has not been established.

G. Common Fill Material Testing: Test material in accordance with ASTM D422 for conformance to gradation limits; ASTM D 1140 for material finer than the No. 200 sieve; ASTM D 698 for moisture density relations, as applicable. Provide testing for each 1,000 cubic yards of material to be used with a minimum of one sample per borrow source for each material.

H. Identify required lines, levels, contours and datum required to perform the

work. Reestablish lines, levels and grades if disturbed during all site work. Do not place fill materials when atmospheric temperature is below 35 degrees F or when rainfall or other weather conditions detrimentally affect the quality of the placement or compaction of the fill materials. No backfilling will be allowed in standing water in the excavation areas.

I. The contractor shall seal the working surface at the close of each day's operation and when practical prior to rainfall.

J. Control and replacement of any loss of fill due to erosion shall be the responsibility of Contractor.

K. Fill material may be stockpiled on site in an uncontaminated area as approved by the Engineer. The fill shall be adequately covered to prevent runoff, in a manner satisfactory to the Engineer,

L. Costs involving the containment, analyses and disposal of water that collects within the excavations are the responsibility of the Contractor beyond the required turnaround time for confirmatory soil sampling.

3.2 Compaction

A. Preparation

1. Proof-roll all subgrade surfaces to accept fill or backfill material

2. Each layer of fill or backfill shall be compacted to the specified density the same day it is placed. The moisture content of backfill or fill material shall be adjusted, if necessary, to achieve the required degree of compaction.

3. Compact each lift in accordance with Table 02010-1 (attached at end of section).

4. Match compaction equipment and methods to the material and location being compacted in order to obtain the specified compaction, with consideration of the following guidelines:

a. Vibratory compaction is preferred for dry, granular materials.

b. Hand compaction equipment such as impact rammers, plate or small drum vibrators, or pneumatic buttonhead compactors should be used in confined areas.

c. Hydraulic compaction by pounding or jetting will not be permitted except in unusual conditions, and then only upon written approval by the **ENGINEER** and after a demonstration of effectiveness.

d. Backhoe mounted hydraulic or vibratory tampers are preferred for compaction of backfill in trenches over 4 feet in depth. The upper 4 feet shall be compacted as detailed above or with hand-guided or self propelled vibratory compactors or static rollers. Compaction within 10 feet of a structure shall be performed by hand-operated vibratory plate compactor.

B. Field Quality Control

1. Material Testing

a. The **ENGINEER** reserves the right to order testing of materials at any time during the work.

b. Testing will be done by a qualified, independent testing laboratory. The **CONTRACTOR** shall pay for all compaction testing performed by the testing laboratory.

c. The **CONTRACTOR** shall aid the **ENGINEER** in obtaining representative material samples to be used in testing.

d. The **CONTRACTOR** shall anticipate these tests and incorporate the time and effort into his procedures.

2. Compaction Testing

a. The **ENGINEER** reserves the right to direct the qualified independent testing laboratory to conduct in-place density tests of compacted lifts.

b. Testing may be conducted for every 200 cubic yards of fill or backfill.

c. The **CONTRACTOR** shall dig test holes and provide access to all backfill areas at no additional compensation when requested by the **ENGINEER** if an area has been covered without approval or is suspected of not meeting the specifications.

d. For each test which does not meet the specifications, the **CONTRACTOR** shall pay for the cost of the test and shall replace all material included in that lift or sector with acceptable material and compact to specification, at no additional compensation.

e. The **CONTRACTOR** shall anticipate these tests and incorporate the time and effort into his procedures.

f. Nuclear moisture density testing by "probe" methods will be acceptable for compacted layers not exceeding 8 inches of thickness. Only certified personnel will conduct nuclear testing.

C. Alternate Methods of Compaction - The **CONTRACTOR** may employ alternative methods of compaction if the desired degree of compaction can be successfully demonstrated to the **ENGINEER**'S satisfaction.

3. Protection

A. Prior to terminating work for the day, the final layer of compacted fill shall be rolled with a smooth-drum roller if necessary to eliminate ridges of soil and depressions left by tractors or equipment used for compaction or installing the material.

B. As backfill progresses, the surface shall be graded so as to drain during incidence of rain such that no ponding of water shall occur on the surface of the fill.

C. Unsatisfactory materials, including excessive snow, shall be removed prior to fill placement.

3.3 Measurement

Measurement for payment for backfill of excavated areas shall be based on in place volumes as determined by surveys performed by a N.Y.S. licensed surveyor, unless otherwise specified.

TABLE 02010-1
MINIMUM COMPACTION REQUIREMENTS

Construction Element	Maximum Compaction Layer Thickness (Inches)	ASTM	Minimum Compaction
I. Embankments and Fills			
a. Rough site grading	18	D698	95%
II. Excavation			
a. Fill in excavation	6	D698	95%
b. Top foot of excavation	12	D698	85%

*** END OF SECTION ***

SPEC 02020
TOPSOIL

PART 1 GENERAL

1.01 SUMMARY

The section includes criteria for use of on-site topsoil and criteria for acquisition, storage and use of off-site topsoil.

