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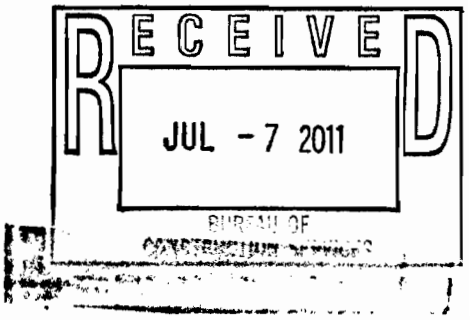
Fieldwork Summary Report and Continuing Remedial Action Report Hexagon Laboratories, Operable Unit No. 2 Bronx County



July 2011

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
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July 5, 2011

Mr. Michael Mason
Remedial Bureau E, Section A
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7017

Subj: Fieldwork Summary Report and Continuing Remedial Action Report
Hexagon Laboratories
Operable Unit No. 2
Bronx County
Site No. 2-03-003

Dear Mr. Mason:

Pursuant to work assignment D004442-15.1, Ecology and Environment Engineering P.C. (EEEPC) is providing this report for your review. The report is part of the remedial action at the former Hexagon Laboratories site in Bronx, New York. The purpose of this report is to document the field work that was implemented from December 6, 2010, through March 10, 2011, and to outline the future remedial recommendations.

EEEPC and a New York State Department of Environmental Conservation (NYSDEC) subcontractor, Aztech Technologies, Inc. (Aztech), installed, developed, and surveyed three new bedrock wells. EEEPC completed groundwater monitoring of all site wells as a baseline prior to the next phase of injection work. While on-site, EEEPC also profiled and managed the disposal of personal protective equipment (PPE), and contaminated soil, groundwater, and investigation-derived waste (IDW).

1.0 Summary of Field Activities

1.1 Well Installation

Three new bedrock wells (MW-15, MW-16, and MW-17) were installed to delineate the contamination and facilitate remediation (see Figure 1). Aztech performed the drilling with the oversight of an EEEPC geologist and health and safety officer, who performed

continuous air monitoring using a parts per million (ppm) MiniRae photoionization detector (PID), a Gastech GT 402 oxygen/lower explosive limit (LEL) meter, and two Thermo MIE DATARAM 4000 particulate meters in accordance with the community air monitoring program. All three wells were to be installed the week of December 12, 2010, but because of drill rig equipment failures, MW-15 was completed on January 11, 2011.

A Boart Longyear model BK66 rig turning a 6.25-inch inner diameter (ID) hollow stem auger (HSA) was used to drill through 6 to 8 feet of overburden and 5 feet into the bedrock. Carbon steel casings were installed in the overburden and grouted in place.

After 24 hours, each of the three new locations was cored approximately 40 feet into the bedrock, and each location was constructed as nominal 4-inch diameter open-hole bedrock well to approximately 51 feet below ground surface (BGS).

The three new monitoring wells were completed as surface-flush mount wells, with the 4-inch inner steel casing approximately 0.5 feet BGS with a 10-inch diameter steel cover and a 2 foot x 2 foot square concrete anti-percolation pad. The borehole logs are presented in Appendix A.

Overburden soil cuttings from the three boreholes were visually inspected and screened with a PID for volatile organic compounds (VOCs). The bottom few feet of soil at each location were stained black and gray with noticeable contamination. The stained soil, along with the rock core cuttings, were containerized in 55-gallon steel drums and sampled for waste disposal.

The rock cores from the three wells were stored in wooden boxes provided by the driller and were staged on the former on-site building foundation located to the northwest of the site.

1.2 Injection Well Fracturing

In order to enlarge pathways in the bedrock to increase the transport rate of the chemical oxidants, two of the three new wells (MW-15 and MW-17) were fractured.

Fracturing was performed by Harr Hydro Fracture, LLC (Harr), a subcontractor to Aztech. An 86-mm straddle packer assembly with a 5-foot interval space was used. The packer assemblies were inflated with propylene glycol and potable water was injected into each isolation zone until the surrounding formation expanded to accept the fluid. A proppant was not required.

During the fracturing, water levels in adjacent boreholes (MW-14, MW-15, and MW-16) were monitored for communication between the wells. The fracturing summary report developed by Harr is presented in Appendix B.

1.3 Well Development

The three new bedrock wells (MW-15, MW-16, and MW-17) were developed by Aztech (with assistance from EEEPC) between January 18 and 26, 2011. The development was performed by surging and purging using decontaminated submersible pumps and 3/8-inch ID discharge tubing.

Surging was performed during well development to draw fine sediments out of the sand pack and into the well for removal. Temperature, pH, conductivity, and turbidity were recorded to monitor the development progress.

Although turbidity did not decrease to less than 50 Nephelometric Turbidity Units (NTU) at MW-17 (approximately 100 to 150 NTUs), development was considered complete for all three wells after a minimum of three times the amount of water lost during drilling or fracturing was removed.

At MW-15, 1,000 gallons of water were removed during two days of development (325 gallons were lost during fracturing). At MW-16, 105 gallons of water were removed during three days of development (30 gallons were lost during drilling). At MW-17, 2,250 gallons of water were removed during four days of development (750 gallons were lost during fracturing).

Development water from all three wells was stored in one of the two 1,100 gallon polyethylene storage tanks on-site prior to disposal. The well development logs for each new well are provided in Appendix C.

1.4 Site Survey

After the three new bedrock wells were installed, Aztech surveyed the horizontal locations and vertical elevations based on existing monitoring well elevations from MW-5 and MW-14.

Elevation was determined relative to the North American Vertical Datum of 1988 (NAVD88). Horizontal location data were converted to New York State Plane East

Coordinates and added to existing site data by EEEPC. Figure 1 identifies the location and elevation data of the three new wells.

1.5 Groundwater Sampling

One round of groundwater sampling was planned in January 2011. However, due to drill rig equipment malfunctions and inclement-weather, three of the nine wells were sampled. On March 9, the remaining six wells were purged and sampled.

During purging, temperature, pH, conductivity, turbidity, dissolved oxygen, and Oxygen Reducing Potential (ORP) were recorded. Purging was continued until groundwater turbidity was below 50 NTUs and the remaining groundwater quality parameters were stable for three consecutive readings.

The exceptions were monitoring wells MW-5, MW-13, MW-14, MW-16, and MW-17. At monitoring wells MW-05 and MW-16, both wells were purged dry and sampled once the wells had recharged. At monitoring wells MW-13, MW-14, and MW-17, five well volumes were removed from each well prior to sampling. Purged groundwater was stored in one of the two on-site 1,100 polyethylene tanks. The well purge and sample records for each well are presented in Appendix D.

Upon sample collection, the containers were labeled and placed in a cooler maintained with ice at 4°C. They were packaged and shipped to H2M Labs, Inc. (a NYSDEC standby subcontractor) in Melville, New York, with chain-of-custody (COC).

The groundwater samples were submitted for analysis of VOCs, semi-volatile organic compounds (SVOCs), metals, mercury, and cyanide. A trip blank and duplicate sample from MW-5 were collected to monitor quality control.

1.5.1 Sample Analytical Data

The analytical data were evaluated by EEEPC for precision, accuracy, and completeness per the NYSDEC Division of Environmental Remediation Guidance for the Development of Data Usability Summary Reports (DUSRs), June 1999.

EEEPC's DUSRs indicate that the field duplicate results show good precision for all compounds. The full lab reports are provided in Appendix E, while the DUSRs are provided in Appendix F.

A summary of the analytical results is provided in Tables 1 and 2.

1.5.1.1 Volatile Organic Compounds

Thirty-one different VOCs were detected in the groundwater samples. Based on the analyte concentrations of over 10,000 micrograms per liter (µg/L), there are 11 VOCs of concern: 1,1,1-trichloroethane, 1,2-dichloroethane, acetone, benzene, chlorobenzene, cis-1,2-dichlororethylene, methylene chloride, tetrachloroethylene (PCE), toluene, trichloroethylene (TCE), and vinyl chloride. Total VOCs concentrations ranged from 617 µg/L at MW-01 to 2,685,226 µg/L at MW-16.

1.5.1.2 Semi-Volatile Organic Compounds

Twenty different SVOCs were detected in the groundwater samples. Based on the analyte concentrations of over 1,000 µg/L, there are four SVOCs of concern: 2-methylphenol, 4-methylphenol, nitrobenzene, and phenol. Total SVOCs concentrations ranged from 18 µg/L at MW-01 to 82,240 µg/L at MW-8.

1.5.1.3 Metals

Twenty-four different metals (including mercury and cyanide) were detected in the groundwater samples. Five minerals with concentrations detected include: calcium, iron, magnesium, potassium, and sodium.

1.6 Investigation-Derived Waste Management

The following IDWs were generated during this investigation:

1. Soil from subsurface drilling;
2. Decontamination water;
3. Groundwater from development, purging, and sampling; and
4. Used PPE.

All IDW materials were temporarily stored north of injection well IW-01 along the south side of the building.

The investigation-derived soils and used PPE were containerized in 55-gallon steel drums. Wastewater was stored in one of two 1,100-gallon polyethylene storage tanks located on-site.

A composite soil sample from the four drums containing soil cuttings and a wastewater sample from the polyethylene tanks were collected by Aztech and submitted for Toxicity Characteristic Leaching Procedure (TCLP) analysis.

Aztech forwarded the IDW results to the disposal company, Clean Earth of New Jersey (Clean Earth) to develop the waste profiles. Based on the TCLP results, both the wastewater and soil were classified as hazardous (1,2-DCA, TCE, and PCE contamination for the wastewater and TCE for the soil) and managed accordingly.

The four drums of used PPE and sample equipment (bailers, rope, and tubing) were bagged in plastic and placed in 55-gallon drums. Although this waste was not sampled, based on the soil and wastewater IDW results, Clean Earth was able to classify it as non-hazardous for disposal.

Three loads of wastewater generated from fracturing MW-15 and MW-17 (1,000 gallons and 2,250 gallons, respectively) were removed from the site by Allstate Power-Vac in January, 2011, with EEEPC signing the waste manifests on behalf of the NYSDEC.

On March 10, 2011, Allstate Power-Vac removed an additional 1,400 gallons of wastewater from the site (produced from well purging) with EEEPC signing the waste manifests on behalf of the NYSDEC.

On March 14, 2011, nine drums of solid waste (five drums of soil and four drums of PPE/sample equipment) were removed for disposal, with Aztech signing the waste manifests on behalf of the NYSDEC. The analytical results and copies of the IDW manifests signed by EEEPC are presented in Appendix G.

2.0 Future Remedial Recommendations

After a review of the chemical oxidation pilot test results and current groundwater sampling data, most chemical constituents in the injection well showed significant contaminant mass reduction after injection. The average groundwater concentration reduction for VOCs, SVOCs, and metals in injection well IW-01 was 81%. This reduction may be due to a combination of contaminant mass destruction and injection well groundwater displacement.

Adjacent wells MW-8, MW-13, and MW-14 showed contaminant concentration increases in VOCs, SVOCs, and metals. They were 450%, 69%, and 19%, respectively, after chemical injection in IW-01. These increases may be attributable to contaminant migration away from the injection well or the partitioning of the adsorbed phase mass into the dissolved phase after injection.

Based on the groundwater data, another chemical injection event is recommended. The next event will target the dissolved contamination in wells MW-8, MW-13, MW-14, and newly installed wells MW-16 and MW-17. To reduce the effects of groundwater displacement by injection, chemical feed rates will be reduced to half of the maximum rate utilized during the pilot test, or 10 gallons per minute. Additionally, multiple injection wells will be utilized to provide for overlapping cones of chemical injection influence.

To target the contamination in MW-8, MW-13, MW-14, MW-16, and MW-17, upgradient wells MW-16 and MW-17 will be utilized as injection wells. By injecting upgradient, the natural groundwater flow and hydraulic gradient will assist to transport the oxidants throughout the formation.

The chemical oxidants chosen to be injected during the next event are a 20% (by weight solution) sodium persulfate/water mixture with a 25% (by weight solution) sodium hydroxide activator.

EEEPC will work with chemical and injection vendors to determine the stoichiometric requirements of the site and injection logistics. A scope of work for the injection with a complete list of chemical types and quantities will be provided in the injection vendor Exhibit One form, and the post-injection report. The report will be submitted to the NYSDEC after a post-injection groundwater sampling event and data evaluation.

It is anticipated that EEEPC can generate the scope of work and solicit contractor bids during July 2011. The injection event can be tentatively scheduled for August or September. Immediately prior to the injection event, EEEPC will conduct a groundwater sampling event.

If you prefer a different schedule or would like to discuss alternative remedial strategies, please contact me. Otherwise, I will proceed with developing a scope of work for the contractor and resolving the required chemical quantities.

Regards,

Chris Schifferli

Chris Schifferli, PE
Project Manager

Table 1 Summary of Positive Analytical Results for Groundwater Samples, Former Hexagon Laboratories Site, Bronx, New York

Analyte / Sample ID / Date	HEX-IW01-030911 03/09/11	HEX-MW01-011911 01/19/11	HEX-MW05-011911 01/19/11	HEX-MW05-011911/Q 01/19/11	HEX-MW08-012111 01/21/11	HEX-MW13-030911 03/09/11	HEX-MW14-030911 03/09/11	HEX-MW15-030911 03/09/11	HEX-MW16-030911 03/09/11	HEX-MW17-030911 03/09/11
VOCs by Method SW8260B (µg/L)										
1,1,1-TRICHLOROETHANE	**140 J**	10 U	10 U	10 U	10 UJ	**140 J**	**1400 J**	100000 U	**13000 J**	**12000 J**
1,1,2,2-TETRACHLOROETHANE	10 U	10 U	10 U	10 U	10 UJ	10 UJ	**3 J**	10 UJ	100000 U	100000 U
1,1-DICHLOROETHANE	**330 J**	**4 J**	10 U	10 U	80000 U	20000 UJ	**2100 J**	100000 U	**13000 J**	100000 U
1,1-DICHLOROETHENE	**12**	10 U	10 U	10 U	10 UJ	**74 J**	**160 J**	**140 J**	100000 U	100000 U
1,2-DICHLOROBENZENE	**170**	**9 J**	**4 J**	**4 J**	**42 J**	20000 U	10000 U	100000 U	100000 U	100000 U
1,2-DICHLOROETHANE	**1900**	10 U	10 U	10 U	**10000 J**	**74000 J**	**87000**	**57000 J**	**1600000**	**1400000**
1,3-DICHLOROBENZENE	**6 J**	10 U	10 U	10 U	**1 J**	**5 J**	**5 J**	**4 J**	100000 U	100000 U
1,4-DICHLOROBENZENE	**12**	10 U	10 U	10 U	**2 J**	**6 J**	**22 J**	**18 J**	100000 U	100000 U
2-HEXANONE	10 UJ	10 U	10 U	10 U	**12 J**	10 UJ	10 UJ	10 UJ	100000 U	100000 U
ACETONE	**1400 J**	10 U	**9 J**	**8 J**	**840000**	**330000 J**	**140000 J**	**590000 J**	**470000 J**	**340000 J**
BENZENE	**2000**	**160**	**560**	**540**	**50000 J**	**25000**	**15000**	**43000 J**	**32000 J**	**37000 J**
BROMOMETHANE	10 UJ	10 U	10 U	10 U	**1 J**	10 UJ	10 UJ	10 UJ	100000 UJ	100000 UJ
CHLOROBENZENE	**1000**	**390**	**300**	**280**	**10000 J**	20000 U	**5600 J**	100000 U	100000 U	**13000 J**
CHLOROETHANE	**8 J**	10 U	**5 J**	**5 J**	**35 J**	**9 J**	**24 J**	**13 J**	100000 UJ	100000 UJ
CHLOROFORM	**58**	10 U	10 U	10 U	**14 J**	20000 UJ	**3300 J**	100000 U	**58000 J**	**13000 J**
CHLOROMETHANE	10 U	10 U	10 U	10 U	**5 J**	**7 J**	10 UJ	10 UJ	100000 U	100000 U
CIS-1,2-DICHLOROETHYLENE	**1400**	10 U	10 U	10 U	**20000 J**	**54000**	**46000**	**42000 J**	100000 U	100000 U
CYCLOHEXANE	10 UJ	**12**	**3 J**	**3 J**	10 UJ	**47 J**	**56 J**	**43 J**	100000 UJ	100000 UJ
DIMETHYL BENZENE	**520**	10 U	**8 J**	**8 J**	80000 U	**5300 J**	**2500 J**	100000 U	100000 U	100000 U
ETHYLBENZENE	**220 J**	10 U	**3 J**	**3 J**	80000 U	20000 U	10000 U	100000 U	100000 U	100000 U
ISOPROPYLBENZENE (CUMENE)	**65**	**12**	**4 J**	**4 J**	**26 J**	**85 J**	**43 J**	**41 J**	100000 U	100000 U
METHYL ISOBUTYL KETONE (4-METH	**9 J**	10 U	**6 J**	**6 J**	80000 U	20000 UJ	**200 J**	100000 UJ	100000 UJ	100000 UJ
METHYLCYCLOHEXANE	**57 J**	**5 J**	10 U	10 U	**9 J**	**65 J**	**56 J**	**59 J**	100000 UJ	100000 UJ
METHYLENE CHLORIDE	**31 J**	10 U	10 U	10 U	80000 U	**9300 J**	**2700 J**	100000 UJ	**82000 J**	**60000 J**
TERT-BUTYL METHYL ETHER	10 U	**25**	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	100000 U	100000 U
TETRACHLOROETHYLENE(PCE)	**320 J**	10 U	10 U	10 U	**13 J**	**12000 J**	**11000**	100000 U	**47000 J**	**40000 J**
TOLUENE	**6300 J**	10 U	**1 J**	**1 J**	**94000**	**100000 J**	**99000 J**	**80000 J**	**180000 J**	**210000 J**
TRANS-1,2-DICHLOROETHENE	**9 J**	10 U	10 U	10 U	80000 U	20000 UJ	10000 U	100000 U	100000 U	100000 U
TRICHLOROETHYLENE (TCE)	**910 J**	10 U	10 U	10 U	**160 J**	**6200 J**	**18000**	**19000 J**	**190000**	**200000**
VINYL CHLORIDE	**1300**	10 U	10 U	10 U	80000 U	**4300 J**	**5100 J**	100000 U	100000 U	100000 U
Total VOCs	**18,159**	**617**	**903**	**862**	**1,024,367**	**620,545**	**439,261**	**831,314**	**2,685,226**	**2,325,455**
SVOCs by Method SW8270B (µg/L)										
2,4-DIMETHYLPHENOL	100 U	10 U	10 U	10 U	100 U	100 U	**39 J**	**140**	100 U	100 U
2-METHYLNAPHTHALENE	100 U	10 U	10 U	10 U	100 U	**32 J**	**29 J**	**46 J**	100 U	100 U
2-METHYLPHENOL (O-CRESOL)	**57 J**	10 U	**1 J**	10 U	**7400 J**	**4800 J**	**1400 J**	**3000 J**	**1300 J**	**1200 J**
4-CHLOROANILINE	**86 J**	**8 J**	**110**	**120**	**150**	**85 J**	**420**	**190**	10000 U	**2600**
4-METHYLPHENOL (P-CRESOL)	**150**	10 UJ	10 UJ	10 UJ	**64000 J**	**11000**	**6400 J**	**20000**	**3600 J**	**4200**
ACENAPHTHENE	100 U	**1 J**	**8 J**	**8 J**	100 U	100 U	100 U	100 U	100 U	100 U
BENZALDEHYDE	100 UJ	**1 J**	10 UJ	10 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ
BIPHENYL (DIPHENYL)	**24 J**	10 UJ	**2 J**	**2 J**	100 UJ	**15 J**	**22 J**	**15 J**	**23 J**	**20 J**
CAPROLACTAM	100 U	10 U	**26 J**	**46 J**	100 U	100 U	100 UJ	100 U	100 U	100 U
CARBAZOLE	100 U	10 U	10 U	10 U	100 U	**18 J**	100 U	100 U	100 U	100 U
DIETHYL PHTHALATE	**34 J**	10 U	**1 J**	**1 J**	**390**	**1400 J**	**850 J**	**1000 J**	10000 U	**280**
DIMETHYL PHTHALATE	100 U	10 U	10 U	10 U	100 U	**260**	**37 J**	**35 J**	**330**	100 U

Table 1 Summary of Positive Analytical Results for Groundwater Samples, Former Hexagon Laboratories Site, Bronx, New York