Furnish all labor, materials, equipment and incidentals required, provide erosion control and place topsoil, finish grade, apply lime and fertilizer, hydraulically apply seed and mulch and maintain all seeded areas as shown on the Drawings and as specified herein, including all areas disturbed. Topsoil stockpiled during clearing and grubbing may be used. However, if the quantity or quality of topsoil on site is insufficient to complete the project, the Contractor is responsible for providing topsoil in accordance with the Contract Documents.

1.02 SUBMITTALS

Submit the following in accordance with Specification 01024, "Shop Drawings and Samples."

1. Off-site topsoil test results.

2. On-site topsoil test results.

3. At least thirty days prior to anticipated start of top soiling operations a one pint sample of topsoil material shall be delivered to the Engineer for testing and approval. At the same time, the Contractor shall submit a sample of the same material for testing. Based on tests performed by the Contractor, the topsoil shall be identified as acceptable, acceptable with certain fertilizer and limestone applications, or unacceptable. If the topsoil is found acceptable, the fertilizer and lime requirements will be as specified or as recommended by the Engineer. If the topsoil is found unacceptable, the Contractor shall identify another source of topsoil and bear all expenses associated with testing additional samples. All topsoil incorporated into the site work shall match the sample provided to the Engineer for testing. Topsoil stockpiled under other Sections of this Division may be subject to the testing and approval outlined above. The Contractor shall be responsible for screening stockpiled topsoil and providing additional topsoil as required at his own expense.

1.03 QUALITY ASSURANCE

A. Off-site topsoil used on this project shall be tested and approved by the Engineer before placement.

B. In the presence of the Engineer take a 5 lb. sample from each 1000 cubic yards of off-site topsoil to be used on the project.

C. Complete testing needs to verify suitability as required in Part 2.

PART 2 PRODUCTS

2.01 MATERIALS

A. Off-site topsoil

1. Topsoil from areas from which no topsoil has been taken previously and from areas that are producing or have produced fair to good yield farm crops without unusual fertilization for a minimum period of 10 years or from arable or cultivable areas supplied with good normal drainage.

2. Original loam topsoil, well drained homogeneous texture and of uniform grade, without the admixture of subsoil materials and entirely free of vegetative debris, dense material, hardpan, sod or any other objectionable foreign material.

3. Containing not less than 2 percent nor more than 20 percent organic material in that portion of a sample passing a 1/4 inch sieve when determined by wet combustion method on a sample dried at 105 degrees C.

4. Containing a pH value within the range of 4.5 to 7 on that portion of a sample which passes a 1/4 inch sieve.

5. Free of atrizene and other herbicides.

6. Containing the following gradations: 100% passing 1 inch sieve, 97-100% passing 1/4 inch sieve, and 20-55 % passing the No. 200 sieve.

B. Limestone

Provide ground limestone in the producer's standard bags containing not less than 90 percent of calcium and magnesium carbonates equivalent to not less than 45% of the mixed oxides of calcium and magnesium and conforming to the following gradation: 50-100% passing No. 100 sieve and 100% passing No. 20 sieve.

C. Fertilizer

Fertilizer shall be commercial mixed free flowing granules or pelleted fertilizer, 10-10-10 (N-P2O5-K2O) grade for lawn and naturalized areas. Fertilizer shall be delivered to the site in original unopened containers each showing the manufacturer's guaranteed analysis conforming to applicable state fertilizer laws. At least 40 percent of the nitrogen in the fertilizer used shall be in slowly available (organic) form.

D. Sand

Clean, free of toxic materials; 95% by weight shall pass a 10 mesh sieve and 10% by weight shall pass a 16 mesh sieve.

E. Calcined Clay

Granular particles produced from montmorillonite clay calcined to minimum temperature of 1200 degrees F to the following gradation: minimum 90% passing 8 mesh screen, 99 % retained on 60 mesh screen and maximum 2 % passing 100 mesh screen. Bulk density: maximum 40 pounds per cubic foot.

F. Wood Cellulose Fiber

Wood cellulose fiber shall not contain any growth or germination inhibiting factors and shall be dyed an appropriate color to facilitate visual metering during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0. It shall be manufactured in such a manner that after addition and agitation in slurry tanks with water, the fibers in the material become uniformly suspended to form a homogeneous slurry. When sprayed on the ground, the material shall allow absorption and percolation of moisture. Each package of the wood fiber shall be marked by the manufacturer to show the air dry weight content.

PART 3 EXECUTION

3.01 PREPARATION

Amend off-site topsoil as needed to meet pH and percent organic matter prior to placement.

Verify subsurface has no standing water and is not muddy prior to placement.

3.02 SPREADING TOPSOIL

Perform topsoil spreading operations only during dry weather.

To insure proper bond with the topsoil, harrow or otherwise loosen the subgrade to a depth of 3 inches before spreading topsoil.

Spread topsoil directly upon prepared subgrade to a minimum depth measuring 6 inches after natural settlement in areas to be seeded.

Smooth out unsightly variations, bumps, ridges and depressions that will hold water.

Remove stones, litter or other objectionable material.

Finished surfaces shall conform to the contour lines and elevations indicated on the drawings or fixed by the Engineer.

3.03 SPREADING LIMESTONE

Spread ground limestone evenly over the topsoiled surface.

Incorporate limestone within the top 2 inches of soil prior to finish raking.

Apply limestone at the following rate per 1000 sq. ft. of topsoil area, corresponding to the hydrogen ion concentration (pH) shown by the soil chemical analysis:

pH	Rate (lb)
4.5 to 5.0	150
5.0 to 5.5	100
5.5 to 6.0	50
6.0 to 6.8	25
Over 6.8	0

3.04 FINISHED GRADING

Preparation for seeding

A. Seed areas shall be filled as needed or have surplus soil removed to attain the finished grade.

B. Drainage patterns shall be maintained as indicated on drawings.

C. Seeding areas compacted by construction equipment shall be completely pulverized by tillage.

D. Soil used for repair of erosion or grade deficiencies shall conform to requirements specified.

E. Finished grade shall be 1 inch below adjoining grade of any surfaced area.

F. New surfaces shall be blended to existing areas and promote positive drainage.

G. Excelsior matting blanket shall be installed in all seeded drainage swales and ditches and all grassed slopes 4-1 or steeper as shown on the Drawings or as directed by the Engineer in accordance with the Manufacturers instruction. Erosion control blanket shall be Curlex I, by American Excelier Company, Arlington, TX or approved equal.

H. When newly graded subgrade areas cannot be topsoiled and seeded because of season or weather conditions and will remain exposed for more than 14 days, protect those areas against erosion and washouts by applying limestone at the rate of one ton per acre, fertilizer (10-10-10) at the rate of 600 pounds per acre, perennial ryegrass seed at the rate of 40 pounds per acre, and straw mulch at the rate of 2 tons per acre with a tackifier or by other measures as approved by the Engineer. Prior to application of topsoil, any such materials applied for erosion control shall be thoroughly incorporated into the subgrade by discing. Fertilizer shall be applied prior to spreading of topsoil.

I. On slopes in addition to straw mulch and tackifier, provide against washouts by an approved method. Any washout that occurs shall be regraded and reseeded at the Contractor's expense until a good turf is established.

END OF SECTION

SPEC 02030
SEED AND MULCH

PART 1 GENERAL

1.01 SUMMARY

The section includes criteria for establishing vegetation at the site.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

Agricultural Marketing Service, AMS-01, (Amended thru: Aug 1988) Federal Seed Act Regulations (Part 201-202)

ASTM C602 (1990) Agricultural Liming Materials.

NYSDOT 1990, or latest edition, Standard Specifications - Construction and Materials.

1.03 SUBMITTALS

Submit the following in accordance with Specifications 01024, “Shop Drawings and Samples.”

1. Delivery schedule of all materials.

2. Written record of maintenance work performed within 10 days of conclusion of maintenance period.

3. Written calendar time period for the turf establishment period. When there is more than one turf establishment period, describe the boundaries of the turfed area covered for each period.

4. Prior to delivery of materials, certifications that materials meet requirements specified.

5. Seed reports - mixture, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, date tested and state certification.

6. Fertilizer - chemical analysis, composition percent.

7. Mulch - chemical analysis, composition percent.

8. Hydromulch

9. Product data, manufacturer's specifications and recommended application rates shall be submitted and approved prior to scheduling delivery.

1.04 DELIVERY, INSPECTION, STORAGE AND HANDLING

A. Delivery schedule shall be prepared for all materials and submitted at least 10 days prior to first scheduled delivery.

B. Materials will be inspected upon arrival by Engineer for conformance to specifications.

C. Materials will be stored in areas approved by Engineer.

D. Seed, lime and fertilizer will be stored in cool, dry locations away from contaminants.

E. Chemical treatment materials will not be stored with other landscape materials.

F. Except for bulk deliveries, materials will not be dropped or dumped from vehicles.

1.05 GUARANTEE

A. Vegetative growth shall be guaranteed for one year from the date of final completion.

B. At the end of the guarantee period, any deed, unhealthy or badly impaired areas shall be replaced.

C. All replacements shall be in kind and at no additional cost to the Department.

1.06 SCHEDULING

Sow grass seed between March 15th and May 15th or between August 15th and October 1st, unless otherwise approved by Engineer.