Sample ID:	HEX-IW01-030911	HEX-MW01-011911	HEX-MW05-011911	HEX-MW05-011911/Q	HEX-MW08-012111	HEX-MW13-030911	HEX-MW14-030911	HEX-MW15-030911	HEX-MW16-030911	HEX-MW17-030911
Date:	03/09/11	01/19/11	01/19/11	01/19/11	01/21/11	03/09/11	03/09/11	03/09/11	03/09/11	03/09/11
DI-N-BUTYL PHTHALATE	100 U	1 J	10 UJ	10 UJ	100 UJ	100 U	100 U	100 U	100 U	100 U
FLUORANTHENE	100 U	10 U	1 J	1 J	100 U	100 U	100 U	100 U	100 U	100 U
FLUORENE	100 U	1 J	3 J	3 J	100 U	100 U	100 U	100 U	100 U	100 U
NAPHTHALENE	19 J	2 J	10 UJ	10 UJ	300 J	140	96 J	160	240	320
NITROBENZENE	100 U	10 U	10 U	10 U	100 U	100 U	5600	2400 J	30000	13000
PHENANTHRENE	100 U	10 UJ	14 J	12 J	100 UJ	100 U	100 U	100 U	100 U	100 U
PHENOL	97 J	4 J	14	11	10000 J	1500 J	970 J	1100 J	1600 J	1300 J
PYRENE	100 U	10 U	2 J	2 J	100 U	100 U	100 U	100 U	100 U	100 U
Total SVOCs	**467**	**18**	**182**	**206**	**82,240**	**19,250**	**15,863**	**28,086**	**37,093**	**22,920**
Metals by Method SW6010 (µg/L)										
ALUMINUM	151 J	166 J	32100	27200	165 J	3530 J	3290 J	1050 J	1320 J	3000 J
ANTIMONY	4.1 J	2.2 J	5.3 J	3.6 J	1.5 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
ARSENIC	10	4.5 J	7.9 J	5.9 J	8.4 J	9.1 J	5.3 J	3.4 J	7.1 J	3.3 J
BARIUM	34.8 J	233	462	374	320	183 J	189 J	358	41.3 J	154 J
BERYLLIUM	0.67 J	1.1 J	0.97 J	0.85 J	0.72 J	0.63 J	0.51 J	0.25 J	0.67 J	1 J
CADMIUM	0.75 J	0.39 J	0.2 U	0.2 U	0.2 U	0.85 J	1.3 J	0.36 J	1.5 J	2.2 J
CALCIUM	31600	57200	28000	24900	709000	167000	106000	232000	406000	249000
CHROMIUM	134 J	4.7 J	221	190	67.4	260 J	465 J	201 J	1030 J	1050 J
COBALT	5.2 J	1.4 J	33.5 J	28 J	3.2 J	30.2 J	13 J	5.3 J	113	115
COPPER	9.9 J	1.9 J	37.8	31.9	0.49 U	195 J	98.8 J	16.9 J	78.9 J	180 J
IRON	33800 J	19300	64600	52600	28200	78500 J	27100 J	31900 J	13200 J	23300 J
LEAD	13.1 J	7.5	32.9	26.3	8.9	42.7 J	19.4 J	17 J	9.4 J	13.1 J
MAGNESIUM	10600	27300	22300	19000	205000	65200	43600	105000	169000	105000
MANGANESE	766	1940	1490	1300	12100	4430	4330	10800	20100	14700
NICKEL	15 J	5.7 J	76.8	65	344	342	136	336	991	398
POTASSIUM	24500 J	47200 J	107000 J	91600 J	42900 J	69900 J	64900 J	83100 J	132000 J	134000 J
SELENIUM	2.6 U	3.3 J	4.3 J	5	12.6	4.4 J	2.6 U	5.6	10	6.2
SILVER	0.52 U	0.4 J	0.47 J	0.38 U	1.2 J	0.52 U	0.52 U	0.52 U	2 J	0.74 J
SODIUM	200000	161000	279000	246000	497000	977000	559000	815000 J	1740000	1000000
THALLIUM	2.7 U	5.2 J	5.5 J	5.5 J	2.3 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U
VANADIUM	13.9 J	1.8 J	93	75.8	19.6 J	31.2 J	26 J	13.6 J	5.9 J	16 J
ZINC	45.5	11.4 J	178	149	1.7 U	183	2150	81.3	3850	1830
MERCURY	0.1 UJ	0.1 U	0.1 U	0.1 U	0.21	1.7 J	1.8 J	0.1 UJ	11.4	25.6
CYANIDE	10 UJ	10 U	10 U	10 U	10 U	11 J	21.5 J	16.4 J	25.8 J	17.1 J

Note: [1] New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations,* 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

Key:

(g) = Guidance value (no applicable standard).

J = Estimated value.

U = Not detected (lab reporting limit shown).

UJ = Not detected/Estimated Value.

µg/L = Micrograms per liter.

mg/L = Milligrams per liter.

-- = Analyte not analyzed.

VOCs = Volatile organic compounds.

/Q Designates field duplicate sample.

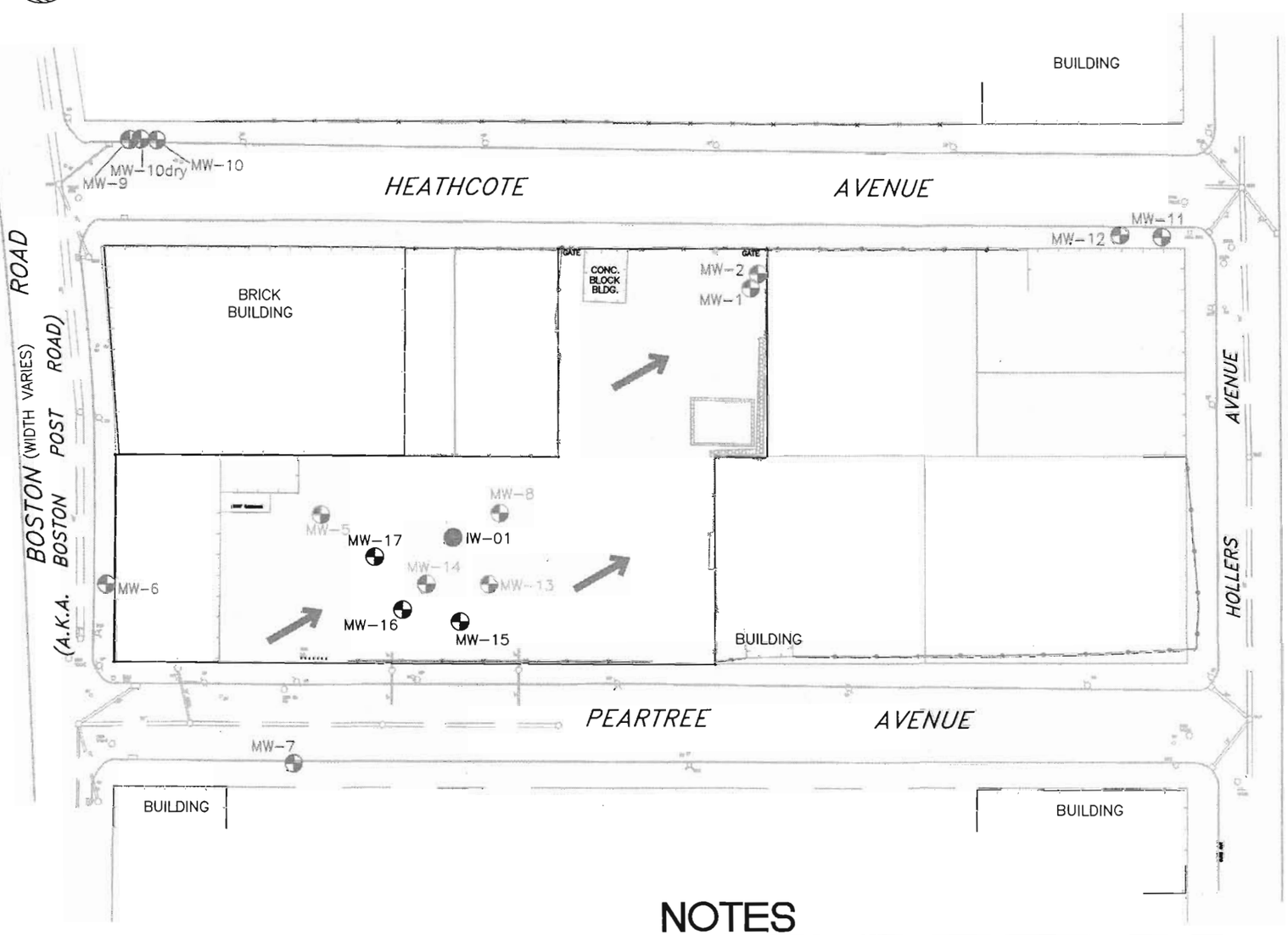
Table 2 Historical Groundwater Results

Constituents	Injection Well IW-01				Monitoring Well MW-08			Monitoring Well MW-13				Monitoring Well MW-14			
	2/11/2009 (pre-fracturing)	11/12/2009 (post-fracturing)	2/3/2010 (post-injection)	3/9/2011	2/11/2009 (pre-fracturing)	2/2/2010 (post-injection)	1/21/2011	2/11/2009 (pre-fracturing)	11/12/2009 (post-fracturing)	2/2/2010 (post-injection)	3/9/2011	2/11/2009 (pre-fracturing)	11/12/2009 (post-fracturing)	2/2/2010 (post-injection)	3/9/2011
VOLATILE ORGANIC COMPOUNDS (µg/L)															
1,2-DICHLOROETHANE	144,000	3,600	5,200	330	NA	11,000	57,000	141,000	6,000	NA	74,000	76,400	NA	NA	87,000
ACETONE	106,000	50,000	100,000	1,400	83,500	300,000	590,000	150,000	50,000	100,000	330,000	166,000	250,000	100,000	140,000
BENZENE	55,400	1,800	1,600	2,000	39,600	46,000	43,000	67,800	4,700	3,200	25,000	34,800	16,000	5,200	15,000
CHLOROBENZENE	2,580	1,700	1,000	1,000	7,700	7,700	10,000	1,790	1,600	1,000	NA	13,700	7,200	1,800	5,600
TOLUENE	139,000	48,000	24,000	6,300	34,700	55,000	80,000	114,000	55,000	48,000	100,000	94,800	130,000	55,000	99,000
VINYL CHLORIDE	2,980	2,000	2,000	1,300	131	3,100	NA	4,320	2,000	2,000	4,300	6,350	10,000	2,000	5,100
TRICHLOROETHYLENE	NA	1,000	2,300	910	NA	1,000	19,000	NA	1,200	4,300	6,200	NA	67,000	11,000	18,000
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)															
2-METHYLPHENOL	2,520	92	510	57	620	2,500	7,400	10,000	300	1,300	4,800	3,030	700	1,100	6,400
METALS (mg/L)															
CALCIUM	125	NA	220,000	31,600	555	540,000	232,000	297	NA	230,000	167,000	NA	NA	230,000	106,000
IRON	21	NA	240,000	33,800	44	43,000	31,900	58	NA	91,000	78,500	112	NA	70,000	27,100
MAGNESIUM	39	NA	64,000	10,600	163	160,000	105,000	84	NA	91,000	65,200	137	NA	95,000	43,600
MANGANESE	4	NA	4,200	766	10	9,600	10,800	9	NA	3,600	4,430	16	NA	5,100	4,330
POTASSIUM	51	NA	75,000	24,500	28	35,000	83,100	52	NA	87,000	69,900	97	NA	120,000	64,900
SODIUM	535	NA	960,000	200,000	250	270,000	815,000	462	NA	1,800,000	977,000	616	NA	2,200,000	559,000

Notes:

The above table of groundwater constituent concentrations as listed identifies only those constituents and data values that are useful in identifying upward or downward concentration trends.

F:\Hexagon\Pilot test figure 10-17-08\New Mon Wells 3-3-11.dwg



SCALE IN FEET

0 60 120 180

LEGEND

- EXISTING INJECTION WELL
- MW — EXISTING MONITORING WELL
- MW — NEW MONITORING WELL
- BUILDING EDGE
- HEXAGON PROPERTY LINE
- ADJOINING PROPERTY LINE
- CONCRETE CURB
- HYDRANT
- UTILITY POLE
- WATER VALVE
- GAS VALVE
- CATCH BASIN
- MANHOLE
- UNDERGROUND PIPE
- MASONRY STONE WALL
- CHAIN LINK FENCE
- METAL STOCKADE FENCE
- GAS MAIN CONNECTION PIPE
- APPROXIMATE GROUNDWATER FLOW DIRECTION

EXISTING WELL TABLE			
WELL ID	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	TOP OF CASING (ft)
MW-1	10.59	16.5	–
MW-2	–	50.79	–
MW-5	2.05	16.29	–
MW-6	–	14.89	–
MW-7	–	11.87	–
MW-8	12.65	86.29	36.72
MW-9	–	–	–
MW-10	–	100.49	–
MW-10dry	–	12.04	–
MW-11	8.85	16.39	–
MW-12	9.76	78.89	–
MW-13	5.92	47.38	42.15
MW-14	8.60	48.17	42.42
IW-01	1.60	45.93	42.04
MW-15	8.59	49.76	42.46
MW-16	7.31	44.10	42.40
MW-17	8.91	49.48	42.58

NOTES

1. SITE MAP 1-2.dwg SUPPLIED BY TAMS CONSULTANTS, INC.
2. SITE SURVEY BASE MAP HEXAGON LABORATORIES RI/FS BRONX, BRONX COUNTY NY A0126 SUPPLIED BY YEC INC, VALLEY COTTAGE, NY.
3. WELL LOCATIONS ARE APPROXIMATE.
4. DEPTH TO WATER INFORMATION FROM DECEMBER 2010.

ecology and environment

FIGURE 1 MONITORING WELL LOCATIONS
HEXAGON LABORATORY SITE
BRONX COUNTY, NEW YORK

APPENDIX A

Borehole Logs

Borehole Record for MW-15

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

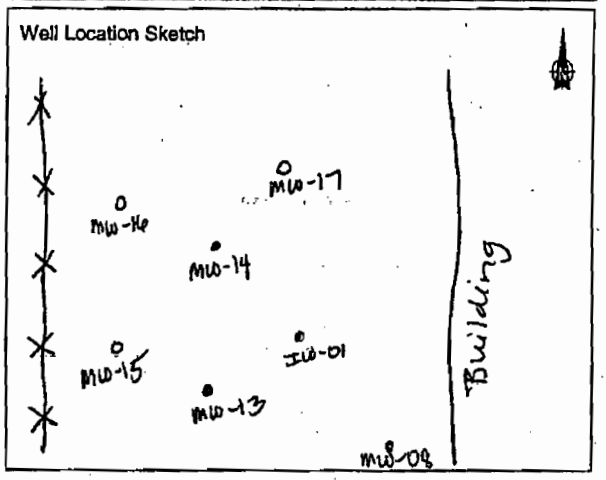
DRILLING LOG FOR MW-15

Project Name Hexagon Lab
Site Location Bronx, NY

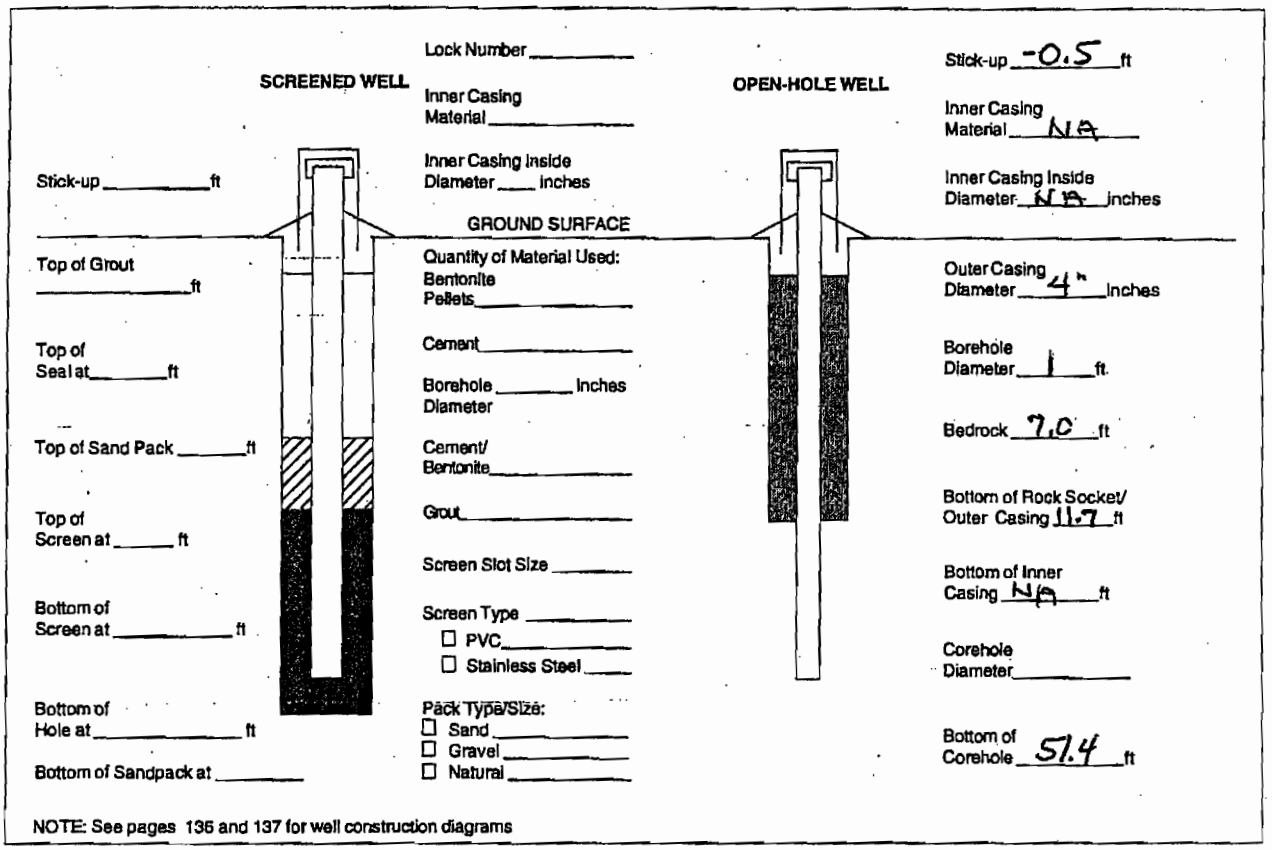
Date Started/Finished 12/7/10 - 02/11/11
Drilling Company Aztech
Driller's Name Marty Harrington
Geologist's Name Megan Horanburg
Geologist's Signature MHoranburg
Rig Type (s) BK66 Longyear
Drilling Method (s) Auger, coring
Bit Size (s) HQ Auger Size (s) 6.25"
Auger/Split Spoon Refusal
Total Depth of Borehole Is
Total Depth of Corehole Is 51'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1			GR						0	
2			SW-SM						0	
3									0	
4										
5									0	
6									3	black staining starting about 6' bgs
7			weathered bedrock							
8										set steel casing about 4.5' into weathered bedrock
9										
10										
11										
12				1302	1	95%	88%		0	0 ppb breathing zone
13										
14									0.5	
15				1314					0	2 gal = water loss



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' Gravel (coarse) to cobble, gray	●	○	○
2	1-7' (7.5'?) Brown CMF sand with little silt,	●	○	○
3	little gravel, dry to moist, wet at bottom, black	●	○	○
4	stained sand from about 6-7' bgs based on	●	○	○
5	cuttings	●	○	○
6		○	●	○
7		○	●	○
8	7-11.7' weathered bedrock	○	○	●
9		○	○	○
10		○	○	○
11		○	○	○
12	~~CORE RUN 1 (11.7-16.4')~~	○	○	○
13	Black and white mottled schist, medium hard, porous to pitted,			
14	laminated to banded bedding at varying angles, close	○	○	○
15	to moderately close fracturing, slight to moderate weathering	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16					1302 1314	1	95%	88%		0	
17					1327	2	99%	83%		0.3	0.1 ppb
18											0 gal = water loss
19											
20											
21					1340						
22					1353	3	100%	93%		0.3	0.9 ppb @ top of rod
23											0 ppb = breathing zone
24											0 gal = water loss
25											
26					1410					0.9	
27					1428	4	100%	68%		3.7	39.5 ppb @ top of rod
28											0.3 ppb = breathing zone
29											10 gal = water loss
30											
31					1444					156	
32					1502	5	63%	46% 18%		1.3	15.1 ppb @ top of rod
33											0 ppb = breathing zone
34	actual recovery line				1517					9.8	0 gal = water loss
35					1527	6	100%	100%		1.0	
36										0.0	
37					[illegible]						9.4 ppb @ top of rod
38											0 ppb = breathing zone
39					1529						
40					1544	7	100%	72%		1.7	0 gal = water loss
41					1554						
42					1604	8	90%	75%		0.5	@ start run 8, 40 gal have been lost.
43											
44											70 ml/gal =
45											~~0 gal~~ = water loss