PART 2 PRODUCTS

2.01 SEED

1. State-approved seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material.

2. Labels shall be in conformance with AMS-01 and applicable state seed laws.

3. The seed mixture shall be:

Common Name By Weight	% Purity	% Germination	
Timothy	30	90	90
Clover	20	90	90
Perennial Ryegrass	40	90	90
Annual Ryegrass	10	90	90

4. Weed seed shall not exceed 1 percent by weight of the total mixture.

5. Wet, moldy or otherwise damaged seed shall be rejected.

2.02 MULCH

Dry application, straw:

1. Stalks of oat, wheat, rye or other approved crops which are free of noxious weed seeds.

2. Weight shall be based on a 15 percent moisture content.

Hydro Application:

1. Colored wood cellulose fiber product specifically designed for use as a hydro-mechanical applied mulch.

2. Acceptable product is Conwed Hydro Mulch, Conwed Fibers or equal.

2.03 FERTILIZER

Provide in accordance with Spec 02020.

PART 3 EXECUTION

3.01 SEEDING CONDITIONS

A. Seed operations shall be performed only during periods when beneficial results can be obtained.

B. When drought, excessive moisture or other unsatisfactory conditions prevail, the work shall be stopped when directed by the Engineer.

C. When special conditions warrant a variance to the seeding operations, proposed times shall be submitted to and approved by the Engineer.

3.02 SITE PREPARATION

A. Fertilization

Distribute fertilizer evenly over the surface of the soil in areas to be seeded as shown on the Plans or as directed by the **ENGINEER.** Fertilize with 600 pounds of 10-10-10 per acre (14 pounds per 1,000 square feet) per 02020. Any application method that will ensure an even distribution will be acceptable. When hydraulic application is used the minimum rate of water shall be 500 gallons per acre or as directed by the **ENGINEER.**

B. Tillage

1. Soil on slopes gentler than 3 on 1 (horizontal to vertical) shall be tilled to a minimum depth of 4 inches.

2. On slopes between 3 on 1 and 1 on 1, the soil shall be tilled to a minimum depth of 2 inches by scarifying with heavy york rakes or other method.

3. Rototillers shall be used where soil conditions and length of slope permit.

4. On slopes 1 on 1 and steeper, no tillage is required.

3.03 SEEDING

1. Do not seed when the wind velocity exceeds 5 miles per hour.

2. Application rate: seed mixture, ½ lb per 1000 sq. ft.; annual ryegrass, ½ lb per 1000 sq. ft.

3. Dry application - sow seed evenly by hand or seed spreader on dry or moderately dry soil.

4. Hydroseeding:

Apply seeding materials with an approved hydroseeder.

Fill tank with water and agitate while adding seeding materials.

Use sufficient fertilizer, mulch and seed to obtain the specified application rate.

Add seed to the tank after the fertilizer and mulch has been added.

Maintain constant agitation to keep contents in homogeneous suspension.

Prolonged delays in application or agitation that may be injurious to the seed will be the basis of rejection of the material remaining in the tank.

Distribute uniformly a slurry mixture of water, seed, fertilizer and mulch at a minimum rate of 57 gallons per 1000 sq. ft. (2500 gallons per acre).

The Department may order the amount of water increased if distribution of seeding materials is not uniform.

3.04 MULCHING

A. Dry application:

Within 3 days after seeding, cover the seeded areas with a uniform blanket of straw mulch at the rate of 100 pounds per 1,000 sq. ft. of seeded area.

B. Hydro application:

Apply approved mulch in accordance with manufacturer's written instructions and recommended rates of application.

3.05 RESTORATION AND CLEANUP

1. Existing seeded areas, pavements and facilities that have been damaged from the seeding and mulching operations shall be restored to original condition at Contractor's expense.

2. Excess and waste material shall be removed from the planting operation and shall be disposed of off-site.

3. Adjacent paved areas shall be cleaned.

4. Debris removed from the soil surface during the finished grading operations shall be disposed on-site as directed by the Engineer.

3.06 PROTECTION OF TURFED AREAS

Immediately after seeding, the area shall be protected against traffic or other use by erecting barricades and providing signage as required.

3.07 SATISFACTORY STAND OF VEGETATIVE COVER

A satisfactory stand of vegetative cover from the seeding operation is defined as a

minimum of 50 grass plants per square foot. The total bare spots shall not exceed 2 percent of the total seeded area within 3 months of seeding.

3.08 MAINTENANCE

Maintenance of the seeded areas shall include eradicating weeds, eradicating diseases and insects, protecting embankments and ditches from erosion, maintaining erosion control materials and mulch until growth is satisfactorily established, protecting turfed areas from traffic and mowing to maintain turf stand, watering and post fertilization.

Mow entire seeded area once to a height of 6 inches after final completion during the guarantee period when the stand of grass is between 12 and 24 inches in height.

Watering shall be at intervals to obtain moist soil condition to a minimum depth of 1 inch. Frequency of watering and quantity of water shall be adjusted in accordance with the growth of the vegetation. Run-off, puddling and wilting shall be prevented.

Nitrogen carrier fertilizer shall be applied at the rate of no more than 0.5 pounds per 1000 square feet after the first month and again prior to the final acceptance. The application shall be timed prior to the advent of winter dormancy and shall avoid excessively high nitrogen levels. Notify Engineer at least one week prior to application.