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	○
17	~~CORE RUN 2: (16.4-21.4')~~ Black and white mottled schist, medium hard to hard,	○	○	○
18	porous to pitted, laminated to banded bedding, very	○	○	○
19	close to moderately close fracturing, slightly to	○	○	○
20	moderate weathering.	○	○	○
21		○	○	○
22	~~CORE RUN 3: (21.4-26.4')~~ Black and white mottled schist, hard, porous to pitted,	○	○	○
23	laminated to parting bedding at varying angles, close	○	○	○
24	to moderately close fracturing, slightly to moderate	○	○	○
25	weathering	○	○	○
26		○	○	○
27	~~CORE RUN 4: (26.4-31.4')~~ Black and white mottled schist, soft to hard, porous	○	○	○
28	to pitted, laminated to parting bedding at 20-45°	○	○	○
29	angles, close fracturing, slightly to high weathering	○	○	○
30		○	○	○
31		○	○	○
32	~~CORE RUN 5: (31.4-36.4')~~ 34.4')	○	○	○
33	Black and white mottled schist, medium hard to hard, porous	○	○	○
34	to pitted, laminated to parting bedding @ 20-45° angles,	○	○	○
35	~~(actual recovery line)~~ close to moderately close fracturing, slightly to high	○	○	○
36	weathering	○	○	○
37	~~CORE RUN 6: (36.4-39.4')~~ Black and white mottled schist,	○	○	○
38	medium hard to hard, porous to pitted, laminated to parting	○	○	○
39	bedding @ varying angles, close to mod. close fracturing, slightly weathered	○	○	○
40	CORE RUN 7: (39.4-41.4') same as run 6	○	○	○
41		○	○	○
42	CORE RUN 8: (41.4'-46.4') Black & white mottled schist,	○	○	○
43	hard, porous to pitted, laminated to parting bedding,	○	○	○
44	close to moderately close fracturing slightly to	○	○	○
45	moderate weathering	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
46					1615						
47					1634	9	100%	100%		0.5	1.9 ppb @ top of rod
48											0 ppb =
49											breathing zone
50									~~[illegible]~~		70 [illegible] ~~200~~ gal =
51					1644				~~[illegible]~~		water loss
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											

Depth(feet)	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
46		○	○	○
	CORE RUN 9 (46.4' — 51.4')	○	○	○
47	Black and white mottled schist, hard, porous to	○	○	○
48	pitted, laminated to banding bedding at varying	○	○	○
49	angles, close to wide fracturing, slightly to	○	○	○
50	moderate weathering.	○	○	○
51		○	○	○
52		○	○	○
53		○	○	○
54		○	○	○
55		○	○	○
56		○	○	○
57		○	○	○
58		○	○	○
59		○	○	○
60		○	○	○
61		○	○	○
62		○	○	○
63		○	○	○
64		○	○	○
65		○	○	○
66		○	○	○
67		○	○	○
68		○	○	○
69		○	○	○
70		○	○	○
71		○	○	○
72		○	○	○
73		○	○	○
74		○	○	○
75		○	○	○

Borehole Record for MW-16

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development -- Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

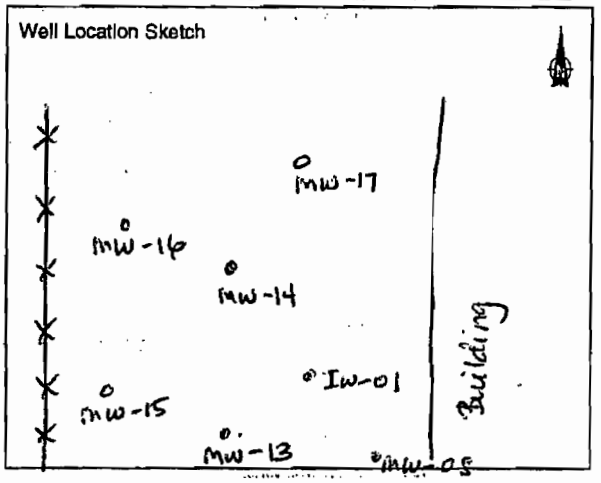
DRILLING LOG FOR MW-16

Project Name: Hexagon Lab
Site Location: Bronx, NY

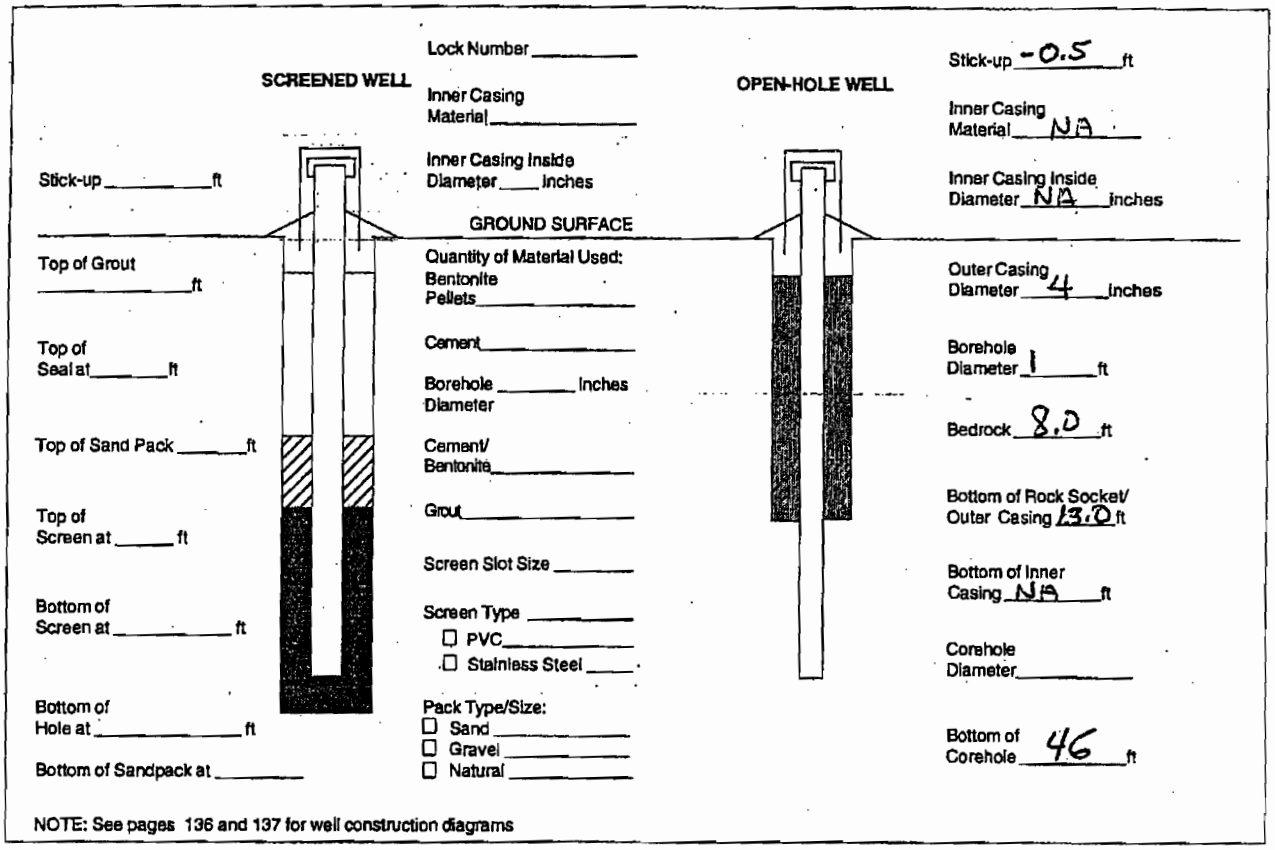
Date Started/Finished: 12/7/10 - 12/10/10
Drilling Company: Aztech
Driller's Name: Marty Harrington
Geologist's Name: Megan Horanburg
Geologist's Signature: MHoranburg
Rig Type (s): BK66 Longyear
Drilling Method (s): Auger, coring
Bit Size (s): HQ Auger Size (s): 6.25"
Auger/Split Spoon Refusal:
Total Depth of Borehole Is:
Total Depth of Corehole Is: 46'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1			GR						0	
2			SW-SM						0	
3									0	
4									0	
5									0	
6									20	black staining from about 5-6' bgs
7									100	dark reddish brown
8									800	about 6-8' strong odor.
9			weathered bedrock							set steel casing about 5' into weathered bedrock
10										
11										
12										
13				1159	1	88%	33%		0.8	0ppm breathing zone
14				1210						
15										



NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1' Coarse gravel to cobble, gray	●	○	○
2	1-8' Brown CMF sand with little silt, little gravel,	●	○	○
3	dry to moist, wet at 6-8'. black stained sand	●	○	○
4	from about 5-6', dark brown (reddish) 6-8' with	●	○	○
5	strong odor. Unsure if natural or fill.	○	●	○
6		○	●	○
7		○	○	●
8	8-13' weathered bedrock	○	○	●
9		○	○	●
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14	Core Run 1 (13'-14.5') Black & white mottled schist,	○	○	○
15	medium hard to hard, porous to pitted, laminated to ~~parting bedding~~ at approx. 30° angle, very close to close fracturing, moderate to severe weathering, orange staining present.	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16					1229 1235	2	66%	55%		0.4	0ppm breathing zone
17					1308	3	96%	80%		3.3	0.2ppm breathing zone
18											
19											
20					1322					0.1	<5gal water loss
21					1328	4	100%	100%		0	0 ppm breathing zone
22											
23											
24											
25											5gal water loss
26					1342					0	
27					1347	5	92%	82%		0	0.2ppm breathing zone
28											
29											
30											5gal water loss
31					1400					0	
32					1407	6	100%	98%		0	0ppm breathing zone
33											
34											
35											5gal water loss
36					1418					0	
37					1424	7	99%	80%		0	0 ppm breathing zone
38											
39											
40											5 gal water loss
41					1438					16	
42					1448	8	84%	70%			0.1 ppm breathing zone
43					1500						
12/9 / 12/10					1016						Pump breaks at approx 43.5' bgs
44											0ppm breathing Zone
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16	Core Run 2 (14.5'-16') Black & white mottled schist, medium hard, porous to pitted, laminated to parting bedding, very close to close fractures, high to severe weathering, interval covered in clay-like material	○	○	○
17	Core Run 3 (16'-21') Black & white mottled schist, medium	○	○	○
18	to hard, porous to pitted, laminated to banded bedding at	○	○	○
19	approx 20°-45° angle, very close to moderately close fracturing,	○	○	○
20	moderate to high weathering, peach coloration at	○	○	○
21	19.5'-21'	○	○	○
22	Core Run 4 (21'-26') Black and white mottled schist,	○	○	○
23	medium hard to hard, porous to pitted, laminated to parting	○	○	○
24	bedding at approx. 20°-45° angle, moderately close to	○	○	○
25	wide fracturing, slight to moderate weathering, peach	○	○	○
26	coloration at 21'-22.5'	○	○	○
27	Core Run 5 (26'-31') Black & white mottled schist,	○	○	○
28	medium hard to hard, porous to pitted, laminated to parting	○	○	○
29	bedding at 45-90° angle, close to moderately close	○	○	○
30	fracturing, slightly weathered	○	○	○
31		○	○	○
32	Core Run 6 (31'-36') Black & white mottled schist,	○	○	○
33	medium hard to hard, porous to pitted, laminated to parting	○	○	○
34	bedding at highly variable angles, close to moderately	○	○	○
35	close fracturing, slightly to high weathering	○	○	○
36		○	○	○
37	Core Run 7 (36'-41') Black & white mottled schist, hard	○	○	○
38	rock, pitted to porous, laminated to parting bedding at	○	○	○
39	highly variable angles, very close to close fracturing,	○	○	○
40	slightly to moderate weathering.	○	○	○
41		○	○	○
42	Core Run 8 (41'-46') Black and white mottled schist,	○	○	○
43	hard, porous to pitted, laminated to parting bedding at	○	○	○
44	approx. 20°-45° angles, very close to moderately close	○	○	○
45	fracturing, moderate weathering.	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
					1023	8			→		5gal water loss
46					1040	9	100%	75		0	
47					1050						
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
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66											
67											
68											
69											
70											
71											
72											
73											
74											
75											

Depth(feet)	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
46	Core Run 8 (41'-46')	○	○	○
47	~~Core Run 9 (46'-~~	○	○	○
48		○	○	○
49		○	○	○
50		○	○	○
51		○	○	○
52		○	○	○
53		○	○	○
54		○	○	○
55		○	○	○
56		○	○	○
57		○	○	○
58		○	○	○
59		○	○	○
60		○	○	○
61		○	○	○
62		○	○	○
63		○	○	○
64		○	○	○
65		○	○	○
66		○	○	○
67		○	○	○
68		○	○	○
69		○	○	○
70		○	○	○
71		○	○	○
72		○	○	○
73		○	○	○
74		○	○	○
75				

Borehole Record for MW-17B

- Drilling Log
- Narrative Lithologic Description
- Well Development Record
- Well Development – Parameter Measurements
- Investigation - Derived Waste Inventory Sheet

BOREHOLE NO. MW-18

BOREHOLE NO. MW-16

DRILLING LOG FOR MW-17

Project Name Hexagon Labs

Site Location Bronx, NY

Date Started/Finished 12/7/10 - 12/8/10

Drilling Company Aztech

Driller's Name Marty Harrington

Geologist's Name Brian Cerri

Geologist's Signature B-C

Rig Type (s) BK66 Longyear

Drilling Method (s) Auger, Coring

Bit Size (s) HQ Auger Size (s) 6.25"

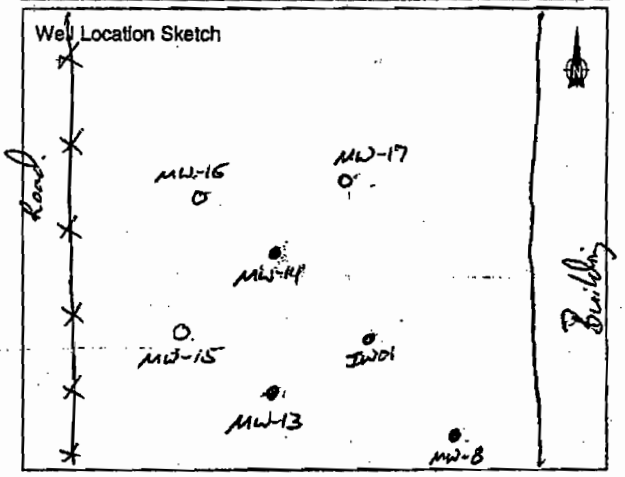
Auger/Split Spoon Refusal

Total Depth of Borehole Is

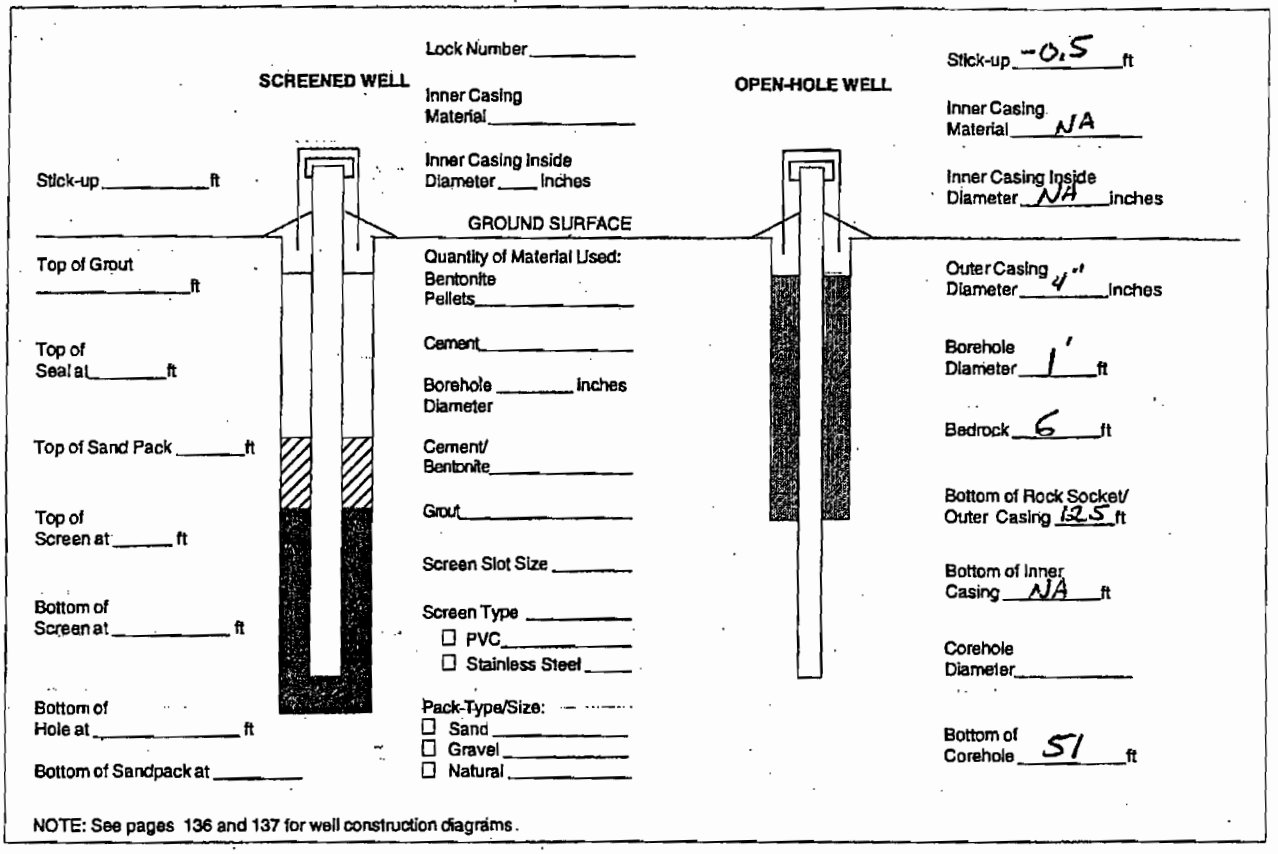
Total Depth of Corehole Is 51'

Water Level (TOIC)		
Date	Time	Level (Feet)

Well Location Sketch



Depth (Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1			GR						0	
2			SW-						0	
3			SM						0	
4									1	
5									80 -	Black staining starting about 5' bgs.
6										
7			Weathered Bedrock							Set steel casing about 6' into weathered bedrock.
8										
9										
10										
11										
12										12.5' - Start.
13				1135	1	98%	0%		8.8	0ppm breathing zone
14										
15				1150						16' Finish



NOTE: See pages 136 and 137 for well construction diagrams.

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0'-1' Coarse gravel/cobble, gray	◉	○	○
2	1'-5' Brown CMF sand with little silt, little gravel, dry to	◉	○	○
3	moist, Black stained sand from about 5'-6' by hand on	◉	○	○
4	cuttings.	◉	○	○
5		○	◉	○
6		○	◉	○
7	6'-12' - Weathered bedrock.	○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13	Core Run #1: (12.5'-16'): Black + white mottled schist, medium			
14	hard to hard rock, porous to pitted, laminated to parting, bedding at	○	○	○
15	20°-45° angle, very close to close fractures, moderate to severe weathering	○	○	○

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
					1135 1150	1	28%	0%		0.8	
16											
					1220					2.8	
17						2					0ppm breathing zone
18							100%	7%		0.0	
19											10 gallon water loss
					1236					7.5	
20											
					1315					8.9	
21											0ppm breathing zone
22						3					
23							80%	7%		1.5	
24											15 gallons of water loss
					1336					5.5	
25											
					1336	3				5.5	
26											
					1425					0.8	
27											0ppm
28						4	100%	95%		1.4	breathing zone
29											
30											15+ gallons
					1443					1.4	of water loss
31											
					1454					1.6	
32											0ppm
33						5	98%	93%			breathing zone
34											
35											15+ gallons
					1570					0.5	of water loss
36											
					1523					1.7	
37											0ppm
38						6	95%	85%			breathing zone
39										6	
40											20 gallons of water loss
					1549					10	
41											
					1559					40	
42											0ppm breathing zone
43						7	99%	57%			
44											15+ gallons of water loss
					1612					4	
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
16		○	○	○
17	Core Run #2: (16'-20.3') Black + White mottled Schist, medium hard to hard rock, porous to pitted, Laminated to parting bedding at 20°-45° angle, very close to moderately close fractures, moderate to severe weathering.	○	○	○
18		○	○	○
19		○	○	○
20		○	○	○
21		○	○	○
22	Core Run #3 (20.3'-26') Black + White mottled Schist, medium hard to hard rock, porous to pitted, Laminated to parting bedding at 20°-45° angle, very close to moderately close fractures, moderate to high weathering, orange staining at 23' and 25' fractures.	○	○	○
23		○	○	○
24		○	○	○
25		○	○	○
26		○	○	○
27	Core Run #4 (26'-31') Black + White mottled schist, hard rock, porous to pitted, Laminated to parting bedding at 20°-45° angle, very close to moderately close fractures, slight to moderate weathering.	○	○	○
28		○	○	○
29		○	○	○
30		○	○	○
31		○	○	○
32	Core Run #5 (31'-36') black + white mottled schist, hard rock, porous to pitted, Laminated to parting bedding at 20°-45° angle, close to moderately close fractures, slight to high weathering.	○	○	○
33		○	○	○
34		○	○	○
35		○	○	○
36		○	○	○
37	Core Run #6 (36'-41') Black + white mottled Schist, hard rock, porous to pitted, Laminated to parting bedding at a 20°-45° angle, very close to moderately close fractures, moderate to high weathering.	○	○	○
38		○	○	○
39		○	○	○
40		○	○	○
41		○	○	○
42	Core Run #7 (41'-46') Black + White mottled schist, hard rock, porous to pitted, Laminated to parting bedding at a 20°-45° angle, very close to close fractures, moderate to severe weathering	○	○	○
43		○	○	○
44		○	○	○
45		○	○	○

BOREHOLE NO. MW-15

BOREHOLE NO. MW-16

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
					1512	7	99%	5%		4	
46											
47				1	1622	8					Generally 0 in breathing zone, but occasional spikes to 10
48											
49							100%	90%		9.1	
50											15 gallons
51					1640						Lost in run
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											

Depth(feet)	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
46		○	○	○
47	Core Run B (46-51'): Black + white Schist, hard rock, porous to pitted, laminated to parting bedding at a 20°-45° angle, very close to moderately close fractures, moderate to high weathering.	○	○	○
48		○	○	○
49		○	○	○
50		○	○	○
51		○	○	○
52		○	○	○
53		○	○	○
54		○	○	○
55		○	○	○
56		○	○	○
57		○	○	○
58		○	○	○
59		○	○	○
60		○	○	○
61		○	○	○
62		○	○	○
63		○	○	○
64		○	○	○
65		○	○	○
66		○	○	○
67		○	○	○
68		○	○	○
69		○	○	○
70		○	○	○
71		○	○	○
72		○	○	○
73		○	○	○
74		○	○	○
75		○	○	○

APPENDIX B

Harr Fracturing Report

STARR HYDRO FRACTURE, LLC
33 Clinton Road
Sterling, MA, 01564
978-422-3341

January 26, 2011

James Stair
Aztech Technologies, Inc.
5 McCrea Hill Road
Ballston Spa, NY 12020

Re: 3536 Peartree Ave., Bronx, NY

Dear Mr. Stair,

Attached please find an invoice and the results from the completed hydro fracturing at the above site.

As you know the hydro fracturing process was started on Monday January 17, 2011. A 5' straddle assembly was lowered into MW 17 to a starting depth of 45' and related equipment was connected per our original proposal. The hydro fracture process was completed in this well on Tuesday January 18, 2011 with a total 6 isolated zones. Communication between wells was monitored by a water level meter in MW 15 and by sight in MW 14.

Upon completion of MW 17 all equipment was moved to and installed in MW 15 and set number I (40' - 45') was completed on 01/18/2011. While inflating the packers for set number 2 (35' - 40') the packers encountered a large vertical fracture causing the lower packer to rupture. The down hole tools were removed and a replacement packer was ordered.

We returned to the site on Monday January 24, 2011 and installed all equipment in MW 15. Since the fracture in zone number 2 was too large to accommodate the packer assembly the packers were moved to set number 3 (30' - 35') and on 01/25/2011 the remaining portion of the well was completed. Communication was monitored as above.

This concludes our hydro fracture per our original proposal. Please see attached reports and notes for more information.

Thank you for the opportunity to work with you and please feel free to contact me with questions

Regards,

James McDonald, CWD

STARR HYDRO FRACTURE, LLC.
33 Clinton Road
Sterling, MA 01564
978-422-3341
978-906-3343

ZONE ISOLATION HYDRO FRACTURE

Name: Aztech Technologies Date: 01/17/2011

Address: 3635 Peartree Ave City: Bronx State: NY Zip:

Job Ref: MW 17

Well Depth: 50' Casing Depth: 11' Zone Spacing: 5'

SET NUMBER	TOP DEPTH	BOTTOM DEPTH	MAXIMUM PRESSURE	MINIMUM PRESSURE	WATER VOLUME
1	40	45	500	200	100
2	35	40	600	350	80
3	30	35	650	500	80
4	25	30	550	375	150
5	20	25	150	0	150
6	15	20	250	100	200
7					
8					
9					
10					
11					

STARR HYDRO FRACTURE, LLC
33 Clinton Road
Sterling, MA 01564
978-422-3341
976-906-3343

ZONE ISOLATION HYDRO FRACTURE NOTES

DATE: 01/17/2011
NAME: Aztech Technologies
JOB ADDRESS: 3536 Peartree ave. Bronx, NY

WELL NO.: MW 17
WELL DEPTH: 50'
CASING DEPTH: 11'

SET NO. 1: Communication to wells number MW14 & MW15

SET NO.2: Communication to wells number MW14 & MW15.

SET NO.3: Communication to well MW14

SET NO.4: Communication to well MW14

SET NO.5: No communication noted.

SET NO.6: No communication noted.

Communication to well number MW16 noted after hydro fracture completion.

STARR HYDRO FRACTURE, LLC.
33 Clinton Road
Sterling, MA 01564
978-422-3341
978-906-3343

ZONE ISOLATION HYDRO FRACTURE

Name: Aztech Technologies Date: 01/18 & 25/2011

Address: 3635 Peartree Ave City: Bronx State: NY Zip:

Job Ref: MW 15

Well Depth: 50' Casing Depth: 11' Zone Spacing: 5'

SET NUMBER	TOP DEPTH	BOTTOM DEPTH	MAXIMUM PRESSURE	MINIMUM PRESSURE	WATER VOLUME
1	40	45	0	0	20
2	35	40	0	0	0
3	30	35	475	100	100
4	25	30	450	250	75
5	20	25	375	200	75
6	15	20	275	275	75
7					
8					
9					
10					
11					

STARR HYDRO FRACTURE, LLC
33 Clinton Road
Sterling, MA 01564
978-422-3341
976-906-3343

ZONE ISOLATION HYDRO FRACTURE NOTES

DATE: 01/17/2011
NAME: Aztech Technologies
JOB ADDRESS: 3536 Peartree ave. Bronx, NY

WELL NO.: MW 15
WELL DEPTH: 50'
CASING DEPTH: 11'

SET NO. 1: Communication to wells number MW14, MW16 & MW17. Communication occurred as soon as charge pump was started.

SET NO.2: Large formation fracture caused packer blow out and failure. Unable to seal zone for fracturing.

SET NO.3: Communication to wells MW14, MW16 & MW17

SET NO.4: Communication to wells MW14, MW16 & MW17

SET NO.5: Communication to wells MW14 & MW17

SET NO.6: Communication to wells MW 14 & MW17

Date: 1/19/11 Technician: JN

Well ID	Time	DO	ORP	SC	Temp	pH	Turb
MW-16	2:17		– DK BR – Silty				
	2:21		97.1	9.54	55.61	7.69	750 NTU
	2:35		-56.9	5.62	54.56	7.93	661
	2:42		-12.9	6.03	54.42	7.56	N/A (>1000)
	Stopped pumping @ 2:50pm (DRY)				DTW @ 41.55		
					Pump type: Whale mega pump 12V		
MW-16 1/20/11	start purging @		1323		Initial DTW: 28.90'		
	1323	0 gals	-11.6	9.188	54.7	7.15	190
	1333	6 gals	6.4	9.866	56.2	6.78	120
delay in time due to Aztech pump not working changed to EEEEL pump (Typhoon 12V)	1347	12 gals	-18.1	10.01	55.46	7.00	340
		18 gals total purged					
let well fully recharge	1542	0 gals	-62.2	6.255	52.86	7.13	36.0
	1549	6 gals	-34.7	5.925	55.43	6.91	26.0
	1555	12 gals	-20.1	7.555	54.90	6.88	50.0
let well recharge again	1650	14.5 gals	-11.2	6.086	53.75	6.79	35.0
surge/purge lower 10' of well	1655	17.0 gals	-15.4	6.715	55.83	6.82	40.0
let well recharge overnight							
MW-16 1/21/11	start purging @	0752	Inital depth to water = 10.65'				
	0752	25 gals	27.3	9.070	47.80	7.09	>1000
	0754	5 gals	35.0	9.800	52.78	6.92	65.0
	0758	7.5 gals	38.6	9.157	53.36	6.86	55.0
	0802	10 gals	34.3	9.361	54.52	6.83	60.0
	0805	12.5 gals	31.4	8.428	54.65	6.83	65.0
	0808	15 gals	33.6	8.860	53.76	6.85	70.0
	0813	17.5 gals	28.2	7.941	54.34	6.84	45.0
	0817	20 gals	14.6	8.260	54.00	6.85	50.0
	0825	21 gals	16.7	7.956	51.12	6.90	85.0
development complete							
						35-40 mins to get 100g.	

Date: Technician:

Well ID 17	Time	DO	ORP	mS/SC	Temp	pH	Turb
~~250~~ (17)	230	/	116	41595	13.5 C	6.91	Too high
T	240	3	4	1262	9.9 C	7.05	"X1000
	2:55		-39.4	4.684	55.30	7.09	"
	3:06		-54.2	4.536	55.61	7.11	"
	3:14		-57.7	4.355	55.82	7.05	"
	3:25		-35.0	4.853	54.14	6.96	"
	3:55		-70.8	5.095	55.44	7.10	180
	4:06		-65.7	5.086	55.63	7.11	130
	4:17		-62.7	5.112	55.46	7.12	340
1/19/11	4:33		-64.6	5.133	54.92	7.12	310
1/20/11 (17)	7:25am		-27.9	4.807	53.45	7.27	X 1000
	8:08		-41.2	5.250	53.70	7.17	X 1000
	8:20		-55.2	4.792	54.48	7.16	X 1000
	8:31		-60.1	4.873	55.06	7.25	X 1000
	8:45		-51.5	5.036	54.48	7.25	550
	9:02		-38.5	4.906	56.16	7.18	623
	9:15		-94.2	5.166	54.62	7.44	X 1000
	9:30		-91.0	5.177	55.65	7.60	X1000
	9:45		-83.1	5.019	55.84	7.32	X1000
	9:59		-78.3	4.993	56.81	7.16	X1000
	10:15		-73.4	5.011	57.01	7.15	X1000
	10:31		-53.5	5.258	55.71	7.01	X1000
	10:53		-61.8	5.392	55.56	6.98	X1000
	11:14	100 3	-57.1	5.168	56.89	6.95	X1000
1/21/11 (17)	9:45am	(app) - started	pumping				
	10:11 am		-50.7	4.816	55.17	7.00	X1000
(2-3 g per min)	10:22 am		-67.3	4.566	56.04	6.99	X1000
	10:35 am		-60.3	4.878	55.82	6.92	X1000
	10:45 am		-63.2	5.001	56.02	6.98	X1000
	11:01 am		-59.1	5.196	56.65	6.22	X1000
	11:22 am		-53.6	5.373	56.91	6.83	X1000
	11:46 am		-59.4	5.350	56.12	6.27	X1000
	12:00		-52.9	5.368	57.49	6.80	X1000
		DO	ORP	mS/SC	TEMP	PH	Turb

Well 17 (page #2)

Date: 1/21/11 Technician:

Well ID 17	Time	DO	ORP	SC	Temp	pH	Turb
Well (17)	12:18		-53.1	5.422	56.21	6.89	+1,000
	12:44		-75.8	5.487	58.03	7.29	+1,000
	1:12		-63.4	5.510	57.41	6.93	+1,000
	1:26		-65.3	5.571	56.63	7.20	470
	2:00		-68.3	5.566	56.97	7.05	661
	2:20		-64.3	5.559	56.33	6.98	603
	2:30		-66.7	5.631	57.21	7.10	423
	2:45		-68.9	5.114	59.44	7.01	303
	3:02		-68.8	5.489	56.91	7.09	421
	3:20		-59.7	5.574	57.06	7.29	+1000
	3:36		-65.6	5.554	56.92	7.17	600
	3:56		-71.3	5.515	57.15	7.17	401
	4:15		-69.4	5.681	56.96	7.03	267
Shut down @ 4:20 (called JONES)							
7.54 BGS	700 gallons developed today						
Well 17	1130		-104.3	3.125	57.03	5.66	1000 +
2.5 GPMs	1140		-65.2	3.84	57.89	6.53	
	1150		-37.8	4.11	57.90	6.71	
	1200		-39.3	3.7	57.42	5.61	
	1245		-45.4	4.4	57.29	6.82	
	1:00		-62.8	4.53	57.19	6.33	655
	1:10		-66.8	4.14	57.84	6.21	600
	1:15		-44.6	5.00	57.95	5.87	450
	1:30		-62.6	5.03	58.24	5.31	~~1000~~ 170
27.5 BGS	1:45		-60.4	4.96	58.17	5.56	180
28.4	2:00		-56.4	4.95	58.48	5.39	240
29.6	2:15		-52.8	4.90	57.81	5.47	450
30.5 BGS	2:30		-56.1	4.90	58.03	5.40	160
31.28 BGS	2:45		-56.6	4.93	58.15	5.33	120
31.92 BGS	3:00		-61.5	4.93	58.01	5.42	100
32.61	315		-59.3	4.96	57.97	~~5.42~~ 5.3	120
33.58	330		-59.3	5.01	58.06	5.28	140
33.95	345		-66.4	4.94	57.90	5.27	160
33.95 (3:46)	400						
	Pump OFF		@ 345 pm				
17.92	Time		ORP	SC	TEMP	PH	Turb

Date: 1/21/11 DTW Technician: JN

Well ID	Time	DTW	ORP	SC	Temp	pH	Turb
15	9:40	11.72	-67.2	5.226	54.49	6.99	+1,000
	9:46	(start)	-68.3	5.661	55.18	7.22	+1,000
	9:56	21.00	-67.9	5001	53.35	7.05	+1,000
	10:16	24.80	-91.7	5.646	53.46	7.01	+1,000
	10:32	28.10	-89.6	5.616	55.41	6.90	+1,000
	10:50	32.90	-90.2	6.033	56.30	7.01	+1,000
	11:06	35.40	-91.3	6.102	56.44	6.72	+1,000 290
	11:16	36.15	-90.6	6.220	57.00	6.89	265
55g @ 11:30	11:35	40.06	-94.6	5.993	56.43	7.03	762
	11:55	41.30	-84.2	4.551	54.40	6.87	+1,000
	12:11	42.50	-87.1	3.022	55.51	7.03	+1,000
55g @ 12:35	12:31	46.20	-143.1	5.102	53.72	7.83	+1,000
110 total	12:44	44.92	-115.2	5.033	54.42	7.41	+1,000
	1:10	46.33	-109.4	5.103	55.61	6.99	+1,000
	1:40	45.82	-96.4	4.570	50.11	7.24	435
	1:55	47.01	-88.3	5.101	51.22	6.99	560
55g @ 2:10	2:10	46.23	-91.0	5.422	53.63	7.31	760
165 total	2:35	47.14	-101.2	6.033	59.61	7.55	841
	2:51	48.15	-90.3	6.113	61.34	6.79	454
Well recharge slow!	3:06	47.89	-78.13	5.011	55.61	7.09	660
@ 3:26 shut down to recharge well							
	3:45	43.21	-79.01	4.711	47.54	7.27	345
	4:05	46.01	-81.3	5.012	49.91	7.33	401
Shut down @ 4:10 (closed 3 times)							
	Time		ORP	SC	TEMP	PH	Turb

Date: 1/26/11 Technician: MARK WASHINGTON

Well ID TS	Time	DO	ORP	SC	Temp	pH	Turb
9.88 TOS	7:20		~~-82.6~~	~~4.53~~	~~52.03~~	~~4.94~~	
	810		-82.6	4.53	52.03	4.94	160
16.95 3gpm	820						
	0830		-77.5	3.16	54.54	4.96	100
	0845		-74.9	3.24	54.61	5.02	1000 +
~~44.4 BGS~~	0900		-71.8	4.22	54.02	4.98	140
41.4 BGS	0915		-73.6	4.26	54.04	4.96	260
~~Pump Broke~~	0930		-67.3	4.24	54.36	5.18	180
~~2 Gallons~~	0945		-67.6	4.64	55.82	5.14	120
38.15	1000		-64.1	4.64	56.54	5.19	140
	1015		-66.2	4.68	55.27	5.20	110
	1030		-65.2	4.68	55.91	5.17	120
	1045		-65.2	4.64	55.97	5.17	100
	1100		-64.1	4.78	55.96	5.15	90
44.8 BGS	11:15		-59.9	4.82	56.30	5.14	120
2.56GPMS	1130		-59.4	4.91	56.63	5.11	100
	1145		-61.4	4.78	55.96	5.15	100
40.1 BGS	1200		-64.3	4.91	56.44	5.22	60
39.3 BGS	1215		-63.6	4.76	57.38	5.22	70
39.2	1230		-65.8	4.79	57.53	5.21	110
	1245		-55.7	4.86	56.36	5.24	90
	100		-68.6	4.54	56.49	5.20	80
	115		-67.4	4.62	56.55	5.21	40
	130		NONE	TAKEN			
	145		-62.9	4.80	56.62	5.26	50
	200	"	"	"	"	"	"
	220		-66.1	4.84	56.49	5.20	70
	245		-59.3	4.70	56.24	5.17	30
	300		-60.4	4.76	56.61	5.20	30
	330		-54.8	4.63	56.77	5.19	65
	400		-51.8	4.66	56.29	5.11	60
	420		-61.4	4.9	56.64	5.26	45
OFF	4:20 pm		1000 Gallons Pumped				
	TIME	DO	ORP	SC	TEMP	PH	TURB

Well name	Northing	Easting
MW02	748355.02	678792.62
MW05	748500.27	678602.36
MW06	748581.72	678529.9
MW07	748464.1	678487.53
MW08	748422.42	678637.33
MW10	748646	678735.04
MW11	748184.72	678886.17
MW12	748203.34	678879.2
MW13	748413.38	678603.9
MW14	748440.89	678591.94
IW01	748438.22	678617.51

APPENDIX C

Well Development Logs

Date: 1/21/11 DTW Technician: JN

Well ID	Time	DO	ORP	SC	Temp	pH	Turb
15	9:40	11.72	-67.2	5.226	54.49	6.99	>1,000
	9:46	(start)	-68.3	5.661	55.18	7.22	>1,000
	9:56	21.00	-67.9	5001	53.35	7.05	>1,000
	10:16	24.80	-91.7	5.646	53.46	7.01	>1,000
	10:32	28.10	-89.6	5.616	55.41	6.90	>1,000
	10:50	32.90	-90.2	6.033	56.30	7.01	>1,000
	11:06	35.40	-91.3	6.102	56.44	6.92	250
	11:10	36.15	-90.6	6.220	57.00	6.89	265
55g @ 11:30	11:35	40.06	-94.6	5.993	56.43	7.03	762
	11:55	41.30	-84.2	4.551	54.40	6.87	>1,000
	12:11	42.50	-87.1	5.022	55.51	7.03	>1,000
55g @ 12:35	12:31	46.20	-143.1	5.102	53.72	7.83	>1,000
110 total	12:44	44.92	-115.2	5.033	54.42	7.41	>1,000
	1:10	46.33	-109.4	5.103	55.61	6.99	>1,000
	1:40	45.82	-96.4	4.570	50.11	7.24	435
	1:55	47.01	-88.3	5.101	51.22	6.99	560
55g @ 2:10	2:10	46.23	-91.0	5.422	53.63	7.31	760
165 total	2:35	47.14	-101.2	6.033	59.61	7.55	841
	2:51	48.15	-90.3	6.113	61.34	6.99	454
Well recharge slow!	3:08	47.89	-78.13	5.011	55.61	7.09	660
@ 3:26 Shut down to recharge well							
	3:45	48.21	-79.01	4.711	47.54	7.27	345
	4:05	46.61	-81.3	5.012	49.91	7.33	401
Shut down @ 4:10 (closed 3 times)							
	Time		ORP	SC	TEMP	PH	Turb