The Contractor shall re-establish as specified herein, eroded, damaged or barren areas. Mulch shall be repaired or replaced as required.

END OF SECTION

SECTION 02110

EXCAVATION AND HANDLING OF IMPACTED MATERIAL

1) PART 1 GENERAL

2) DESCRIPTION

A) The work shall consist of excavation and temporary storage (if necessary) of approximately 900 cubic yards of impacted material. Approximate locations of impacted material are shown on the drawings. Final limits of impacted material are based on drawings provided. Analytical data of the impacted material have been included in the Remedial Design Work Plan document.

B) The ENGINEER shall be notified within 24 hours, and before excavation and/or backfill, if impacted material is discovered that has not been previously identified; or if other discrepancies between data provided and field conditions are discovered.

C) Historic topographic maps for the area show no wetlands or surface expressions of groundwater located on the property; the closest wetlands and surface water bodies are located approximately within 2.6 miles south. Impacted material will be removed to the depths identified on the Contract Drawings and Table

D) The CONTRACTOR shall segregate and stockpile concrete and recyclable materials on-site.

1) Concrete shall be disposed of with waste soil in accordance with SECTION 02223 – OFF-SITE TRANSPORTATION AND DISPOSAL.

2) Other recyclable materials encountered shall remain on-site.

E) The CONTRACTOR shall protect excavations in accordance with OSHA regulations. The CONTRACTOR shall identify the proposed method of excavation protection in the Work Plan.

1) All sheeting, walers, shoring, and bracing shall be designed by a Professional Engineer licensed to practice in New York State. Drawings showing plans, sections, and details shall

be signed by the Engineer doing the design and shall be submitted to the ENGINEER for his records.

2) If workers must enter the excavation, it shall be evaluated, shored, sloped, or braced as required by Engineer Manual 385-1-1 and 29
Code of Federal Regulations (CFR) 1926 Section 650.

3) The CONTRACTOR shall dispose of removed shoring and support systems at proper disposal facilities in accordance with the Work Plan.

3) SUBMITTALS

1) The following shall be submitted in accordance with Section 01021 – Project Submittals.

B) Work Plan

1) CONTRACTOR shall submit a Work Plan in accordance with Section 01021 Project Submittals. No work at the site, with the exception of non-intrusive work such as site inspections and surveys, shall be performed until the Work Plan is approved. The CONTRACTOR shall allow 30 calendar days in the schedule for the ENGINEER review. No adjustment for time or money will be made if resubmittals of the Work Plan are required due to deficiencies in the plan. At a minimum, the Work Plan shall include:
   (a) Schedule of activities
   (b) Site layout plan including location of staging area
   (c) Method of excavation and equipment to be used.
   (d) Method of proposed excavation protection
   (e) Proposed excavation sequence that delineates the limit of each excavation and proposed order of excavation; discussion shall reference grid system included on Contract Drawings.
   (f) Proposed soil disposal facilities
   (g) Proposed plan for material movement, staging, and placement.
   (h) Proposed method of backfill, compaction, and equipment.
   (i) Proposed methods of odor and vector control.
   (j) Proposed methods of erosion and dust control.
   (k) Dewatering plan.
   (l) Storage methods, locations and sizes for liquid and solid impacted material.
   (m) Location and size of stockpile area
   (n) Borrow sources (location and ASTM 2487 material classifications) and haul routes. The CONTRACTOR shall submit results of geotechnical testing to the ENGINEER prior to usage of materials on-site.
   (o) Decontamination procedures
   (p) Location and size of decontamination pad.
   (q) Spill contingency plan.
   (r) Hazardous material treatment plan.
   (s) Disposal facility for non-hazardous waste.
   (t) Transportation plan and haul routes.

(u) Stormwater Pollution Prevention Plan (SWPPP) in accordance with Section 01600 – Erosion and Surface Water Control.

C) Construction Documentation
   1) CONTRACTOR shall submit construction documentation to the ENGINEER within 14 calendar days of substantial completion at the site and shall include the following information as a minimum:
      (a) A cover letter signed by a responsible company official certifying that all services involved have been performed in accordance with the terms and condition of the Contract Documents and regulatory requirements.
      (b) Documentation of quantity of impacted materials disposed of at each disposal facility.
      (c) Copies of all manifests and land disposal restriction notifications.
      (d) Copies of all certifications of final disposal signed by the responsible disposal facility official.
   D) Scale drawings showing initial topography, limits of excavations, final grading, dimensions of stockpile area and dimensions of wash pad in accordance with Section 01004 – Surveys

4) REGULATORY REQUIREMENTS
   A) Air Emissions. Air emissions shall be controlled in accordance with the CAMP.
   B) Required samplings and chemical analysis shall be conducted in accordance with Section 01013 – SAMPLING.
   C) The CONTRACTOR shall notify the ENGINEER 14 calendar days prior to the start of excavation of impacted material. The CONTRACTOR shall be responsible for contacting regulatory agencies in accordance with the applicable reporting requirements.
5) RELATED SECTIONS

Section 01021 - Project Submittals
Section 01004 - Surveys
Section 01013 - Sampling
Section 01010 - Temporary Facilities and Controls
Section 01019 - Site Preparation, Clearing, and Grubbing
Section 02223 - Transportation and offsite Disposal/Treatment

PART 2 PRODUCTS

2.1 Textile

A. Nonwoven Fabric

1. The product shall be a non-woven needle punched fabric consisting of polyester of polypropylene filaments formed into a stable network which retains its structure during handling, placement and long-term service. Geotextiles shall be capable of withstanding exposure to direct sunlight for 30 days with no measureable deterioration.