Date: 9/26/14 Technician: MARY HARRINGTON

Well ID 15	Time	DO	ORP	SC	Temp	pH	Turb
9.88 TDS	7:20		~~-82.0~~	~~4.53~~	~~52.8~~	~~4.94~~	
	810		-82.6	4.53	52.03	4.94	160
16.95 3gpm	820						
	0830		-77.5	3.16	54.54	4.96	100
	0845		-74.9	3.24	54.61	5.02	1000 +
~~44.4 BGS~~	0900		-71.8	4.22	54.02	4.98	146
41.4 BGS	0915		-73.6	4.26	54.04	4.96	260
~~Pump Broke~~	0930		-67.3	4.24	54.36	5.18	180
~~Pump Broke~~	0945		-67.6	4.64	55.82	5.14	120
36.15	1000		-64.1	4.64	56.54	5.19	140
	1015		-66.2	4.68	55.27	5.20	110
	1030		-65.2	4.68	55.91	5.17	120
	1045		-65.2	4.64	55.97	5.17	100
	1100		-64.1	4.78	55.96	5.15	90
44.8 BGS	1115		-59.9	4.82	56.30	5.14	120
2.56PMS	1130		-59.4	4.91	56.63	5.11	100
	1145		-61.4	4.78	55.96	5.15	100
40.1 BGS	1200		-64.3	4.91	56.44	5.22	60
39.3 BGS	1215		-63.6	4.76	57.38	5.22	70
39.2	1230		-65.8	4.79	57.53	5.21	110
	1245		-55.7	4.86	56.36	5.24	90
	100		-68.6	4.54	56.49	5.20	80
	115		-67.4	4.62	56.55	5.21	40
	130		NONE	TAKEN			
	145		-62.9	4.80	56.62	5.26	50
	200	~ ~	~ ~	~	~ ~	~ ~	~
	230		-61.1	4.84	56.49	5.20	70
	245		-59.3	4.70	56.24	5.17	30
	300		-60.4	4.76	56.61	5.20	30
	330		-54.8	4.63	56.77	5.19	65
	400		-51.8	4.66	56.29	5.11	60
	420		-61.4	4.9	56.64	5.26	45
OFF	4:20 pm		1000 GALLONS Pumped				
	TIME	DO	ORP	SC	TEMP	PH	TURB

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WELL PURGE ~~& SAMPLE~~ RECORD

Site Name/Location: Hexagon Labs/Bronx, NY
Well ID: MW-16
EEEPC Project No.: 002700.0015.06
Date: 1/20/11 - 1/21/11

Initial Depth to Water: 28.80 feet TOIC
Start Time: 1323/0752
Total Well Depth: 44.45 feet TOIC
End Time: 1655/0825
Depth to Pump: varying feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: NA Lpm / gpm
Pump Type: Typhoon 12V whale mega pump (12V)
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: ~30.0 gallons x3=90

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1/20/11								
1323	0	7.15	54.7	-11.6	9.188	-	190	28.80
1333	6	6.78	56.2	6.4	9.866	-	120	-
1347	12	7.00	55.46	-18.1	10.01	-	340	-
switch to different pump - Typhoon 12V - let well recharge								
1542	0	7.13	52.86	-62.2	6.255	-	36.0	-
1549	6	6.91	55.43	-34.7	5.925	-	26.0	-
1555	12	6.88	54.9	-20.1	7.555	-	50.0	-
let well recharge								
1650	14.5	6.79	53.75	-11.2	6.086	-	35.0	- PID=52.6ppm
1655	17.0	6.82	55.83	-15.4	6.715	-	40.0	-
let well recharge overnight								
1/21/11								
initial depth to water = 10.65' begin purging = 0752 end purging = 0825								
~~0753~~ 0750	2.5	7.09	47.80	27.3	9.070	-	>1000	10.65
0754	5.0	6.92	52.78	35.0	9.800	-	65.0	-
0758	7.5	6.86	53.36	38.6	9.157	-	55.0	-
~~Final Sample Data:~~	continued on page 2.							

due to water lost during drilling

Sample ID: NA
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: NA
MS/MSD? ☐

Analyses: / Methods:
☐ VOCs ☐ CLP
☐ SVOCs ☐ SW846
☐ PCBs ☒ Drink. Wtr.
☐ Metals ☐ _____
☐ _____ ☐ _____

Comments: ~50 gals. removed by Aztech on 1/19/11 while purging simultaneously with MW-17.

Sampler(s): M. Horanburg, L. Reed

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WELL PURGE ~~& SAMPLE~~ RECORD

Site Name/Location: Hexagon Labs/Bronx, NY — Well ID: MW-16
EEEPC Project No.: 002780. DC15.06 — Date: 1/20/11 - 1/21/11

Initial Depth to Water: 28.80 feet TOIC — Start Time: 1323/0752
Total Well Depth: 44.45 feet TOIC — End Time: 1655/0825
Depth to Pump: varying feet TOIC — ☐ Bailer ☒ Pump
Initial Pump Rate: NA Lpm / gpm — Pump Type: Typhoon 12V whalemegapump (12V)
adjusted to: _____ at _____ minutes — Well Diameter: 4 inches
adjusted to: _____ at _____ minutes — 1x Well Volume: 30.0 gallons x3=90

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm ...)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1/21/11 cont'd.								due to water lost during drilling
0802	10.0	6.83	54.52	34.3	9.361	–	60.0	–
0805	12.5	6.83	54.65	31.4	8.428	–	65.0	–
0808	15.0	6.85	53.76	33.6	8.860	–	70.0	–
0813	17.5	6.84	54.34	28.2	7.941	–	45.0	–
0817	20.0	6.85	54.0	14.6	8.260	–	50.0	–
0825	21.0	6.90	51.12	16.7	7.956	–	–	–
Total gallons purged over 3-day period = 106 gal.								
~~Final Sample Data:~~								

Sample ID: NA — Duplicate? ☐ — Dupe Samp ID: _____
Sample Time: NA — MS/MSD? ☐

Analyses: / Methods:
☐ VOCs ☐ CLP
☐ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☐ Metals ☐ _____
☐ _____ ☐ _____
NA

Comments: ~106 gal purged over 3-day period, 1/19/11 - 1/21/11.

Sampler(s): U. Horanburg, L. Roedl

Date: Technician:

Well ID	Time	DO	ORP	MS/SC	Temp	pH	Turb
~~259~~ 17	~~2~~80	✓	116	4595	13.5 C	6.91	Too high
T	240		4	1262	9.9 C	7.05	11 X1000
	2:55		-39.4	4.684	55.30	7.09	11
	3:06		-54.2	4.536	55.61	7.11	11
	3:14		-57.7	4.355	55.82	7.05	11
	3:25		-35.0	4.853	54.14	6.96	11
	3:55		-20.8	5.095	55.44	7.10	180
	4:06		-65.7	5.086	55.63	7.11	130
	4:17		-62.7	5.112	55.46	7.12	340
1/19/11	4:33		-64.6	5.133	54.92	7.12	310
	~	~	~	~	~	~	~
1/20/11 (17)	7:25am		-29.9	4.807	53.45	7.27	X 1000
	8:08		-41.2	5.250	53.70	7.17	X 1000
	8:20		-58.2	4.792	54.48	7.16	X 1000
	8:31		-60.1	4.873	55.08	7.25	X 1000
	8:45		-51.8	5.036	54.48	7.25	550
	9:02		-38.5	4.906	56.16	7.18	623
	9:15		-94.2	5.165	54.62	7.44	X 1000
	9:30		-91.0	5.177	55.65	7.60	X 1000
	9:45		-83.1	5.019	55.84	7.32	X 1000
	9:57		-78.3	4.993	56.81	7.16	X 1000
	10:15		-73.4	5.011	57.01	7.15	X 1000
	10:31		-53.6	5.258	55.71	7.01	X 1000
	10:53		-61.8	5.392	55.56	6.98	X 1000
	11:14	100%	-57.1	5.168	56.89	6.95	X 1000
	~	~	~	~	~	~	~
1/21/11 (17)	9:45am	(app) - started		pump plug			
	10:11 am		-50.7	4.816	55.17	7.00	X 1000
(2-3 g per min)	10:22 am		-67.3	4.566	56.04	6.99	X 1000
	10:35 am		-60.3	4.818	55.82	6.92	X 1000
	10:45 am		-63.2	5.001	56.02	6.98	X 1000
	11:01 am		-59.1	5.196	56.65	6.22	X 1000
	11:22 am		-53.6	5.373	56.91	6.83	X 1000
	11:46 am		-59.4	5.350	56.12	6.27	X 1000
	12:00		-52.9	5.368	57.49	6.80	X 1000
		DO	ORP	MS/SC	TEMP	PH	TUR

Well 17 (pump #2)

Date: 1/21/11 Technician:

Well ID 17	Time	DO	ORP	SC	Temp	pH	Turb
Well (17)	12:28		-53.1	5,422	56.21	6.89	+1,000
	12:44		-75.8	5,487	58.03	7.29	+1,000
	1:12		-63.4	5.510	57.41	6.93	+1,000
	1:26		-66.3	5.571	56.63	7.20	470
	2:00		-68.3	5.566	56.97	7.05	661
	2:20		-64.3	5.559	56.33	6.98	603
	2:30		-66.7	5.631	57.21	7.10	423
	2:45		-68.9	5.114	59.44	7.01	303
	3:02		-68.8	5.489	56.91	7.09	421
	3:20		-59.7	5.578	57.06	7.29	+1000
	3:38		-65.6	5.554	56.82	7.17	690
	3:58		-71.3	5.518	57.15	7.17	401
	4:15		-69.4	5.681	56.98	7.03	267
Shut down @ 4:20 (called Jones)							
7.84 BGS	700 gpm developed today						
Well 17	1130		-104.3	3.135	57.03	5.66	1000+
2.5 GPMs	1140		-65.2	3.84	57.89	6.53	
	1150		-37.8	4.11	57.90	6.71	
	1200		-39.3	3.7	57.42	5.61	
	1245		-45.4	4.4	57.29	6.82	
	1:00		-62.8	4.53	57.19	6.33	655
	1:10		-66.8	4.74	57.84	6.21	600
	1:15		-44.6	5.00	57.98	5.87	460
	1:30		-62.6	5.03	58.24	5.31	+1000 170
27.5 BGS	1:45		-60.4	4.96	58.17	5.56	180
28.4	2:00		-52.4	4.95	58.48	5.39	240
29.6	2:15		-52.8	4.90	57.81	5.47	450
30.5 BGS	2:30		-56.1	4.90	58.03	5.40	160
31.28 BGS	2:45		-56.6	4.93	58.15	5.33	120
31.92 BGS	3:00		-61.5	4.93	58.01	5.42	100
32.61	315		-59.3	4.96	57.97	~~5.53~~	120
33.58	330		-59.3	5.01	58.06	5.28	140
33.95	345		-66.4	4.94	57.90	5.27	160
33.95 (3:46)	400						
	Pump OFF		@ 345 pm				
16.92	Time		ORP	SC	TEMP	PH	Turb

APPENDIX D

Well Purge and Sample Records

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-01
EEEPC Project No.: 002700.0015.06
Date: 1/19/11

Initial Depth to Water: 10.59 feet TOIC
Start Time: 0949
Total Well Depth: 49.73 feet TOIC
End Time: 1105
Depth to Pump: NA feet TOIC
☒ Bailer ☐ Pump
Initial Pump Rate: NA Lpm / gpm
Pump Type: NA
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 6.38 gallons x 3 = 19.1

Time	Purge Volume (gallons/[illegible])	pH (s.u.)	Temp. (°C/[illegible])	ORP (mV)	Conductivity (µS/cm [illegible])	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1000	0	6.91	10.3	-18	1046	-	24.1	10.59
1015	6	6.69	12.4	-65	1323	-	23.2	-
1030	12	6.73	12.7	-68	1382	-	16.8	-
1045	18	6.71	12.7	-70	1381	-	11.7	-
1100	24	6.71	12.7	-70	1382	-	12.1	-
Final Sample Data:		6.71	12.1	-69	1396	-	7.31	-

Sample ID: HEX-MW01-011911
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1105
MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☒ Metals	☐ _____
☐ _____	☐ _____

Comments: _____

Sampler(s): M. Horanburg, L. Roedl

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International Specialists in the Environment
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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs/Bronx, NY
Well ID: MW-05
EEEPC Project No.: 002700.DC15.06
Date: 1/19/11

Initial Depth to Water: 2.85 feet TOIC
Start Time: 0814
Total Well Depth: 15.50 feet TOIC
End Time: 0922
Depth to Pump: NA feet TOIC
☒ Bailer ☐ Pump
Initial Pump Rate: NA Lpm / gpm
Pump Type: NA
adjusted to: _____ at _____ minutes
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 2.06 gallons x 3 = 6.2

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
0814	0	6.53	8.5	-38	1620	-	13.0	2.85
0825	2	6.68	8.5	-72	1526	-	70.9	-
0830	4	6.83	9.3	-93	1531	-	93.9	-
0840	5	6.82	9.9	-95	1495	-	55.3	Dry
Final Sample Data:		6.91	9.5	-87	1604	-	94.7	

Sample ID: HEX-MW05-011911
Duplicate? ☒
Dupe Samp ID: HEX-MW05-011911/Q
Sample Time: 0922
MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☒ Metals	☐ _____
☐ _____	☐ _____

Comments: _____

Sampler(s): M. Horanburg, L. Roedl

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-08
EEEPC Project No.: 002700. DC15, 06
Date: 1/21/11

Initial Depth to Water: 14.73 feet TOIC
Start Time: 1044 (pump) / 1130 (bailer)
Total Well Depth: 85.99 feet TOIC
End Time: 1253
Depth to Pump: 82.0 feet TOIC
☒ Bailer ☒ Pump
Initial Pump Rate: 2 Lpm (gpm)
Pump Type: Typhoon 12V
adjusted to: bailer at 1130 ~~minutes~~
Well Diameter: 2 inches
adjusted to: _____ at _____ minutes
1x Well Volume: 11.62 gallons x 3 = 34.8

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/F)	ORP (mV)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1058	25 gal	6.47	10.6	-60	4825	-	13.5	-
1130	10 gal	6.33	10.8	-43	4832	-	>1000	-
1142	15.0	6.23	11.6	-51	5129	-	27.1	-
1156	20.0	6.18	10.2	-49	5328	-	12.1	-
1210	25.0	6.15	10.7	-53	5566	-	8.17	-
1227	30.0	6.11	10.9	-51	5763	-	7.87	-
1240	35.0	6.12	11.0	-61	5812	-	5.67	26.35
Final Sample Data:		6.20	10.5	-68	5718	-	6.40	-

Sample ID: HEX-MW08-012111
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1253
MS/MSD? ☐

Analyses: ☒ VOCs ☒ SVOCs ☐ PCBs ☒ Metals ☐ _____ ☐ _____
Methods: ☐ CLP ☐ SW846 ☐ Drink. Wtr. ☐ _____ ☐ _____

Comments: Approximately 10 gals were purged while attempting to purge well with pump. Switched to bailer at 1130 to finish purging.

Sampler(s): M. Horanburg, L. Roedl

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BUFFALO CORPORATE CENTER 368 Pleasant View Drive, Lancaster, New York 14086
Tel: 716/684-8060, Fax: 716/684-0844

WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: IW-01
EEEPC Project No.: 002700.DC15.06
Date: 3/9/11

Initial Depth to Water: 1.60 feet TOIC
Start Time: 1655
Total Well Depth: 45.93 feet TOIC
End Time: 1735
Depth to Pump: ~44 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: ~2 Lpm (gpm)
Pump Type:
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: ~22 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. °C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1655	0	7.44	11.1	-222	1387		>1000	
1705	20	7.34	10.3	-225	1104		11.2	
1715	40	7.31	9.9	-214	1098		9.56	
1725	60	7.29	98	-208	1086		10.95	
1735	80	7.26	9.9	-202	1097		11.9	
Final Sample Data:		7.26	9.9°C	-202	1,097		11.9	

Sample ID: Hex-IW01-030911
Duplicate? ☐
Dupe Samp ID: _____
Sample Time: 1745
MS/MSD? ☐

Analyses: ☒ VOCs ☒ SVOCs ☐ PCBs ☒ Metals ☐ _____
Methods: ☐ CLP ☐ SW846 ☐ Drink. Wtr. ☐ _____ ☐ _____

Comments: We used a submersible pump to purge 4 well volumes and a dedicated bailer to collect the sample.

Sampler(s): B Cerri and J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY. Well ID: MW-13
EEEPC Project No.: 002700.DC15.06 Date: 3/9/11

Initial Depth to Water: 5.92 feet TOIC Start Time: 1545
Total Well Depth: 47.38 feet TOIC End Time: 1635
Depth to Pump: ~46.5 feet TOIC ☐ Bailer ☒ Pump
Initial Pump Rate: ~2 Lpm (gpm) Pump Type:
adjusted to: ____ at ____ minutes Well Diameter: 4 inches
adjusted to: ____ at ____ minutes 1x Well Volume: ~20.5 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1545	0	7.39	12.0°C	-224	2765		850	
1555	20	7.19	11.9°C	-278	3415		>1000	
1605	40	6.96	12.1°C	-253	4441		>1000	
1615	60	6.94	11.9°C	-223	4804		>1000	
1625	80	6.95	12.3°C	-197	4594		169	
1635	100	6.99	12.2°C	-188	4360		147	
Final Sample Data:		6.99	12.2°C	-188	4,360		147	

Sample ID: Hex-MW13-030911 Duplicate? ☐ Dupe Samp ID:
Sample Time: 1645 MS/MSD? ☐

Analyses:	Methods:
☒ VOCs	☐ CLP
☒ SVOCs	☐ SW846
☐ PCBs	☐ Drink. Wtr.
☒ Metals	☐ ____
☐ ____	☐ ____

Comments: We used a submersible pump to purge 5 well volumes (100 gallons) from MW-13 and a bailer to collect the samples.

Sampler(s): B. Carr and J. Myers

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-14
EEEPC Project No.: 002700.DC15.06
Date: 3/9/11

Initial Depth to Water: 8.60' feet TOIC
Start Time: 1240
Total Well Depth: 48.17' feet TOIC
End Time: 1330
Depth to Pump: ~46 feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: ~2 Lpm (gpm)
Pump Type:
adjusted to: ____ at ____ minutes
Well Diameter: 4 inches
adjusted to: ____ at ____ minutes
1x Well Volume: ~20 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1240	0	6.68	12.5	-45	5279		500	
1250	20	6.79	12.8	-91	4368		600	
1300	40	6.76	13.0	-90	4236		227	
1310	60	6.78	13.1	-95	4381		74.2	
1320	80	6.79	13.0	-91	4538		103	
1330	100	6.72	12.8	-92	4670		128	
Final Sample Data:		6.72	12.8°C	-92	4,670		128	

Sample ID: Hex-MW14-030911
Duplicate? ☐
Dupe Samp ID: ____
Sample Time: 1345
MS/MSD? ☒

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☒ Metals ☐ ____
☐ ____ ☐ ____

Comments: We used a submersible pump to purge 5 well volumes (100 gallons) from MW-14 and used a dedicated bailer to collect the groundwater sample.

Sampler(s): B. Cerri and J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-15
EEEPC Project No.: 002700.DC15.06
Date: 3/9/11

Initial Depth to Water: 8.59 feet TOIC
Total Well Depth: 49.76 feet TOIC
Depth to Pump: ~48 feet TOIC
Initial Pump Rate: ~2 Lpm (gpm)
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1410
End Time: 1450
☐ Bailer ☒ Pump
Pump Type: _____
Well Diameter: 4 inches
1x Well Volume: ~20 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm; mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1410	0	7.16	12.9°C	-112	10570		330	
1420	20	6.81	13.1°C	-143	4601		22.3	
1430	40	6.92	13.1°C	-111	4673		14.2	
1440	60	6.76	13.2°C	-121	4757		13.7	
1450	80	6.73	13.2°C	-145	4863		12.5	
Final Sample Data:		6.73	13.2°C	-145	4,863		12.5	

Sample ID: Hex-MW-15-030911
Sample Time: 1505
Duplicate? ☐ Dupe Samp ID: _____
MS/MSD? ☐

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☒ Metals ☐ _____
☐ _____ ☐ _____

Comments: We used a submersible pump to purge MW-15, which stabilized after 4 well volumes had been removed. We used a dedicated bailer to collect the sample.

Sampler(s): B. Cervi and J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-16
EEEPC Project No.: 002700.DC15.06
Date: 3/9/11

Initial Depth to Water: 7.31 feet TOIC
Start Time: 1010
Total Well Depth: 44.10 feet TOIC
End Time: 1044
Depth to Pump: ~42' feet TOIC
☐ Bailer ☒ Pump
Initial Pump Rate: 1 Lpm / gpm
Pump Type:
adjusted to: _____ at _____ minutes
Well Diameter: 4 inches
adjusted to: _____ at _____ minutes
1x Well Volume: ~18.5 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1010	0	6.35	6.8°C	11	7991		289	
1021	10	6.50	11.2°C	20	9968		339	
1031	20	6.53	12.7°C	35	10,760		256	
1041	30 -	7.83	12.0°C	-7	8,982		347	
Final Sample Data:		6.70	12.8°C	90	10,110		33	

Sample ID: Hex-MW16-030911
Duplicate? ☐
Dupe Samp ID:
Sample Time: 1218
MS/MSD? ☐

Analyses: Methods:
☒ VOCs ☐ CLP
☒ SVOCs ☐ SW846
☐ PCBs ☐ Drink. Wtr.
☒ Metals ☐ _____
☐ _____ ☐ _____

Comments: We used a submersible pump with 3/8" LDPE tubing to purge well and a 2" diameter bailer to collect the samples. Began to pump dark purple/black liquid at about 29-30 gpm removal. We pumped the well dry at about 32 gallons removal, so well left to recharge to sample.