2. The fabric shall be non-biodegradable, non-reactive within a pH range of 3 to 11, resistant to ultraviolet light exposure, and resistant to insects and rodents. Test results from any sampled roll in the lot, when tested in accordance with ASTM D4759, shall meet or exceed the values listed in Table 1.

3. The material shall be Mirafi 180N manufactured by TC Mirafi of Pendergrass, GA; Geotex 861 manufactured by Synthetic Industries of Chickamauga, GA or an approved equal.

TABLE 1
MINIMUM AVERAGE ROLL VALUES FOR GEOTESXTILE FABRICS

Properties	Test Method	Unit	Minimum Average Roll Values
Fabric Weight	ASTM D3776	oz/yd[1]	8
Thickness	ASTM D1777	mils	90
Grab Strength	ASTM D4632	Lbs	220
Grab Elongation	ASTM D4632	%	50
Puncture Resistance	ASTM D4833	lbs	135
Mullen Burst Strength	ASTM D3786	psi	350
Permittivity	ASTM D4491	SEC^{-1}	1.5
Coef. Of Permeability	ASTM D4491	cm/sec	0.38
Apparent Opening Size	ASTM D4751	mm	80
Flow Rate	ASTM D4491	gpm/ft^2	110
(AOS)	US Sieve No. 100		60
UV Resistance	ASTM D4355	%	70[1]
Trapezoid Tear Strength	ASTM D4355	lbs	130
1. Value is percent of minimum grab tensile after conditioning.			

4. Geotextile shall be placed over the liner of the decontamination and stockpile pads and berms as indicated on the Contract Drawing

B. LINER

1. A 40-mil high density polyethylene (HDPE) impervious liner shall be placed over the sand agase of the decontamination and stockpile pads and berms and indicated on the Contract Drawings

C. BACKFILL

1. Backfill shall be specified in Section 02010 – Backfill.

D. SPILL RESPONSE MATERIALS

1. The CONTRACTOR shall provide appropriate spill response materials including, but not limited to the following: containers, adsorbents, shovels, and personal protective equipment. Spill response materials shall be available at all times when impacted

materials/ wastes are being handled or transported. Spill response materials shall be compatible with the type of materials and contaminants being handled. \

PART 3 EXECUTION

3.1 Existing Structures and Utilities.

A. No excavation shall be performed until site utilities have been field located. The CONTRACTOR shall take the necessary precautions to ensure no damage occurs to existing structures and utilities.

3.2 CLEARING

A. Clearing shall coincide with excavation limits shown on the drawings in accordance with Section 01019 – Clearing and Grubbing.

3.3 IMPACTED MATERIAL REMOVAL

A. Solids Excavation

1. Impacted areas shall be excavated to the depth shown on the Contract Drawings and identified in Table 16. Excavation shall be performed in a manner that will limit spills and the potential for impacted material to be mixed with non-impacted material. An Excavation log shall be maintained by the CONTRACTOR for each area of excavation. Excavation log shall be prepared in accordance with ASTM D 5434.

2. The CONTRACTOR shall utilize grade stakes at each node of the grid network to measure the depth of excavation as work proceeds. Where visibly uneven grades are observed by the ENGINEER between grid nodes, extra grade stakes may be required for further delineation, as directed y the ENGINER. Grade stakes shall be labeled by the CONTRACTOR with cut line and shall remain in place to allow for field inspection of the excavation depths.

3. Excavation shall be accomplished by methods which preserve the undisturbed state of subgrade soils beyond the remediation limits.

4. When each exaction has reached depth as indicated on the Contract Drawings, the ENGINEER shall be notified and will inspect conditions. If materials and conditions are not satisfactory to the ENGINEER, the ENGINEER will issue instructions as to the procedures for correction of the unsatisfactory condition. If conditions are satisfactory to the ENEGINEER, the CONTRACTOR shall collect confirmation soil samples in accordance with Section 01013 – Sampling.

5. Material which is excavated and removed in excess of the limits specified by the Contract Drawings, prior to confirmation soil sample collection, and as a result of CONTRACOR error shall be characterized, handled, transported, disposed of off-site with

the excavation backfilled in accordance with the specification at no additional cost to the DEPARTMENT.