Sampler(s): B. Ceri and J. Mays

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WELL PURGE & SAMPLE RECORD

Site Name/Location: Hexagon Labs / Bronx, NY
Well ID: MW-17
EEEPC Project No.: 002700.DC15.06
Date: 3/9/11

Initial Depth to Water: 8.91' feet TOIC
Total Well Depth: 49.48 feet TOIC
Depth to Pump: ~48 feet TOIC
Initial Pump Rate: ~~1.5~~ ~2 Lpm (gpm)
adjusted to: _____ at _____ minutes
adjusted to: _____ at _____ minutes

Start Time: 1105
End Time: 1155
☐ Bailer ☒ Pump
Pump Type: _____
Well Diameter: 4 inches
1x Well Volume: ~20 gallons

Time	Purge Volume (gallons/liters)	pH (s.u.)	Temp. (°C/°F)	ORP (mV)	Conductivity (µS/cm mS/cm)	DO (mg/L)	Turbidity (NTU)	Water Level (feet)
1105	0	6.65	12.0	16	6436		203	
1115	20	6.68	13.0	-86	5038		684	
1125	40	6.70	13.4	-87	4827		252	
1135	60	6.70	13.6	-84	4790		390	
1145	80	6.68	13.7	-44	4868		>1,000	
1155	100	6.69	13.9	-74	4841		100	
Final Sample Data:		6.69	13.9°C	-74	4841		100	

Sample ID: Hex-MW17-030911
Sample Time: 1200
Duplicate? ☐ Dupe Samp ID: _____
MS/MSD? ☐

Analyses: ☒ VOCs ☒ SVOCs ☐ PCBs ☒ Metals ☐ _____
Methods: ☐ CLP ☐ SW846 ☐ Drink. Wtr. ☐ _____ ☐ _____

Comments: We used a submersible pump with 3/8" LDPE tubing to purge the well 5 volumes because the turbidity remained >50 NTU. We then used a dedicated bailer to collect the groundwater sample.

Sampler(s): B. Cerri and J. Mays

APPENDIX E

Laboratory Reports
(provided electronically)

APPENDIX F

Data Usability Summary Reports

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

ProjectID	Lab Work Order
Former Hexagon Laboratories Site	DECO2989

Table 1 Sample Summary Tables from Electronic Data Deliverable

Work Order	Matrix	Sample ID	Lab ID	Sample Date	Lab QC	MS/ MSD	ID Corrections
DECO2989	WG	HEX-MW01-011911	1101688-001	01/19/2011			None
DECO2989	WG	HEX-MW05-011911	1101688-002	01/19/2011			None
DECO2989	WG	HEX-MW05-011911/Q	1101688-003	01/19/2011			None
DECO2989	WG	HEX-MW08-012111	1101688-004	01/21/2011			None
DECO2989	WG	HEX-TB-011911	1101688-005	01/19/2011			None
DECO2989	WG	HEX-SB-012411	1101688-006	01/24/2011	Storage Blank		None

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Method Name	Number of Samples	Sample Type
DECO2989	WG	SW8260	VOCs in Water	6	SAMP
DECO2989	WG	SW8270	SVOCs in Water	4	SAMP
DECO2989	WG	SW6010	Total Metals in Water	4	SAMP

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes – Frequency acceptable for overall project. No field assigned MS/MSD submitted. Laboratory assigned MS on sample HEX-MW01-011911 for SW6010/7471 analysis.
All ASP Forms complete?	Not included – required information included on lab report forms
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	No
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Not Applicable
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	No – One surrogate was out for each the BN and A fraction for sample MW08-012111, sample was reanalyzed at a dilution, no results qualified based on these non-conformances for the SVOA parameters.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	MS/MSD performed for SW6010/7471 only. Not indicated on COC as required and no additional sample volume provided.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No – Table 5 lists affected samples, compounds and applied qualifiers. No qualifiers applied for high LCSD RPD value.
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Yes.
Is initial calibration for target compounds <15 %RSD or curve fit?	No– Several compounds for method SW8270 were >15 % RSD, results are qualified "J" for detects and "UJ" for non-detects.
Is continuing calibration for target compounds < 20.5%D.	No – 2,4 – Dinitrophenol % D >20.5 for run R2630 results qualified "J" for detects and "UJ" for non-detects for associated samples.

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes – Several samples analyzed and reanalyzed at dilutions based on the level of target compounds detected.
For TICs are there any system related compounds that should not be reported?	Not Applicable
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	No – Caprolactam RPD was above criteria, qualified "J" in parent and duplicate sample.

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes – Aluminum, Potassium, and Zinc were present in method blank.
For samples, if results are <5 times the blank then "U" flag data.	None
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No – 4x rule applied to Iron, all other compounds within limits.
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes – Potassium results qualified "J" .
Spot check ICS recoveries 80-120%. Contact lab.	All are acceptable
Spot check ICV 95-105%. Contact lab.	All are acceptable
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	All are acceptable
Do field duplicate results show good precision for all compounds (see Table 7)?	Not Applicable

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
Sample results qualified based on Initial Calibration, CCV, field duplicate RPD, and Serial Dilutions.

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

Table 2 – List of Positive Results for Blank Samples

Method	Lab Blank	Matrix	Analyte	Blank Result	Lab Qual	MDL	CRQL	Affected Samples	Sample Flag
SW6010	MBLKW01/27/11	GW	ALUMINUM	17.6	B	7.979	7.979		None
SW6010	MBLKW01/27/11	SE	POTASSIUM	37.0	B	6.759	6.759		None
SW6010	MBLKW01/27/11	SE	ZINC	2.64	B	1.713	1.713		None

Table 2A – List of Samples Qualified for Method Blank Contamination
None

Table 2B – List of Samples Qualified for Field Blank Contamination
None

Table 3 – List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
SW8260	HEX-MW08-012111	SAMP	4-Bromofluorobenzene	144	63	140	1	J Flag
SW8260	HEX-MW08-012111	SAMP	1,2-Dichloroethane-d4	36	53	183	1	J Flag
SW8270	HEX-MW08-012111	SAMP	2,4,6-Tribromophenol	124	10	123	1	None
SW8270	HEX-MW08-012111	SAMP	4-Terphenyl-d14	28	33	141	1	None

Table 4 – List MS/MSD Recoveries and RPDs outside Control Limits
None

Table 5 – List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	Samp Qual
SW8270	LCSW01/27/11	4-Methylphenol	63	75	125	J

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

Table 6 –Samples that were Reanalyzed

ClientSampID	TestNo	Dilution Factor	SampID
HEX-MW01-011911	SW8260	3	1101688-001ADL
HEX-MW05-011911/Q	SW8260	4	1101688-003ADL
HEX-MW05-011911/Q	SW8270	2	1101688-003BDL
HEX-MW05-011911	SW8260	4	1101688-002ADL
HEX-MW05-011911	SW8270	2	1101688-002-BDL
HEX-MW08-011911	SW8260	8000	1101688-004ADL
HEX-MW08-011911	SW8270	2000	1101688-004BDL

Table 7 – Summary of Field Duplicate Results

Method	Analyte	HEX-MW05-011911	HEX-MW05-011911/Q	RPD	Rating	Qualifier
SW6010	ALUMINUM	32100	27200	16.53	Good	None
SW6010	ANTIMONY	5.3	3.6	38.20	Good	None
SW6010	ARSENIC	7.9	5.9	28.99	Good	None
SW6010	BARIUM	462	374	21.05	Good	None
SW6010	BERYLLIUM	0.97	0.85	13.19	Good	None
SW6010	CALCIUM	28000	24900	11.72	Good	None
SW6010	CHROMIUM	221	190	15.09	Good	None
SW6010	COBALT	33.5	28	17.89	Good	None
SW6010	COPPER	37.8	31.9	16.93	Good	None
SW6010	IRON	64600	52600	20.48	Good	None
SW6010	LEAD	32.9	26.3	22.30	Good	None
SW6010	MAGNESIUM	22300	19000	15.98	Good	None
SW6010	MANGANESE	1490	1300	13.62	Good	None
SW6010	NICKEL	76.8	65	16.64	Good	None
SW6010	POTASSIUM	107000	91600	15.51	Good	None
SW6010	SELENIUM	4.3	5	15.05	Good	None
SW6010	SODIUM	279000	246000	12.57	Good	None

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

Method	Analyte	HEX-MW05-011911	HEX-MW05-011911/Q	RPD	Rating	Qualifier
SW6010	THALLIUM	5.5	5.5	0.00	Good	None
SW6010	VANADIUM	93	75.8	20.38	Good	None
SW6010	ZINC	178	149	17.74	Good	None
SW8260	1,2-DICHLOROBENZENE	4	4	0.00	Good	None
SW8260	ACETONE	9	8	11.76	Good	None
SW8260	BENZENE	560	540	3.64	Good	None
SW8260	CHLOROBENZENE	300	280	6.90	Good	None
SW8260	CHLOROETHANE	5	5	0.00	Good	None
SW8260	CYCLOHEXANE	3	3	0.00	Good	None
SW8260	DIMETHYL BENZENE	8	8	0.00	Good	None
SW8260	ETHYLBENZENE	3	3	0.00	Good	None
SW8260	ISOPROPYLBENZENE	4	4	0.00	Good	None
SW8260	METHYL ISOBUTYL KETONE	6	6	0.00	Good	None
SW8260	TOLUENE	1	1	0.00	Good	None
SW8270	4-CHLOROANILINE	110	120	8.70	Good	None
SW8270	ACENAPHTHENE	8	8	0.00	Good	None
SW8270	BIPHENYL	2	2	0.00	Good	None
SW8270	CAPROLACTAM	26	46	55.56	Poor	J Flag
SW8270	DIETHYL PHTHALATE	1	1	0.00	Good	None
SW8270	FLUORANTHENE	1	1	0.00	Good	None
SW8270	FLUORENE	3	3	0.00	Good	None
SW8270	PHENANTHRENE	14	12	15.38	Good	None
SW8270	PHENOL	14	11	24.00	Good	None
SW8270	PYRENE	2	2	0.00	Good	None

Key:
A = Analyte
NC = Not Calculated
ND = Not Detected
PQL = Practical Quantitation Limit
RPD = Relative Percent Difference
T = Tentatively Identified Compound

Data Usability Summary Report	Project: Former Hexagon Laboratories Site
Date Completed: March 8, 2011	Completed by: B. Kroon

APPENDIX G

Investigation-Derived Waste Disposal Records

Water

Clean Earth of North Jersey, Inc.

115 Jacobus Avenue, Kearny, NJ 07032 (973) 344-4004

Approval Code D) _____ B) _____

Generic Code D) _____ B) _____

Customer # _____

LSR # _____

Master WPS ☐ Yes ☐ No

Technical Rep. Initials _____

Broker Name (If applicable) _____

Approval Date _____

A. GENERATOR INFORMATION

Generator's Name New York State Department of Environmental Conservation

Mailing Address 625 Broadway, Albany, NY 12233-7015

Waste Pickup Address 3536 Peartree Ave., Eastchester, Bronx County, NY

EPA ID No. _____ MSDS Attached ☐ Yes ☒ No

Tech Contact Brian Cervi - Ecology & Environment, Inc. Phone 716-684-8060

Common Name of Waste well development water

Process Generating Waste well development water

Biennial Report Codes: SIC Code _____ Source Code A _____ Form Code B _____

Origin Code _____ System Type _____

Is this waste from a plant closure or plant clean up? ☒ Yes ☐ No

B. PHYSICAL/CHEMICAL CHARACTERISTIC

REACTIVITY (PPM)

Total Cyanides _____
Amenable Cyanides _____
Reactive Sulfides _____

Check if waste is:
☐ Water Reactive
☐ Air Reactive
☐ Shock Sensitive
☐ Generates Toxic Fumes When mixed with Acid, Base or H2O

ODOR

☐ None ☒ Mild ☐ Strong

Describe slight solvent odor

COLOR clear to light tan

PHYSICAL STATE @ 70°F

☐ Solid
☒ Liquid
☐ Powder
☐ Semi-Solid
☐ Single Phase
☐ Bi-Layered
☐ Multi-Layered
☐ Gas/Aerosol

CORROSIVITY (pH)

☐ ≤2.0
☐ 2.01 - 5.0
☒ 5.01 - 9.0
☐ 9.01 - 12.49
☐ ≥12.50

_____ Exact pH

PERCENT LIQUID/SOLID

Total Solids _____ %
Suspended Solids 0.01 %
Free Liquid _____ %
Water 99.99 %

IGNITABILITY

Liquids:
Flash Point °F
☐ <100°
☐ ≥100° ≤140°
☐ >140° ≤200°
☒ >200°
☐ Actual

Solids:
☐ Yes ☒ No

SPECIFIC GRAVITY

☐ <.8
☒ ≥.8 ≤1
☐ >1 ≤1.2
☐ >1.2

Exact: _____

C. CHEMICAL COMPOSITION

	Check if SARA Title III Sec 313	Check if SARA III EHS Sec 302	Range Min.-Max.	
water	☐	☐	99.999	%
1,2,-Dichloroethane	☒	☐	8.07EE-05	%
Benzene	☒	☐	6.6EE-06	%
Chlorobenzene	☒	☐	6.5EE-06	%
Chloroform	☒	☒	1.21EE-05	%
Tetrachloroethene	☒	☐	7.35EE-05	%
Trichloroethene	☒	☐	6.81EE-05	%
Nitrobenzene	☒	☒	1.98EE-05	%
	☐	☐		%
	☐	☐		%
	☐	☐		%
	☐	☐		%
		TOTAL	100	%

Please note the chemical composition total in the range (Max.) column must be greater than or equal to 100 percent.

D. TOXICITY CHARACTERISTICS

Contaminant	EPA Waste #	Regulatory Level (mg/L)	Actual Level
Arsenic	D004	5.0	ND
Barium	D005	100.0	ND
Cadmium	D006	1.0	ND
Chromium	D007	5.0	ND
Chromium CR+ 6	D007	5.0	
Lead	D008	5.0	ND
Mercury	D009	0.2	ND
Selenium	D010	1.0	ND
Silver	D011	5.0	ND
Benzene	D018	0.5	0.0656
Carbon Tetrachloride	D019	0.5	ND
Chlordane	D020	0.03	
Chlorobenzene	D021	100.0	0.0649
Chloroform	D022	6.0	0.121
o-Cresol	D023	200.0 **	ND
m-Cresol	D024	200.0 **	ND
p-Cresol	D025	200.0 **	ND
Cresol	D026	200.0 **	ND
2,4-D	D016	10.0	
1,4-Dichlorobenzene	D027	7.5	ND
1,2-Dichloroethane	D028	0.5	0.807
1,1-Dichloroethylene	D029	0.7	ND
2,4-Dinitrotoluene	D030	0.13 *	ND
Endrin	D012	0.02	
Heptachlor (and its episode)	D031	0.008	
Hexachlorobenzene	D032	0.13 *	ND
Hexachlorobutadiene	D033	0.5	ND
Hexachloroethane	D034	3.0	ND
Lindane	D013	0.4	
Methoxychlor	D014	10.0	
Methyl Ethyl Ketone	D035	200.0	ND
Nitrobenzene	D036	2.0	0.198
Pentachlorophenol	D037	100.0	ND
Pyridine	D038	5.0 *	ND
Tetrachloroethylene	D039	0.7	0.735
Toxaphene	D015	0.5	
Trichloroethylene	D040	0.5	0.681
2,4,5-Trichlorophenol	D041	400.0	ND
2,4,6-Trichlorophenol	D042	2.0	ND
2,4,5-TP (Silvex)	D017	1.0	
Vinyl chloride	D043	0.2	ND

* Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
** If o-,m- and p-Cresol concentrations cannot be differentiated, the total Cresol (D026) concentration is used. The regulatory level of total Cresol is 200mg/L.

E. HAZARDOUS CHARACTERISTICS

- ☐ Radioactive
- ☐ Infectious
- ☐ Toxic
- ☐ Explosive
- ☐ Pyrophoric
- ☐ Oxidizer
- ☐ Corrosive
- ☐ Other Describe _____
- ☐ Corrosive
- ☒ None of the above
- ☐ Compressed Gas
- ☐ Flammable Solid
- ☐ Organic Peroxide
- ☐ Shock Sensitive
- ☐ Reactive Metals (Specify in section C)

F. IDENTIFY THE HEALTH HAZARD CHARACTERISTICS FROM THE TABLE BELOW

Immediate (Acute) Health Hazard

- ☐ None
- ☐ Highly Toxic
- ☐ Toxic
- ☐ Irritant
- ☐ Sensitizer
- ☐ Corrosive
- ☐ Other Hazardous Chemicals with an adverse effect on a target organ that generally occurs as a result of short term exposure and with a short duration.

Delayed (Chronic) Health Hazard

- ☒ Carcinogens (if carcinogens are known to be in waste, specify the carcinogen in Section C)
- ☒ Other Hazardous Chemicals with an adverse effect on a target organ that generally occurs as a result of long term exposure and with a long duration.

G. SHIPPING INFORMATION

- ☒ Bulk Liquid
- ☐ Bulk Solid
- ☐ Bulk Sludge
- ☐ Other Describe _____
- ☐ Drums (Steel)
- ☐ Drums (Poly)

Shipping Frequency:
Quantity _____ Per _____

H. MANIFEST INFORMATION

Is this a DOT Hazardous Material? ☒ Yes ☐ No

Proper DOT shipping name (49CFR table 172.101) Liquid Hazardous Waste Rq. Units (lb/kg) no limit

DOT Hazard Class / Division: 9 NA UN/UA 3082 Packing Group (select one) ☐ I ☐ II ☒ III

Additional descriptions requirements (49CFR 172.203) _____

Emergency response telephone number (49CFR 172.604) _____ Contact (print name) _____

I. WASTE CHARACTERISTICS

Is this a US EPA Hazardous Waste? ☒ Yes ☐ No US EPA Hazardous Waste Number(s) D027, D039 Hazard Codes T

If yes, if the waste is a characteristic hazardous waste, does it contain underlying hazardous constituents (as defined at 40CRT 268.2(f)) Above the Universal Treatment Standard.
☐ Yes ☒ No If yes, please complete the UHC Waste Profile Addendum.

State Non-Hazardous Waste Number(s) _____

Does this waste contain any PCBs? ☐ Yes ☒ No If yes, indicate level _____ Are PCBs TSCA Regulated? ☐ Yes ☐ No

Does this waste contain any herbicides, pesticides, dixon or residues thereof? ☐ Yes ☒ No If yes, list compound and concentration in Section C.

Is this waste prohibited from land disposal under 40CFR Part 268? ☒ Yes ☐ No

If yes, list waste subcategory description, if applicable 268.33(c) or check none ☐ None

Is this waste a (check one) ☐ Non-Wastewater ☒ Wastewater? (See 40CFR 268.2)

Benzene NESHAP applicability: Is waste subject to management under National Emission Standards for Benzene Waste Operations as provided in 40CFR Part 61 Subpart FF?
☐ Yes ☒ No If yes, give benzene concentration _____

If this waste is a RCRA Hazardous Waste, does it contain VOCs in concentrations ≥500 PPM (40CFR Subpart CC)? ☐ Yes ☐ No

Are there any special handling instructions for the disposal of this waste? ☐ Yes ☒ No If yes, specify _____

J. AUTHORIZATION TO CORRECT WMPS

I AUTHORIZE CLEAN EARTH OF NORTH JERSEY TO MAKE CORRECTIONS TO THIS WMPS. CORRECTIONS MUST BE CONSISTENT WITH THE RESULTS OF SAMPLE ANALYSIS AND REGULATORY REQUIREMENTS. I UNDERSTAND THAT A CORRECTED COPY OF THE WMPS WILL BE SENT TO ME.

Signature _____

K. SPECIAL HANDLING COMMENTS

L. OFFICIAL USE ONLY

M. APPROVAL

Safety _____

Environ _____

N. POLYCHLORINATED BIPHENYL (PCB), HERBICIDE, INSECTICIDE/ALUMINUM AND REACTIVE METAL WARRANTY

I hereby warrant that the material transferred to Clean Earth of North Jersey (CENJ) for transportation, treatment, storage and/or disposal is not radioactive waste, does not contain >1% asbestos and is not contaminated by either Polychlorinated Biphenyl or Herbicide/Pesticide/Insecticide or Dioxins or Furans of any value unless it is listed in Section C and approved by CENJ, nor does it contain Elemental Aluminum or Reactive Metal Paste, Powder, or Pigment unless it is listed in Section C and approved by CENJ and hereby agree to indemnify and hold CENJ harmless from any costs, damages, or other liability resulting from breach of this warranty or any other terms and conditions of this Waste Material Profile Sheet, including the indemnification listed on the back page.

O. The inforamtion on this Waste Material Profile Sheet (WMPS) may have been prepared by other individuals. By signing Section O of this WMPS, I certify that all information, including any attached information, is complete and is an accurate representation of the waste and its known or suspected hazards.

1/4/11	Bill Toran	Agent for NYSDEC	_____
Date	Printed Name	Title	Signature

Clean Earth of North Jersey has all of the appropriate permits for and will accept the waste that has been characterized/identified by this Approved Waste Material Profile Sheet.

53.4

Clean Earth of North Jersey, Inc.

115 Jacobus Avenue, Kearny, NJ 07032 (973) 344-4004

Approval Code D) _____ B) _____

Generic Code D) _____ B) _____

Customer # _____

LSR # _____

Master WPS ☐ Yes ☐ No

Technical Rep. Initials _____

Broker Name (if applicable) _____

Approval Date _____

A. GENERATOR INFORMATION

Generator's Name New York State Department of Environmental Conservation

Mailing Address 625 Broadway, Albany, NY 12233-7015

Waste Pickup Address 3536 Peartree Ave., Eastchester, Bronx County, NY

EPA ID No. _____ MSDS Attached ☐ Yes ☒ No

Tech Contact Brian Cervi - Ecology & Environment, Inc. Phone 716-684-8060

Common Name of Waste soil from drill cuttings

Process Generating Waste soil from drill cuttings

Biennial Report Codes: SIC Code _____ Source Code A _____ Form Code B _____

Origin Code _____ System Type _____

Is this waste from a plant closure or plant clean up? ☒ Yes ☐ No

B. PHYSICAL/CHEMICAL CHARACTERISTIC

REACTIVITY (PPM)

Total Cyanides _____

Amenable Cyanides _____

Reactive Sulfides _____

Check if waste is:
- ☐ Water Reactive
- ☐ Air Reactive
- ☐ Shock Sensitive
- ☐ Generates Toxic Fumes When mixed with Acid, Base or H2O

ODOR

☐ None ☒ Mild ☐ Strong

Describe solvent edor

COLOR brown

PHYSICAL STATE @ 70°F

- ☒ Solid
- ☐ Liquid
- ☐ Powder
- ☐ Semi-Solid
- ☐ Single Phase
- ☐ Bi-Layered
- ☐ Multi-Layered
- ☐ Gas/Aerosol

CORROSIVITY (pH)

- ☐ ≤2.0
- ☐ 2.01 - 5.0
- ☒ 5.01 - 9.0
- ☐ 9.01 - 12.49
- ☐ ≥12.50

_____ Exact pH

PERCENT LIQUID/SOLID

Total Solids 99 %

Suspended Solids _____ %

Free Liquid _____ %

Water 1 %

IGNITABILITY

Liquids:

Flash Point °F

- ☐ <100°
- ☐ ≥100° ≤140°
- ☐ >140° ≤200°
- ☒ >200°
- ☐ Actual

Solids:

☒ Yes ☐ No

SPECIFIC GRAVITY

- ☐ <.8
- ☐ ≥.8 ≤1
- ☐ >1 ≤1.2
- ☒ >1.2

Exact: _____

C. CHEMICAL COMPOSITION

	Check if SARA Title III Sec 313	Check if SARA III EHS Sec 302	Range Min.-Max.	
soil	☐	☐	99.999	%
1,2,-Dichloroethane	☒	☐	1.18EE-05	%
Chlorobenzene	☒	☐	1.45EE-05	%
Tetrachloroethene	☒	☐	7.03EE-05	%
Trichloroethene	☒	☐	4.57EE-06	%
Nitrobenzene	☒	☒	7.83EE-06	%
m&p-methylphenol (m&p Cresol)	☒	☐	6.78EE-06	%
Pyridine	☒	☐	1.2EE-05	%
	☐	☐		%
	☐	☐		%
	☐	☐		%
	☐	☐		%
		TOTAL	100	%

Please note the chemical composition total in the range (Max.) column must be greater than or equal to 100 percent.

D. TOXICITY CHARACTERISTICS

Contaminant	EPA Waste #	Regulatory Level (mg/L)	Actual Level
Arsenic	D004	5.0	ND
Barium	D005	100.0	ND
Cadmium	D006	1.0	ND
Chromium	D007	5.0	ND
Chromium CR+ 6	D007	5.0	
Lead	D008	5.0	ND
Mercury	D009	0.2	ND
Selenium	D010	1.0	ND
Silver	D011	5.0	ND
Benzene	D018	0.5	ND
Carbon Tetrachloride	D019	0.5	ND
Chlordane	D020	0.03	
Chlorobenzene	D021	100.0	0.145
Chloroform	D022	6.0	
o-Cresol	D023	200.0 **	ND
m-Cresol	D024	200.0 **	
p-Cresol	D025	200.0 **	
Cresol	D026	200.0 **	0.0678
2,4-D	D016	10.0	
1,4-Dichlorobenzene	D027	7.5	ND
1,2-Dichloroethane	D028	0.5	0.118
1,1-Dichloroethylene	D029	0.7	ND
2,4-Dinitrotoluene	D030	0.13 *	ND
Endrin	D012	0.02	
Heptachlor (and its episode)	D031	0.008	
Hexachlorobenzene	D032	0.13 *	ND
Hexachlorobutadiene	D033	0.5	ND
Hexachloroethane	D034	3.0	ND
Lindane	D013	0.4	
Methoxychlor	D014	10.0	
Methyl Ethyl Ketone	D035	200.0	ND
Nitrobenzene	D036	2.0	0.0783
Pentachlorophenol	D037	100.0	ND
Pyridine	D038	5.0 *	0.12
Tetrachloroethylene	D039	0.7	0.703
Toxaphene	D015	0.5	
Trichloroethylene	D040	0.5	0.0457
2,4,5-Trichlorophenol	D041	400.0	ND
2,4,6-Trichlorophenol	D042	2.0	ND
2,4,5-TP (Silvex)	D017	1.0	
Vinyl chloride	D043	0.2	ND

* Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

** If o-,m- and p-Cresol concentrations cannot be differentiated, the total Cresol (D026) concentration is used. The regulatory level of total Cresol is 200mg/L.

E. HAZARDOUS CHARACTERISTICS

- ☐ Radioactive
- ☐ Infectious
- ☐ Toxic
- ☐ Explosive
- ☐ Pyrophoric
- ☐ Oxidizer
- ☐ Corrosive
- ☐ Other Describe _____
- ☐ Corrosive
- ☒ None of the above

- ☐ Compressed Gas
- ☐ Flammable Solid
- ☐ Organic Peroxide
- ☐ Shock Sensitive
- ☐ Reactive Metals (Specify in section C)

F. IDENTIFY THE HEALTH HAZARD CHARACTERISTICS FROM THE TABLE BELOW

Immediate (Acute) Health Hazard

- ☐ None
- ☐ Highly Toxic
- ☐ Toxic
- ☐ Irritant
- ☐ Sensitizer
- ☐ Corrosive
- ☐ Other Hazardous Chemicals with an adverse effect on a target organ that generally occurs as a result of short term exposure and with a short duration.

Delayed (Chronic) Health Hazard

- ☐ Carcinogens (If carcinogens are known to be in waste, specify the carcinogen in Section C)
- ☒ Other Hazardous Chemicals with an adverse effect on a target organ that generally occurs as a result of long term exposure and with a long duration.

G. SHIPPING INFORMATION

- ☐ Bulk Liquid
- ☒ Bulk Solid
- ☐ Bulk Sludge
- ☐ Other Describe _____
- ☒ Drums (Steel)
- ☐ Drums (Poly)

Shipping Frequency:

Quantity 5 x 55-gal.drums Per _____

H. MANIFEST INFORMATION

Is this a DOT Hazardous Material? ☒ Yes ☐ No

Proper DOT shipping name (49CFR table 172.101) Hazardous Waste Solid Rq. Units (lb/kg) no limit

DOT Hazard Class / Division: 9 NA UN/UA 3077 Packing Group (select one) ☐ I ☐ II ☒ III

Additional descriptions requirements (49CFR 172.203) _____

Emergency response telephone number (49CFR 172.604) _____ Contact (print name) _____

I. WASTE CHARACTERISTICS

Is this a US EPA Hazardous Waste? ☐ Yes ☐ No US EPA Hazardous Waste Number(s) D039 Hazard Codes T

If yes, if the waste is a characteristic hazardous waste, does it contain underlying hazardous constituents (as defined at 40CRT 268.2(f)) Above the Universal Treatment Standard.

☐ Yes ☒ No If yes, please complete the UHC Waste Profile Addendum.

State Non-Hazardous Waste Number(s) _____

Does this waste contain any PCBs? ☐ Yes ☒ No If yes, indicate level _____ Are PCBs TSCA Regulated? ☐ Yes ☐ No

Does this waste contain any herbicides, pesticides, dixon or residues thereof? ☐ Yes ☒ No If yes, list compound and concentration in Section C.

Is this waste prohibited from land disposal under 40CFR Part 268? ☒ Yes ☐ No

If yes, list waste subcategory description, if applicable 268.33(c) or check none ☐ None

Is this waste a (check one) ☒ Non-Wastewater ☐ Wastewater? (See 40CFR 268.2)

Benzene NESHAP applicability: Is waste subject to management under National Emission Standards for Benzene Waste Operations as provided in 40CFR Part 61 Subpart FF?

☐ Yes ☒ No If yes, give benzene concentration _____

If this waste is a RCRA Hazardous Waste, does it contain VOCs in concentrations ≥500 PPM (40CFR Subpart CC)? ☐ Yes ☒ No

Are there any special handling instructions for the disposal of this waste? ☐ Yes ☒ No If yes, specify _____

J. AUTHORIZATION TO CORRECT WMPS

I AUTHORIZE CLEAN EARTH OF NORTH JERSEY TO MAKE CORRECTIONS TO THIS WMPS. CORRECTIONS MUST BE CONSISTENT WITH THE RESULTS OF SAMPLE ANALYSIS AND REGULATORY REQUIREMENTS. I UNDERSTAND THAT A CORRECTED COPY OF THE WMPS WILL BE SENT TO ME.

Signature _____

K. SPECIAL HANDLING COMMENTS

L. OFFICIAL USE ONLY

M. APPROVAL

Safety _____

Environ _____

N. POLYCHLORINATED BIPHENYL (PCB), HERBICIDE, INSECTICIDE/ALUMINUM AND REACTIVE METAL WARRANTY

I hereby warrant that the material transferred to Clean Earth of North Jersey (CENJ) for transportation, treatment, storage and/or disposal is not radioactive waste, does not contain >1% asbestos and is not contaminated by either Polychlorinated Biphenyl or Herbicide/Pesticide/Insecticide or Dioxins or Furans of any value unless it is listed in Section C and approved by CENJ, nor does it contain Elemental Aluminum or Reactive Metal Paste, Powder, or Pigment unless it is listed in Section C and approved by CENJ and hereby agree to indemnify and hold CENJ harmless from any costs, damages, or other liability resulting from breach of this warranty or any other terms and conditions of this Waste Material Profile Sheet, including the indemnification listed on the back page.

O. The inforamtion on this Waste Material Profile Sheet (WMPS) may have been prepared by other individuals. By signing Section O of this WMPS, I certify that all information, including any attached information, is complete and is an accurate representation of the waste and its known or suspected hazards.

1/4/11	Bill Toran	agent for NYSDEC	
Date	Printed Name	Title	Signature

Clean Earth of North Jersey has all of the appropriate permits for and will accept the waste that has been characterized/identified by this Approved Waste Material Profile Sheet.

Pace Analytical
www.pacelabs.com

<10120134P1>

101201341

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1427987

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Aztech Technologies	Report To: VCASSOLA@aztech.com	Attention:
Address: 5 McCrea Hill Rd. Ballston Spa NY 12020	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (518) 885-5163 Fax:	Project Name: HEXAGON	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NY

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	TCLP (Disposal)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Soil Disposal		SL	C	12/10/10	2:00	12/10/10	2:20		2									X			AN21979
2	Water Disposal		WW	G	12/10/10	2:00	12/10/10	2:30		2									X			AN21980
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Expedited		12/10/10	2000		12-13-10	1400
		12/13/10	1430		12/13/10	1400 1430

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 12/10/10

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

NEA Pace Analytical®

CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: SOIL DISPOSAL
MATRIX: SOIL(TCLP)
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
SAMPLED BY: J. NATALE
CUSTOMER PO: N/A

NEA ID: AN21979 **NEA LRF:** 10120134-01
DATE SAMPLED: 12/10/2010 **TIME:** 14:20
PROJECT: HEXAGON
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
EPA Method 8260B - TCLP/ZHE SW-846 1311					
1,1-Dichloroethene	ND	10.0	ug/L	12/14/2010	U
1,2-Dichloroethane	118	10.0	ug/L	12/14/2010	
2-Butanone	ND	10.0	ug/L	12/14/2010	U
Benzene	ND	10.0	ug/L	12/14/2010	U
Carbon Tetrachloride	ND	10.0	ug/L	12/14/2010	U
Chlorobenzene	145	10.0	ug/L	12/14/2010	
Chloroform	ND	10.0	ug/L	12/14/2010	U
Tetrachloroethene	703	10.0	ug/L	12/14/2010	
Trichloroethene	45.7	10.0	ug/L	12/14/2010	
Vinyl Chloride	ND	10.0	ug/L	12/14/2010	U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative
Robert E. Wagner
Laboratory Director

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NEA Pace Analytical®

CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: WATER DISPOSAL
MATRIX: WATER(TCLP)
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
SAMPLED BY: J. NATALE
CUSTOMER PO: N/A

NEA ID: AN21980 **NEA LRF:** 10120134-02
DATE SAMPLED: 12/10/2010 **TIME:** 14:30
PROJECT: HEXAGON
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
EPA Method 8260B - TCLP/ZHE SW-846 1311					
1,1-Dichloroethene	ND	10.0	ug/L	12/15/2010	U
1,2-Dichloroethane	807	10.0	ug/L	12/15/2010	
2-Butanone	ND	10.0	ug/L	12/15/2010	U
Benzene	65.6	10.0	ug/L	12/15/2010	
Carbon Tetrachloride	ND	10.0	ug/L	12/15/2010	U
Chlorobenzene	64.9	10.0	ug/L	12/15/2010	
Chloroform	121	10.0	ug/L	12/15/2010	
Tetrachloroethene	735	10.0	ug/L	12/15/2010	
Trichloroethene	681	10.0	ug/L	12/15/2010	
Vinyl Chloride	ND	10.0	ug/L	12/15/2010	U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative
Robert E. Wagner
Laboratory Director

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NEA Pace Analytical®

CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: SOIL DISPOSAL
MATRIX: SOIL(TCLP)
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
SAMPLED BY: J. NATALE
CUSTOMER PO: N/A

NEA ID: AN21979 **NEA LRF:** 10120134-01
DATE SAMPLED: 12/10/2010 **TIME:** 14:20
PROJECT: HEXAGON
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8270/TCLP Extraction Method 1311					
1,4-Dichlorobenzene	ND	50.0	ug/L	12/15/2010	U
2,4,5-Trichlorophenol	ND	50.0	ug/L	12/15/2010	U
2,4,6-Trichlorophenol	ND	50.0	ug/L	12/15/2010	U
2,4-Dinitrotoluene	ND	50.0	ug/L	12/15/2010	U
Hexachlorobenzene	ND	50.0	ug/L	12/15/2010	U
Hexachlorobutadiene	ND	50.0	ug/L	12/15/2010	U
Hexachloroethane	ND	50.0	ug/L	12/15/2010	U
m&p-Methylphenol	67.8	50.0	ug/L	12/15/2010	
Nitrobenzene	78.3	50.0	ug/L	12/15/2010	
o-Methylphenol	ND	50.0	ug/L	12/15/2010	U
Pentachlorophenol	ND	50.0	ug/L	12/15/2010	U
Pyridine	120	50.0	ug/L	12/15/2010	

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative
Robert E. Wagner
Laboratory Director

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NEA Pace Analytical®

CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: WATER DISPOSAL
MATRIX: WATER(TCLP)
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
SAMPLED BY: J. NATALE
CUSTOMER PO: N/A

NEA ID: AN21980 **NEA LRF:** 10120134-02
DATE SAMPLED: 12/10/2010 **TIME:** 14:30
PROJECT: HEXAGON
LOCATION:
LAB ELAP#: 11078

PARAMETER PERFORMED	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
SW-846 8270/TCLP Extraction Method 1311					
1,4-Dichlorobenzene	ND	50.0	ug/L	12/15/2010	U
2,4,5-Trichlorophenol	ND	50.0	ug/L	12/15/2010	U
2,4,6-Trichlorophenol	ND	50.0	ug/L	12/15/2010	U
2,4-Dinitrotoluene	ND	50.0	ug/L	12/15/2010	U
Hexachlorobenzene	ND	50.0	ug/L	12/15/2010	U
Hexachlorobutadiene	ND	50.0	ug/L	12/15/2010	U
Hexachloroethane	ND	50.0	ug/L	12/15/2010	U
m&p-Methylphenol	ND	50.0	ug/L	12/15/2010	U
Nitrobenzene	198	50.0	ug/L	12/15/2010	
o-Methylphenol	ND	50.0	ug/L	12/15/2010	U
Pentachlorophenol	ND	50.0	ug/L	12/15/2010	U
Pyridine	ND	50.0	ug/L	12/15/2010	U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative
Robert E. Wagner
Laboratory Director

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NEA Pace Analytical®

CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: SOIL DISPOSAL
NEA ID: AN21979 **NEA LRF:** 10120134-01
MATRIX: SOIL(TCLP)
DATE SAMPLED: 12/10/2010 **TIME:** 14:20
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
PROJECT: HEXAGON
SAMPLED BY: J. NATALE
LOCATION:
CUSTOMER PO: N/A
LAB ELAP#: 11078

PARAMETER PERFORMED	METHOD	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
Mercury	SW-846 7470/TCLP 1311	ND	0.0200	mg/L	12/15/2010	U
Arsenic	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Barium	EPA 6010B/TCLP 1311	ND	1.00	mg/L	12/15/2010	U
Cadmium	EPA 6010B/TCLP 1311	ND	0.100	mg/L	12/15/2010	U
Chromium	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Lead	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Selenium	EPA 6010B/TCLP 1311	ND	0.250	mg/L	12/15/2010	U
Silver	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative

Robert E. Wagner
Laboratory Director

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CERTIFICATE OF ANALYSIS
12/16/2010
AZTECH TECHNOLOGIES, INC.
5 MCCREA HILL RD
BALLSTON SPA, NY 12020
CONTACT:

NEA Laboratory, Division of Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

CUSTOMER ID: WATER DISPOSAL
NEA ID: AN21980 **NEA LRF:** 10120134-02
MATRIX: WATER(TCLP)
DATE SAMPLED: 12/10/2010 **TIME:** 14:30
DATE RECEIVED: 12/13/2010 **TIME:** 14:30
PROJECT: HEXAGON
SAMPLED BY: J. NATALE
LOCATION:
CUSTOMER PO: N/A
LAB ELAP#: 11078

PARAMETER PERFORMED	METHOD	RESULTS	RL	UNITS	DATE ANALYZED	FLAGS
Mercury	SW-846 7470/TCLP 1311	ND	0.0200	mg/L	12/15/2010	U
Arsenic	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Barium	EPA 6010B/TCLP 1311	ND	1.00	mg/L	12/15/2010	U
Cadmium	EPA 6010B/TCLP 1311	ND	0.100	mg/L	12/15/2010	U
Chromium	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Lead	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U
Selenium	EPA 6010B/TCLP 1311	ND	0.250	mg/L	12/15/2010	U
Silver	EPA 6010B/TCLP 1311	ND	0.500	mg/L	12/15/2010	U

Notes: ND (Not Detected). Denotes analyte not detected at a concentration greater than the RL.
RL: Denotes the reporting limit for the sample.