A. Impacted Liquid and Contaminated Storm water

1. Excavation water and any contaminated stormwater form the solids stockpile area and/or decontamination pad shall be collected by the CONTRACTOR, characterized, and disposed of in accordance with the approved Work Plan and Section 01022 – Dewatering as directed by the ENGINEER.

3.4 HAZARDOUS MATERIALS HANDLING

A. Soils characterized as hazardous shall be segregated from those identified as non-hazardous and disposed of at an approved hazardous waste facility.

3.5 SOLIDS DEWATERING

A. Solids shall pass the paint filter test in accordance with SW-846 Method 9095B prior to transportation for disposal.

3.6 IMPACTED MATERIAL STORAGE

A. Impacted material that is not directed loaded for disposal shall be placed in temporary storage immediately after excavation. The following paragraphs describe acceptable methods of material storage. Storage units shall be in good condition and constructed of materials that are compatible with the material or liquid to be stored. If multiple storage units are required, each unit shall be clearly labeled with an identification number and a written log shall be kept to track the source of impacted material in each temporary storage unit.
B. Solids stockpiles shall be constructed to isolate stored impacted material from the environment. The stockpile size shall be determined by the CONTRACTOR, but must be sized to account for anticipated water from excavation activities and the 25 year, 24 hour rainfall event. Stockpiles shall be constructed as shown on the Contract Drawings to include a minimum of:
    1. A 4-mil high density polyethylene liner overlain with non-woven geotextile fabric and 12 in of 2 in minus crushed stone, to prevent leaching and provide cover for dust control, and underlain by 6 in of sand or stone dust, or non-woven geotextile.
    2. Berms surrounding the stockpile, a minimum of 24-in. high. Vehicle access points shall be bermed.
    3. The liner system shall be sloped to allow collection of leachate and contaminated stormwater. Storage and removal of liquid which collectes in the stockpile pad shall be in accordance with Section 01022 – Dewatering.
    4. Soil stockpile area(s) shall be removed following disposal of staged materials. Soil samples shall be taken from under each pad following pad

removal. The soil shall be sampled in accordance with Section 01013-SAMPLING.

5. Diversion measures shall be employed to prevent stormwater run-on and run-off, and shall be included as part of the SWPPP in accordance with Section 01022 - Dewatering
6. A geomembrane cover shall be used to prevent precipitation from entering the stockpile and emissions and dust from escaping. The minimum thickness of the geomembrane cover shall be 0.25mm (10 mils). Control measures, such as wetting the stockpile, shall be employed to suppress dust. Only potable water shall be used for this purpose.

C. Roll-off units used to temporarily stow impacted material shall be water tight. A cover shall be placed over the units to prevent precipitation from contacting the stored material. The units shall be located within the site access boundary as shown on the drawings.

D. Liquid collected from excavations and stockpiles shall be temporarily stored prior to treatment and/or disposal in accordance with the approved Work Plan and Section 01022 –Dewatering.

3.7 SPILLS

A. In the event of a spill or release of a hazardous substance (as designated in 40 CFR 302), pollutant, contaminant, or oil (as governed by the Oil Pollution Act, 33 U.S. Code 2701 et seq.), the Contractor shall notify the ENGINEER immediately. If the spill exceeds the reporting threshold, the CONTRACTOR shall follow the pre-established procedures as described in the Work Plan for immediate reporting and containment. Immediate containment actions shall be taken to minimize the effect of any spill or leak. Cleanup shall be in accordance with applicable federal, state, and local regulations. As directed by the ENGINEER, additional sampling and testing shall be performed to verify spills have been cleaned up. Spill cleanup and testing shall be done at no additional cost to the DEPARTMENT.

3.8 BACKFILLING

A. Backfill shall be executed as described in Section 02010 – Backfill.

3.9 DISPOSAL REQUIREMENTS

A. Off-Site disposal of hazardous waste and non-hazardous waste shall be in accordance with Section 02223 – Transportation and off-site disposal. Weight records of material disposed of at the approved disposal facility shall be collected by the CONTRACTOR and submitted to the ENGINEER.

SPEC02223

OFF-SITE TRANSPORTATION AND DISPOSAL

1. GENERAL

1.1 Scope of Work

A. The **CONTRACTOR** shall properly transport and dispose of all items, including solid and liquid hazardous and nonhazardous wastes removed from the site, to appropriate disposal facilities. This includes existing wastes as well as the wastes generated by the **CONTRACTOR.** The **CONTRACTOR** shall be responsible and will be held accountable for assuring that all sampling, analysis, transportation, and disposal requirements of the TSDF, SWMF, POTW, reclamation or salvage facilities, federal, state, and local governments are complied with and properly documented.

1.2 Submittals

A. **Transportation Plan:** The **CONTRACTOR** shall submit a Transportation Plan to the **ENGINEER** prior to the start of work for review. This shall include:

1. Type and number of vehicles used;
2. Travel routes and times; and
3. Copies of transportation permits.

B. **Disposal Facilities:** The **CONTRACTOR** shall submit to the **ENGINEER** information regarding proposed facilities for disposal of each type of waste. All proposed facilities must be permitted. Information submitted shall include, but not be limited to:

- Name;
- Owner;
- Type of facility/permit;
- Contact person, phone number;
- Location;
- Hours of operation; and
- Copies of permits.

1.3 Permits and Regulations

A. The **CONTRACTOR** shall comply with all federal, state, and local regulations regarding transportation and disposal of hazardous and nonhazardous material. These include, but are not limited to:

- Trucks used for transportation of hazardous material for disposal off site shall be permitted pursuant to 6 NYCRR Part 364;

- Vehicle operator possession of a commercial driver's license with hazardous materials endorsement (if applicable);
- Registration of vehicle as a hazardous waste carrier (if applicable);
- Utilization of shipping papers and/or hazardous waste manifest (40 CFR 262.20);
- Proper marking and placarding of vehicles;
- Placement of emergency response procedures and emergency telephone numbers in vehicle, and operator familiarity with emergency response procedures (see Minimum Health and Safety Requirements, attached); and
- Compliance with load height and weight regulations.

2. PRODUCTS

2.1 Materials and Equipment

A. All equipment supplied shall be in good working condition. Equipment and machinery delivered to the site, including haul trucks that have visible oil or hydraulic fluid leaks, will not be allowed on site until satisfactorily repaired. The **CONTRACTOR** is responsible for the cleanup of any oil or hydraulic fluid spills at the **CONTRACTOR'S** expense.

B. The **CONTRACTOR** shall not allow soil to be tracked off site at any time during the Project. Visible soil tracks on streets will not be allowed. The **CONTRACTOR** shall take sufficient precautions to prevent loose soils from adhering to tire treads, wheel wells, etc. Any loose soil spread shall be cleaned up.

C. Trucks used for transportation of material for off-site disposal shall be water tight and permitted pursuant to 6 NYCRR Part 364. All trucks shall be covered prior to leaving the site.

3. EXECUTION

3.1 Decontamination

A. Transport vehicles shall be decontaminated at the Decontamination Station upon leaving the Exclusion Zone at the site and again at the disposal facility as required.

3.2 Transportation

A. Materials shall be transported only at the times and by the routes indicated in the approved Transportation Plan, unless permission is received by the **ENGINEER** to do otherwise. The **CONTRACTOR** shall observe the legal load limits.

Prior to shipment of hazardous wastes off the site, the **CONTRACTOR** shall confirm by written communication from the designated TSDF that it is authorized, has the capacity, and will provide or assure that the ultimate disposal method is followed for the particular hazardous waste on the manifest. Additionally, the **CONTRACTOR** shall confirm by written communication from the designated transporter(s) that they are authorized to deliver the manifested waste to the designated TSDF or SWMF.

3.3 Sampling

A. The **CONTRACTOR** shall be responsible for all cost associated with sampling of wastes to be disposed of as may be required by the disposal facility.

3.4 Manifesting

A. The **CONTRACTOR** shall complete all required manifest forms and Bill of Lading forms for the **DEPARTMENT** for proper transportation and disposal of materials off site. Since there is no responsible party to act as the generator at this inactive hazardous waste disposal site, the **DEPARTMENT** has obtained the EPA-required generator identification number and the **DEPARTMENT** or its representative will sign all manifests for proper shipping. However, the **CONTRACTOR** shall be responsible and will be held accountable for assuring that all sampling, analysis, transportation, and disposal requirements of the TSDF, SWMF, POTW, federal, state, and local governments are complied with and properly documented.

*** END OF SECTION ***

Appendix D

Cost Estimate

Cost Estimate
Former Elmont Welding
NYSDEC Site E130150

Payment Item Number	Description	Unit	Estimated Quantity	Price ($)	Total Amount ($)
LS-1	Mobilization, Demobilization, and Site Preparation (Limited to 15% of total Bid	LS	1	$ 45,787	$ 45,788
LS-2	Construction Water Management	LS	1	$ 1,800	$ 1,800
LS-3	Handling, Sorting, and Stockpiling Recyclable Materials	LS	1	$ 8,200	$ 8,200
LS-4	Site Survey	LS	1	$ 10,000	$ 10,000
UC-1	Site Services	days	27	$ 800	$ 21,600
UC-2	Health and Safety	days	27	$ 290	$ 7,830
UC-3	Clearing and Grubbing	acres	0.1	$ 9,500	$ 950
UC-4	Excavation	CY	943.1	$ 33	$ 31,123
UC-5	Fill/Waste Transportion and Disposal as Hazardous Waste	ton	92.1	$ 225	$ 20,727
UC-6	Fill/Waste Transportion and Disposal as Non-Hazardous Waste	ton	1228.2	$ 89	$ 109,312
UC-7	Backfill	ton	1521.24	$ 48	$ 73,020
UC-8	Post-Excavation Confirmation Sampling	EA	22	$ 250	$ 5,500
UC-11	Site Restoration	Acres	0.35	$ 43,386	$ 15,185
			Total		**$ 351,035**