AUTHORIZED SIGNATURE:

William A. Kotas
Sr. Laboratory Representative

Robert E. Wagner
Laboratory Director

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2190 Technology Drive Schenectady, NY 12308 Phone 518.346.4592 Fax 518.381.6055 Email : information@nealab.com

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NYD053659074	1	716 684 0844	001127919 GBF

GENERATOR

5. Generator's Name and Mailing Address
NYC Dept of Env. Conservation
625 Broadway
Albany NY 12233-701
Generator's Phone:

Generator's Site Address (if different than mailing address)
NYS Dept of Env. Conservation
3536 Peartree Ave
Bronx NY 10001

6. Transporter 1 Company Name: Allstate Power Vac. Inc. — U.S. EPA ID Number: NJD003813947

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

8. Designated Facility Name and Site Address
Clean Earth of North Jersey Inc
105 Jacobus Ave
South Kearny NJ 07032
Facility's Phone: 973 344 4004
U.S. EPA ID Number: NJD991291105

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (If any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ Hazardous Waste Liquid NOS 9 NA 3082 PG: III	1	TT	1600	G	D039	D040	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
111Erg#171; 99.999 Water; 8.07% 1,2 Dichloroethane SE1 3080000048805 App: 113080015
TRUCK # 338

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

Generator's/Offeror's Printed/Typed Name: Lawrence Redl on Behalf of NYSDEC — Signature — Month 1 Day 26 Year 11

INT'L

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

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joel Pons — Signature — Month 01 Day 26 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space: X ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Rec'd 1801bs
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
RECEIVED PENDING MANIFEST
Facility's Phone: REVIEW AND QUALITY CONTROL

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

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

1.	2.	3.	4.
H141			

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

Printed/Typed Name: Doug Mack (AS) — Signature — Month 1 Day 26 Year 11

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY'S COPY

Clean Earth of North Jersey
115 Jacobus Avenue
South Kearny, NJ 07032
Ph: (973) 444-4004 Fax: (973) 344-2652

Ticket: 308000051671

	Date	Time	Scale
In:	1/26/2011	13:40:38	Scale
Out:	1/26/2011	13:40:49	Scale

	Lbs	Tns
Gross:	00	0.00
Tare:	00	0.00
Net:	00	0.00

Manifest: 001127919GBF
Vehicle ID: APV-338
Vehicle Permit: 08688
Customer: Aztech Technologies Inc.
Generator: NYS Dept of Env. Conserva
Gen Address: 625 Broadway
Albany, NY 12233--701

Hauler DEP: 10376
Facility Approval#: NA
Job Name: Not Applicable
Job Address: , -

Origin	Materials & Services	Quantity	Unit
Bronx	Haz Liquid Waste - Gal	1,600.00	Gals

Contaminate Type: Not Applicable
Treatment Type: Not Applicable
Fac Waste Code: TETRACHLOROETHYLENE

Comment:

Driver: _____

Facility: _____
Moriasi, Douglas

CLEANEARTH
Faster, smarter, greener solutions.

GENERATOR NYC DEC

MAN. NO. 001127919GBF

TRANSPORTER APV

VEHICLE ID. 338

DRIVER ON OFF

REMARKS:

IN

23700 LB

09:39 AM 01/26/11

OUT

23520 LB

01:31 PM 01/26/11

~~23900 LB~~

01:30 PM ~~01/26/11~~

WEIGH-TRONIX®

1870

WEIGHER

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYD053659074
2. Page 1 of: 1
3. Emergency Response Phone: 716 684 0844
4. Manifest Tracking Number: 001127890 GBF

GENERATOR

5. Generator's Name and Mailing Address:
NYS Dept of Env. Conservation
625 Broadway
Albany NY 12233-7011
Generator's Phone:

Generator's Site Address (if different than mailing address):
NYS Dept of Env. Conservation
3536 Peartree Ave
Bronx NY 10001

6. Transporter 1 Company Name: Allstate Power Vac, Inc.
U.S. EPA ID Number: NJD003812047

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

8. Designated Facility Name and Site Address:
Clean Earth of North Jersey Inc.
105 Jacobus Ave
South Kearny NJ 07032
Facility's Phone: 973-344-4004
U.S. EPA ID Number: NJD991291105

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ HAZARDOUS WASTE LIQUID NOS 9NA 3082 PG: III	001	TT	900	G	D039	D040	D038
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: CEI 308000048805 APP: 113080015; (1) ERG# 171; 99.999 Water, 8.107% 1,2 Dichloroethane
Job Number: 09-61436

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

Generator's/Offeror's Printed/Typed Name: Meagan Horanburg (keeper) on behalf of NYSDEC
Signature: Meagan Horanburg (keeper) on behalf of NYSDEC
Month: 01 Day: 20 Year: 11

INT'L

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

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joel Pena
Signature: Joel Pena
Month: 01 Day: 20 Year: 11

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

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

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

RECEIVED PENDING MANIFEST REVIEW AND QUALITY CONTROL

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

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

1.	2.	3.	4.
H141			

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

Printed/Typed Name: Joe Barone
Signature: Joseph Barone
Month: 1 Day: 20 Year: 11

EPA Form 8700-22 (Rev. 3-05). Previous editions are obsolete.

DESIGNATED FACILITY'S COPY

Clean Earth of North Jersey
115 Jacobus Avenue
South Kearny, NJ 07032
Ph: (973) 444-4004 Fax: (973) 344-2652

Ticket: 308000051439

	Date	Time	Scale
In:	1/20/2011	07:12:00	Scale
Out:	1/20/2011	07:12:00	Scale

	Lbs	Tns
Gross:	00	0.00
Tare:	00	0.00
Net:	00	0.00

Manifest: 001127890GBF
Vehicle ID: APV-339

Customer: Aztech Technologies Inc.
Hauler DEP: 10376
Facility Approval#: NA
Generator: NYS Dept of Env. Conserva
Job Name: Not Applicable
Gen Address: 625 Broadway
Albany, NY 12233--701
Job Address: , -

Origin	Materials & Services	Quantity	Unit
Bronx	Haz Liquid Waste - Gal	900.00	Gals

Contaminate Type: Not Applicable
Treatment Type: Not Applicable
Fac Waste Code: TETRACHLOROETHYLENE

Comment:

Driver: _____

Facility: _____
Moriasi, Douglas

CLEANEARTH
faster, smarter, greener solutions...

GENERATOR NYSDEC

MAN. NO. 001127890GBF

TRANSPORTER APV

VEHICLE ID. 339

DRIVER ON OFF

REMARKS:

IN

3,354 LB

10:42 PM 01/20/11

OUT

2,454 LB

05:53 PM 01/20/11

WEIGH-TRONIX®

WEIGHER

7980

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	NYD053659074	1	(716) 684-0844	008098053 JJK

5. Generator's Name and Mailing Address
NYS Dept of Env. Conservation
625 Broadway
Albany, NY 12233--701
Generator's Phone:

Generator's Site Address (if different than mailing address)
NYS Dept of Env. Conservation
3536 Peartree Avenue
Bronx, NY 10001

6. Transporter 1 Company Name (716) 684-8060
AUCHTER INDUSTRIAL VAC SERVICE INC.
U.S. EPA ID Number: NJD980772768

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

8. Designated Facility Name and Site Address
Clean Earth of North Jersey, Inc.
105 Jacobus Ave
South Kearny, NJ 07032
Facility's Phone: (973) 344-4004
U.S. EPA ID Number: NJD991291105

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ HAZARDOUS WASTE LIQUID NOS 9 NA 3082 PG: III	1	TT	800	G	D039	D040	D028
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
CEI 308000048906 App: 113080015;
(1) ERG# 171; 99.999 Water; 0.07% 1,2 Dichloroethane;

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

Generator's/Offeror's Printed/Typed Name: MEGAN HORANBURG (EEPC) ON BEHALF NYSDEC
Signature: M Horanburg (EEPC) ON BEHALF NYSDEC
Month: 01 Day: 18 Year: 11

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

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Roy KleBowicz
Signature:
Month: 01 Day: 18 Year: 11

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

18. Discrepancy

18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Rec'd 722016
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
RECEIVED PENDING MANIFEST !
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) AND FINAL QTY CONFIRM
Month: Day: Year:

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

1.	2.	3.	4.
H141			

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

Printed/Typed Name:
Signature:
Month: 1 Day: 18 Year: 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY'S COPY

Clean Earth of North Jersey
115 Jacobus Avenue
South Kearny, NJ 07032
Ph: (973) 444-4004 Fax: (973) 344-2652

Ticket: 308000051210

	Date	Time	Scale
In:	1/18/2011	10:03:48	Scale
Out:	1/18/2011	10:03:57	Scale

	Lbs	Tns
Gross:	00	0.00
Tare:	00	0.00
Net:	00	0.00

Manifest: 008098053JJK
Vehicle ID: AUCHT - 6

Customer: Aztech Technologies Inc.
Hauler DEP: 06993
Facility Approval#: NA

Generator: NYS Dept of Env. Conserva
Job Name: Not Applicable

Gen Address: 625 Broadway
Albany, NY 12233--701
Job Address: , -

Origin	Materials & Services	Quantity	Unit
Bronx	Haz Liquid Waste - Gal	800.00	Gals

Contaminate Type: Not Applicable
Treatment Type: Not Applicable
Fac Waste Code: TETRACHLOROETHYLENE

Comment:

Driver: _____

Facility: _____
Moriasi, Douglas

CLEANEARTH
Faster, smarter, greener solutions...

GENERATOR NYS DEPC

MAN. NO. 008098053JJK

TRANSPORTER Auchter

VEHICLE ID. Auct #6

DRIVER ON OFF

REMARKS:

IN
30900 LB
09:59 AM 01/18/11

OUT
23680 LB
12:13 PM 01/18/11

7220
WEIGHER

WEIGH-TRONIX®

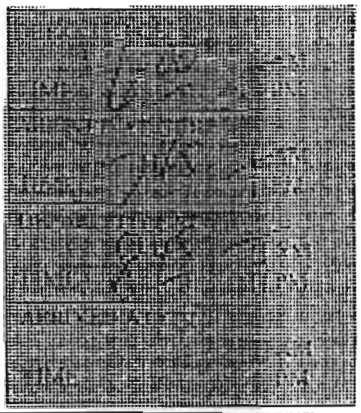
Order Acknowledgement #: 308000048906

CUSTOMER COPY

CLEANEARTH
treating the planet right

105 Jacobus Avenue - South Kearny, NJ 07032
(973) 444-4004

Customer #: AZT144
Customer: Aztech Technologies Inc.
Contact: BRIAN CERVI
Phone: (716) 684-8060
Job Site: NYS Dept of Env. Conservation
3536 Peartree Avenue
Bronx, NY 10001



Carrier: AUCHTER INDUSTRIAL VAC SERVICE INC.

Clean Earth to Provide					
Manifest:	Y	Liner:	N	Lift:	N
Haz/NHaz Lbl:	Y	MT Drum:	N	Xtra Hose:	N
DOT Label:	Y	Overpack:	N	Helper:	N

EPA ID: NYD053659074
Manifest: 008098053JJK

Date Received: 1/18/11

[ ] Pull [ ] Pickup [ ] Pull/Replace [X] Pump Tank [ ]Other
[ ] Deliver [ ] In/With [ ] Deliver/Wait & Pull [ ] Pump Drums

CONTENTS: CONT OUT:

Comments: PLS DO 8AM

800 gals.

AUCHTER INDUSTRIAL VAC SERVICE INC. Transporting for Clean Earth, Scheduled Date: 01/18/2011

THE UNDERSIGNED AGREES THAT THE ABOVE SERVICE INFORMATION IS CORRECT

CUSTOMER SIGNATURE: PRINTED NAME: DATE:

NO OF CONTAINERS		CONT. TYPE	WASTE DESCRIPTION PROPER D.O.T. SHIPPING NAME	WASTE TYPE	DISPOSAL SITE(S)	MANIFEST #(S)
A	1	TT	Well Development Water RQ HAZARDOUS WASTE LIQUID NOS	D039		
Job: 117865 Profile: 113080015 **COMPLETED ON:** **BY:**						Certificate of Disposal Requested [ ]

DATE COMPLETED:_____ **OPERATIONS DEPARTMENT SIGNOFF:** _____

Allstate power-vac

02- 042371

INDUSTRIAL / ENVIRONMENTAL SERVICES
1-718-456-7779

DATE: 11/30/11 Thurs

JOB #: 02-01476

CLIENT: Clean Earth of North Jersey

BILLING ADDRESS:
105 [illegible] Ave
South Kearny NJ

JOB LOCATION: [illegible] Ave, Bronx NY

CONTACT: Jose [illegible] 518 [illegible]

JOB DESCRIPTION: Vac Svcs

LABOR:

CODE#	NAME	TITLE	Start	Finish	COMMENTS:
1004	Joel [illegible]	OP	1200		[illegible]
					Suck 700 G [illegible]
					[illegible]

CODE#	QTY	EQUIPMENT:
	1	VAC TRUCK, ST ☐SS ☐CS ☐DB [illegible]
		VAC TRUCK, TR ☐SS ☐CS ☐DB
		TRACTOR
		TURBO VAC ☐ Bag House
		MASTER VAC ☐ Bag House
		VACTOR ☐ Bag House
		RESPONSE TRUCK ☐ Lift Gate
		BOX TRUCK ☐ 15' ☐ 40'
		STAKE Body ☐ 12' ☐ 25'
		UTILITY TRUCK ☐ Lt. ☐ Med. ☐ Heavy
		ROLL OFF BOX Drop ☐ Pick-up Fee ☐
		VAC BOX Drop ☐ Pick-up Fee ☐
		FRAC TANK Drop ☐ Pick-up Fee ☐
		ROLL-OFF TRUCK
		WATERBLASTER ☐10k ☐ 40k
		PRESSURE WASHER ☐ Hot ☐ Cold

CODE #	QTY	SAFETY EQUIPMENT:
		PPE Sets ☐A ☐B ☐C
		LEL/O_2 METER
		CONFINED SPACE GEAR
		COPUS fan/blower ☐ Elec. ☐ Air
		MATERIAL:
		SPEEDI DRI
		DRUM ☐ Liquid ☐ Solid
		POLY SHEETING (Roll)
		TRASH BAG (Roll 6 mil)
		SORBENT PADS (BL.)
		SORBENT BOOM (BL.) ☐ 5" ☐ 8"
		SORBENT SWEEP (BL.)
		SORBENT SNARE (BL.) ☐ Single ☐ on a rope
		FLEX HOSE ☐ 4" ☐ 6"
		DUCT TAPE
		WATER BOND

Manifest #	Waste Description	Facility	QTY
0002[illegible]	[illegible]	CENJ	700 G

CUSTOMER:

SIGNATURE: X [illegible signature] on behalf of NYSDEC

Signature is client's acceptance of labor, equipment, inventory, and general terms and conditions as stated on the reverse side.

Print Name: [illegible] on behalf of NYSDEC

Title: [illegible]

Date: 11/30/11

SUPERVISOR ☐ Job Complete ☐ Job Incomplete **CUSTOMER** ☐ Satisfactory ☐ Unsatisfactory

* Terms and Conditions listed on the reverse side

COPY

Allstate power-vac

INDUSTRIAL / ENVIRONMENTAL SERVICES
1-718-456-7779

02- 042569

DATE: 11/2C/11 WED [illegible]

JOB LOCATION: [illegible] Bronx NY

JOB #: C3-01476

CONTACT: Jose Natale 515 [illegible]

CLIENT: [illegible] of New Jersey

JOB DESCRIPTION: Vac Svc

BILLING ADDRESS
1C? [illegible] Ave
[illegible] NJ

LABOR:

CODE#	NAME	TITLE	Start	Finish	COMMENTS:
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
					[illegible]
					[illegible]
					[illegible]

CODE#	QTY	EQUIPMENT:
	1	VAC TRUCK, ST ☐SS ☐CS ☐DB
		VAC TRUCK, TR ☐SS ☐CS ☐DB
		TRACTOR
		TURBO VAC ☐ Bag House
		MASTER VAC ☐ Bag House
		VACTOR ☐ Bag House
		RESPONSE TRUCK ☐ Lift Gate
		BOX TRUCK ☐ 15' ☐ 40'
		STAKE Body ☐ 12' ☐ 25'
		UTILITY TRUCK ☐ Lt. ☐ Med. ☐ Heavy
		ROLL OFF BOX Drop ☐ Pick-up Fee ☐
		VAC BOX Drop ☐ Pick-up Fee ☐
		FRAC TANK Drop ☐ Pick-up Fee ☐
		ROLL-OFF TRUCK
		WATERBLASTER ☐10k ☐ 40k
		PRESSURE WASHER ☐ Hot ☐ Cold

CODE #	QTY	SAFETY EQUIPMENT:
		PPE Sets ☐A ☐B ☐C
		LEL/O_2 METER
		CONFINED SPACE GEAR
		COPUS fan/blower ☐ Elec. ☐ Air
		MATERIAL:
		SPEEDI DRI
		DRUM ☐ Liquid ☐ Solid
		POLY SHEETING (Roll)
		TRASH BAG (Roll 6 mil)
		SORBENT PADS (BL.)
		SORBENT BOOM (BL.) ☐ 5" ☐ 8"
		SORBENT SWEEP (BL.)
		SORBENT SNARE (BL.) ☐ Single ☐ on a rope
		FLEX HOSE ☐ 4" ☐ 6"
		DUCT TAPE
		WATER BOND

Manifest #	Waste Description	Facility	QTY
[illegible]	[illegible]	[illegible]	[illegible]

CUSTOMER:
SIGNATURE:X [illegible signature]

Signature is client's acceptance of labor, equipment, inventory, and general terms and conditions as stated on the reverse side.

Print Name: [illegible]

Title: [illegible]

Date: 11/2?/11

SUPERVISOR ☐ Job Complete ☐ Job Incomplete **CUSTOMER** ☐ Satisfactory ☐ Unsatisfactory

* Terms and Conditions listed on the reverse side

COPY

Allstate power-vac

INDUSTRIAL / ENVIRONMENTAL SERVICES
1-718-456-7779

02- 043084

DATE 3/10/11 Thurs

JOB LOCATION 2536 Peartree Ave. Bronx NY 10?01

JOB # 02-01457

CONTACT: Brian Corr (718)422 8126

CLIENT Clean Earth

JOB DESCRIPTION: Vac Svcs

BILLING ADDRESS

105 Jacobus Ave.

South Kearny NJ 07032

LABOR:

CODE#	NAME	TITLE	Start	Finish	COMMENTS:
1005	Joel Pena	OP	06:00		on site: 0800
					suck 1400 G of H. waste
					then went for Disposal
					off site: 0845

CODE#	QTY	EQUIPMENT:	CODE #	QTY	SAFETY EQUIPMENT:
	1	VAC TRUCK, ST ☐SS ☐CS ☐DB 338			PPE Sets ☐A ☐B ☐C
		VAC TRUCK, TR ☐SS ☐CS ☐DB			LEL/O_2 METER
		TRACTOR			CONFINED SPACE GEAR
		TURBO VAC ☐ Bag House			COPUS fan/blower ☐ Elec. ☐ Air
		MASTER VAC ☐ Bag House			
		VACTOR ☐ Bag House			**MATERIAL:**
		RESPONSE TRUCK ☐ Lift Gate			SPEEDI DRI
		BOX TRUCK ☐ 15' ☐ 40'			DRUM ☐ Liquid ☐ Solid
		STAKE Body ☐ 12' ☐ 25'			POLY SHEETING (Roll)
		UTILITY TRUCK ☐ Lt. ☐ Med. ☐ Heavy			TRASH BAG (Roll 6 mil)
		ROLL OFF BOX Drop ☐ Pick-up Fee ☐			SORBENT PADS (BL.)
		VAC BOX Drop ☐ Pick-up Fee ☐			SORBENT BOOM (BL.) ☐ 5" ☐ 8"
		FRAC TANK Drop ☐ Pick-up Fee ☐			SORBENT SWEEP (BL.)
		ROLL-OFF TRUCK			SORBENT SNARE (BL.) ☐ Single ☐ on a rope
		WATERBLASTER ☐10k ☐ 40k			FLEX HOSE ☐ 4" ☐ 6"
		PRESSURE WASHER ☐ Hot ☐ Cold			DUCT TAPE
					WATER BOND

Manifest #	Waste Description	Facility	QTY
00112?005	H. Waste	CENJ	1400 G

CUSTOMER:

SIGNATURE: X

Signature is client's acceptance of labor, equipment, inventory, and general terms and conditions as stated on the reverse side.

Print Name: Brian Corr, FFFR on behalf of NYCDEP

Title:

Date: 3/10/2011

SUPERVISOR ☑ Job Complete ☐ Job Incomplete **CUSTOMER** ☐ Satisfactory ☐ Unsatisfactory

* Terms and Conditions listed on the reverse side

COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: [illegible]

2. Page 1 of [illegible]

3. Emergency Response Phone: [illegible]

4. Manifest Tracking Number: 001128005 GBF

GENERATOR

5. Generator's Name and Mailing Address: [illegible]

Generator's Site Address (if different than mailing address): [illegible]

Generator's Phone:

6. Transporter 1 Company Name: [illegible] — U.S. EPA ID Number: [illegible]

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

8. Designated Facility Name and Site Address: [illegible] — U.S. EPA ID Number: [illegible]

Facility's Phone: [illegible]

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. [illegible]		T	1400	G	[illegible]	[illegible]	[illegible]
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: [illegible]

Job# 02-0145[illegible]

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

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

INT'L

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

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

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

18. Discrepancy

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

Manifest Reference Number:

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

Facility's Phone:

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

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

1. 2. 3. 4.

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

Printed/Typed Name	Signature	Month	Day	Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY