Site Characterization Report
AMW Materials Testing Site (1-52-189)
North Amityville, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

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May 2008
Revision: FINAL
EA Project No. 14368.06

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C., and its affiliate EA Science and Technology, to perform a site characterization at the AMW Materials Testing site in the Hamlet of North Amityville, Suffolk County, New York (Figure 1).

The site characterization was conducted under the NYSDEC State Superfund Standby Contract (Work Assignment No. D004438-6). The Work Plan[1], which described the work activities performed at the site, was submitted on 14 November 2006 to the NYSDEC. The field activities for the site characterization were performed from 23 to 25 January 2007, from 3 to 8 March 2007 and from 27 to 28 November 2007.

1.2 OBJECTIVES

The goals of this site characterization were to evaluate site conditions on the property and at stormwater structures near the site. The site characterization was completed in accordance with NYSDEC Division of Environmental Remediation Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002. The following tasks were completed as part of the site characterization:

- Stockpile evaluation
- Evaluation of on-site media including soil and groundwater
- Evaluation of stormwater structures
- Site surveying.

Details of each field activity are provided in subsequent sections of this report.

1.3 REPORT ORGANIZATION

This report presents a summary of the January, March, and November 2007 field activities and analytical results. A brief description of the site background, including site history, physical characteristics of the site, and historical data, is presented in Section 2. A summary of field activities completed in January, March, and November 2007 are provided in Section 3. Data associated with the performance of field activities is presented in Section 4. Lastly, a brief overview of data validation activities associated with the laboratory analytical data is provided in Section 5.

[1] EA Engineering, P.C. and Its Affiliate EA Science and Technology. 2006. Final Work Plan for a Site Characterization at AMW Materials Testing Site (1-52-189), North Amityville, New York. November.

The following are provided as appendixes:

- Appendix A: Historical site background information
- Appendix B: Photograph log
- Appendix C: Monitoring well construction diagrams/soil borings
- Appendix D: Monitoring well purging/sampling forms
- Appendix E: Soil vapor logs
- Appendix F: Field survey data.

2. SITE BACKGROUND

This section provides a summary of the site background, including site history, physical characteristics of the site, and historical data.

2.1 SITE LOCATION AND FACILITY DESCRIPTION

The AMW Materials Testing site is located at 666 Albany Avenue in the Hamlet of North Amityville, Suffolk County, New York (Figure 2). The site covers approximately 0.46 acres, and portions of a masonry building are located on the property. An excavation pit is present along the west side of the site (including remnants of a catch basin within the pit). The remaining portions of the site are mainly covered by vegetation, debris, and a stockpile of impacted soil (Figure 3). A fence is located along the property boundary and the gate utilized to access the site is locked.

The surrounding area is predominantly zoned commercial to the east and residential to the west. The site is bordered to the north by a commercial property, to the east by Albany Avenue and a vacant wooded lot, and to the south and west by residential properties.

2.2 PHYSICAL CHARACTERISTICS OF STUDY AREA

2.2.1 Geology and Hydrogeology

The primary geologic/hydrogeologic unit present at the site is the Pleistocene upper glacial aquifer. This formation is the uppermost water-bearing unit in this portion of Long Island. The upper glacial aquifer is approximately 80-ft thick at the site, and is comprised of glacial outwash – fine to course sand and gravel (Jensen 1974). A review of site boring logs indicates that locally, the upper glacial aquifer is predominantly a homogeneous medium to coarse sand with a gravel component. The upper glacial aquifer is moderately to highly permeable. This unit's hydraulic conductivity has been estimated to be as much as 200 ft/day (Jensen 1974). Groundwater occurs in this unit in unconfined conditions. Groundwater flow within the upper glacial aquifer is towards the south and southeast (Olcott 1995). The water table elevation at the site ranges from 35 to 40 ft above mean sea level (AMSL) (approximately 13-15 ft below ground surface [bgs]).

Underlying the upper glacial aquifer is the Gardeners Clay unit, a marine deposit consisting of clay and silt with some interbedded sand and gravel. The Gardeners clay is approximately 50-ft thick at the Site. The Gardeners Clay is underlain by the Magothy Aquifer. Locally, the Magothy Aquifer is upwards of 900-ft thick and consists of fine to coarse sand with interstitial clay and silt.

2.2.2 TOPOGRAPHY

The topography is generally flat, with a slight slope to the south (Figure 1). The area is heavily developed and thus the natural topography has been altered to assist in drainage. It is believed

surface water run-off flows into nearby dry wells and catch basins which in turn discharge to the recharge basin located south of the site (Figure 2).

Presumed surface water flow from the site is towards nearby dry wells located northeast of the site along Albany Avenue and towards dry wells located at the adjacent property north of the site. Historically, a component of surface water flow at the site likely discharged to three catch basins located within the site boundary. The locations of catch basins and dry wells in proximity to the site are shown in Figure 3, Figure 6, and Appendix A, Figure A-1.

2.3 SITE HISTORY

2.3.1 Operational/Disposal History

The facility was utilized as a metal refinishing company that served the aircraft industry. An inventory of known chemicals consisted of 40 gallons of tetrachloroethene (PCE), 50 pounds (lbs) of chromic acid, 1,000 gal chromic acid tank reportedly with 12 ounces of chromium per gallon, a 1,000 gal alodine anodize 1200S tank, and 140 gal of methyl ethyl ketone (MEK). A facility plan is included in Appendix A, Figure A-1.

On 9 October 2000 a fire destroyed the entire structure causing the chemicals to be released to the environment. An estimated 1,800,000 gal of water was utilized to extinguish the fire. The chemicals present onsite at the time of the fire were mobilized by the water utilized by the fire department, which ran offsite and impacted the stormwater structures in the vicinity of the site (Appendix A, Figure A-2). Impacted water flowed north towards approximately 14 dry wells located along Albany Avenue (and within the adjacent properties), as well as south along Albany Avenue towards a stormwater drain located near New Highway; the stormwater drain then discharged to a recharge basin located approximately 1,000 ft south of the site at the intersection of New Highway (CPL Tony Casamento Highway) and Albany Avenue as shown in Figure 2, and Figure A3a and A3b in the Appendix.

NYSDEC spill response was contacted by the fire department and requested to respond immediately. Spill response assigned spill number 0008040 to the release. Environmental samples were collected on 9 October 2000 by Suffolk County Environmental Laboratory from locations where fire control water was observed. Six surface water samples were collected adjacent to the site along Albany Avenue and one surface water sample and one soil sample were collected at the recharge basin located approximately 1,000 ft to the south. Laboratory results indicated elevated concentrations of chromium, MEK, PCE, and 1,1,1-Trichloroethane (TCA) in soil and water samples, which are provided in Appendix A, Tables A-1 and A-2.

Soil samples from dry wells located in the vicinity of the site located on Albany Avenue and the adjacent properties detected elevated levels of chromium, PCE, MEK, and TCA. Figure A-2 provided in Appendix A illustrates the locations of the dry wells. Soil sample results for chromium, MEK, PCE, and TCA are provided in Appendix A, Table A-3.

2.3.2 Remedial History

Initial activities at the site included the construction of earthen berms to control fire water. As a result of the earthen berms a substantial amount of ponded water was treated by the sewage treatment plant once approval was received to direct water to the sanitary system. On 9 October and 10 October 2000, water was pumped out of the off-site dry well structures that received runoff water from site activities.

The Suffolk County Department of Health participated in the environmental investigation activities after the fire. Five monitoring wells (MW-01 through MW-05) were installed to assess the impacts of the release on the groundwater quality as detailed below:

- MW-01 was installed downgradient of the site
- MW-02 was located upgradient of the site at the intersection of Seabro Avenue and Albany Avenue
- MW-03, MW-04, and MW-05 were located downgradient of the recharge basin.

The depth to groundwater had been documented to be approximately 18 ft bgs and assumed to flow to the south. Groundwater sample results for chromium, MEK, PCE, and TCA are provided in Appendix A, Table A-4.

Spill response efforts were able to remediate most of the wastes from the stormwater structures in the vicinity of the site. Confirmation samples from the remediated dry wells indicated residual soil contamination in five of the dry wells. Soil sample results for chromium, MEK, PCE, and TCA are provided in Appendix A, Table A-5.

Samples were collected from the recharge basin to evaluate the soil conditions. Laboratory results indicated that elevated levels of chromium were detected in the surface soils. Soil sample results for chromium, MEK, PCE, and TCA are provided in Appendix A, Table A-6. Historical documents regarding site remediation activities did not indicate that the impacted soils in the vicinity of the recharge basin were excavated.

Approximately 1,200 to 1,300 tons of impacted soil were excavated and are currently stockpiled and covered at the site (Figure 3). The majority of the stockpiled soil is from an on-site excavation located adjacent to the former vapor degreaser. Historical analytical results and the limits of the excavation are unavailable.

3. FIELD ACTIVITIES

This section outlines and presents the overall approach of the field investigation activities that were performed to meet the stated objectives of the site characterization. EA's approach for implementing the field investigation included sampling activities designed to confirm the presence or absence of contaminants of concern (COCs) attributable to past operational and/or storage activities at the site, and to quantify the concentrations of potential COCs through laboratory analysis. Environmental matrices including soil, sediment, soil vapor, and groundwater were sampled during the site investigation. All environmental samples were analyzed by an Environmental Laboratory Analytical Program-certified laboratory.

The field investigation program was performed during January to November 2007 and included the following activities:

January 2007

- ***Stockpile Soil Sampling —*** Soil sampling of on-site soil stockpiles was completed in order to assess of soil disposal options.

- ***Soil Borings/Monitoring Well Installation —*** One upgradient (MW-09) and three on-site (MW-06, MW-07, and MW-08) soil borings were installed. Soil samples were collected from intervals above the water table. An additional soil sample was collected from MW-08 from below the water table where evidence of contamination was observed. Monitoring wells were subsequently installed at each soil boring location.

March 2007

- ***Groundwater Sampling —*** Groundwater samples were collected at eight well locations (four newly installed wells and four existing wells).

- ***Groundwater Profiling —*** Groundwater samples were collected at two temporary groundwater profiling locations.

- ***Soil Sampling —***At the request of NYSDEC, additional soil samples were collected from the excavation pit and from a cesspool discovered during performance of the January 2007 field work.

- ***Soil Sampling from dry wells and recharge basin—***Soil samples were collected from six selected dry wells; seven samples were collected from the recharge basin.

- ***Site Survey —*** A site survey was conducted by a professional land surveyor following the completion of the sampling activities. The survey included the locations of monitoring wells MW-02 through MW-09 and dry wells. Remaining sample locations were located using a portable global positioning system (GPS) device.

November 2007

- ***Groundwater Sampling —*** Groundwater samples were collected at five well locations, three on-site and two upgradient off-site wells.

- ***Soil Vapor Sampling—***Collection of two on-site soil gas vapor samples, one duplicate and one ambient air sample.

- ***Background Soil Sampling—***Collection of five background soil samples to obtain site background standards.

Prior to commencement of drilling and sampling activities, the driller for this Work Assignment (Land Air Water Environmental Services, Inc.) contacted Dig Safe New York to request that utilities be marked out within the work area.

Field activities followed the approach described in the Site Characterization Work Plan previously prepared for the site. Minor adjustments were made to the original Work Plan approach following consultation with and approval by the NYSDEC site representative, as listed below:

- At the request of the NYSDEC, a soil sample was collected from a cesspool discovered on-site during performance of the January 2007 field work.

- At the request of the NYSDEC, three soil samples were collected from the bottom of the excavation pit located in the northwest corner of the site due to the size of the excavation.

- At the request of the NYSDEC, soil from dry wells DW-11 and DW-12 were sampled in lieu of sample collection from the on-site storm-water structures which could not be located.

- No groundwater sample was collected from MW-01, since it could not be located.

Copies of the field notebook are provided under separate cover. Photographs taken during performance of field work are presented in Appendix B.

3.1 SURFACE AND SUBSURFACE SOIL

3.1.1 Background Soil Samples

On 26 November 2007, five background soil samples were collected and analyzed for metals by EPA Method 6010, to determine shallow site background soil concentrations. Two soil samples were located on properties adjacent to the site, and one sample was collected adjacent to the impacted recharge basin, and two samples were collected downgradient from the impacted recharge basin (Figure 4). Each soil sample was collected at 1-ft bgs. Soil samples were collected using a stainless steel hand auger and other stainless steel sampling equipment. Decontamination

of non-dedicated equipment and tools used to collect samples for laboratory analysis was completed in accordance with the procedures described in Section 6 of the Field Activities Plan (FAP).

3.1.2 Soil Sampling from On-Site Soil Stockpiles

During the January 2007 field work, the dimensions of each soil pile were measured as summarized below:

- Stockpile #1: 67 ft x 14 ft x 3.5 ft
- Stockpile #2: 35 ft x 33 ft x 4.5 ft
- Stockpile #3: 51 ft x 21 ft x 4.5 ft
- Stockpile #4: 51 ft x 34 ft x 5 ft

The quantity of soils stockpiled at the site was estimated to be approximately 1,200 to 1,300 tons. Due to the anticipated volume of material and the number of stockpiles present at the site, a total of five composite soil samples were collected (Figure 3).

Soil samples were collected using a stainless steel hand auger and other stainless steel sampling equipment. Decontamination of non-dedicated equipment and tools used to collect samples for laboratory analysis was completed in accordance with the procedures described in Section 6 of the FAP. Soil samples were collected from a depth of approximately 3 ft below the surface of the stockpiles to properly evaluate the constituents. Grab samples were collected from each of the five sample points (1-52-189-SS01, 1-52-189-SS02, 1-52-189-SS03, 1-52-189-SS04E and 1-52-189-SS04W). The soil samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOC) using EPA Method 8260B. Composite soil samples were collected from each of the five sample areas and analyzed for Toxicity Characteristic Leaching Procedure (EPA Method 1311), pesticides (EPA Method 8081A), polychlorinated biphenyls (PCBs) (EPA Method 8082), semivolatile organic compounds (SVOCs) (EPA Method 8270C), metals (including hexavalent chromium) (EPA Method 7000), and Resource Conservation and Recovery Act characteristics, ignitability (ASTM E 501-84), reactivity (EPA Method 9010 and 9030), corrosivity (EPA Method 9040), and moisture content (ASTM D 2216).

3.1.3 Subsurface Soil Sampling at Monitoring Well Locations

Between 24-25 January 2007, four soil borings (MW-06 through MW-09) were installed using 4¼-in inner diameter hollow-stem augers driven by a Mobile B-61 drill rig or Geoprobe Model 6610DT with hollow stem auger capabilities. The soil boring locations are illustrated on Figure 5. Subsurface soil samples were collected at boring MW-07 using decontaminated 2-in. diameter, 2.5-ft-long, continuous-drive, split-spoon samplers, which were advanced with the augers during drilling. A decontaminated 2-in. diameter, 4-ft long continuous drive macrocore sampler was utilized for collecting soil samples at borings MW-06 and MW-08. Continuous split spoons were not performed at MW-09, which is located off-site at an upgradient location. Soil characteristics of each sample along with any other pertinent information were logged in accordance with American Society for Testing and Materials D-2488-85. Boring logs are provided in Appendix C.

A sample of soil from each interval was retained in a laboratory-cleaned glass jar for container headspace photoionization detector (PID) readings. At each boring location, soil samples collected from immediately above the groundwater interface were submitted for laboratory analysis. Additionally, because visual contamination was observed and elevated PID headspace readings were noted at soil boring location MW-08 from 17.5 to 20.0 ft bgs, the NYSDEC requested that a soil sample be collected from this interval and submitted for laboratory analysis. Soil samples were analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, pesticides/PCBs by EPA Methods 8081A/8082, and metals by EPA Method ILM05.0. The table below provides detailed information for each boring location:

SOIL SAMPLE COLLECTION DATA (JANUARY 2007)					
Soil Boring Location	Location Description	Soil Sample ID	Soil Sample Depth Interval (ft bgs)	Sample Analysis	Soil Sampling Rationale
MW-06	Adjacent to excavation pit	1-52-189-SB06-12.5-15	12.5 – 15.0	VOC, SVOC, Pesticides/ PCBs and Metal	To assess impacts to soil from former vapor degreaser
MW-07	Northeast corner of site	1-52-189-SB07-11-13 MS/MSD	11.0 – 13.0	VOC, SVOC, Pesticides/ PCBs and Metal	To assess impacts to soil at an up-gradient but on-site location
MW-08	Downgradient	1-52-189-SB08-10-14.5 (Duplicate 1-52-189-SB09-10-12)	10.0 – 14.5	VOC, SVOC, Pesticides/ PCBs and Metal	To assess impacts to soil from former anodizing tank area
		1-52-189-SB08-17.5-20	17.5 – 20.0	VOC, SVOC, Pesticides/ PCBs and Metal	Evidence of contaminated soils below water table
MW-09	Upgradient	No Sample Collected	NA	NA	NA

Soil sample collection for each specific sampling interval was completed in accordance with Section 4 of the FAP. Quality assurance/quality control samples were collected at the frequency detailed in the Quality Assurance Project Plan (QAPP) Addendum, Table 1. Decontamination of non-dedicated equipment and tools used to collect samples for laboratory analysis was completed in accordance with the procedures described in Section 6 of the FAP.

3.1.4 Soil Sampling from Cesspool

During the January 2007 field work, a cesspool was discovered in the northeast corner of the site (Figure 3), as identified in a figure obtained from the building department. At the request of the NYSDEC, a soil sample was collected from the soil within the cesspool. The soil sample was collected from 4-ft below the top of the pile just above a change in soil texture (i.e., possibly just above native soils). The soil sample was collected using a stainless steel decontaminated hand auger with extension rods. The soil sample, 1-52-189-CP-01, was analyzed for VOCs by EPA Method 8260B and metals by EPA Method ILM05.0.

3.1.5 Soil Sampling from Excavated Pit

A large open pit approximately 10-ft deep was observed during the January 2007 field work in the northwest corner of the site (Figure 3). It is believed that this pit was excavated during the remedial activities completed after the October 2000 fire. At the request of NYSDEC, three soil samples were collected from the pit (1-52-189-PT-01 through 1-52-189-PT-03) due to the size of the excavation. Soil samples were collected from the bottom of the pit approximately 9 to 10-in below the base of the pit. Soil sample 1-52-189-PT-03 was collected from just east of what appeared to be the former location of a catch basin structure. All three soil samples were analyzed for VOCs by EPA Method 8260B and metals by EPA Method ILM05.0.

3.2 STRUCTURE SAMPLING

3.2.1 Soil Sampling from Dry Wells

Soil samples were collected from six dry wells, identified as DW-01, DW-02, DW-07, DW-11, DW-12, and DW-14, to determine the concentration of VOCs and metals present. The soil within dry well DW-13 could not be sampled due to a sealed grate. Soil within DW-11 and DW-12 was sampled in lieu of collecting samples from the on-site storm drains which either could not be located or no longer existed. One soil sample was collected from each dry well. Figure 6 shows the location of the dry wells in the vicinity of the site. The table below provides specific information for each dry well that was sampled from 5 to 7 March 2007:

DRY WELL SAMPLE COLLECTION DATA (MARCH 2007)

Dry Wells ID	Depth to Bottom of Structure (ft below rim)	Approximate Sediment Thickness (in)	Material Description	Height of Standing Water Above Base (ft)	Sample ID	Sample Analysis	Sample Date
DW-01	7.5	12	Black sludge underlain by sand and gravel and organic matter	3.5	1-52-189-DW-01	VOC, Metals	5 MAR 2007
DW-02	7.5	12	Black sludge underlain by sand and gravel and organic matter	3.5	1-52-189-DW-02	VOC, Metals	5 MAR 2007
DW-07	7.5	6	Sand and gravel and organic matter	DRY	1-52-189-DW-07	VOC, Metals	7 MAR 2007
DW-11	12.5	6	Black sludge	7.5	1-52-189-DW-11	VOC, Metals	6 MAR 2007
DW-12	15.5	6-12	Black sludge	10.0	1-52-189-DW-12	VOC, Metals	6 MAR 2007
DW-14	7.5	12	Black sludge underlain by Sand and gravel and organic matter	3.5	1-52-189-DW-14	VOC, Metals	5 MAR 2007

Soil samples were collected using a decontaminated stainless steel or nalgene container attached to extension rods. Since there was a small quantity of soil in each dry well, the samples were collected by dragging the container along the bottom of the structure. All soil samples collected from the dry wells were analyzed for VOCs by EPA Method 8260B and metals by EPA Method ILM05.0.

Decontamination of non-dedicated equipment and tools used to collect samples for laboratory analysis was completed in accordance with the procedures described in Section 6 of the FAP.

3.2.2 Soil Sampling from Recharge Basin

Seven soil samples were collected on 6 March 2007 from locations within the recharge basin to determine the concentration of VOCs and metals present. Figure 7 shows the location of the recharge basin and associated soil sample locations. Samples were collected from approximately 1.0-1.5 ft. bgs. The table below provides specific information on the recharge basin sampling effort:

RECHARGE BASIN SAMPLE COLLECTION DATA (MARCH 2007)			
Sample ID	Sample Depth (ft bgs)	Sample Analysis	Material Description
1-52-189-SED-01	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel
1-52-189- SED -02	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel
1-52-189- SED -03	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel
1-52-189- SED -04	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel
1-52-189- SED -05	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel
1-52-189- SED -06	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel with slight iron staining
1-52-189- SED -07 and duplicate (1-52-189- SED -08)	1.0-1.5	VOC, Metals, Cr+6	~6 in. of organic matter underlain by tan course sand and fine to course gravel

All soil samples were analyzed for VOCs by EPA Method 8260B, metals by EPA Method ILM05.0, and hexavalent chromium by EPA Method 7196A. A surface water sample was not collected since there was no standing water in the basin at the time of sampling. It is noted however, that during reconnaissance of the area on 5 March 2007, there was approximately 1 ft of standing water in the basin (presumably residual storm-water run-off from a rain event which occurred on 3 March 2007).

Soil samples were collected using a decontaminated stainless steel hand auger and other stainless steel sampling equipment. Decontamination of non-dedicated equipment and tools used to collect samples for laboratory analysis was completed in accordance with the procedures described in Section 6 of the FAP.

3.3 GROUNDWATER

3.3.1 Monitoring Well Installation

Following subsurface soil sampling, monitoring wells were installed at each soil boring location (MW-06, MW-07, MW-08 and MW-09). Monitoring well locations are shown on Figure 5. Monitoring well construction diagrams are presented in Appendix C. Each well was screened to intersect the groundwater interface. Each monitoring well was constructed with a 10-ft length of 2-in. inner diameter threaded Schedule 40 polyvinyl chloride flush-joint casing with a 10-ft machine slotted 0.010-in. well screen. The annulus around the well screen was backfilled with No. 1 Morie sand up to 2 ft above the well screen. A bentonite seal was placed above the sand pack to form a minimum 2-ft seal. Cement/bentonite grout was placed to within 3 ft of the surface. Each well has a vented cap and a locking cover. Monitoring wells were completed with flush-mount protective covers. A cement pad was installed at each well to channel surface water away from the well.

3.3.2 Monitoring Well Development

The newly installed wells were developed in order to remove sediment from the well screen and to ensure that representative groundwater samples were collected. Wells were developed following the installation of each well. Each well was alternately mechanically surged and pumped clear of sediment with a submersible pump.

Water quality data (temperature, pH, specific conductivity, and turbidity) were recorded into the field log book (separate submittal). Pumping continued until these parameters stabilized (less than 0.2 pH units or a 10 percent change for the other parameters between four consecutive readings) and the turbidity did not exceed 50 nephelometric turbidity units (NTU), in accordance with Section 4.1.3 of the FAP. The purged groundwater derived from well development was managed in accordance with the procedures outlined in Section 7 of the FAP.

3.3.3 Monitoring Well Groundwater Gauging and Sampling (March 2007)

Groundwater samples were collected from the newly installed monitoring wells (MW-06, MW-07, MW-08 and MW-09) and existing monitoring wells (MW-02, MW-03, MW-04 and MW-05) from 6 to 7 March 2007. Water levels were recorded from monitoring wells on 6 March 2007, prior to the start of groundwater sampling, in order to prepare a groundwater contour map and to evaluate groundwater flow patterns. In addition, an oil/water interface probe was used to measure product thickness in the groundwater monitoring wells; however, no product was detected in the wells. The table below provides the gauging elevations at each well during the March 2007 event:

MONITORING WELL GAUGING DATA (MARCH 2007)			
Well ID	Depth to Water (Ft below top of PVC casing)	Depth to Product	Water Elevation (Ft MSL)
MW-01	NA	NA	NA
MW-02	13.89	Not Detected	39.39
MW-03	15.12	Not Detected	35.57
MW-04	15.09	Not Detected	35.45
MW-05	15.34	Not Detected	35.38
MW-06	15.55	Not Detected	39.11
MW-07	14.88	Not Detected	39.01
MW-08	14.45	Not Detected	38.64
MW-09	13.44	Not Detected	40.90
Note: NA = MW-01 was not gauged during the sampling event because it could not be located.			

Groundwater samples were analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, pesticides by EPA Method 8081A, PCBs by EPA Method 8082, metals by EPA Method ILM05.0, and hexavalent chromium by EPA Method 7196A.

Purge water was discharged to the ground surface away from the well. Purge water from MW-09 was transported to and discharged onto the site. All sampling equipment (i.e. polyethylene bailers) was dedicated to each monitoring well; therefore, no decontamination was completed.

Groundwater samples were collected in accordance with section 4.1.3 of the FAP. Groundwater samples were collected at monitoring wells using certified clean (by the manufacturer) 1.5-in. outer diameter, weighted polyethylene bailers. Field measurements of water quality parameters, including temperature, pH, conductivity, and turbidity, were monitored and recorded during purging. Approximately five well volumes were removed from each well. Water quality parameters were measured for each well volume of water removed using a Horiba® Model U-22 water quality meter. The water quality meter was calibrated in accordance with the manufacturer's specifications prior to use. Calibration data were recorded in the field notebook (Appendix B). Water quality parameters were recorded on the Field Record of Gauging, Purging, and Sampling forms provided in Appendix D. Purged groundwater did not exhibit evidence of contamination. Laboratory analyses performed on the groundwater samples are outlined in the following table:

SUMMARY OF LABORATORY ANALYSES FOR GROUNDWATER SAMPLES (MARCH 2007)						
		Analysis				
Well ID	Sample ID	VOC	SVOC	Metals	Pest/PCB	Cr^{+6}
MW-01	Not Sampled	NA	NA	NA	NA	NA
MW-02	1-52-189-GW-02	X		X		X
MW-03	1-52-189-GW-03	X		X		
MW-04	1-52-189-GW-04	X		X		X
MW-05	1-52-189-GW-05	X		X		
MW-06	1-52-189-GW-06	X	X	X	X	X
MW-07	1-52-189-GW-07	X	X	X	X	X
MW-08	1-52-189-GW-08	X	X	X	X	X
MW-09	1-52-189-GW-09	X		X		
MW-10*	1-52-189-GW-DP	X	X	X	X	X
*MW-10 is the ID assigned to the duplicate sample which was collected from MW-06.						

3.3.4 Monitoring Well Groundwater Gauging and Sampling (November 2007)

Groundwater samples were collected from monitoring wells MW-02, MW-06, MW-07, MW-08 and MW-09 on 28 November 2007. Water levels were recorded from monitoring wells MW-02, MW-06, MW-07, MW-08, and MW-09 on 27 November 2007, prior to the start of groundwater sampling, in order to prepare a groundwater contour map and to evaluate groundwater flow patterns. In addition, an oil/water interface probe was used to measure product thickness in the groundwater monitoring wells; however, no product was detected in the wells. The table below provides the gauging elevations at each well during the November 2007 event:

MONITORING WELL GAUGING DATA (NOVEMBER 2007)			
Well ID	Depth to Water (Ft below top of PVC casing)	Depth to Product	Water Elevation (Ft MSL)
MW-01	NA	NA	NA
MW-02	16.10	Not Detected	36.92
MW-03	17.30	Not Detected	33.10
MW-04	17.27	Not Detected	33.09
MW-05	17.49	Not Detected	33.05
MW-06	17.79	Not Detected	36.28
MW-07	17.12	Not Detected	36.33
MW-08	16.72	Not Detected	36.06
MW-09	15.62	Not Detected	37.87
Note: NA = MW-01 was not gauged during the sampling event because it could not be located.			

During the November 2007 sampling event, groundwater samples were analyzed for VOCs by EPA Method 8260B, total and dissolved metals by EPA Method 6010, and hexavalent chromium by EPA Method 7196A. Sampling was completed using low flow sampling procedures in accordance with EPA Region II low-flow protocols, dated March 1998. Groundwater samples

were analyzed for VOC's, total metals, dissolved metals, and hexavalent chromium**.** Purge water was discharged to the ground surface away from the well. Purge water from MW-02 and MW-09 was transported to and discharged onto the site. All sampling equipment (i.e. polyethylene tubing) was dedicated to each monitoring well; therefore, no decontamination was completed.

Field measurements of water quality parameters, including temperature, pH, conductivity, and turbidity, were monitored and recorded during purging. Water quality parameters were measured at three minute intervals using a Horiba® Model U-22 water quality meter. The monitoring well was purged until all parameters stabilized (Appendix D). The water quality meter was calibrated in accordance with the manufacturer's specifications prior to use. Water quality parameters were recorded on the Field Record of Gauging, Purging, and Sampling forms provided in Appendix D. Purged groundwater did not exhibit evidence of contamination. Laboratory analyses performed on the groundwater samples are outlined in the following table:

SUMMARY OF LABORATORY ANALYSES FOR GROUNDWATER SAMPLES (NOVEMBER 2007)

		Analysis			
Well ID	Sample ID	VOC	Total Metals	Dissolved Metals	Cr^{+6}
MW-01	MW-01	NA	NA	NA	NA
MW-02	MW-02	X	X	X	X
MW-03	MW-03	NA	NA	NA	NA
MW-04	MW-04	NA	NA	NA	NA
MW-05	MW-05	NA	NA	NA	NA
MW-06	MW-06	X	X	X	X
MW-07	MW-07	X	X	X	X
MW-08	MW-08	X	X	X	X
MW-09	MW-09	X	X	X	X
Duplicate	From MW-07	X	X	X	X

Note: NA = Not analyzed.

3.3.5 Groundwater Profiling

Groundwater quality at the site was additionally assessed by vertically profiling the groundwater column at two locations. At each location, a temporary sampling point was installed via direct-push methods to obtain groundwater samples from discrete sampling intervals. The location of the temporary sampling points is shown on Figure 5. Groundwater samples were collected at 10 ft intervals from the groundwater interface (approximately 20 ft below ground surface [bgs]) to an approximate depth of 70 ft bgs. Groundwater samples were analyzed for VOCs by EPA Method 8260B. Additionally, groundwater samples that were collected from the deepest sampling interval at each profile point were analyzed for metals by EPA Method ILM05.0 and hexavalent chromium by EPA Method 7196A. Direct-push groundwater sampling was accomplished using a Geoprobe Model 6610DT track rig. This method involved the use of a Screen Point 15 Groundwater Sampler which was pushed under hydraulic pressure to the selected sample depth without boring a

pilot hole. Direct-push groundwater profiling locations were backfilled as necessary with bentonite chips to seal the borehole. Sampling information is provided in the following table:

SUMMARY OF LABORATORY ANALYSES FOR SAMPLES FROM TEMPORARY GROUNDWATER PROFILING POINTS (MARCH 2007)

Location ID	Sample ID	Sampling Interval (ft bgs)	Analysis
GP-1	1-52-189-GP-01-19-23	19 – 23	VOC
	1-52-189-GP-01-29-33	29 – 33	VOC
	1-52-189-GP-01-39-43	39 – 43	VOC
	1-52-189-GP-01-49-53	49 – 53	VOC
	1-52-189-GP-01-59-63	59 – 63	VOC
	1-52-189-GP-01-69-73	69 – 73	VOC, metals, Cr^{+6}
GP-2	1-52-189-GP-02-19-23	19 – 23	VOC
	1-52-189-GP-02-29-33	29 – 33	VOC
	1-52-189-GP-02-39-43	39 – 43	VOC
	1-52-189-GP-02-49-53	49 – 53	VOC
	1-52-189-GP-02-59-63	59 – 63	VOC
	1-52-189-GP-02-69-73	69 – 73	VOC, metals, Cr^{+6}
	1-52-189-GP-02-79-83*	69-73	VOC, metals, Cr^{+6}

***** 1-52-189-GP-02-79-83 is the ID assigned to the duplicate sample which was collected from 1-52-189-GP-02-69-73.

3.4 SOIL GAS VAPOR SAMPLING

On 27 November 2007 two soil vapor points were installed at the site, one beneath the slab foundation that remains from the building that was at the site (SV01) and one from the western property boundary which borders the adjacent residential properties (SV02) (Figure 5). Soil vapor points were installed using a 2-in. diameter hand soil sampler to the desired depth. Once the sampling depth was reached, the 6-in. stainless steel sampling screen was attached to a dedicated section of 0.25-in. diameter Teflon tubing and placed in the open bore hole. The borehole was then backfilled with glass beads to a minimum of 6 in. above the screened interval. Granular bentonite was then used to backfill to the ground surface; hydrating concurrently with placement (Appendix E). The soil vapor points were allowed to set for a minimum 24 hours before sample collection commenced.

3.5 DECONTAMINATION PROCEDURES

Decontamination of equipment and personnel was performed for safety and health precautions, to avoid cross-contamination of samples subjected to chemical analysis, and to limit the migration of contaminants off-site and between work areas on the site.

Drilling and sampling equipment was initially decontaminated at the pre-designated decontamination area. Final decontamination of drill rigs was also conducted at the decontamination area prior to departing the site.

Equipment used to advance and sample borings (ie. macrocore and hand augers) were decontaminated prior to use and between each boring location. This equipment included the drill rig, drill rods, hollow-stem augers, and split-spoon samplers. Cleaning consisted of scraping and scrubbing to remove encrusted materials followed by a steam wash. Decontamination of equipment was conducted in accordance with Section 6 of the FAP and all decontamination fluids were managed in accordance with Section 7 of the FAP.

Decontamination procedures for reusable sampling equipment were completed in accordance with Section 6 of the FAP.

3.6 INVESTIGATIVE-DERIVED WASTE

Investigative-derived waste at the site was addressed in accordance with Section 7 of the FAP. Liquids generated during well development and purging and decontamination activities were discharged to an unpaved area on the site. Soils from drilling operations were disposed of on-site. Personal protective equipment, trash and debris was placed in a trash dumpster and disposed of by a local garbage hauler.

3.7 SITE SURVEYING

Site surveying was performed by YEC, Inc. of Valley Cottage, New York, a licensed New York State surveyor and included surveying of monitoring well locations, and dry wells where sediment samples were collected. Other sampling locations including recharge basin sediment samples and excavation pit soil samples were located by EA personnel using a Trimble GPS Pro XRS (a high precision global positioning system unit). Field data associated with surveying of the sampling locations is provided in Appendix F.

A detailed site plan utilizing recent aerial photography to depict general site features (i.e., buildings, roadways, utility poles, fences, addresses, etc.) within the vicinity of the site was developed. The base map was used to accurately plot all sampling locations including soil borings, monitoring wells, and all other sample locations.

4. RESULTS

The following section presents the analytical results of the media sampled during the field investigation. Summary tables for the analytical data are provided in Tables 1 through 8. Copies of laboratory data (i.e., Form Is) for the various media will be provided as a separate submittal to the NYSDEC.

Laboratory data for soil samples were compared to the NYSDEC Part 375 unrestricted use soil cleanup objectives; if no objective was listed in Part 375, the results were compared to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046. Metals results were compared to the highest site background soil sample concentrations. Laboratory data for groundwater samples were compared to NYSDEC Ambient Water Quality Standards (AWQS) for Class GA waters.

4.1 ENVIRONMENTAL SAMPLES

Continents of Concern for this effort were established based on October 2000 sampling results. The focus of this site characterization report is on chromium, hexavalent chromium, TCA, MEK, and PCE. Samples were also analyzed for a number of metals, VOCs and SVOCs. Soil sample results for total chromium, tri-valent chromium, and hexavalent chromium were compared to Part 375 unrestricted use soil cleanup objectives. Part 375 states that the soil cleanup objective for the specific compound is considered to be met if the analysis for the total species of this contaminant is below the specific soil cleanup objective. In other words, if the analysis for total chromium is less than the concentration of one of the specific valences of chromium (trivalent [30 mg/kg] or hexavalent [1 mg/kg]) then the soil cleanup objective is met for that species. When evaluating the samples that were analyzed for total chromium alone, the TAGM soil cleanup objective (in this case the highest background concentration for chromium) was used.

The soil sample results for TCA, MEK, and PCE were compared to the Part 375 unrestricted use soil cleanup objectives of 0.68 mg/kg, 0.12 mg/kg, and 1.3 mg/kg respectively.

4.1.1 Background Soil Samples

Five background soil samples were collected and analyzed for metals using EPA Method 6010 to determine TAGM 4046 site background concentrations. The highest recorded concentration was used as the standard to compare all soil samples, with the exception of lead. The highest concentration of lead was recorded at a concentration of 860 ppm. When compared to other background samples (next highest background 44 ppm), unrestricted use (63 ppm), restricted use residential (400 ppm) and typical range for New York (10 to 50 ppm) the background sample of 860 ppm was significantly higher. This sample result was considered to be an anomaly and was disregarded. Table 1 summarizes the background soil sampling data.

4.1.2 Soil Sampling from On-Site Soil Stockpiles

Five composite samples were collected from the soil stockpiled on-site. The samples were comprised of individual grab samples for a particular area of each stockpile. Grab samples were collected from each of the five sample areas for VOC analysis. Composite soil samples were collected from each of the five sample areas and analyzed for Toxicity Characteristic Leaching Procedure (TCLP), PCBs, SVOCs, metals (including hexavalent chromium), and Resource Conservation and Recovery Act characteristics (ignitability, reactivity, corrosivity, and moisture content). Each sample was collected from a depth of approximately 3 ft below the surface of the stockpile.

Analytical results for TCLP did not exhibit hazardous levels of contamination within the stockpile samples.

Concentrations of two SVOCs slightly exceeded the corresponding NYSDEC Part 375 guidance value (unrestricted use) for sample 1-52-189-SS-04E (benzo(b)fluoranthene, 1.2 mg/kg and indeno(1, 2, 3-cd)pyrene, 0.66 mg/kg). The Part 375 unrestricted soil cleanup objectives for these compounds are 1 mg/kg and 0.5 mg/kg respectively. None of the remaining results exceeded Part 375 or TAGM guidelines. A complete summary of analytical results for the soil stockpiles can be found in Table 2.

Concentrations of trivalent and hexavalent chromium exceeded the Part 375 unrestricted use soil cleanup objective of 30 mg/kg and 1 mg/kg respectively in two samples 1-52-189-SS-04E (34.6 mg/kg and 2 mg/kg) and 1-52-189-SS-04W (77.1 mg/kg and 4.9 mg/kg). No concentrations of other metals were detected over the TAGM cleanup objectives. These results indicate that there is a potential on-site source for chromium and hexavalent chromium. In addition, the results indicate that the bulk of the total chromium on site consists of the trivalent species of chromium.

4.1.3 Subsurface Soil Sampling at Monitoring Well Locations

Three soil boring locations (MW-06 through MW-08) were sampled from the interval immediately above the groundwater interface during installation of new monitoring wells. MW-09 was not sampled and sample SB09-10-12 is actually a duplicate sample collected from SB08-10-14.5. These samples were analyzed for VOCs, SVOCs, pesticides/PCBs, and metals. Additionally, potential impacts were observed at soil boring location MW-08 from 17.5 to 20 ft bgs. At the request of the NYSDEC, soils from this interval were also submitted for analysis for VOCs, SVOCs, Pesticides/PCBs, and metals.

None of the analytical results for subsurface soil samples were above NYSDEC Part 375 (unrestricted use) or TAGM guidelines for VOCs, SVOCs, pesticides, or PCBs.

Concentrations of iron ranged from 2,130 mg/kg (1-52-189-SB07) to 12,400 mg/kg (1-52-189-SB06). A complete summary of analytical results for subsurface soil can be found in Table 3.

The concentrations of metals in on-site soil samples are consistent with the off-site background surface soil results.

4.1.4 Soil Sampling from Cesspool

At the request of the NYSDEC, a soil sample was collected from within the cesspool discovered during the January 2007 field event in the northeast corner of the site. The soil sample, 1-52-189-CP-01, was collected from 4-ft below the top of the pile just above a change in soil texture, and was analyzed for VOCs and metals. The bottom of the cesspool was not reached during sampling activities. A complete summary of analytical results for the cesspool sample can be found in Table 4.

None of the VOC results were above NYSDEC Part 375 (unrestricted use) or TAGM guidelines.

Total Chromium was reported in the sample at a concentration of 6.8 mg/kg; however, the value is below the corresponding TAGM guideline value of 15 mg/kg (site background). There is no evidence of on-site impacts to soil found in this structure.

4.1.5 Soil Sampling from Excavated Pit

At the request of NYSDEC, three soil samples were collected from the excavation pit observed in the northwest corner of the site. Soil samples were collected from the bottom of the pit approximately 9 – 10 in. below ground surface. Each sample was analyzed for VOCs and metals and compared to Part 375 and TAGM soil guidance values. A complete summary of analytical results for the excavated pit samples can be found in Table 4.

The concentration of methylene chloride (0.13 mg/kg) exceeded the NYSDEC Part 375 guideline for unrestricted use of 0.05 mg/kg for sample 1-52-189-PT02. No other VOCs exceeded Part 375 or TAGM guideline values for the pit samples.

Concentrations of total chromium exceeded the corresponding TAGM site background guideline of 15 mg/kg in excavation pit samples 1-52-189-PT-02 and 1-52-189-PT-03 at concentrations of 103 mg/kg and 17.3 mg/kg, respectively. The data from sample 1-52-189-PT-02 coupled with the data from the soil stockpiles (Section 4.1.2), suggest that the chromium concentration is potentially related to site activities. Concentrations of cadmium, copper, lead, nickel and zinc in sample 1-52-189-PT02 (6 mg/kg, 159 mg/kg, 142 mg/kg, 35 mg/kg, and 1130 mg/kg, respectively) exceeded the corresponding NYSDEC Part 375 guideline for unrestricted use and TAGM standards. Copper, lead, and zinc concentrations are above site background TAGM concentrations suggesting that their concentrations are potentially related to site activities.

4.1.6 Soil Sampling from Dry Wells

Soil samples were collected from six dry wells, identified as DW-01, DW-02, DW-07, DW-11, DW-12, and DW-14. Each sample was analyzed for VOCs and metals. A complete summary of analytical results for the dry well samples can be found in Table 4.

Concentrations of acetone were slightly above NYSDEC Part 375 guidelines of 0.05 mg/kg for unrestricted use for samples DW-02 (0.092 J mg/kg), DW-11 (0.16 J mg/kg), DW-12 (0.098 mg/kg), and DW-14 (0.088 mg/kg). No other VOCs exceeded Part 375 or TAGM guideline values for the soil samples.

Concentrations of total chromium in the soil samples, ranged from 12 mg/kg (1-52-189-DW01) to 104 mg/kg (1-52-189-DW02). The total chromium concentrations in five of the six samples (DW-02, DW-07, DW-11, DW-12, and DW-14) are above the site surface soil background concentration of 15 mg/kg. The five dry wells are located off-site and were impacted during the October 2000 event as indicated in Appendix A, and Figures A-2 and A-3A. The data would suggest that chromium levels within the dry wells are above background levels and is potentially due to the October 2000 event, which impacted these stormwater structures. The site background data and dry well data suggest that residual chromium contamination is present.

Concentrations of iron exceeded the corresponding TAGM value in sample 1-52-189-DW-02 at 25,200 mg/kg. Concentrations of several other metals (i.e., barium, cadmium, lead, copper, nickel, and zinc) exceeded the Part 375 guidelines at 1-52-189-DW02 and 1-52-189-DW11. Concentrations of copper were above the Part 375 and TAGM standards in sample 1-52-189-DW-07. These analytes are not prevalent in the on-site soil samples. Due to the nature and location of the dry wells, the origin of these exceedences may be a result of the October 2000 event or from another source located at an adjacent property or from vehicular traffic.

4.1.7 Soil Sampling from Recharge Basin

Seven soil samples were collected from locations within the recharge basin. Each sample was analyzed for VOCs, metals, and hexavalent chromium.

None of the analytical results for the soil samples exceeded NYSDEC Part 375 (unrestricted use) or TAGM guidelines for VOCs.

Total chromium exceeded the corresponding TAGM site background guideline of 15 mg/kg at sample locations 1-52-189-SED04 (19.6 mg/kg) and 1-52-189-SED07 (15.2 mg/kg). Hexavalent chromium was not detected above the sample reporting limit. Therefore, the tri-chromium values are equal to the total chromium values, which are below the NYCRR Part 375 (a) unrestricted use cleanup objectives of 30 mg/kg.

None of the other metals analyzed during this field effort were above either the applicable TAGM or Part 375 guidance values. A complete summary of analytical results for the recharge basin sediment samples can be found in Table 5.

4.1.8 Groundwater Monitoring Well Sampling

4.1.8.1 Groundwater Gauging

Two groundwater monitoring events were completed at AMW Materials testing site, the initial on 6-7 March 2007 and confirmatory samples on 27 November 2007. During the March sampling event, water elevations ranged from 33.05 ft AMSL at well MW-05 to 37.87 ft AMSL at well MW-09. During the November 2007 sampling event, water elevations ranged from 35.38 ft AMSL at well MW-05, to 40.90 ft AMSL at well MW-09. Groundwater flow direction is generally in a south, southeasterly direction. The hydraulic gradient for both events is approximately 0.0025. Potentionmetric surface maps are included as Figures 8A and 8B.

4.1.8.2 March 2007 Sampling Event

Groundwater samples were collected from the newly installed monitoring wells (MW-06 through MW-09) and existing monitoring wells (MW-02 through MW-05) from 6 to 7 March 2007. The onsite monitoring wells (MW-06, MW-07, and MW-08) were analyzed for VOCs, SVOCs, pesticides/PCBs, metals, and hexavalent chromium. Wells MW-02 and MW-04 were analyzed for VOCs, metals, and hexavalent chromium. Wells MW-03, MW-05, and MW-09 were analyzed for VOCs and metals. A complete summary of analytical results for the groundwater monitoring well samples can be found in Table 6A.

The concentration of one VOC (tetrachloroethene) exceeded the NYSDEC Ambient Water Quality Standard AWQS of 5 µg/L in wells MW-06 (29 µg/L), MW-08 (64 µg/L), and MW-10 (25 µg/L) (MW-10 is the duplicate sample collected from MW-06). Concentrations of one SVOC (bis[2-Ethylhexyl]phthalate) slightly exceeded Ambient Water Quality Standard (AWQS) of 5 µg/L guidelines at MW-06 and MW-10. The data suggests that the VOC impacts are from on-site sources and appear to be localized.

During the March 2007 sampling event, monitoring wells were purged using disposable polyethylene bailers. As a result of purging with bailers, the turbidity of the some of the samples exceeded the 50 NTU threshold. Acidification of turbid groundwater samples during sampling may, at times, create false positives or erroneously elevated concentrations of certain metals (e.g. iron, aluminum, magnesium, chromium, etc.).

Concentrations of total chromium exceeded the NYSDEC AWQS guideline of 50 µg/l in wells MW-02 (88.8 µg/l), MW-06 (115 µg/l), MW-07 (93.8 µg/l), and MW-08 (260 µg/l) (wells MW-06, MW-07 and MW-08 are on-site wells). Hexavalent chromium was detected in MW-07 (69 µg/l) and MW-08 (59 µg/l), above the corresponding AWQS guideline for hexavalent chromium of 50 µg/l. The highest total chromium concentrations were detected at monitoring wells MW-02,

MW-06, MW-07, and MW-08, which are located on site or near dry wells that were impacted by runoff water from the October 2000 event.

Concentrations of aluminum and iron exceeded the AWQS guideline (100 µg/l and 300 µg/l respectively) in each groundwater sample. Manganese was detected in wells MW-02, MW-06, MW-07, MW-08 and MW-09 over the AWQS guidelines (300 µg/l). Concentrations of sodium were detected over the AWQS guidelines (20,000 µg/l) in wells MW-03, MW-04 and MW-05. Iron, aluminum, and magnesium concentrations were widespread and appear to be naturally occurring. Concentrations of sodium seem to be limited to the recharge basin. Their location adjacent to roadways suggests that road salt may be contributing to impacts in this area.

Concentrations of lead also exceeded the AWQS guideline of 25 µg/l in MW-08 (35 J µg/L) and MW-09 (29.6J µg/L). MW-08 is an on-site well and MW-09 is an upgradient off-site well. This suggests that there are two potential low-level sources of lead in this area.

The low-level concentrations of chromium appear to be associated with on-site activities. The data suggests that groundwater impacts are localized to the site. Wells MW-06, MW-07, and MW-08 are on-site and have the highest concentrations of total chromium. The on-site chromium concentrations appear to be affected by turbidity (generally the concentrations increased as turbidity increases).

No PCBs were detected in any of the monitoring well groundwater samples. The concentration of one pesticide (chlordane) exceeded the corresponding AWQS guideline at MW-07. Chlordane is a pesticide that has been utilized in crops, lawns, gardens, and also as an ant killer. Chlordane is not a chemical typically utilized in the metal plating industry and is most likely originating from off-site.

Upon reviewing the data, it was determined that the elevated concentrations of metals, could be in part related to the high turbidity readings observed during sample collection. As a result of the high readings, it was determined that a second round of groundwater samples would be collected using low-flow sampling procedures to minimize turbidity. The second round of sampling was completed in November 2007 and is discussed below.

4.1.8.3 Groundwater Sampling – November 2007

Confirmatory groundwater samples were collected on 28 November 2007 from groundwater wells MW-02, MW-06, MW-07, MW-08 and MW-09. Sampling was completed using low-flow sampling procedures in accordance with EPA Region II low flow protocols, dated March 1998. Groundwater samples were analyzed for VOCs, total metals, dissolved metals and hexavalent chromium. A complete summary of analytical results for the groundwater monitoring well samples can be found in Table 6B.

The concentration of one VOC (tetrachloroethene) exceeded the NYSDEC AWQS guideline of 5µg/L in well MW-08 (14 µg/L). The change in concentration may be the results of seasonal

groundwater fluctuations, which changed approximately 2 ft from the March and November sampling events.

Total aluminum was detected in MW-06 (230 µg/L) over the NYSDEC AWQS of 100 µg/L.

During the March 2007 event concentrations of total chromium exceeded the NYSDEC AWQS in wells MW-02, MW-06, MW-07, and MW-08. During the November 2007 sampling event, concentrations of total chromium ranged from a low of 12 µg/L in MW-06 to a high of 47 µg/L in MW-07, all below the NYSDEC AWQS standard of 50 µg/L.

Concentrations of hexavalent chromium exceeded the NYSDEC AWQS guideline of 50 µg/L in well MW-07 (53 µg/L). Hexavalent chromium was detected below the AWQS guideline in well MW-08 (47 µg/L), and the duplicate sample collected from MW-7 (44 µg/L). The hexavalent chromium concentrations were similar to those in the March 2007 sampling event. Total chromium was detected in each well with the exception of MW-09, ranging from 11 µg/L in MW-06 to 48 µg/L in MW-08. The concentrations are below the NYSDEC AWQS standard of 50 µg/L.

As previously discussed, acidification of turbid groundwater samples during sampling may, at times, create false positives or erroneously elevated concentrations of certain metals (e.g. iron, aluminum, magnesium, chromium, etc).

During the March 2007 sampling event the turbidity readings were generally above the 50 NTU threshold. Concentrations of several metals (Aluminum, total chromium, hexavalent chromium, iron, lead, manganese, and sodium) were detected above their respective AWQS standard. When compared to the November 2007 sampling event, which utilized low-flow sampling procedures, (resulting in turbidity readings below 50 NTU), only two analytes were detected above AWQS standards (aluminum in two samples and hexavalent chromium in one sample). No exceedances of AWQS standards for dissolved metals were observed in the November 2007 filtered samples, as presented in Table 6B.

4.1.9 Groundwater Profiling

Groundwater quality at the site was further assessed by vertically profiling the groundwater column at two locations. GP-01 was completed northeast and upgradient of the site in the vicinity of multiple dry well structures that were impacted during the October 2000 event. GP-02 was completed south of and dowgradient from the site (Figure 5). At each location, a temporary sampling point was installed to obtain groundwater samples from discrete sampling intervals. Groundwater samples were collected every 10 ft from the groundwater interface (approximately 20 ft bgs) to an approximate depth of 70 ft bgs. Groundwater samples were analyzed for VOCs. Additionally, groundwater samples that were collected from the deepest sampling interval at each profile point were analyzed for metals and hexavalent chromium. The groundwater samples were compared to NYSDEC AWQS for Class GA waters. A complete summary of analytical results for the groundwater profiling samples can be found in Table 7.

Concentrations of four VOCs (1,1-dichloroethane, cis-1,2-dichloroethene, tetrachloroethene, and methyl-t-butyl ether) exceeded AWQS guidelines in the groundwater sample collected from 69 to 73 ft bgs at GP-01. None of the VOCs detected at GP-02 exceeded the AWQS guidelines. This suggests a potential upgradient or crossgradient source of VOCs.

Concentrations of total chromium exceeded AWQS standards (50 µg/l) in samples obtained from both the off-site geoprobe location GP-01 (1,390 J µg/L) and the on-site location GP-02 (385µg/L). The concentration of hexavalent chromium detected in GP-01 (69–73 ft bgs) (63µg/L) also exceeded the corresponding AWQS standard of 50 µg/l. Hexavalent chromium was not detected in the sample obtained from on-site GP-02. This suggests that there is a potential off-site source of hexavalent chromium. Several metals including aluminum, antimony, copper, iron, lead, manganese, nickel, selenium, sodium, and zinc were detected in upgradient sample point GP-01 over their individual AWQS guidelines. Aluminum, iron, and manganese were detected in on-site sample point GP-02 at concentrations above AWQS guidelines.

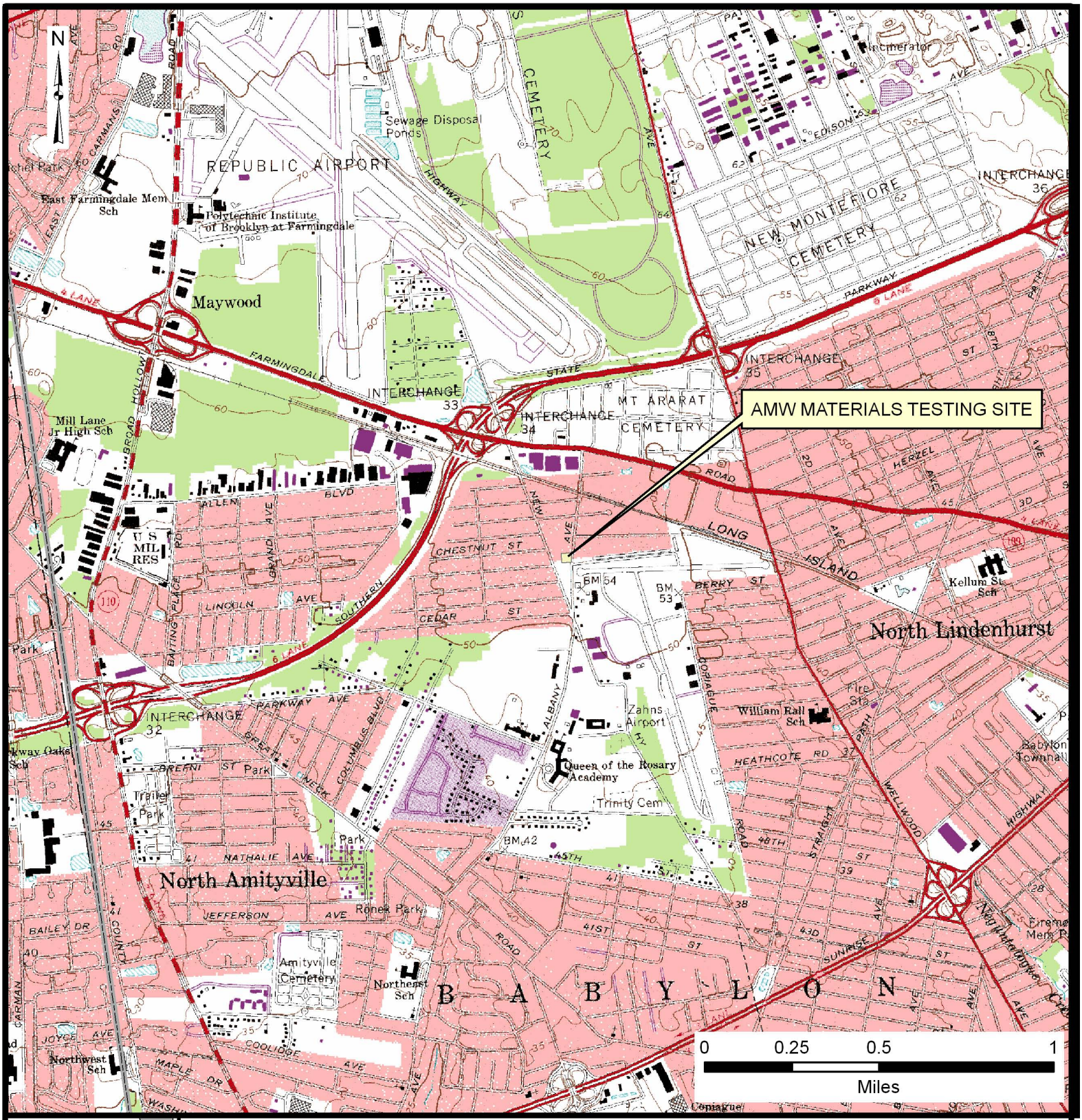
The concentration of the metals most likely was impacted by high turbidity levels in these sample points (999 NTU at GP-1 and 999 NTU at GP-2). The total chromium concentrations were an order of magnitude above those detected in the on-site wells during the March 2007 sampling event. However, based on the limited data set (two points) and the lack of filtered analysis, the overall effect of turbidity on these samples is difficult to determine.

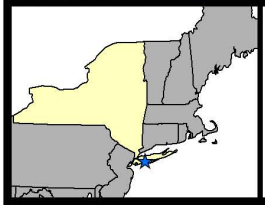
4.1.10 Soil Vapor Sampling

On 28 November 2007 two soil gas, one ambient air, and one duplicate (SV-01) were sampled over a 2 hour period and sent to the laboratory for analysis of VOCs by EPA Method TO-15. Soil vapor samples were collected in accordance with New York State Department of Health protocols provided in the Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Soil vapor sampling locations are shown on Figure 5. Analytical data is summarized in Table 8.

5. DATA SUMMARY AND USABILITY REPORT

A NYSDEC-approved independent qualified data validator, Chemworld Environmental, Inc., reviewed all the analytical laboratory data for this Work Assignment collected in January, March, and November 2007. In addition, Chemworld conducted a usability analysis and developed a Data Usability Summary Report (DUSR), which was submitted to the NYSDEC as a separate deliverable. The DUSR determined that this data is usable and should not be rejected or further qualified.





Legend

County Boundary

Sources: USGS 1:24,000 DRG NYS GIS Clearinghouse

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 1
SITE LOCATION

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	1436806_Amityville\GIS \Project\NA_Fig1.mxd

Legend

Recharge Basin

AMW Materials Testing Site

Sources: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 2
SITE LAYOUT

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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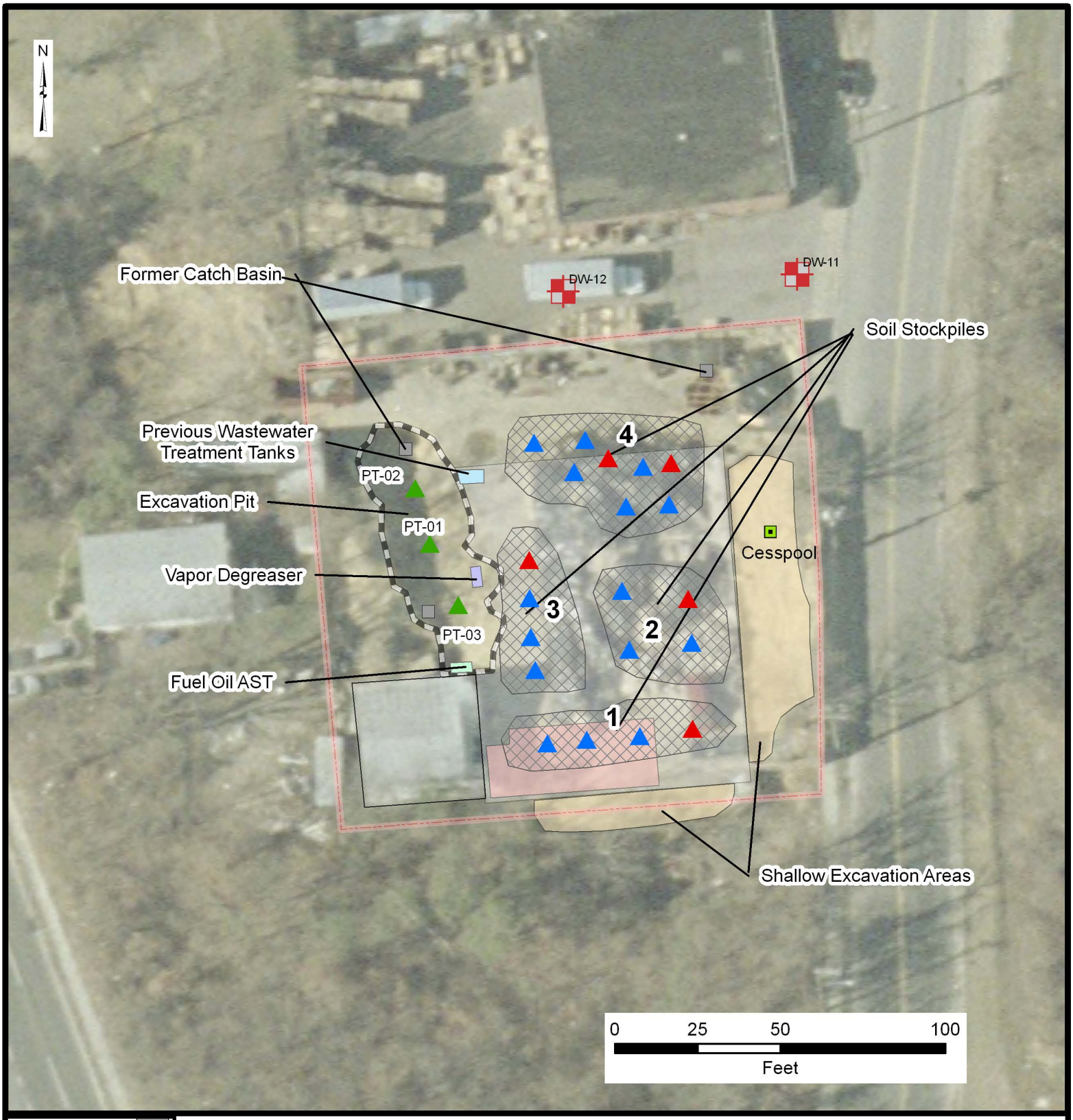

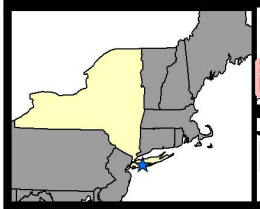

Legend

- Site Area
- Excavation Pit
- Soil Stockpiles
- Anodizing Tank Area
- Fuel Oil AST
- Vapor Degreaser
- Former Catch Basin
- Sampled Dry Wells
- Cesspool
- VOC and Metal Sample Locations-Excavation pit
- VOC Grab Sample and composite sample-Stockpiles
- Composite Sample Locations-Stockpiles

Source: Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

EA Engineering, Science, and Technology, Inc.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 3
SITE FEATURES
AND STOCK PILE SOIL SAMPLE LOCATIONS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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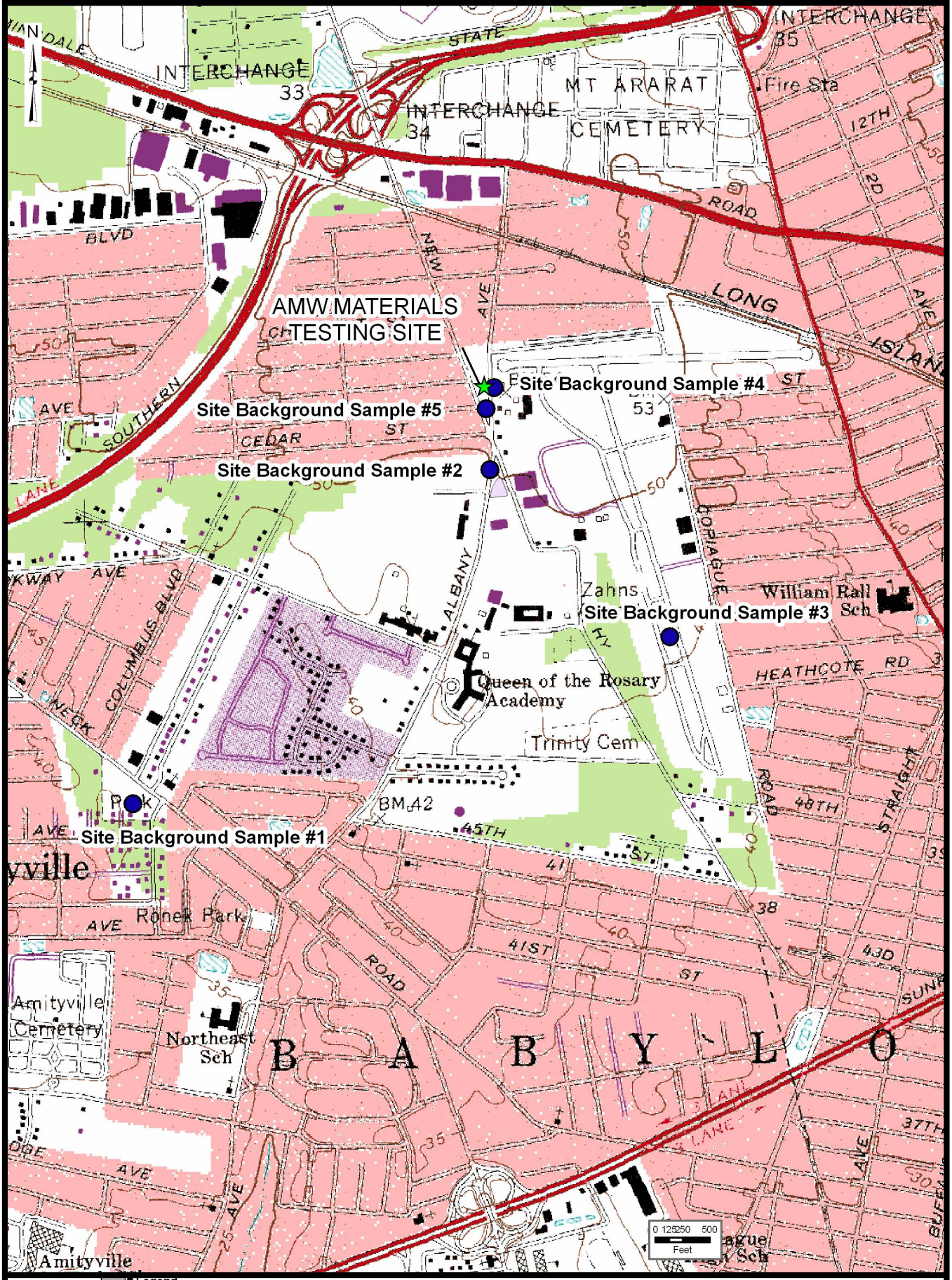

Legend

- BackgroundSoil
- Recharge Basin

Sources: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 4
SITE BACKGROUND SOIL SAMPLING LOCATIONS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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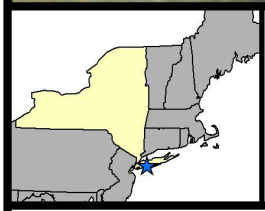

Legend

- Groundwater Profile Point
- Monitoring Well/Soil Boring
- Soil Vapor Sample Location

Source: Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING
SITE (1-52-189)NORTH AMITYVILLE,
SUFFOLK COUNTY, NEW YORK

FIGURE 5
SOIL BORING, MONITORING WELL GROUNDWATER PROFILE AND SOIL VAPOR LOCATIONS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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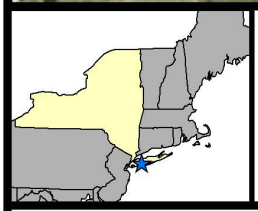

Legend

Dry Well

AMW Materials Testing Site

Source: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 6
DRY WELL SOIL
SAMPLING LOCATIONS
(MARCH 2007)

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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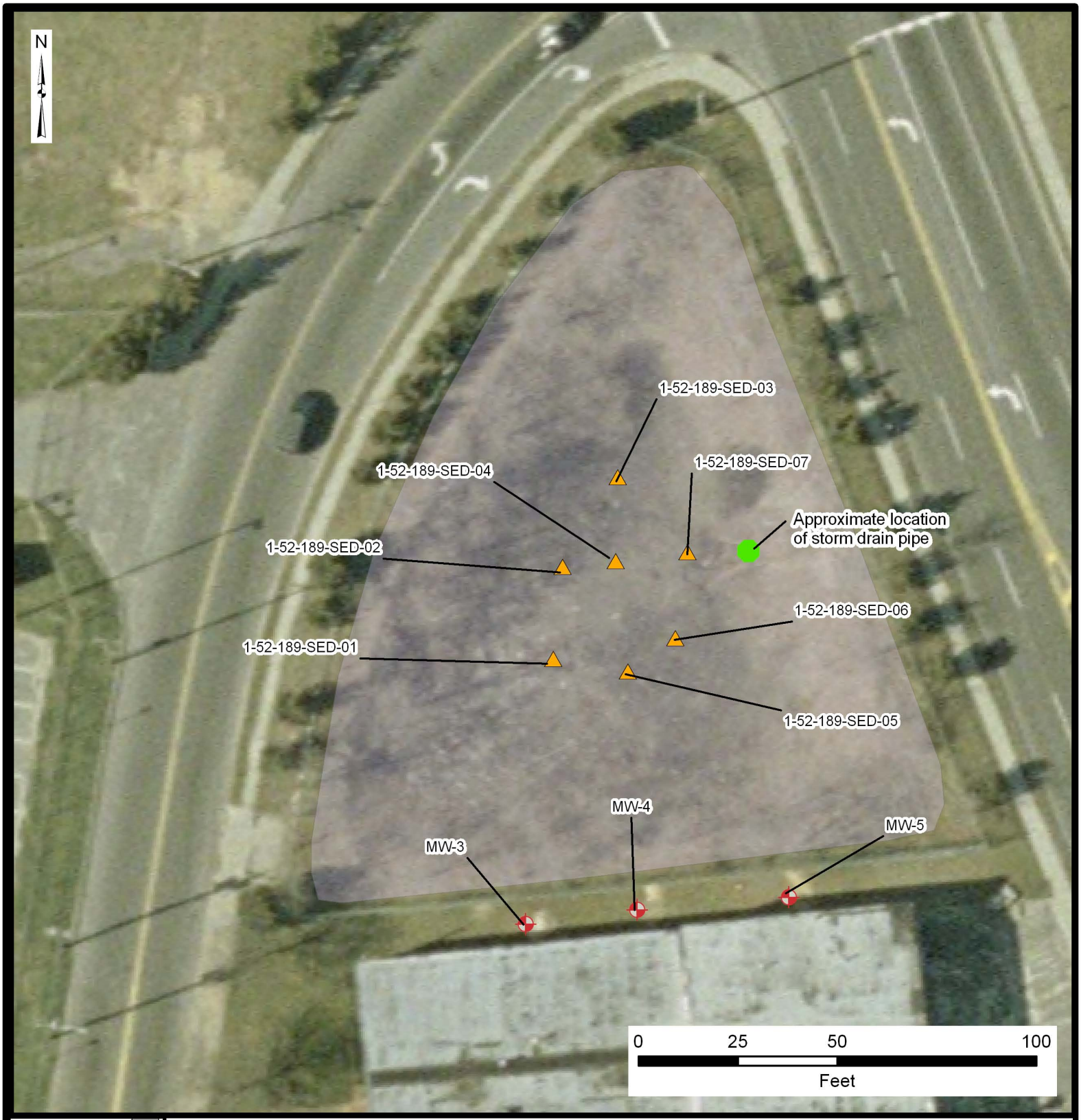

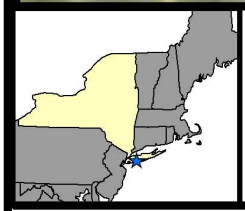

Legend

- Monitoring Well
- Soil Sampling Location - Recharge Basin
- Recharge Basin

Source: Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, NASSAU COUNTY, NEW YORK

FIGURE 7
RECHARGE BASIN SOIL SAMPLING LOCATIONS
(MARCH 2007)

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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Legend

- AMW Materials Testing Site
- Recharge Basin
- Monitoring Wells
- Groundwater Profile Points

Sources: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 8a
POTENTIOMETRIC SURFACE
(MARCH 2007)

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	14368.06	1436806_Amityville\GIS\Project\Amity_Fig_7.mxd

Legend

- AMW Materials Testing Site
- Recharge Basin
- Monitoring Wells
- Groundwater Profile Points

Sources: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 8b
POTENTIOMETRIC SURFACE
(NOVEMBER 2007)

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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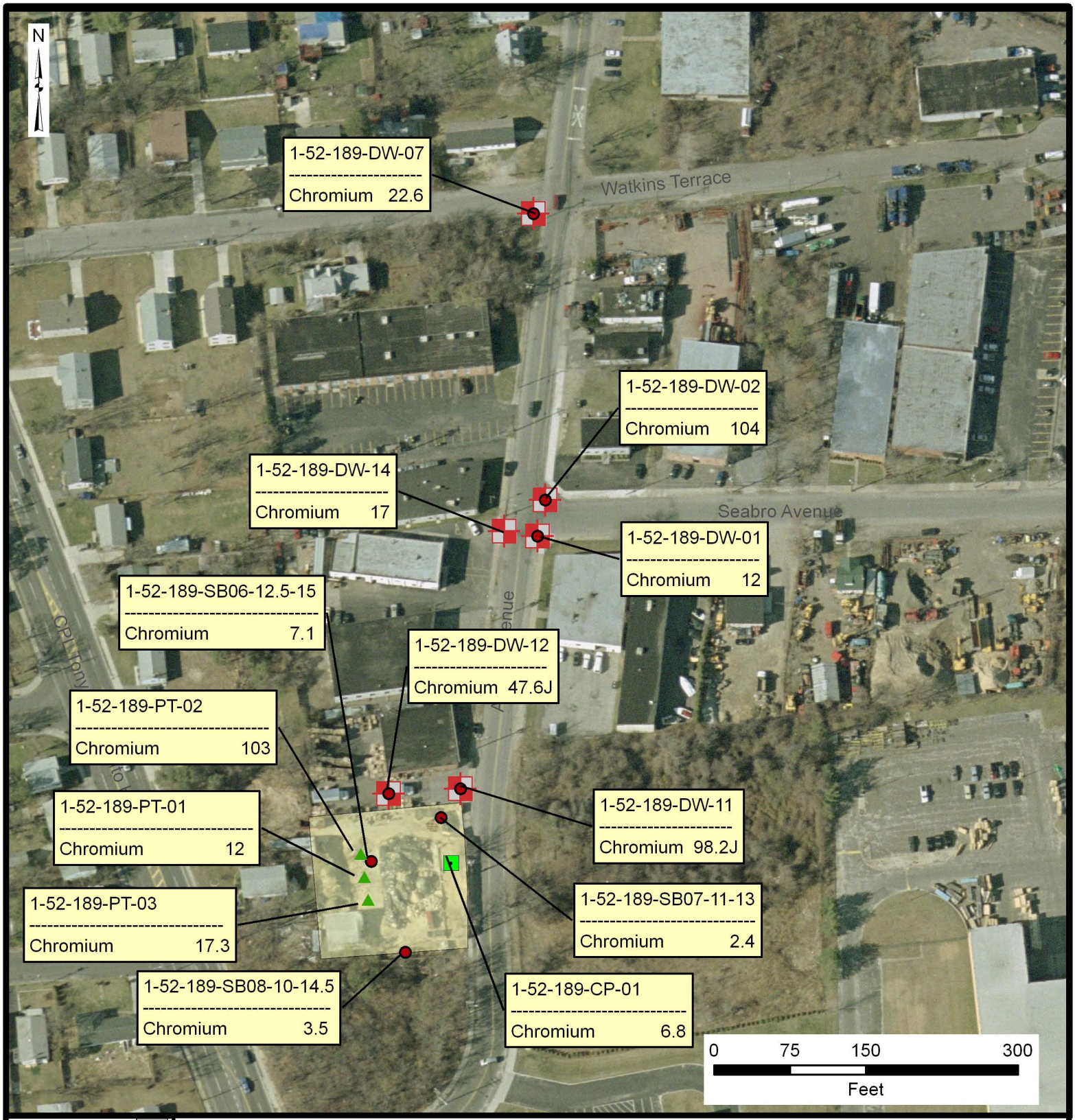

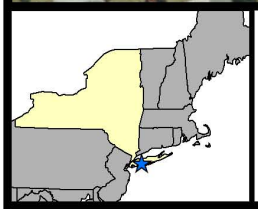

Legend

- Dry Well Location
- Soil Sampling Location
- AMW Materials Testing Site
- Test Pit Sample Location
- Cesspool Sample Location

Source: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

Sample ID------- 1-52-189-DW-12
Analyte (mg/kg)---- Chromium 47.6J

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 9a
SOIL SAMPLING
CHROMIUM RESULTS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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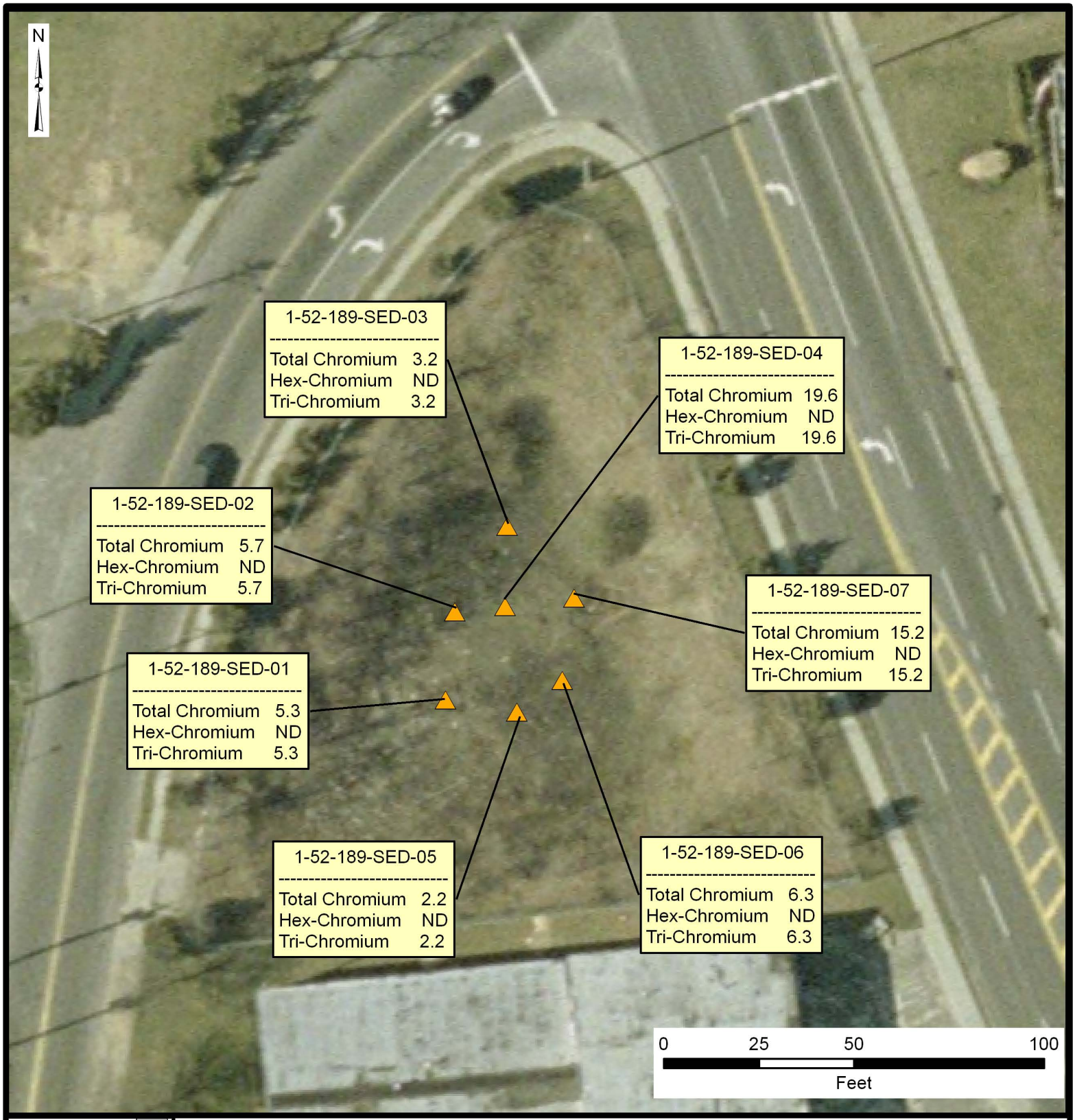
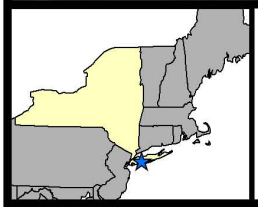




Legend

Soil Sampling Location

AMW Materials Testing Site

Source: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

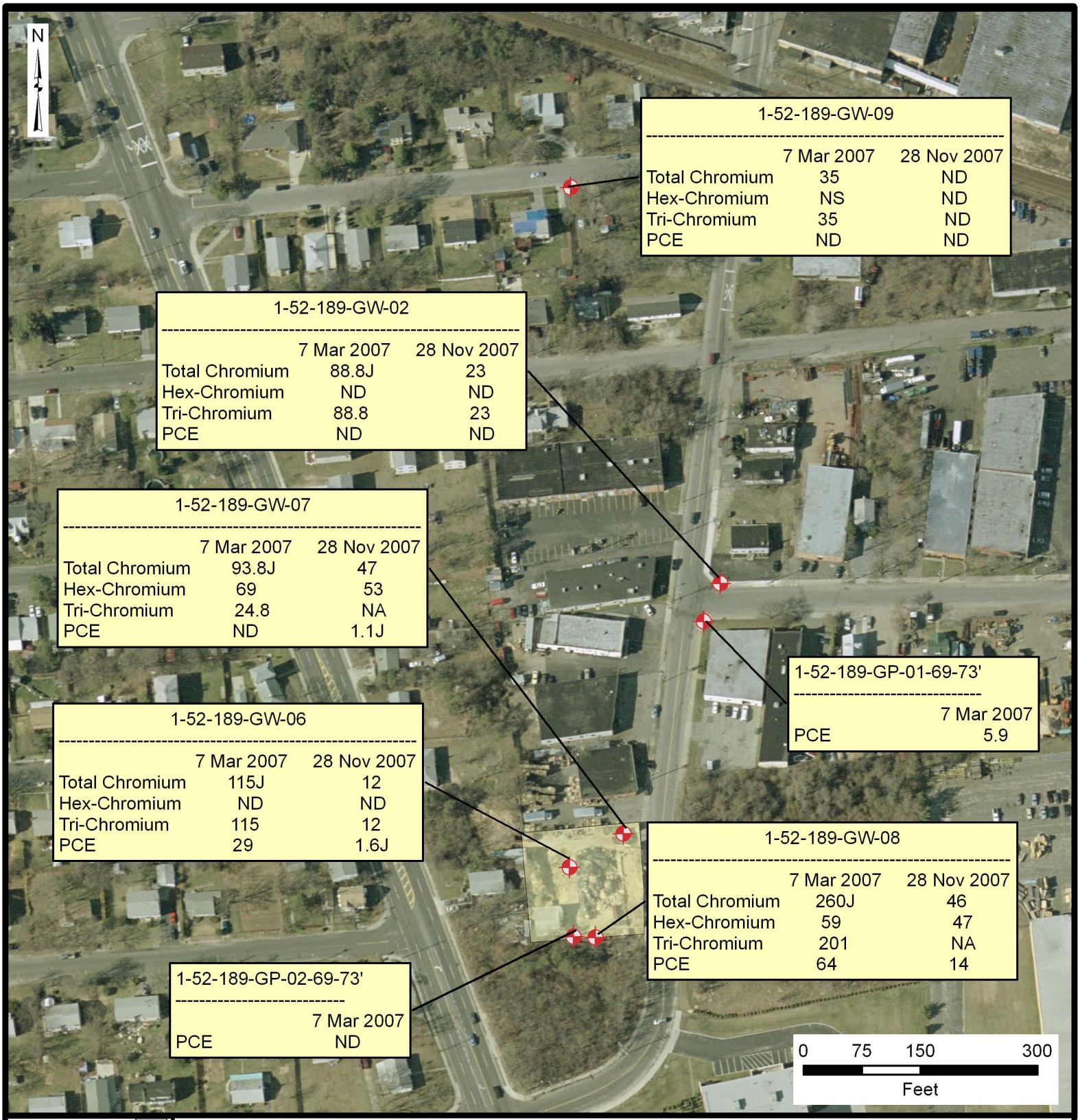
Sample ID------- 1-52-189-DW-12

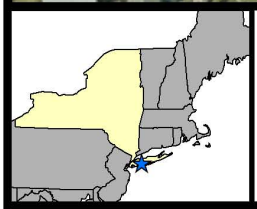
Analyte (mg/kg)------- Chromium 47.6J

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 9b
SOIL SAMPLING CHROMIUM RESULTS FOR RECHARGE BASIN

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	\1436806_Amityville\GIS \Project\Amity_Fig_5.mxd





Legend

Groundwater Sampling Locations

AMW Materials Testing Site

Source: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

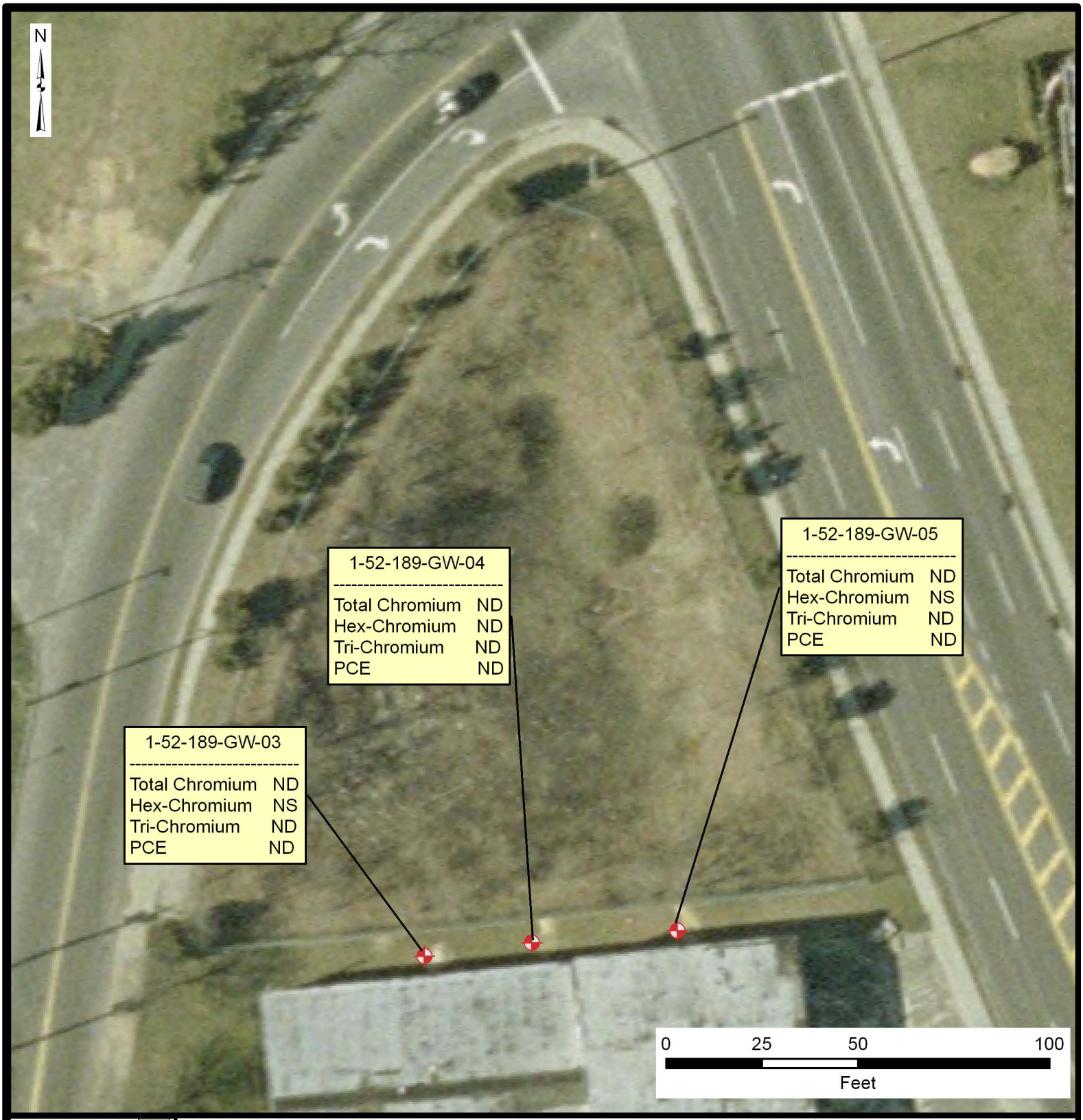
Sample ID------ 1-52-189-GP-01-69-73

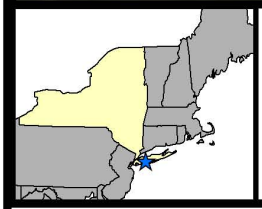
Analyte (ug/L)---- Total Chromium 1,390

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 10a
GROUNDWATER CHROMIUM AND PCE RESULTS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	\1436806_Amityville\GIS \Project\Amity_Fig_5.mxd





Legend

Groundwater Sampling Locations

AMW Materials Testing Site

Source: 2001 Half-Foot Natural Color Aerial Photography (2001) NYS GIS Clearinghouse, NYSDEC

Sample ID---- 1-52-189-GW-05

Analyte (ug/L)--- Total Chromium ND

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE 10b
GROUNDWATER
CHROMIUM RESULTS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	\1436806_Amityville\GIS \Project\Amity_Fig_5.mxd

TABLE 1
LABORARTORY ANALYTICAL RESULTS FOR SITE BACKGROUND SOIL SAMPLES
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	Background Soil 1	Background Soil 2	Background Soil 3	Background Soil 4	Background Soil 5
EPA METHOD 6010B/7471A (mg/Kg)					
Mercury [(a)]	**0.55**	0.09 U	0.099 U	0.098 U	0.1 U
Aluminum	5200	4600	4100	6400	**10000**
Antimony	2.2 U	2.2 U	2.4 U	**24**	2.4 U
Arsenic	2.9	2.7	4.1	**5.1**	4.2
Barium	22	17	17	**290**	29
Beryllium	0.67 U	0.65 U	0.71 U	0.71 U	0.73 U
Cadmium	0.67 U	0.65 U	0.71 U	0.71 U	0.73 U
Calcium	**4800**	1100 U	1200 U	1200 U	1800
Chromium	7.7	6.7	12	**15**	14
Cobalt	2.8 U	2.7 U	3 U	2.9 U	3 U
Copper	11	9.6	16	35	**51**
Iron	7300	7000	7000	**18000**	13000
Lead	33	35	32	860 [(B)]	**44**
Magnesium	**3000**	780	630	590 U	1400
Manganese	70	**110**	66	77	83
Nickel	5.6 U	5.4 U	6 U	**16**	6.9
Potassium	560 U	540 U	600 U	590 U	610 U
Selenium	2 U	1.9 U	2.1 U	2.1 U	2.2 U
Silver	1.7 U	1.6 U	1.8 U	1.8 U	1.8 U
Sodium	280 U	270 U	300 U	290 U	300 U
Thallium	1.3 U	1.3 U	1.4 U	1.4 U	1.5 U
Vanadium	14	11	12	18	**20**
Zinc	99	34	44	**140**	68

NOTE: EPA = Environmental Protection Agency
NYSDEC = New State Department of Environmental Conservation
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
(a) = Analyzed by EPA Method 7471A
(B) = Sample result is order of magnitude higher then other background samples for lead. This sample was considered an anomaly, and therefore not used as a background standards.
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold indicates value to be used as TAGM 4046 soil cleanup objective in other soil summary tables.

TABLE 2
LABORATORY ANALYTICAL RESULTS FOR ON-SITE SOIL STOCKPILES (23 JANUARY 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-SS-01	1-52-189-SS-02	1-52-189-SS-03	1-52-189-SS-04E	1-52-189-SS-04W	NYCRR Part 375 Unrestricted Use Cleanup Objectives	TAGM 4046 soil cleanup objectives
Target Compound List (TCL) by EPA Method 8260B (mg/kg)							
Acetone	0.025 J	0.019 J	0.023 J	0.024 J	0.023 J	*0.05*	
Tetrachloroethene	0.0053 U	0.002 J	0.0052 U	0.0012 J	0.0053 U	*0.7*	
1,1,2-trichloro-1,2,2-trifluoroethane	0.0029 J	0.0037 J	0.0042 J	0.0026 J	0.0053 U	-	*6*
Target Compound List (TCL) by EPA Method 8270C (mg/kg)							
Anthracene	0.35 U	0.35 U	0.35 U	0.089 J	0.047 J	*100*	
Benzo[a]anthracene	0.35 U	0.35 U	0.35 U	0.61	0.37	*1*	
Dibenzo[a,h]anthracene	0.35 U	0.35 U	0.35 U	0.19 J	0.12 J	*0.33*	
Chrysene	0.35 U	0.35 U	0.35 U	0.69	0.43	*1*	
Benzo[b]fluoranthene	0.35 U	0.047 J	0.053 J	**1.2**	0.78	*1*	
Benzo[k]fluoranthene	0.35 U	0.35 U	0.35 U	0.35 J	0.21 J	*0.8*	
Fluoranthene	0.35 U	0.048 J	0.05 J	0.92	0.60	*100*	
Benzo[g,h,i]perylene	0.35 U	0.35 U	0.041 J	0.85	0.54	*100*	
Phenanthrene	0.35 U	0.35 U	0.35 U	0.19 J	0.19 J	*100*	
Bis(2-Ethylhexyl)phthalate	0.35 U	0.036 J	0.35 U	0.11 J	0.16 J	---	*50*
Benzo[a]pyrene	0.35 U	0.035 J	0.038 J	0.87	0.55	*1*	
Indeno[1,2,3-cd]pyrene	0.35 U	0.35 U	0.35 U	**0.66**	0.45	*0.5*	
Pyrene	0.35 U	0.046 J	0.048 J	0.94	0.61	*100*	
Target Compound List (TCL) by EPA Method ILM05.2 (mg/kg)							
Aluminum	3,770 J	3,340 J	2,850 J	3,200 J	3,050 J	-	*10000**
Antimony	6.4 U	6 U	6.2 U	1.6 J	0.81 J	-	*24**
Barium	14.1 J	11.3 J	9 J	10.2 J	13.6 J	*350*	*290**
Beryllium	0.21 J	0.18 J	0.15 J	0.16 J	0.18 J	*7.2*	*0.16*
Cadmium	0.3 J	0.34 J	0.32 J	0.81	1.3	*2.5*	*1*
Calcium	1,040	816	1,000	1,230	1,960	-	*4,800**
Chromium	**16**	**15**	**16**	**36.5**	**82**	-	*15**
Hex-Chromium[(a)]	1.1 U	1.0 U	1.0 U	**2.0**	**4.9**	*1*	
Tri-Chromium	16	15	16	**34.6**	**77.1**	*30*	
Cobalt	1.5 J	1.4 J	1.3 J	1.8 J	1.5 J	-	*30*
Copper	6.3	5.5	5.3	8.1	14.5	*50*	*51**
Iron	5,410	6,050	3,870	5,290	5,130	-	*18000**
Lead	6 J	6 J	4.5 J	10.6 J	28.7 J	*63*	*44**
Magnesium	861	681	853	1,000	1,160	-	*3,000**
Manganese	107	96	69	91.7	81	*1,600*	*110**
Nickel	4.4	4.3	3.5 J	5	6	*30*	*16**
Potassium	239 J	222 J	178 J	173 J	219 J	-	*NS*
Selenium	3.7 U	3.7 U	3.6 U	0.51 J	3.7 U	*4*	*2*
Silver	1.1 U	1 U	1 U	0.65 J	1	*2*	*NS*
Sodium	23.9 J	22.7 J	20.5 J	20.1 J	31.4 J	-	*NS*
Thallium	2.7 U	2.6 U	2.6 U	2.6 U	2.6 U	-	*NS*
Vanadium	8	7	6	7.1	8	-	*150*
Zinc	14.2	15	11	23.8	37	*109*	*140**
Target Compound List (TCL) by EPA Method 8081A							
Chlordane	0.0053 U	0.013	0.0052 U	0.012	0.021	*0.094*	

NOTE: EPA = Environmental Protection Agency
NYCRR = New York Code of Rules and Regulations
J = Estimated value.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
* = Site background concentration from Table 1.
(a) = Sample analyzed by EPA Method 7196 A
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYCRR Part 375 or TAGM 4046

TABLE 2
LABORATORY ANALYTICAL RESULTS FOR ON-SITE SOIL STOCKPILES (23 JANUARY 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-SS-01	1-52-189-SS-02	1-52-189-SS-03	1-52-189-SS-04E	1-52-189-SS-04W	No Cleanup Objectives for Hazardous Waste Characterization	
RCRA Hazardous Waste Characterization							
% Solids	94	95	96	96	95		
Cyanide (Reactive) mg/kg	ND	ND	ND	ND	ND		
Cr (Hexavalent) mg/kg	ND	ND	ND	**2**	**4.9**		
Ignitability	NEG	NEG	NEG	NEG	NEG		
pH	8.3	8.2	8	8.1	7.9		
Sulfide (Reactive) mg/kg	ND	ND	ND	ND	ND		

NOTE: EPA = Environmental Protection Agency
NYCRR = New York Code of Rules and Regulations
ND = Non-detect.
NEG = Negative.
RCRA = Resources Conservation and Recovery Act
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYCRR Part 375 or TAGM 4046.

Parameter List	1-52-189-SS-01	1-52-189-SS-02	1-52-189-SS-03	1-52-189-SS-04E	1-52-189-SS-04W	**TCLP Criteria(a) (mg/L)**
Toxicity Characteristic Leaching Procedure by EPA Method 8260B (mg/L)						
2-Butanone (methyl ethyl ketone)	0.019	0.005 U	0.017	0.005 U	0.005 U	*200*
Chloroform	0.0055	0.0054	0.0052	0.0055	0.006	*6*
Tetrachloroethene	0.0011 J	0.0033 J	0.005 U	0.005 U	0.0013 J	*0.7*
Toxicity Characteristic Leaching Procedure by EPA Method 6010B/7470A						
Barium (TCLP)	0.460 J	0.370 J	0.36 J	0.39 J	0.410 J	*100*

NOTE: (a) Toxicity Characteristic Leaching Procedure (TCLP) Criteria provided by U.S. Environmental Protection Agency, amended 2006.
EPA = Environmental Protection Agency
NYCRR = New York Code of Rules and Regulations
J = Estimated value.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYCRR Part 375 or TAGM 4046.

TABLE 3
LABORATORY ANALYITICAL RESULTS FOR SUBSURFACE SOIL SAMPLES COLLECTED AT NEW MONITORING WELL LOCATIONS (JANUARY 2007)
AMW MATERIALS TESTING
NORHT AMITYVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-SB06-12.5-15 (1/25/2007)	1-52-189-SB07-11-13 (1/24/2007)	1-52-189-SB08-10-14.5 (1/25/2007)	1-52-189-SB08-17.5-20 (1/25/2007)	1-52-189-SB09-10-12 (1/25/2007)*	NYCRR Part 375 Unrestricted Use Cleanup Objectives	TAGM 4046 soil cleanup objectives
EPA Method 8260B (mg/kg)							
Acetone	0.023 J	0.021 J	0.025 J	0.036 J	0.024 J	*0.05*	
1,1,2-trichloro-1,2,2-trifluoroethane	0.0032 J	0.0013 J	0.0021 J	0.0023 J	0.0036 J	---	*6*
EPA Method ILM05.2 (mg/kg)							
Aluminum	1370 J	938 J	796 J	769 J	1720 J	---	*10000***
Antimony	6.2 UN	6.1 UN	6.2 UN	7 UN	6.2 U	---	*24***
Arsenic	1 U	1 U	1 U	1.2 U	1 U	*13*	*5.1***
Barium	4.3 J	5.3 J	4.9 J	8.8 J	8.9 J	*350*	*290***
Beryllium	0.36 J	0.11 J	0.099 J	0.082 J	0.19 J	*7.2*	*0.16*
Cadmium	0.36 J	0.044 J	0.047 J	0.048 J	0.52 U	*2.5*	*1*
Calcium	68.9 J	42.5 J	34.3 J	47 J	56.7 J	---	*4,800***
Chromium	7.1	2.4	3.5	4.2	3.7	---	*15***
Cobalt	0.7 J	0.68 J	0.78 J	0.95 J	1.2 J	---	*30*
Copper	24.8	2.9	4	2.9	5.5	*50*	*51***
Iron	12400	2130	2600	2500	4280	---	*18000***
Lead	1.5 J	1.2 J	0.93 J	3.5 J	1.1 J	*63*	*44***
Magnesium	332 J	253 J	152 J	167 J	498 J	---	*3,000***
Manganese	55.8	63.5	168	124	291	*1600*	*110***
Mercury	0.1 U	0.1 U	0.1 U	0.12 U	0.1 U	*0.18*	*0.55***
Nickel	3.5 J	1.5 J	1.9 J	1.6 J	3.2 J	*30*	*16***
Potassium	208 J	237 J	77.3 J	75.2 J	163 J	---	*NSB*
Selenium	0.66 J	3.6 U	3.6 U	4.1 U	3.6 U	*3.9*	*2*
Silver	1 U	1 U	1 U	1.2 U	1 U	*2*	*NSB*
Sodium	14.7 J	15.7 J	12.7 J	17.6 J	10.8 J	---	*NSB*
Thallium	2.6 U	2.6 U	2.6 U	2.9 U	2.6 U		*NSB*
Vanadium	14.6	2.6 J	2.5 J	2.8 J	6.2	---	*150*
Zinc	9.8	5.6 J	4.6 J	5.9 J	8.1	*109*	*140***

NOTE: EPA = Environmental Protection Agency
NYSDEC = New State Department of Environmental Conservation
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
J = Estimated value, concentration below laboratory reporting limit.
* = Duplicate soil sample collected from 1-52-189-SB08-10-14.5
** = Site background concentration from Table 1
NSB = No site background concentrations detected
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYSDEC Part 375 Cleanup Objectives (Unrestricted Use)

TABLE 4
LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED FROM DRY WELLS, EXCAVATED PIT, AND CESSPOOL
(MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-DW-01 (3/5/2007)	1-52-189-DW-02 (3/5/2007)	1-52-189-DW-07 (3/7/2007)	1-52-189-DW-11 (3/6/2007)	1-52-189-DW-12 (3/6/2007)	**NYCRR Part 375 Unrestricted Use Cleanup Objectives**	**TAGM 4046 soil cleanup objectives**
EPA Method 8260B (mg/kg)							
Acetone	0.048 J	**0.092 J**	0.037 U	**0.16 J**	**0.098**	*0.05*	
2-Butanone (MEK)	0.013 U	0.046	0.0075 U	0.053 U	0.01 U	*0.12*	
Carbon disulfide	0.0018 J	0.0031 J	0.0075 U	0.0092 J	0.0068	-	*2.7*
Ethylbenzene	0.012	0.0021 U	0.0015 U	0.0053 U	0.0012 U	*1*	
Methylene chloride	0.0063 U	0.01 U	0.0075 U	0.026 U	0.0058 U	*0.05*	
Tetrachloroethene	0.0063 U	0.01 U	0.0075 U	0.026 U	0.0058 U	*1.3*	
Toluene	0.025	0.029	0.006	0.022	0.016	*0.7*	
1,1,2-trichloro-1,2,2-trifluoroe	0.0034 J	0.0047 J	0.0075 U	0.013 J	0.0058 U	-	*6*
m&p-Xylenes	0.0017	0.0021 U	0.003 U	0.0053 U	0.0012 U	*0.26*	

Parameter List	1-52-189-DW-14 (3/5/2007)	1-52-189-PT-01 (3/5/2007)	1-52-189-PT-02 (3/6/2007)	1-52-189-PT-03 (3/6/2007)	1-52-189-CP-01 (3/8/2007)	**NYCRR Part 375 Unrestricted Use Cleanup Objectives**	**TAGM 4046 soil cleanup objectives**
EPA Method 8260B (mg/kg)							
Acetone	**0.088**	0.026 U	0 U	0.027 U	0.027 U	*0.05*	
2-Butanone (MEK)	0.0013 U	0.0053 U	0.048 U	0.011 U	0.0054 U	-	-
Carbon disulfide	0.0018 J	0.0053 U	0.024 U	0.0054 U	0.0054 U	-	*2.7*
Ethylbenzene	0.0013 U	0.0011 U	0.0048 U	0.0011 U	0.0011 U	*1*	
Methylene chloride	0.0066 U	0.0053 U	**0.13**	0.0054 U	0.0054 U	*0.05*	
Tetrachloroethene	0.0066 U	0.0016 J	0.024 U	0.0054 U	0.0013 J	*1.3*	
Toluene	0.003	0.003	0.011	0.002	0.0026	*0.7*	
1,1,2-trichloro-1,2,2-trifluoroe	0.0066 U	0.0025 J	0.018 J	0.0032 J	0.0054 U	-	*6*
m&p-Xylenes	0.0013 U	0.0021 U	0.0048 U	0.0011 U	0.0022 U	*0.26*	

TABLE 4
LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED FROM DRY WELLS, EXCAVATED PIT, AND CESSPOOL
(MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-DW-01 (3/5/2007)	1-52-189-DW-02 (3/5/2007)	1-52-189-DW-07 (3/7/2007)	1-52-189-DW-11 (3/6/2007)	1-52-189-DW-12 (3/6/2007)	**NYCRR Part 375 Unrestricted Use Cleanup Objectives**	**TAGM 4046 soil cleanup objectives**
EPA Method ILM05.2 (mg/kg)							
Aluminum	2,500	13,300	4880	8660	8,920	-	*10000* *
Antimony	1.6 J	14 J	1.5 J	8.3 J	0.98 J	-	*24* *
Arsenic	0.96 J	3.6	2.8	8.7	2.4	*13*	*5.1* *
Barium	45.6	**440**	68.9	114	26.8	*350*	*290* *
Beryllium	0.13 J	0.71 J	0.19 J	0.27 J	0.4 J	*7.2*	*0.16*
Cadmium	0.49 J	**4**	0.84	**6.1**	0.53 J	*2.5*	*1*
Calcium	11,800	30,100	11,700	39,600	10,200	-	*4,800* *
Chromium	12	**104**	**22.6**	**98.2** J	**47.6** J	-	*15* *
Cobalt	2.5 J	8.4 J	3.4 J	8.1 J	3.5 J	-	*30*
Copper	43.5	**249**	**57.7**	**158**	11.1	*50*	*51**
Iron	6,440 J	**25,200 J**	9280	13100	11,300	-	*18000* *
Lead	25.6 J	**170 J**	51.1 J	**195 J**	15.2 J	*63*	*44* *
Magnesium	6,470	16,200	5,080	22,400	6,950	-	*3,000* *
Manganese	64.2	252	149	125	127	*1600*	*110* *
Mercury	0.13 U	0.18 **J**	0.015 U	0.53 U	0.12 U	*0.18*	*0.55* *
Nickel	6.7	**38.5**	11.8	**31.8**	7.6	*30*	*16* *
Potassium	232 J	1,130	649 J	808 J	403 J	-	*NS*
Selenium	0.95 J	2.7	0.99 J	18 U	0.99 J	*3.9*	*2*
Silver	1.3 U	2.1 U	1.5 U	1.5 J	1.2 U	*2*	*NS*
Sodium	202 J	411 J	1,090	846 J	50 J	-	*NS*
Thallium	3.2 U	5 U	4 U	13 U	3 U	-	*NS*
Vanadium	18.3	82.5	26.7	52.1	18.7	-	*150*
Zinc	**164 J**	**918 J**	**288**	**1490**	30.2	*109*	*140* *

TABLE 4
LABORATORY ANALYTICAL RESULTS FOR SAMPLES COLLECTED FROM DRY WELLS, EXCAVATED PIT, AND CESSPOOL
(MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-DW-14 (3/5/2007)	1-52-189-PT-01 (3/5/2007)	1-52-189-PT-02 (3/6/2007)	1-52-189-PT-03 (3/6/2007)	1-52-189-CP-01 (3/8/2007)	NYCRR Part 375 Unrestricted Use Cleanup Objectives	TAGM 4046 soil cleanup objectives
EPA Method ILM05.2 (mg/kg)							
Aluminum	2,260	2,610	8,750	4,910	6140	-	*10000* *
Antimony	1.2 J	6.3 U	7.3 J	6.5 U	6.5 U	-	*24* *
Arsenic	1.3 U	0.82 J	10.9	1.4	2.6	*13*	*5.1* *
Barium	36.1	9.1 J	86.3 J	15.3 J	18.6 J	*350*	*290* *
Beryllium	0.16 J	0.14 J	0.33 J	0.2 J	0.21 J	*7.2*	*0.16*
Cadmium	1 J	0.16 J	**6**	0.38 J	0.05 J	*2.5*	*1*
Calcium	8,280	11,600	34,900	704	2670	-	*4,800* *
Chromium	**17**	12	**103 J**	**17.3 J**	6.8	-	*15* *
Cobalt	2.1 J	1.1 J	7.5 J	2.6 J	1.8 J	-	*30*
Copper	41.2	3.7 J	**159**	6.1	7.00	*50*	*51**
Iron	7040 J	4090 J	13400	6950	9410	-	*18000* *
Lead	19.2 J	4.9 NJ	**142 J**	8 J	13.8 J	*63*	*44* *
Magnesium	4630	6830	19300	819	1150	-	*3,000* *
Manganese	67	68	125	113	78.9	*1600*	*110* *
Mercury	0.13 U	0.11 U	0.48 U	0.11 U	0.11 U	*0.18*	*0.55* *
Nickel	8	3 J	**35**	11	4.4	*30*	*16 **
Potassium	209 J	188 J	821 J	228 J	191 J	-	*NS*
Selenium	0.68 J	0.52 J	1.7 J	0.73 J	0.98 J	*3.9*	*2*
Silver	1.30 U	1.1 U	1.4 J	1.1 U	0.08 J	*2*	*NS*
Sodium	162 J	26.9 J	896 J	17.1 J	59.8 J	-	*NS*
Thallium	3.3 U	2.6 U	12 U	2.7 U	2.7 U	-	*NS*
Vanadium	27.1	8.3	52	8.7	12	-	*150*
Zinc	**184 J**	9.5 J	**1130**	19.4	14.9	*109*	*140 **

NOTE: EPA = Environmental Protection Agency
NYCRR = New York Code of Rules and Regulations
J = Estimated value.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
* = Site background concentration from Table 1
NS = No Site background concentration detected
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYCRR Part 375 or TAGM 4046.

TABLE 5
LABORATORY ANALYTICAL RESULTS FOR SEDIMENT SAMPLES COLLECTED FROM RECHARGE BASIN (MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-SED-01 (3/6/2007)	1-52-189-SED-02 (3/6/2007)	1-52-189-SED-03 (3/6/2007)	1-52-189-SED-04 (3/6/2007)	1-52-189-SED-05 (3/6/2007)	1-52-189-SED-06 (3/6/2007)	1-52-189-SED-07 (3/6/2007)	1-52-189-SED-08 (3/6/2007)*	NYCRR Part 375 (a) Unrestricted Use Cleanup Objectives	TAGM 4046 soil cleanup objectives
EPA Method 8260B (mg/kg)										
Acetone	0.029 UJ	0.029 UJ	0.028 UJ	0.032 UJ	0.027 UJ	0.017 J	0.031 U		*0.05*	
Toluene	0.01	0.0049	0.0046	0.0096	0.011	0.0067	0.0012 U		*0.7*	
1,1,2-trichloro-1,2,2-trifluoroethane	0.0025 J	0.003 J	0.0026 J	0.0032 J	0.0033 J	0.002 J	0.0043 J		-	*6*
EPA Method ILM05.2 / 7196A (mg/kg)										
Aluminum	1800	2280	1060	2650	1370	2570	1800	1640	-	*10000***
Antimony	6.9 UJ	6.9 UJ	6.8 UJ	1 J	6.6 UJ	6.5 UJ	0.84 J	0.8 JN	-	*24***
Arsenic	0.66 J	1.1 U	1.1 U	0.64 J	1.1 U	0.65 J	1.1 J	0.92 J	*13*	*5.1***
Barium	5.7 J	6.4 J	2.9 J	20.6 J	3.4 J	5.7 J	10.8 J	12.5 J	*350*	*290***
Beryllium	0.12 J	0.11 J	0.039 J	0.14 J	0.074 J	0.17 J	0.073 J	0.077 J	*7.2*	*0.16*
Cadmium	0.064 J	0.045 J	0.57 U	0.18 J	0.55 U	0.54 U	0.078 J	0.1 J	*2.5*	*1*
Calcium	157 J	225 J	176 J	710	105 J	164 J	6470	2550	-	*4,800***
Chromium	5.3	5.7	3.2	**19.6**	2.2	6.3	**15.2**	17.8	-	*15***
Hex-Chromium [(a)]	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.1 U	1.2 U	1.2 U	*1*	
Tri-Chromium	5.3	5.7	3.2	19.6	2.2	6.3	15.2	17.8	*30*	
Cobalt	0.86 J	0.81 J	0.28 J	1.4 J	0.88 J	1.4 J	1 J	0.81 J	-	*30*
Copper	6.6 J	5.8 J	2.6 J	20.4	3 J	5.8 J	14.8	15.2	*50*	*51***
Iron	3310 J	2990 J	1360 J	6820 J	2210 J	4580 J	7290 J	5670	-	*18000***
Lead	9.98 J	9.1 J	5.6 J	32.2 NJ	3.6 NJ	7.6 J	15.8 NJ	16.7 N	*63*	*44***
Magnesium	282 J	341 J	159 J	459 J	214 J	375 J	4020	1380	-	*3,000***
Manganese	18.7	19.2	7.6	49.9	17.5	24.2	49.2	32.1	*1600*	*110***
Nickel	3 J	3 J	1.5 J	7	1.9 J	3.4 J	5.9	0.12 U	*30*	*16***
Potassium	103 J	110 J	45 J	162 J	73 J	135 J	137 J	148 J	-	*NS*
Selenium	0.55 J	0.39 J	4 U	0.97 J	0.39 J	0.72 J	1.1 J	1.0 J	*3.9*	*2*
Silver	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.1 U	1.2 U	1.2 U	*2*	*NS*
Sodium	70.9 J	76.9 J	160 J	125 J	55.5 J	108 J	331 J	288 J	-	*NS*
Thallium	2.9 U	2.9 U	2.8 U	3.2 U	2.7 U	2.7 U	3.1 U	3.0 U	-	*NS*
Vanadium	5.6 J	5.5 J	2.6 J	11.7	3.1 J	6.1	9	12.8	-	*150*
Zinc	37.9 J	36.3 J	16.3 J	131 J	13.1 J	24.1 J	94	106 E	*109*	*140***

NOTE: EPA = Environmental Protection Agency
NYSDEC = New State Department of Environmental Conservation
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
J = Estimated value, concentration below laboratory reporting limit.
N = Tentatively identified with an approximate quantity.
NS = No site background concentration detected
(a) = Analyzed by EPA Method 7196A
* = Duplicate sample collected from 1-52-189-SED-07
** = Site background concentration from Table 1
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYSDEC Part 375 Cleanup Objectives (Unrestricted Use)

TABLE 6A
LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS (MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	1-52-189-GW-02 (3/7/2007)	1-52-189-GW-03 (3/6/2007)	1-52-189-GW-04 (3/6/2007)	1-52-189-GW-05 (3/6/2007)	1-52-189-GW-06 (3/7/2007)	1-52-189-GW-07 (3/7/2007)	1-52-189-GW-08 (3/7/2007)	1-52-189-GW-09 (3/6/2007)	1-52-189-GW-10 (3/7/2007)*	NYSDEC Ambient Water Quality Standard and Guidance Values (ppb)
EPA Method 8260B (µg/L)										
Tetrachloroethene	1 U	1 U	1 U	1 U	**29**	1 U	**64**	1 U	**25**	*5 (s)*
EPA Method 8270C (µg/L)										
bis(2-Ethylhexyl)phthalate	NS	NS	NS	NS	**5.2**	2.7	3.8	NS	**5.9**	*5*
EPA Method ILM05.2 (µg/L)										
Aluminum	**15,900 J**	**3,780**	**697**	**226**	**13,300 J**	**6,860 J**	**24,300 J**	**24,900**	**22,600 J**	*100*
Arsenic	10 U	10 U	60 U	10 U	10 U	10 U	9.7 J	6.1 J	6 J	*25*
Barium	127 J	73.4 J	173 J	56.1 J	179 J	35.3 J	334	124 J	251	*1,000*
Beryllium	1.7 J	0.33 J	5 U	5 U	1.3 J	0.78 J	2.4 J	2.2 J	2.2 J	*3*
Cadmium	0.82 J	5 U	0.9 J	0.95 J	5 U	0.51 J	5 U	5 U	5 U	*5*
Calcium	12,300	20,900	60,700	42,700	19,600	22,800	19,400	8,780	20,000	---
Chromium	**88.8 J**	10 U	10 U	10 U	**115 J**	**93.8 J**	**260 J**	35	**169 J**	*50*
Chromium, Hexavalent [(a)]	25 U	NS	25 U	NS	25 U	**69**	**59**	NS	25 U	*50*
Chromium, Tri	88.8	ND	ND	ND	115	24.8	201	35	169	---
Cobalt	16.3 J	2.6 J	1.4 J	0.75 J	12.4 J	6.7 J	25.9 J	17.6 J	21.2 **J**	---
Copper	29	11.4 J	5.5 J	6.8 J	27.3	20 J	44	46	37	*200*
Iron	**23,800**	**4,540**	**993**	**387**	**18,000**	**9,360**	**31,900**	**34,400**	**30,500**	*300*
Lead	20.2 J	3.8 J	10 U	10 U	15.4 J	9.4 J	**35 J**	**29.6 J**	24.8 J	*25*
Magnesium	5,690	4,100 J	7,870	5,880	6,090	5,340	6,410	5,000 J	7,580	*35,000*
Manganese	**1,650 J**	253	82.9	99.7	**1,210 J**	**963 J**	**3,870 J**	**1,430**	**2,070 J**	*300*
Nickel	21.8 J	4.3 J	1.5 J	40 U	16.5 J	10.3 J	30.1 J	32.8 J	27.6 J	*100*
Potassium	3,720 J	2,530 J	4,690 J	2,170 J	4,360 J	4,000 J	4,750 J	3,770 J	5,390	---
Selenium	35 U	35 U	35 U	35 U	35 U	35 U	6.3 J	35 U	35 U	*10*
Sodium	18,700	**27,400**	**159,000**	**77,500**	8,340	9,330	9,310	12,000	8,560	*20,000*
Vanadium	29.2 J	7.5 J	6 J	4 J	24.5 J	12.6 J	39.4 J	44.5 J	40.3 J	---
Zinc	61.4 J	15.5 J	32.7 J	18.6 J	53.5 J	42.3	78.2 J	77.2	83.1 J	*2,000*
EPA Method 8081A (µg/L)										
Chlordane	NS	NS	NS	NS	0.01 U	**0.21**	0.01 U	NS	0.01 U	*0.05*
p,p'-DDE	NS	NS	NS	NS	0.01 U	0.019	0.01 U	NS	0.01 U	*0.2*

NOTE: EPA = Environmental Protection Agency
NYSDEC = New State Department of Environmental Conservation
NS = No sample collected.
J = Estimated value, concentration below laboratory reporting limi
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
(s) = Value is listed as a standard value.
(a) = analyzed by EPA Method 7196A
* = Duplicate sample collected from MW-0(
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYSDEC AWQS.

TABLE 6B
LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS
(NOVEMBER 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	MW-02		MW-06		MW-07		MW-08		MW-09		Blind Duplicate # 2 *		**NYSDEC Ambient Water Quality Standard (ppb)**
VOLATILE ORGANICS EPA METHOD 8260B (ug/L)													
Methylene chloride	2.1	J	2.2	J	4.2	J	4.5	J	3.4	J	3.3	J	5
Tetrachloroethene	5	UJ	1.6	J	1.1	J	**14**	J	5	UJ	5	UJ	5
TOTAL METALS by EPA METHOD 6010 (ug/L)													
Mercury [(a)]	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.7
Aluminum	180	U	**230**		180	U	180	U	**160**	J	180	U	100
Antimony	12	U	12	U	12	U	12	U	12	U	12	U	3
Arsenic	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	25
Barium	19	J	75	J	4.7	J	68	J	19	J	4.8	J	1,000
Beryllium	4	U	4	U	4	U	4	U	4	U	4	U	3 *(g)*
Cadmium	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	5
Calcium	13,000		17,000		24,000		15,000		9,000		25,000		---
Chromium	23		12		47		46		10	U	47		50
Chromium, Hexavalent [(b)]	25	U	25	U	**53**		47		25	U	44		50
Chromium, Tri	23		12		NA		NA		NA		3		---
Cobalt	20	U	20	U	20	U	20	U	20	U	20	U	---
Copper	26		18	J	23	J	21	J	22	J	28		200
Iron	100	U	270		100	U	80	J	210		100	U	300
Lead	4	U	4	U	4	U	4	U	4	U	4	U	25
Magnesium	3,500	J	3,500	J	5,300		3,100	J	1,700	J	5,300		35,000
Manganese	15	U	26		15	U	12	J	10	J	15	U	300
Nickel	40	U	40	U	40	U	1.3	J	40	U	40	U	100
Potassium	1,700	J	1,700	J	2,500	J	2,100	J	1,300	J	2,500	J	---
Selenium	35	U	35	U	35	U	35	U	35	U	35	U	10
Silver	10	U	10	U	10	U	10	U	10	U	10	U	50
Sodium	12,000		6,400		11,000		7,200		9,600		11,000		20,000
Thallium	10	U	10	U	10	U	10	U	10	U	10	U	0.5
Vanadium	50	U	50	U	2.4	J	50	U	50	U	2.6	J	---
Zinc	13	J	7.2	J	8.6	J	4.9	J	4.7	J	8.6	J	2,000

TABLE 6B
LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS
(NOVEMBER 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-52-189

Parameter List	MW-02	MW-06	MW-07	MW-08	MW-09	Blind Duplicate # 2 *	**NYSDEC Ambient Water Quality Standard (ppb)**
DISSOLVED METALS by EPA METHOD 6010 (ug/L)							
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.7
Aluminum	180 U	180 U	180 U	180 U	180 U	180 U	100
Antimony	12 U	12 U	12 U	12 U	12 U	12 U	3
Arsenic	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	5.0 J	25
Barium	18 J	72 J	3 J	68 J	18 J	3.2 J	1,000
Beryllium	4 U	4 U	4 U	4 U	4 U	4 U	3 *(g)*
Cadmium	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	5
Calcium	13,000	18,000	24,000	15,000	9,700	26,000	---
Chromium	24	11	47	48	10 U	49	50
Cobalt	20 U	20 U	20 U	20 U	20 U	20 U	---
Copper	3.7 J	25 U	1.8 J	1.6 J	25 U	1.9 J	200
Iron	100 U	90 J	100 U	100 U	100 U	100 U	300
Lead	4 U	4 U	4 U	4 U	4 U	4 U	25
Magnesium	3,500 J	3,600 J	5,300	3,100 J	1,800 J	5,800	35,000
Manganese	15 U	6.1 J	15 U	15 U	15 U	15 U	300
Nickel	40 U	40 U	1.3 J	40 U	40 U	40 U	100
Potassium	1,800 J	1,900 J	2,600 J	2,300 J	1,300 J	2,600 J	---
Selenium	35 U	35 U	35 U	35 U	35 U	35 U	10
Silver	10 U	10 U	10 U	10 U	10 U	10 U	50
Sodium	13,000	6,700	12,000	7,700	10,000	11,000	20,000
Thallium	10 U	10 U	10 U	10 U	10 U	10 U	0.5
Vanadium	1.7 J	2.3 J	2.8 J	50 U	2.3 J	4.4 J	---
Zinc	5.2 J	8.2 J	7.6 J	4.9 J	3.4 J	6.5 J	2,000

NOTE: EPA = Environmental Protection Agency
NYSDEC = New State Department of Environmental Conservation
NS = No sample collected.
J = Estimated value, concentration below laboratory reporting limit.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
UJ = The compound was analyzed for, but not detected. The sample quantitation limit is an estimated quanity due to variance from quality control limits.
NA = A trivalent chromium value could not be calculated using the reported values for total and hexavalent chromium. Two separate sample bottles were collected and two separate EPA analysis Methods were utilized to report Hexavalent and total chromium
(g) = Value is listed as a guidance value.
(a) = Analyzed by EPA Method 7470A
(b) = Analyzed by EPA Method 3500
* = Duplicate sample collected from MW-07
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYSDEC AWQS.

TABLE 7
LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER PROFILE POINT SAMPLES (MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-51-189

Parameter List	1-52-189-GP-01-19-23 (3/7/2007)	1-52-189-GP-01-29-33 (3/7/2007)	1-52-189-GP-01-39-43 (3/7/2007)	1-52-189-GP-01-49-53 (3/7/2007)	1-52-189-GP-01-59-63 (3/7/2007)	1-52-189-GP-01-69-73 (3/7/2007)	1-52-189-GP-02-19-23 (3/8/2007)	Ambient Water Quality Standard and Guidance Values (ppb)
Target Compound List (TCL) by EPA Method 8260B (µg/L)								
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	**7.1**	5 U	*5*
1,2,4 Trichlorobenzene	1 U	1 U	1 U	1 U	1	1 U	5 U	*5*
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	**7**	5 U	*5*
Methyl-t-butyl ether	1 U	1 U	1 U	1 U	1.7	**19**	1 U	*10* [(a)]
Tetrachloroethene	1 U	1 U	1 U	1 U	1.1	**5.9**	5 U	*5*
Trichloroethene	1 U	1 U	1 U	1 U	1	4.1	1 U	*5*
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1.2	5 U	*2*
Target Compound List (TCL) by EPA Method ILM05.2 / 7196A (µg/L)								
Aluminum						**27,000 J**		*100*
Antimony						**28.2 J**		*3*
Arsenic						15.8 J		*25*
Barium						326		*1,000*
Beryllium						2.6 J		*3*
Cadmium						5 U		*5*
Calcium						31,800		---
Total Chromium						**1,390 J**		*50*
Chromium, Hexavalent [(b)]						**63**		*50*
Chromium, Tri						1,327		
Cobalt						37 J		
Copper						**413**		*200*
Iron						**174,000**		*300*
Lead						**62 J**		*25*
Magnesium						11,400		*35,000*
Manganese						**3,700 J**		*300*
Mercury						0.16 J		*0.7*
Nickel						**429**		*100*
Potassium						8,610		---
Selenium						**14.4 J**		*10*
Sodium						**20,800**		*20,000*
Vanadium						70.5		---
Zinc						**2,480 J**		*2,000*

TABLE 7
LABORATORY ANALYTICAL RESULTS FOR GROUNDWATER PROFILE POINT SAMPLES (MARCH 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-51-189

Parameter List	1-52-189-GP-02-29-33 (3/8/2007)	1-52-189-GP-02-39-43 (3/8/2007)	1-52-189-GP-02-49-53 (3/8/2007)	1-52-189-GP-02-59-63 (3/8/2007)	1-52-189-GP-02-69-73 (3/8/2007)	1-52-189-GP-02-79-83 (3/8/2007)*	**NYSDEC Ambient Water Quality Standard and Guidance Values (ppb)**
Target Compound List (TCL) by EPA Method 8260B (µg/L)							
1,1-Dichloroethane	5 U	5 U	5 U	5 U	1.6 J	1.5 J	*5*
1,2,4 Trichlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	*5*
Methyl-t-butyl ether	1 U	1 U	1 U	1 U	3.2	3.3	*10* [(a)]
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	*5*
Trichloroethene	5 U	5 U	5 U	5 U	2.4 J	2.7 J	*5*
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	5 U	*2*
	Target Compound List (TCL) by EPA Method ILM05.2 / 7196A (µg/L)						
Aluminum					**7,500**	**10,800**	*100*
Antimony					60 U	**9.2 J**	*3*
Arsenic					10 U	10 U	*25*
Barium					110 J	148 J	*1,000*
Beryllium					0.77 J	1.1 J	*3*
Cadmium					1.2 J	1.7 J	*5*
Calcium					11,400 J	11,900	---
Total Chromium [(b)]					**284**	**385**	*50*
Chromium, Hexavalent					25 U	25 U	*50*
Chromium, Tri					284	385	---
Cobalt					9.5 J	12.8 J	
Copper					74.4 J	107	*200*
Iron					**42,500**	**58,800**	*300*
Lead					8.2 J	13.1 J	*25*
Magnesium					4,140 J	4,760 J	*35,000*
Manganese					**1,500**	**1,810**	*300*
Mercury					0.2 U	0.2 U	*0.7*
Nickel					87.7	**113**	*100*
Potassium					4,000 J	4,700 J	---
Selenium					35 U	6.6 J	*10*
Sodium					18,700	19,200	*20,000*
Vanadium					21.2 J	29.1 J	---
Zinc					559	776	*2,000*

NOTE: EPA = Environmental Protection Agency
NYSDEC = New York State Department of Environmental Conservation
J = Estimated value.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
(a) =April 2000 addendum to June 1998 division of water technical and operational guidance series (TOGS) NO. 1.1.1
(b) = Analyzed by EPA Method 7196A
* = Sample 1-52-189-GP-02-79-83 is the duplicate sample collected from 1-52-189-GP-02-69-73
The concentration of the metals most likely was impacted by high turbidity levels in these sample points (999 NTU at GP-1 and 999 NTU at GP-2).
All analytical data results provided by Hampton-Clarke Veritech. Data validation completed by Chemworld, Inc.
Only parameters that had at least one detection from the data set are shown.
Bold values indicate that the analyte was detected above the NYSDEC AWQS..

TABLE 8
LABORATORY ANALYTICAL RESULTS FOR SOIL VAPOR SAMPLES (NOVEMBER 2007)
AMW MATERIALS TESTING
NORTH AMITYVILLE, NEW YORK
SITE NO. 1-52-189

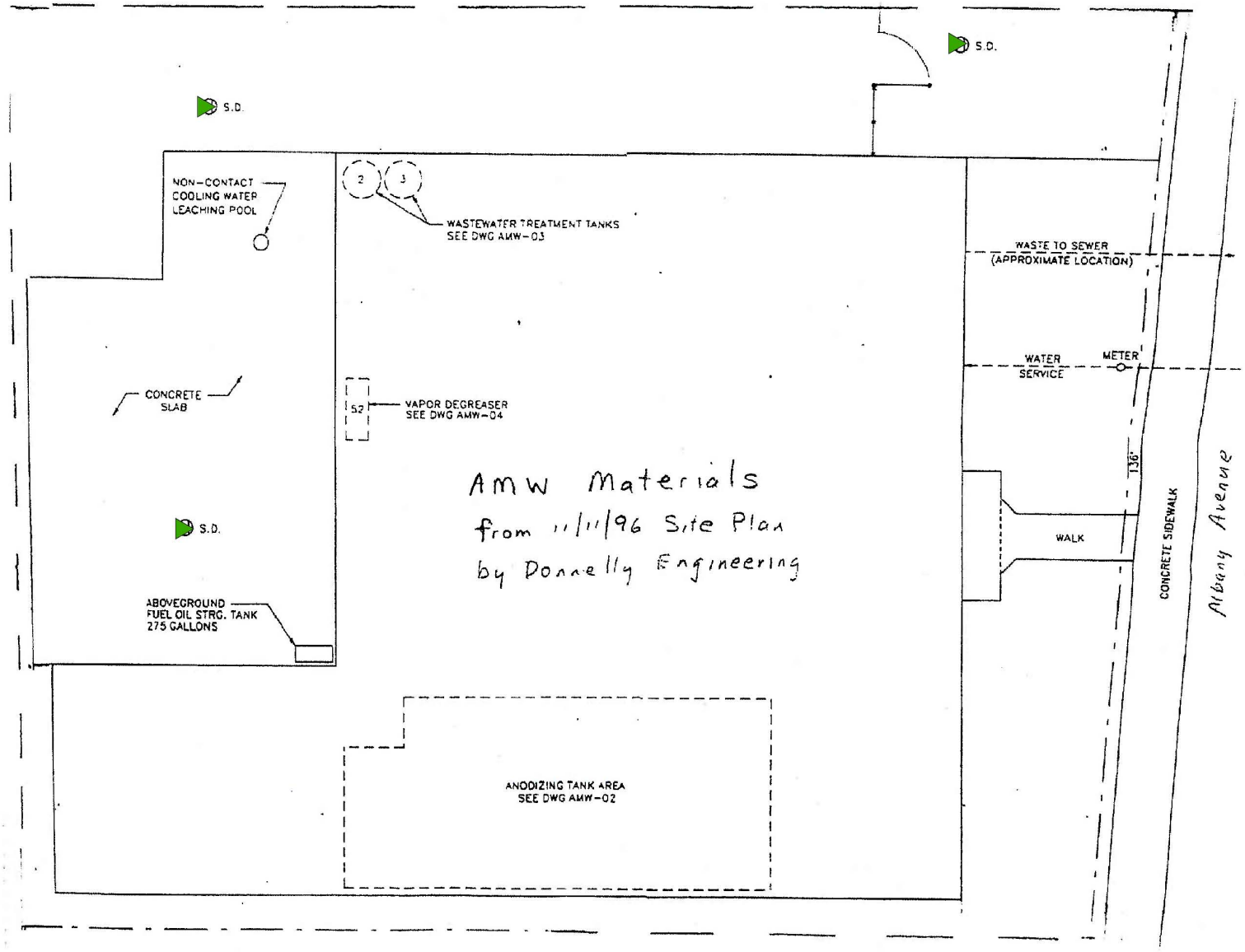
Parameter	SV-01	SV-02	AMBIENT AIR	DUPLICATE [(A)]
Volatile Organics by EPA Method TO-15 (ug/m3)				
ACETONE	170 J	69	27	89
BENZENE	110 J	33	1.2	42
BENZYL CHLORIDE	0.52 U	0.52 U	0.52 U	0.52 U
BROMODICHLOROMETHANE	0.66 U	0.66 U	0.66 U	0.66 U
BROMOFORM	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ
BROMOMETHANE	0.38 U	0.38 U	0.38 U	0.38 U
1,3-BUTADIENE	0.22 U	0.22 U	0.22 U	0.22 U
2-BUTANONE (MEK)	7.3 J	4.4 J	1.8 J	9.4 J
CARBON DISULFIDE	3.2 U	3.2 U	1.6 U	3.2 U
CARBON TETRACHLORIDE	0.62 U	0.62 U	0.69	0.62 U
CHLOROBENZENE	0.46 U	0.46 U	0.46 U	0.46 U
DIBROMOCHLOROMETHANE	0.86 U	0.86 U	0.85 U	0.86 U
CHLOROETHANE	0.26 U	0.26 U	0.26 U	0.26 U
CHLOROFORM	3.3 J	0.48 U	0.48 U	3.1
CHLOROMETHANE	1.5 J	0.2 U	1.4	1.4
CYCLOHEXANE	16 J	6.5	0.34 U	2
1,2-DIBROMOETHANE (ETHYLENE DIBROM	0.76 U	0.76 U	0.76 U	0.76 U
1,2-DICHLOROBENZENE	0.6 U	0.6 U	0.6 U	0.6 U
1,3-DICHLOROBENZENE	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ
1,4-DICHLOROBENZENE	0.6 UJ	0.6 UJ	0.6 UJ	0.96 J
DICHLORODIFLUOROMETHANE (CFC-12)	3.3 J	3.8	3.6	3.1
1,1-DICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U
1,2-DICHLOROETHANE	0.4 U	0.4 U	0.4 U	0.4 U
1,1-DICHLOROETHENE	0.4 U	0.4 U	0.39 U	0.4 U
CIS-1,2-DICHLOROETHLENE	0.63 J	0.4 UJ	0.39 UJ	0.63 J
TRANS-1,2-DICHLOROETHENE	0.4 U	0.4 U	0.39 U	0.4 U
1,2-DICHLOROPROPANE	0.46 U	0.46 U	0.46 U	0.46 U
CIS-1,3-DICHLOROPROPENE	0.44 U	0.44 U	0.45 U	0.44 U
TRANS-1,3-DICHLOROPROPENE	0.44 U	0.44 U	0.45 U	0.44 U
1,2-DICHLOROTETRAFLUOROETHANE	0.7 U	0.7 U	0.7 U	0.7 U
ETHANOL	120 J	110 J	72 J	64 J
ETHYL ACETATE	0.36 UJ	0.36 UJ	0.36 UJ	0.36 UJ
ETHYLBENZENE	76 J	47	0.48	37
4-ETHYL TOLUENE	11 J	5.3	0.49 U	8.4
N-HEPTANE	60 J	25	0.41 U	14
HEXACHLOROBUTADIENE	4.3 U	4.3 U	2.2 U	4.3 U
HEXANE	94 J	35	1.9	16
2-HEXANONE	0.4 UJ	0.4 UJ	0.41 UJ	0.4 UJ
ISOPROPYL ALCOHOL	75 J	37	2.1	7.6
METHYL TERT BUTYL ETHER (MTBE)	0.36 U	0.36 U	0.36 U	0.36 U
METHYLENE CHLORIDE	3 J	1.1	1.6	9
4-METHYL-2-PENTANONE	0.4 UJ	0.4 U	0.41 UJ	0.9 J
PROPYLENE (PROPENE)	0.69 U	0.69 U	0.35 U	0.69 U
STYRENE	0.43 J	0.42 U	0.43 U	0.51
1,1,2,2-TETRACHLOROETHANE	0.68 U	0.68 U	0.68 U	0.68 U
TETRACHLOROETHENE	290 J	180	0.67 U	1200
TETRAHYDROFURAN	0.59 UJ	0.59 UJ	0.3 UJ	0.59 J
TOLUENE	420 J	200	3.5	270
1,2,4-TRICHLOROBENZENE	0.74 UJ	0.74 UJ	0.74 UJ	0.74 UJ
1,1,1-TRICHLOROETHANE	29 J	0.87	0.54 U	28
1,1,2-TRICHLOROETHANE	0.54 U	0.54 U	0.54 U	0.54 U
TRICHLOROETHENE	6.1 J	0.54 U	0.53 U	8.3
TRICHLOROFLUOROMETHANE (CFC-11)	1.5 J	3.5	1.5	1.2
TRICHLOROTRIFLUOROETHANE	0.76 U	0.76 U	0.77	0.76 U
1,2,4-TRIMETHYLBENZENE	31 J	13	0.49 U	28
1,3,5-TRIMETHYLBENZENE	8.7 J	3.9	0.49 U	9.4
VINYL ACETATE	9.4 J	4.3 J	0.85 J	2.1 J
VINYL CHLORIDE	NR	0.26 U	0.25 U	0.26 U
XYLENES, M-P	260 J	160	1.8	130
O-XYLENE	85 J	52	0.52	36
NAPHTHALENE	1.3 U	1.3 U	0.64 U	1.3 U

(A) The duplicate sample was collected from SV01

Note: EPA = U.S. Environmental Protection Agency
J = The associated numerical value is an estimated quanity
NR = Not Reported
U = Analyzed but not reported at concentration above reporting limit. Sample quantitation limits as shown as (<__U)

Appendix A

Historical Site Background Information



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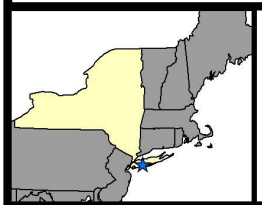

Source: NYSDEC

EA Engineering, Science, and Technology, Inc.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE A-1
FACILITY PLAN

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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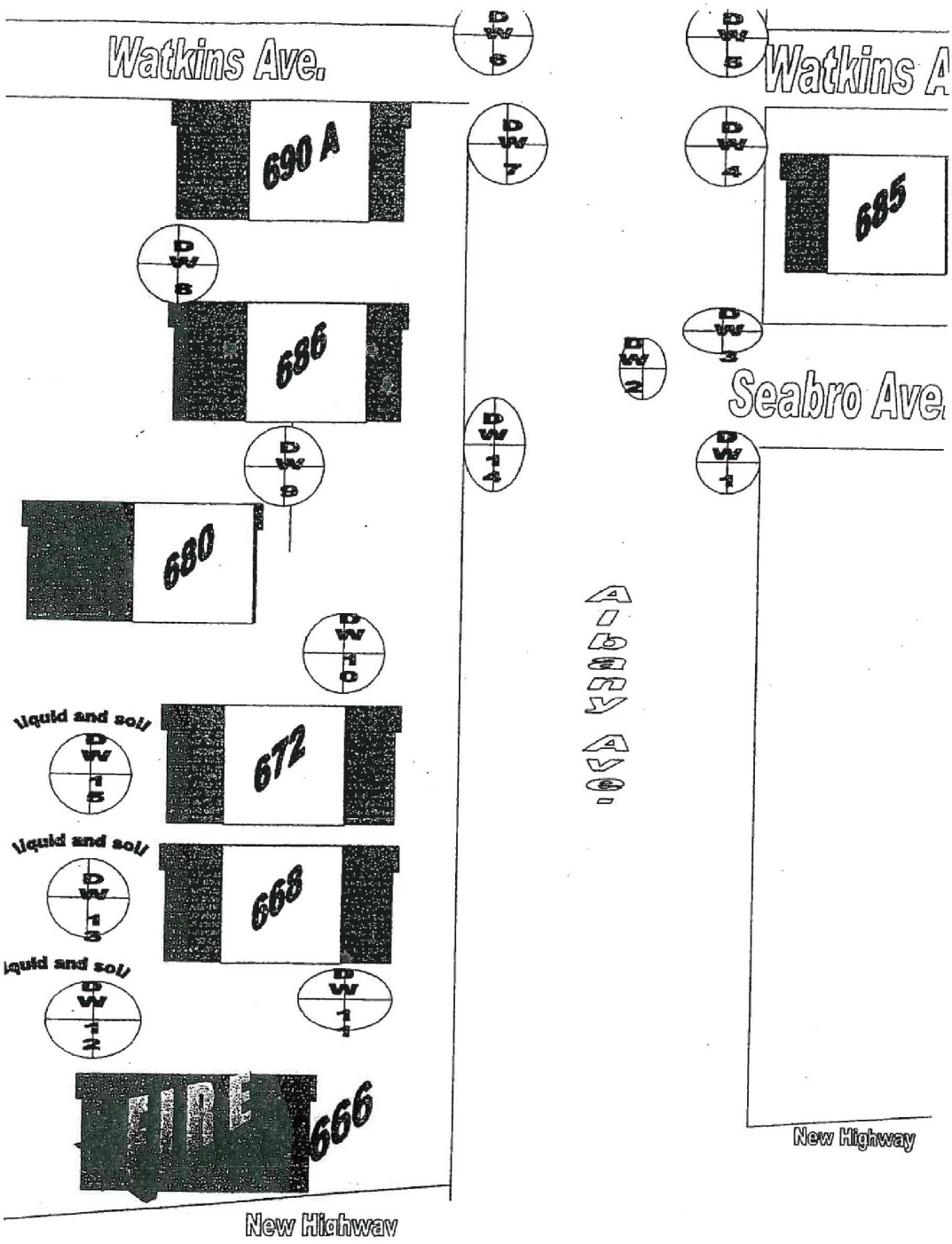

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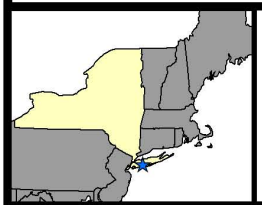

Source: NYSDEC

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AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE A-2
HISTORICAL DRY WELL
SEDIMENT SAMPLING LOCATIONS

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
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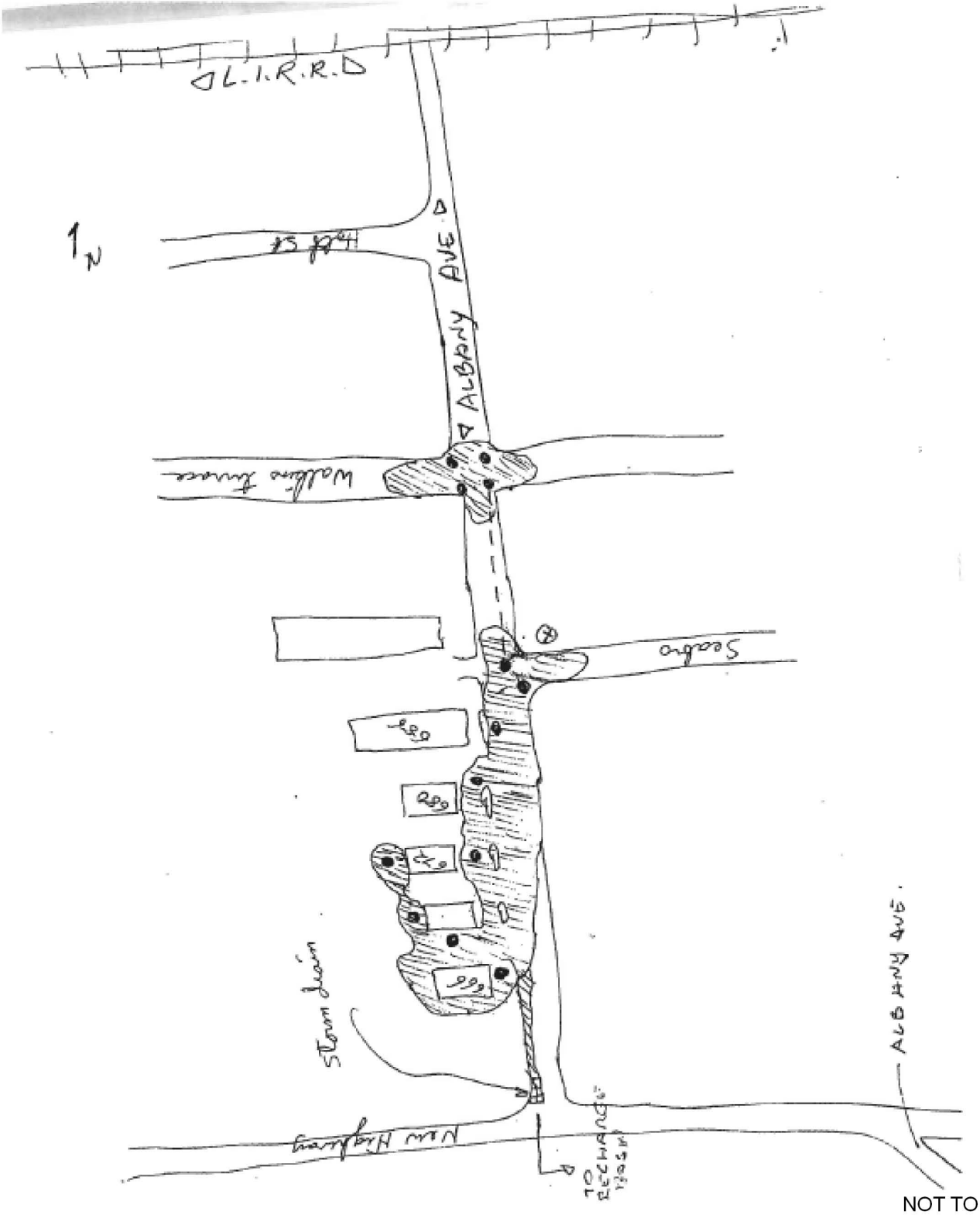

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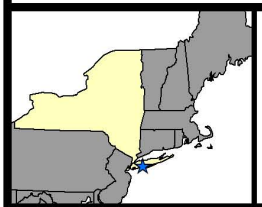

Source: NYSDEC

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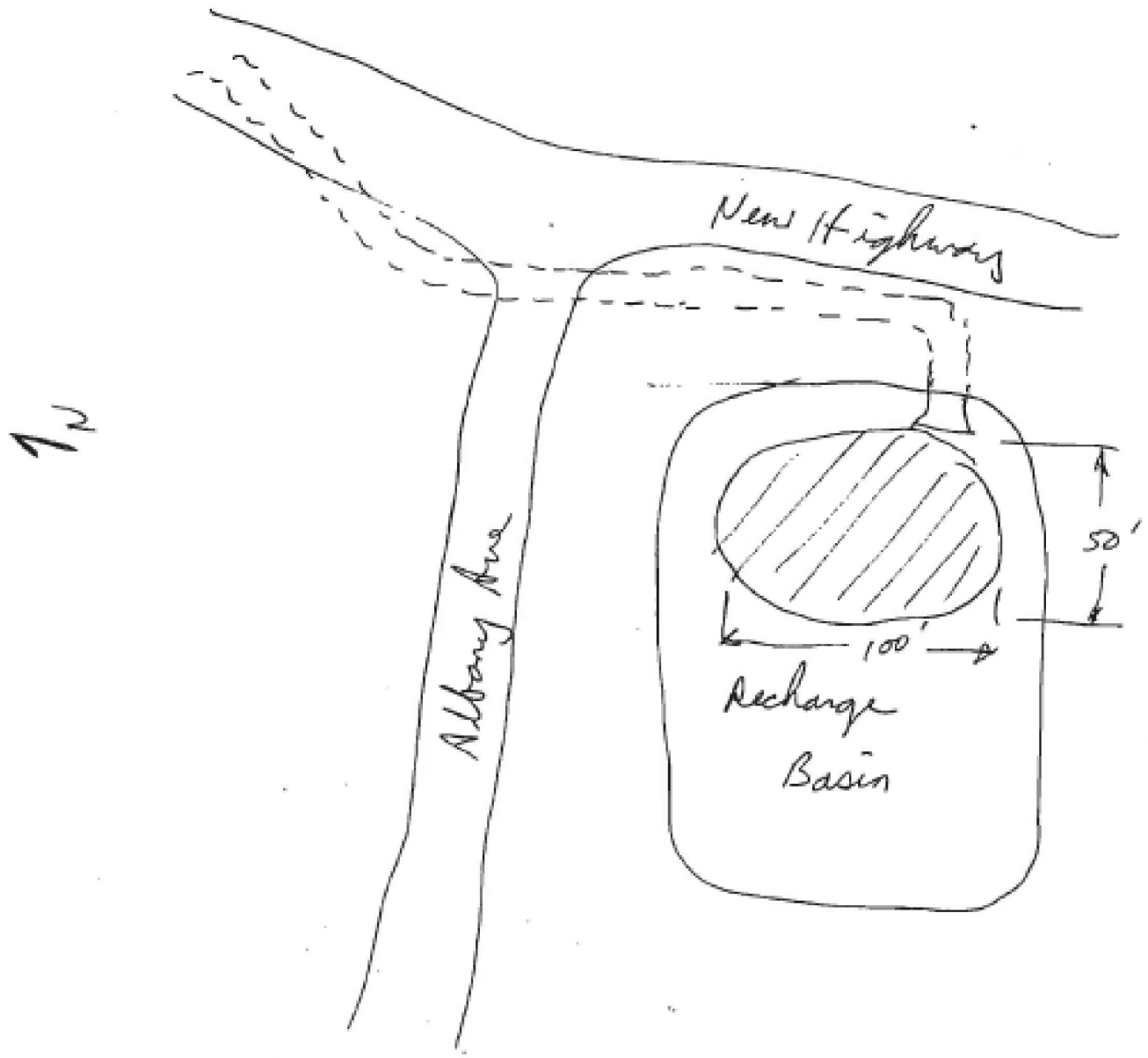
AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE A-3a
FIELD SKETCH OF WATER
FROM THE SITE TO
STORMWATER STRUCTURES

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	\1436806_Amityville\GIS\Project\Amity_Fig_A3



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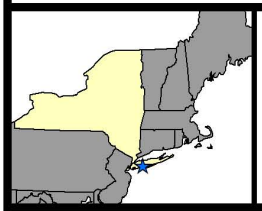

Source: NYSDEC

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AMW MATERIALS TESTING SITE (1-52-189)
NORTH AMITYVILLE, SUFFOLK COUNTY, NEW YORK

FIGURE A-3b
FIELD SKETCH OF WATER
FROM THE SITE TO
STORMWATER STRUCTURES

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	SCALE:	DATE:	PROJECT NO:	FILE NO:
JCH	JG	JG	JCH	AS SHOWN	AUGUST 2007	1436806	\1436806_Amityville\GIS\Project\Amity_Fig_A4

TABLE A-1 SURFACE WATER SAMPLE RESULTS (9 OCTOBER 2000)

Location	Chromium (ppb)	MEK (ppb)	PCE (ppb)	TCA (ppb)
SE Corner of Seabro Ave. & Albany Ave.	98,000	210,000	3,200	2,200
Puddle Formed by Fire Hose	165,000	170,000	1,600	3,400
In Front of 666 Albany Ave.	3,100	5,000	50	100
From Rubble Pile	21,000	800,000	-	75
Storm Drain Puddle at Albany Ave. & New Hwy.	17,000	360,000	180	450
Watkins Ter. & Albany Ave.	101,000	95,000	3,200	68
Recharge Basin	4,500	2,800	40	-

TABLE A-2 SOIL SAMPLE RESULTS (9 OCTOBER 2000)

Location	Chromium (ppm)	MEK (ppm)	PCE (ppm)	TCA (ppm)
Recharge Basin	NA	1.8	1.4	-

TABLE A-3 SOIL SAMPLE RESULTS FROM DRY WELLS (10 OCTOBER 2000)

Location	Chromium (ppm)	MEK (ppm)	PCE (ppm)	TCA (ppm)
DW1	2,124	13.9	16.7	1.4
DW2	1,012	9.9	18.5	2.0
DW3	1,223	43.0	11.9	5.9
DW4	16.4	4.2	0.1	0.02
DW5	40.3	16.1	1.7	0.1
DW6	25.7	12.8	0.1	0.1
DW7	183	24.2	16.9	0.5
DW8	15.5	-	0.3	0.1
DW9	367	9.6	0.3	0.03
DW10	121	0.4	0.5	0.04
DW11	340	3.2	1.8	0.1
DW12	1,522	20.7	6.3	0.2
DW13	66.3	3.4	0.2	-
DW14	596	0.7	20.9	2.1
DW15	95.7	1.7	0.9	-

TABLE A-4 GROUNDWATER SAMPLE RESULTS FROM MONITORING WELLS (NOVEMBER 2000)

Location	Chromium (ppb)	MEK (ppb)	PCE (ppb)	TCA (ppb)
MW1	230	ND	ND	ND
MW2	2,980	1,388	ND	ND
MW3	ND	ND	ND	ND
MW4	ND	227	5	ND
MW5	ND	19	6	ND

TABLE A-5 SOIL SAMPLE RESULTS FROM DRY WELLS (25-27 OCTOBER 2000)

Location	Chromium (ppm)	MEK (ppm)	PCE (ppm)	TCA (ppm)
DW1	21.7	ND	1.4	0.2
DW2	88.8	0.01	0.5	0.04
DW3	2.87	ND	ND	ND
DW4	8.08	ND	0.1	0.01
DW5	ND	ND	ND	ND
DW6	8.97	ND	0.05	ND
DW7	12.7	ND	0.01	ND
DW8	3.23	ND	ND	ND
DW9	1.92	ND	ND	ND
DW10	3.21	ND	0.1	ND
DW11	2.02	ND	0.1	ND
D W 12	5.12	ND	ND	ND
D W 13	51.9	ND	3.5	0.03
D W 14	174	ND	4.3	0.4

TABLE A-6 SOIL SAMPLE RESULTS FROM RECHARGE BASIN (26 OCTOBER 2000)

Location	Chromium (ppm)	MEK (ppm)	PCE (ppm)	TCA (ppm)
RC 1-2"	146	ND	0.01	ND
RC2-2'	3.28	ND	ND	ND
RC3-S	72.1	ND	ND	ND
RC4-2'	3.26	ND	ND	ND
RC5-4'	18 .1	ND	ND	ND
RC6-S	153	ND	ND	ND
RC7-1'	21.8	ND	0.02	ND

Appendix B

Photograph Log

Photograph Log
AMW Materials Testing Site (1-52-189)
North Amityville, New York

Photo 1: Panoramic view of site, looking southeast at excavation pit and stock-piled soil.

Photo 2: Close up of cesspool manway, observed in excavation pit.

Appendix C

Monitoring Well Construction Diagrams/Soil Boring Logs

FIELD BORING LOG FORM

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:	Y4508109.36066 / X634901.07448
Reference Elevation:	54.07'
Reference Description:	Top of PVC

Job. No. 14368.06	Client:	New York State Department of Environmental Conservation	Location: Albany Ave. Amityville, NY
Drilling Method:		Hand dig and Geoprobe 66DT 4 and 1/4" H.S.A.	Soil Boring Number: MW-6
Sampling Method:		Hydraulic Push 5' length 2" diam. Macrocore	Sheet 1 of 2
			Drilling
Water Lev.		15.36 ft	Start: 1/25/2007 7:39
Date		1/25/2007	Finish: 1/25/2007 10:00
Time		15:25	
Surface Conditions		Concrete Pad	

Blow Counts (140-lb)	Feet Drvn/Ft. Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet	USCS Log	SOIL DESCRIPTION
				0		
						Brown fine to coarse sand, little silt, trace of fine to coarse gravel, moist
			1.4	1		
			1.5	2		Tan brown silt, some fine to coarse sand, trace of fine gravel, moist
			2.4	3		Tan medium-coarse sand, little fine gravel, trace coarse gravel (rounded), moist
				4	SW	46 in. tan medium-coarse sand, little fine gravel (rounded), dry to moist
	5/4.8					
			1.1	5		
				6		
			1.0	7		
				8		
				9		
	5/3.4					
			1.2	10	SW	40 in. tan medium-coarse sand, little fine gravel (rounded), dry to moist
				11		
			1.1	12		
				13		
				14		
	5/3.6					
			0.1	15		20 in. tan coarse sand, some fine gravel, little medium sand, wet
				16		5 in. tan fine to medium sand, little fine to coarse gravel (rounded), wet
			0.1	17		
				18		
				19		
				20	GW	Tan fine-coarse gravel, some coarse sand, trace medium sand, wet
	5/-					NOTE: Macrocore jammed in barrel - no recovery data obtained

Logged by: James Gatherer Date: 1/25/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:	Y4508109.36066 / X634901.07448
Reference Elevation:	54.07'
Reference Description:	Top of PVC

Job. No. 14368.06	Client:	New York State Department of Environmental Conservation	Location: Albany Ave. Amityville, NY
Drilling Method:		Hand dig and Geoprobe 66DT 4 and 1/4" H.S.A.	Soil Boring Number: MW-6
Sampling Method:		Hydraulic Push 5' length 2" diam. Macrocore	Sheet 2 of 2
			Drilling
Water Lev.		15.36 ft	Start: 1/25/2007 7:39
Date		1/25/2007	Finish: 1/25/2007 10:00
Time		15:25	
Surface Conditions		Concrete Pad	

Blow Counts (140-lb)	Feet Drvn/Ft. Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	SOIL DESCRIPTION
			0.1	21			
				22			
				23			
				24			
	5/0			25		EOB	End of Boring at 25'

Logged by: James Gatherer Date: 1/25/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Y 4508122.49727 / X 634922.08513
Reference Elevation: 53.45"
Reference Description: Top of PVC

Job. No.	Client:		Location:
14368.06		New York State Department of Environmental Conservation	Albany Ave. Amityville, NY
Drilling Method:		B-61 mobile 4 and 1/4" inner diam H.S.A.	Soil Boring Number: MW-7
Sampling Method:		140lb Hammer 2-in Split Spoon	Sheet 1 of 2
			Drilling
Water Lev.		14.69 ft.	Start: 1/24/07 11:41
Date		1/25/2007	Finish: 1/24/07 14:33
Time		7:03	
Surface Conditions		Asphalt	

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet	USCS Log	SOIL DESCRIPTION
			1.3	0	SW	Brown-grey fine-coarse sand, little fine gravel (rounded), little silt, asphalt, chunks, dry-moist
				1		Tan medium-coarse sand, little fine gravel (rounded), trace silt, moist
			4.8	2		Tan-orange medium-coarse sand, little fine gravel, trace silt, moist
			0.4	3		Orange medium-coarse sand, trace fine gravel, dry-moist
	24/13					
7			8.6	4	SW	13 in. tan medium-coarse sand, trace fine gravel (rounded) dry-moist, med dense
12						
19				5		
19	24/17					
11			6.5	6		17 in. tan medium-coarse sand, little fine gravel (rounded), dry-moist, medium dense
17						
14				7		
22	24/16					
13			1.1	8		16 in. light tan medium-coarse sand, little fine-coarse gravel, top 3-in iron stained , dry-moist, medium dense
16						
18				9		
18	24/19					
7			2.3	10	SW	19 in. light tan medium-coarse sand, little fine-coarse gravel, dry-moist, medium dense
12						
13				11		
15	24/13					
6			4.4	12	SW	13 in. light tan medium-coarse sand, little fine-coarse gravel, moist, shoe wet, medium dense
7						
9				13		
13	24/13					
9			2.0	14	SW	13 in. light tan fine gravel, little medium-coarse sand, trace coarse gravel (rounded), wet, medium dense
11						
13				15		
14	24/16					
13			3.1	16	SW	16 in. light tan medium-coarse sand, little fine gravel (rounded), wet, medium dense
13						
19				17		
24	24/24					
15			2.3	18	SW	20 in. light tan medium-coarse sand, little fine gravel (rounded), wet, medium dense
17						
21				19		
22	24/18					
7				20	GW	18 in. light tan fine gravel, some medium-coarse sand, trace coarse gravel (rounded), wet
8						

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:	Y 4508122.49727 / X 634922.08513
Reference Elevation:	53.45"
Reference Description:	Top of PVC

Job. No. 14368.06	Client:	New York State Department of Environmental Conservation	Location: Albany Ave. Amityville, NY
Drilling Method:		B-61 mobile 4 and 1/4" inner diam H.S.A.	Soil Boring Number: MW-7
Sampling Method:		140lb Hammer 2-in Split Spoon	Sheet 2 of 2
			Drilling
Water Lev.		14.69 ft.	Start: 1/24/07 11:41
Date		1/25/2007	Finish: 1/24/07 14:33
Time		7:03	
Surface Conditions		Asphalt	

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	SOIL DESCRIPTION
7			2.6	21		GW	
8							
7				22		EOB	End of boring at 22 ft.
7							

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Y 4508081.99582 / Z 634911.28137
Reference Elevation: 52.78
Reference Description: Top of PVC

Job. No.	Client:		Location:
14368.06		New York State Department of Environmental Conservation	Albany Ave. Amityville, NY
Drilling Method:		Hand dig to 5'	Soil Boring Number:
		Geoprobe 66DR 4 and 1'4" H.S.A.	MW-8
Sampling Method:		Hydraulic Push 5' 2-in Macrocore	Sheet 1 of 2
			Drilling
Water Lev.		14.27	Start: 1/25/07 12:25
Date		1/25/2007	Finish: 1/25/07 14:10
Time		15:20	
Surface Conditions		Grass	

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet	USCS Log	SOIL DESCRIPTION
			0.5	0		Brown-grey fine-coarse sand, little fine gravel (rounded), little silt, asphalt, chunks, dry-moist
					SM	
			1.1	1		Tan medium-coarse sand, little fine gravel (rounded), trace silt, moist
					SW	
			0.2	2		Tan-orange medium-coarse sand, little fine gravel, trace silt, moist
					SW	
				3		Orange medium-coarse sand, trace fine gravel, dry-moist
			0.2	4		13 in. tan medium-coarse sand, trace fine gravel (rounded) dry-moist, med dense
	60/44					
			0.7	5		
					SW	
			6.5	6		17 in. tan medium-coarse sand, little fine gravel (rounded), dry-moist, medium dense
			0.5	7		
			1.1	8		16 in. light tan medium-coarse sand, little fine-coarse gravel, top 3-in iron stained , dry-moist, medium dense
				9		
	60/47					
			0.4	10		19 in. light tan medium-coarse sand, little fine-coarse gravel, dry-moist, medium dense
					SW	
				11		
				12		13 in. light tan medium-coarse sand, little fine-coarse gravel, moist, shoe wet, medium dense
			0	13		
				14		13 in. light tan fine gravel, little medium-coarse sand, trace coarse gravel (rounded), wet, medium dense
	60/45					
			0.2	15	GP	
				16	SW	16 in. light tan medium-coarse sand, little fine gravel (rounded), wet, medium dense
			36	17		
				18		20 in. light tan medium-coarse sand, little fine gravel (rounded), wet, medium dense
				19		
	60/25					
			0.8	20	SW	25-in light tan medium-coarse sand, little fine gravel, wet

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:	Y 4508081.99582 / Z 634911.28137
Reference Elevation:	52.78
Reference Description:	Top of PVC

Job. No. 14368.06	Client:	New York State Department of Environmental Conservation	Location: Albany Ave. Amityville, NY
Drilling Method:		Hand dig to 5' Geoprobe 66DR 4 and 1'4" H.S.A.	Soil Boring Number: MW-8
Sampling Method:		Hydraulic Push 5' 2-in Macrocore	Sheet 2 of 2
Water Lev.		14.27	Drilling: Start 1/25/07 12:25 / Finish 1/25/07 14:10
Date		1/25/2007	
Time		15:20	
Surface Conditions		Grass	

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	SOIL DESCRIPTION
			0.5	21			
			1.1	22			
			0.2	23			
				24			
				25		EOB	End of boring at 25 ft.

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Y 4508374.653 / Z 634901.47481
Reference Elevation: 53.49
Reference Description: Top of PVC

Job. No.	Client:		Location:
14368.06		New York State Department of Environmental Conservation	Albany Ave. Amityville, NY
Drilling Method:		B-61 Mobile 4 and 1/4" inner diam. H.S.A.	Soil Boring Number: MW-9
Sampling Method:		140lb hammer 2-in. split spoon	Sheet 1 of 2
			Drilling
Water Lev.		13.25	Start: 1/24/07 8:08
Date		1/25/2007	Finish: 1/24/07 10:07
Time		14:00	
Surface Conditions		Grass	

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet	USCS Log	SOIL DESCRIPTION
				0		Topsoil
				1		Mottled light grey very fine sand, some silt/iron stained fine-coarse sand, some fine gravel, moist
					SM	
				2		
				3		
				4		
	24/17					
7			0.2	5		4 in. mottled light grey very fine sand, some silt/iron stained fine-coarse sand, some fine gravel, moist
15					SW	13 in. light tan medium-coarse sand, little fine gravel, moist
19				6		
22						
				7		
				8		
	24/12					
7			0.3	9	SW	12 in. light tan medium-coarse sand, little fine-coarse gravel (rounded quartz), light iron staining, moist
14						
17				10		
19						
				11		
				12		
				13	GW	Water table @ 13 ft.
5			0.4	14	SW	20 in. light tan medium-coarse sand, little fine-coarse gravel (rounded), light iron staining, wet
6	24/20					
8				15		
8						
				16		
				17		
				18		
	24/15					
5			0.2	19	SW	15 in. light tan medium-coarse sand, some fine-coarse gravel (rounded), wet
5						
8				20	SW	
9						

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:	Y 4508374.653 / Z 634901.47481
Reference Elevation:	53.49
Reference Description:	Top of PVC

Job. No. 14368.06	Client:	New York State Department of Environmental Conservation	Location: Albany Ave. Amityville, NY
Drilling Method:		B-61 Mobile 4 and 1/4" inner diam. H.S.A.	Soil Boring Number: MW-9
Sampling Method:		140lb hammer 2-in. split spoon	Sheet 2 of 2

			Drilling	
			Start	Finish
Water Lev.		14.27	1/25/07 12:25	1/25/07 14:10
Date		1/25/2007		
Time		15:20		
Surface Conditions		Grass		

Blow Counts (140-lb)	Inches Driven/ Recvrd	Well Diagram	PID (ppm) HNu	Depth in Feet		USCS Log	SOIL DESCRIPTION
8				21		SW	
9							
				22		EOB	End of boring @ 22 ft.

Logged by: James Gatherer Date: 1/24/07

Drilling Contractor: L.A.W.E Driller: Kevin McGoury

Appendix D

Monitoring Well Purging/Sampling Forms

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW02	**EA Personnel:** Joe Von Uderitz	**Client:** NYSDEC Ammityville
Location: Ammityville, NY	**Well Condition:** Good	**Weather:** Cloudy 45
Sounding Method: Water level Meter	**Gauge Date:** 27-Nov-07	**Measurement Ref:** PVC
Stick Up/Down (ft): Down	**Gauge Time:** 1500	**Well Diameter (in):** 2 Inches

Purge Date: 28-Nov-07	**Purge Time:** 1102 To 1126 (24 Minutes)
Purge Method: Peristalic Pump	**Field Technician:** Joe Von Uderitz

Well Volume

A. Well Depth (ft): 29.86	**D. Well Volume (ft):** 0.1632	**Depth/Height of Top of PVC:** 29.86
B. Depth to Water (ft): 16.10	**E. Well Volume (gal) C*D):** 2.245632	**Pump Type:** Peristalic Pump
C. Liquid Depth (ft) (A-B): 13.76	**F. Five Well Volumes (gal) (E3):** 11.22816	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)
1105	16.12	0.6	0.2	5.83	154	15.06	0.239	7.09	14
1108	16.12	1.2	0.2	5.69	160	15.95	0.632	6.76	1
1111	16.12	1.8	0.2	5.73	159	16.19	0.862	6.65	0
1114	16.12	2.4	0.2	5.78	159	16.27	0.946	6.52	1
1117	16.12	3.0	0.2	5.86	158	16.32	0.900	6.14	1
1120	16.12	3.6	0.2	5.77	161	16.17	0.900	6.13	1
1123	16.12	4.2	0.2	5.77	158	16.20	0.900	6.09	1
1126	16.12	4.8	0.2	5.77	158	16.20	0.900	6.02	1

Total Quantity of Water Removed (Liters):	4.8	**Sampling Time:**	1130
Samplers:	JAV	**QA/QC Sample**	None
Sampling Date:	28-Nov-07	**Sample Type:**	Groundwater

COMMENTS AND OBSERVATIONS: Water had no turbidity, and was visibly free of sediment

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW06	**EA Personnel:** Joe Von Uderitz	**Client:** NYSDEC Ammityville
Location: Ammityville, NY	**Well Condition:** Good	**Weather:** Cloudy 45
Sounding Method: Water level Meter	**Gauge Date:** 27-Nov-07	**Measurement Ref:** PVC
Stick Up/Down (ft): Down	**Gauge Time:** 1505	**Well Diameter (in):** 2 Inches

Purge Date: 28-Nov-07	**Purge Time:** 813 To 834 (21 Minutes)
Purge Method: Peristalic Pump	**Field Technician:** Joe Von Uderitz

Well Volume

A. Well Depth (ft): 23.09	**D. Well Volume (ft):** 0.1632	**Depth/Height of Top of PVC:** 23.09
B. Depth to Water (ft): 17.79	**E. Well Volume (gal) C*D):** 0.86496	**Pump Type:** Peristalic Pump
C. Liquid Depth (ft) (A-B): 5.30	**F. Five Well Volumes (gal) (E3):** 4.3248	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)
816	17.82	0.6	0.2	5.71	158	15.84	1.86	4.2	13
819	17.82	1.2	0.2	5.60	162	15.98	2.47	3.96	37
822	17.82	1.8	0.2	5.55	166	16.05	2.72	3.83	25
825	17.82	2.4	0.2	5.51	170	16.05	2.82	3.70	23
828	17.82	3.0	0.2	5.51	173	16.02	2.81	3.65	24
831	17.82	3.6	0.2	5.51	173	16.05	2.78	3.72	31
834	17.82	4.2	0.2	5.51	175	16.17	2.71	3.62	26

Total Quantity of Water Removed (Liters):	4.2	**Sampling Time:**	840
Samplers:	JAV	**QA/QC Sample**	MS/MSD
Sampling Date:	28-Nov-07	**Sample Type:**	Groundwater

COMMENTS AND OBSERVATIONS: Water had no turbidity, and was visibly free of sediment

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MW07	Joe Von Uderitz	NYSDEC Ammityville
Location:	**Well Condition:**	**Weather:**
Ammityville, NY	Good	Cloudy 45
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Water level Meter	27-Nov-07	PVC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down	1510	2 Inches

Purge Date:	Purge Time: 723 To 744
28-Nov-07	21 Minutes
Purge Method:	**Field Technician:**
Peristalic Pump	Joe Von Uderitz

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
22.08	0.1632	22.08
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
17.12	0.809472	Peristalic Pump
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**
4.96	4.04736	

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)
726	17.18	0.6	0.2	6.8	149	16.32	1.46	4.93	4
729	17.18	1.2	0.2	6.61	149	16.49	1.76	4.91	7
732	17.18	1.8	0.2	6.28	150	16.70	2.18	4.82	1
735	17.18	2.4	0.2	6.04	152	16.84	2.46	4.80	1
738	17.18	3.0	0.2	6	153	16.89	2.49	4.77	1
741	17.18	3.6	0.2	5.89	155	16.92	2.68	4.73	1
744	17.18	4.2	0.2	5.86	157	16.94	2.74	4.70	1

Total Quantity of Water Removed (Liters):	4.2	Sampling Time:	745
Samplers:	JAV	QA/QC Sample	Duplicate
Sampling Date:	28-Nov-07	Sample Type:	Groundwater

COMMENTS AND OBSERVATIONS: Water had no turbidity, and was visibly free of sediment

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MW08	Joe Von Uderitz	NYSDEC Ammityville
Location:	**Well Condition:**	**Weather:**
Ammityville, NY	Good	Cloudy 45
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Water level Meter	27-Nov-07	PVC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down	1515	2 Inches

Purge Date:	Purge Time: 922 To 943
28-Nov-07	21 Minutes
Purge Method:	**Field Technician:**
Peristalic Pump	Joe Von Uderitz

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
23.07	0.1632	23.07
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
16.72	1.03632	Peristalic Pump
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**
6.35	5.1816	

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)
925	16.74	0.6	0.2	5.44	163	14.67	0.90	4.79	155
928	16.74	1.2	0.2	5.43	167	14.83	1.37	4.61	58
931	16.74	1.8	0.2	5.45	172	14.88	1.53	4.44	23
934	16.74	2.4	0.2	5.44	182	14.91	1.56	4.40	16
937	16.74	3.0	0.2	5.44	182	14.93	1.58	4.36	12
940	16.74	3.6	0.2	5.43	185	14.86	1.62	4.41	11
943	16.74	4.2	0.2	5.40	190	14.82	1.68	4.46	13

Total Quantity of Water Removed (Liters):	4.2	Sampling Time:	945
Samplers:	JAV	QA/QC Sample	None
Sampling Date:	28-Nov-07	Sample Type:	Groundwater

COMMENTS AND OBSERVATIONS: While installing poly tubing, wasn't sure if I was on the bottom, thus stirring up the well and causing a little turbidity. Well cleared up quickly and was no longer turbid and was visibilty free of sediment.

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MW09	Joe Von Uderitz	NYSDEC Ammityville
Location:	**Well Condition:**	**Weather:**
Ammityville, NY	Good	Cloudy 45
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Water level Meter	27-Nov-07	PVC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down	1520	2 Inches

Purge Date:	Purge Time: 1017 To 1038
28-Nov-07	21 Minutes
Purge Method:	**Field Technician:**
Peristalic Pump	Joe Von Uderitz

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
22.10	0.1632	22.1
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
15.62	1.057536	Peristalic Pump
C. Liquid Depth (ft) (A-B):	**F. Five Well Volumes (gal) (E3):**	**Pump Designation:**
6.48	5.28768	

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)
1020	15.65	0.6	0.2	5.79	163	14.67	0.90	3.31	91
1023	15.65	1.2	0.2	5.82	163	15.02	2.31	2.94	58
1026	15.65	1.8	0.2	5.82	163	15.04	2.38	3.00	55
1029	15.65	2.4	0.2	5.82	163	15.09	2.43	3.01	56
1032	15.65	3.0	0.2	5.86	162	15.16	2.31	3.04	46
1035	15.65	3.6	0.2	5.83	162	15.18	2.33	3.10	44
1038	15.65	4.2	0.2	5.79	163	15.18	2.34	3.10	41

Total Quantity of Water Removed (Liters):	4.2	Sampling Time:	1040
Samplers:	JAV	QA/QC Sample	None
Sampling Date:	28-Nov-07	Sample Type:	Groundwater

COMMENTS AND OBSERVATIONS: Well had a slight turbidy when it started pumping, was was visibly free of sediment and was no longer visibily turbid prior to sampling

EA Engineering PC and its Affliate,
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GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW03	**EA Personnel:** Joe Von Uderitz	**Client:** NYSDEC Ammityville
Location: Ammityville, NY	**Well Condition:** Good	**Weather:** Cloudy 45
Sounding Method: Water level Meter	**Gauge Date:** 27-Nov-07	**Measurement Ref:** PVC
Stick Up/Down (ft): Down	**Gauge Time:** 1525	**Well Diameter (in):** 2 Inches

Purge Date: Well Not Sampled	**Purge Time:** To
Purge Method:	**Field Technician:** Joe Von Uderitz

Well Volume

A. Well Depth (ft): 30.08	**D. Well Volume (ft):** 0.1632	**Depth/Height of Top of PVC:** 30.08
B. Depth to Water (ft): 17.30	**E. Well Volume (gal) C*D):** 2.085696	**Pump Type:**
C. Liquid Depth (ft) (A-B): 12.78	**F. Five Well Volumes (gal) (E3):** 10.42848	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)

Total Quantity of Water Removed (Liters): _____
Samplers: JAV
Sampling Date: _____

Sampling Time: _____
QA/QC Sample _____
Sample Type: Groundwater

COMMENTS AND OBSERVATIONS: _____

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW04	**EA Personnel:** Joe Von Uderitz	**Client:** NYSDEC Ammityville
Location: Ammityville, NY	**Well Condition:** Good	**Weather:** Cloudy 45
Sounding Method: Water level Meter	**Gauge Date:** 27-Nov-07	**Measurement Ref:** PVC
Stick Up/Down (ft): Down	**Gauge Time:** 1530	**Well Diameter (in):** 2 Inches

Purge Date: Well Not Sampled	**Purge Time:** To
Purge Method:	**Field Technician:** Joe Von Uderitz

Well Volume

A. Well Depth (ft): 30.16	**D. Well Volume (ft):** 0.1632	**Depth/Height of Top of PVC:** 30.16
B. Depth to Water (ft): 17.27	**E. Well Volume (gal) C*D):** 2.103648	**Pump Type:**
C. Liquid Depth (ft) (A-B): 12.89	**F. Five Well Volumes (gal) (E3):** 10.51824	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)

Total Quantity of Water Removed (Liters): _____
Samplers: JAV
Sampling Date: _____

Sampling Time: _____
QA/QC Sample _____
Sample Type: Groundwater

COMMENTS AND OBSERVATIONS: _____

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW05	**EA Personnel:** Joe Von Uderitz	**Client:** NYSDEC Ammityville
Location: Ammityville, NY	**Well Condition:** Good	**Weather:** Cloudy 45
Sounding Method: Water level Meter	**Gauge Date:** 27-Nov-07	**Measurement Ref:** PVC
Stick Up/Down (ft): Down	**Gauge Time:** 1530	**Well Diameter (in):** 2 Inches

Purge Date: Well Not Sampled	**Purge Time:** To
Purge Method:	**Field Technician:** Joe Von Uderitz

Well Volume

A. Well Depth (ft): 29.78	**D. Well Volume (ft):** 0.1632	**Depth/Height of Top of PVC:** 29.78
B. Depth to Water (ft): 17.49	**E. Well Volume (gal) C*D):** 2.005728	**Pump Type:**
C. Liquid Depth (ft) (A-B): 12.29	**F. Five Well Volumes (gal) (E3):** 10.02864	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temperature (oC)	Conductivity (mS/cm)	DO (mg/L)	Turbidity (ntu)

Total Quantity of Water Removed (Liters): _____
Samplers: JAV
Sampling Date: _____

Sampling Time: _____
QA/QC Sample _____
Sample Type: Groundwater

COMMENTS AND OBSERVATIONS: _____

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-2	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Light snow, cold
Sounding Method:	**Gauge Date:** 7-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 7:50	**Well Diameter (in):** 2 in.

Purge Date: 7-Mar-07	**Purge Time:** 7:50
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 29.95	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 13.93	**E. Well Volume (gal) C*D):** 2.7	**Pump Type:**
C. Liquid Depth (ft) (A-B): 16.02	**F. Five Well Volumes (gal) (E3):** 13.6	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
750	13.93	0	-						
754	13.93	2.7	-	5.92	232	8.42	0.301	7.38	>999
802	13.93	5.4	-	6.11	224	10.58	0.31	6.17	>999
807	13.93	8.1	-	6.12	227	10.92	0.324	6.23	>999
815	13.93	10.8	-	6.08	237	11.41	0.302	6.78	886
820	13.93	13.5	-	6.22	237	11.30	0.309	6.74	731

Total Quantity of Water Removed (gal): 13.5
Samplers: James Gatherer
Sampling Date: 3/7/2007

Sampling Time: 1320
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-02 VOC 8260B, Metals ILM05.0, Cr+6 7196A

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-3	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Sunny, cold
Sounding Method:	**Gauge Date:** 6-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 10:15	**Well Diameter (in):** 2 in.

Purge Date: 6-Mar-07	**Purge Time:** 10:15
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 30.18	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 15.24	**E. Well Volume (gal) C*D):** 2.5	**Pump Type:**
C. Liquid Depth (ft) (A-B): 14.94	**F. Five Well Volumes (gal) (E3):** 12.7	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1015	15.24	0	-						
1020	15.25	2.5	-	4.96	252	9.98	0.781	7.25	190
1026	15.25	5	-	5.74	262	11.72	0.53	7.35	315
1032	15.25	7.2	-	6.00	254	12.67	0.494	7.28	387
1038	15.25	10	-	6.07	277	11.33	0.478	7.30	315
1043	15.25	12.7	-	6.05	286	11.16	0.493	7.43	311

Total Quantity of Water Removed (gal): 12.7
Samplers: James Gatherer
Sampling Date: 3/6/2007
Sampling Time: 1305
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-03 VOC 8260B, Metals ILM05.0

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EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-4	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Sunny, cold
Sounding Method:	**Gauge Date:** 6-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 10:49	**Well Diameter (in):** 2 in.

Purge Date: 6-Mar-07	**Purge Time:** 10:49
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 30.18	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 15.22	**E. Well Volume (gal) C*D):** 2.5	**Pump Type:**
C. Liquid Depth (ft) (A-B): 14.96	**F. Five Well Volumes (gal) (E3):** 12.7	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1049	15.22	0	-						
1053	15.23	2.5	-	6.18	298	8.38	0.97	8.26	82
1058	15.23	5	-	6.14	286	7.83	1.33	8.15	36
1104	15.23	7.2	-	6.02	286	7.79	1.34	8.08	32
1110	15.23	10	-	6.03	291	8.04	1.36	7.89	31
1115	15.23	12.7	-	6.1	288	7.57	1.39	7.9	31

Total Quantity of Water Removed (gal): 12.7
Samplers: James Gatherer
Sampling Date: 3/6/2007
Sampling Time: 1257
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-04 VOC 8260B, Metals ILM05.0, Cr+6 7196A

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-5	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Sunny, cold
Sounding Method:	**Gauge Date:** 6-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 11:18	**Well Diameter (in):** 2 in.

Purge Date: 6-Mar-07	**Purge Time:** 11:18
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 29.87	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 15.47	**E. Well Volume (gal) C*D):** 2.4	**Pump Type:**
C. Liquid Depth (ft) (A-B): 14.4	**F. Five Well Volumes (gal) (E3):** 12.2	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1118	15.47	0	-						
1122	15.48	2.5	-	6.45	262	8.16	0.95	7.87	8
1129	15.48	5	-	6.71	282	7.42	0.91	7.9.	23
1135	15.48	7.5	-	6.73	277	8.04	0.9	6.75	22
1140	15.48	10	-	6.72	267	6.82	0.9	6.56	19
1145	15.48	12.5	-	6.77	257	7.25	0.9	6.53	17

Total Quantity of Water Removed (gal): 12.5
Samplers: James Gatherer
Sampling Date: 3/6/2007
Sampling Time: 1251
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-05 VOC 8260B, Metals ILM05.0

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-6	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Sunny, cold
Sounding Method:	**Gauge Date:** 7-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 11:20	**Well Diameter (in):** 2 in.

Purge Date: 6-Mar-07	**Purge Time:** 11:20
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 23.06	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 15.54	**E. Well Volume (gal) C*D):** 1.28	**Pump Type:**
C. Liquid Depth (ft) (A-B): 7.52	**F. Five Well Volumes (gal) (E3):** 6.4	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1120	15.54	0	-						
1125	15.54	1.3	-	5.92	135	11.04	0.302	3.57	>999
1131	15.54	2.6	-	5.87	170	11.73	0.287	4.92	>999
1135	15.54	3.9	-	5.90	194	12	0.285	5.06	>999
1139	15.54	5.2	-	5.86	211	12.51	0.276	5.02	>999
1145	15.54	6.4	-	5.88	222	12.03	0.278	4.73	>999

Total Quantity of Water Removed (gal): 6.4
Samplers: James Gatherer
Sampling Date: 3/6/2007
Sampling Time: 1345
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-06/DUP VOC 8260B, Metals ILM05.0, Cr+6 7196A, SVOC 8270C, Pest/PCB 8081A/8082

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-7	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Light snow, cold
Sounding Method:	**Gauge Date:** 7-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 9:00	**Well Diameter (in):** 2 in.

Purge Date: 7-Mar-07	**Purge Time:** 9:00
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 22.078	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 14.91	**E. Well Volume (gal) C*D):** 1.22	**Pump Type:**
C. Liquid Depth (ft) (A-B): 7.17	**F. Five Well Volumes (gal) (E3):** 6.1	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
900	14.91	0	-						
905	14.91	1.2	-	5.96	252	12.54	0.372	6.16	>999
908	14.91	2.4	-	5.96	255	13.05	0.340	6.22	>999
910	14.91	3.6	-	5.80	257	12.49	0.361	5.85	>999
913	14.91	4.8	-	5.77	259	12.27	0.362	6.28	>999
921	14.91	6.1	-	5.79	264	12.03	0.348	6.87	>999

Total Quantity of Water Removed (gal): 6.1
Samplers: James Gatherer
Sampling Date: 3/7/2007
Sampling Time: 1300
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-07/MS/MSD VOC 8260B, Metals ILM05.0, Cr+6 7196A, SVOC 8270C, Pest/PCB 8081A/8082

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-8	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Light snow, cold
Sounding Method:	**Gauge Date:** 7-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 10:40	**Well Diameter (in):** 2 in.

Purge Date: 7-Mar-07	**Purge Time:** 10:40
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 23.07	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 14.47	**E. Well Volume (gal) C*D):** 1.5	**Pump Type:**
C. Liquid Depth (ft) (A-B): 8.6	**F. Five Well Volumes (gal) (E3):** 7.5	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^{o}C)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1040	14.47	0	-						
1043	14.47	1.5	-	5.62	265	11.56	0.3	5.33	>999
1048	14.47	3	-	5.66	254	12.4	0.012	5.53	>999
1051	14.47	4.5	-	5.68	261	12.44	0.286	4.93	>999
1055	14.47	6	-	5.65	266	12.27	0.205	4.76	>999
1100	14.47	7.5	-	5.65	270	12.23	0.023	4.65	>999

Total Quantity of Water Removed (gal): 7.5
Samplers: James Gatherer
Sampling Date: 3/7/2007
Sampling Time: 1430
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-08 VOC 8260B, Metals ILM05.0, Cr+6 7196A, SVOC 8270C, Pest/PCB 8081A/8082

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-9	**EA Personnel:** James Gatherer	**Client:** NYSDEC
Location: AMW Materials Testing	**Well Condition:** Good	**Weather:** Sunny, cold
Sounding Method:	**Gauge Date:** 7-Mar-07	**Measurement Ref:** Top of Casing
Stick Up/Down (ft):	**Gauge Time:** 13:27	**Well Diameter (in):** 2 in.

Purge Date: 6-Mar-07	**Purge Time:** 13:27
Purge Method: Bailer	**Field Technician:** James Gatherer

Well Volume

A. Well Depth (ft): 22.11	**D. Well Volume (ft):** 0.17	**Depth/Height of Top of PVC:**
B. Depth to Water (ft): 13.5	**E. Well Volume (gal) C*D):** 1.46	**Pump Type:**
C. Liquid Depth (ft) (A-B): 8.61	**F. Five Well Volumes (gal) (E3):** 7.3	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp (^oC)	Cond (mS/cm)	DO (ug/L)	Turbidity (ntu)
1327	13.50	0	-						
1330	13.5	1.5	-	6.68	251	9.1	0.241	7.61	>999
1335	13.5	3	-	6.03	242	11.02	0.202	7.2	>999
1340	13.5	4.5	-	6.16	252	13.15	0.193	6.83	>999
1345	13.5	6	-	6.09	266	12.73	0.199	6.52	>999
1350	13.5	7.5	-	6.08	273	12.76	0.196	6.69	>999

Total Quantity of Water Removed (gal): 7.5
Samplers: James Gatherer
Sampling Date: 3/6/2007
Sampling Time: 1402
Split Sample With:
Sample Type: GW

COMMENTS AND OBSERVATIONS: 1-52-189-GW-09 VOC 8260B, Metals ILM05.0

Appendix E

Soil Vapor Logs

EA Engineering and Its Affiliate EA Science & Technology 6712 Brooklawn Parkway, Suite 104 Syracuse, NY 13211		Project #:	1436806
		Project Name:	NYSDEC: AMW Materials Testing
		Location:	Ammityville, New York
		Project Manager:	Jim Hayward

Sample Location Information:

Site ID Number: 1-52-189				Sampler(s):	Joe Von Uderitz
PID Meter Used (Model, Serial #) :	ppbRAE			Soil Vapor I.D. No.:	SV01

SUMMA Canister Record:

SOIL VAPOR POINT		DUPLICATE SAMPLE (IF COLLECTED)	
Flow Regulator No.:	3205	Flow Regulator No.:	3183
Canister Serial No.:	3771	Canister Serial No.:	3757
Start Date/Time:	11/28/2007 714	Start Date/Time:	11/28/2007 714
Start Pressure: (inches Hg)	27	Start Pressure: (inches Hg)	26
Stop Date/Time:	11/28/2007 843	Stop Date/Time:	11.28/07 757
Stop Pressure: (inches Hg)	4	Stop Pressure: (inches Hg)	4
Sample ID: Ammityville-1-52-189-SV01		Sample ID: 1-52-189-Duplicate #1	

Other Sampling Information:

Helium percentage achieved in enclosure for Tracer Gas Test:	99.1	Depth to sample point:	14-inches
Tracer Gas test result (% of Helium):	0	Nearest Groundwater Elevation:	17.5-ft Below Ground Surface
Noticeable Odor?	None	Additional info: Soil Vapor Construction Details Screen 8-inhes to 14-inches Glass Beads 6-inches to 14-inches Bentonite 0-6-inches	
Purge Volume PID Reading (ppb)	0		
Duplicate Sample?	Yes		
Outdoor Ambient Temperature:	45		
Wind Direction:	5-Westerly		

Comments:

Concrete slab was approximately 3-inches thick. From 3 to 14-inches was a light brown medium sand with oval cobbles.

SV01 was located in the center of the existing concrete slab

Sampler Signature: Joe Von Uderitz

EA Engineering and Its Affiliate EA Science & Technology 6712 Brooklawn Parkway, Suite 104 Syracuse, NY 13211		Project #:	1436806
		Project Name:	NYSDEC: AMW Materials Testing
		Location:	Ammityville, New York
		Project Manager:	Jim Hayward

Sample Location Information:

Site ID Number: 1-52-189				Sampler(s):	Joe Von Uderitz
PID Meter Used (Model, Serial #) :	ppbRAE			Soil Vapor I.D. No.:	SV02

SUMMA Canister Record:

SOIL VAPOR POINT		DUPLICATE SAMPLE (IF COLLECTED)	
Flow Regulator No.:	3186	Flow Regulator No.:	
Canister Serial No.:	3881	Canister Serial No.:	
Start Date/Time:	11/28/2007 716	Start Date/Time:	
Start Pressure: (inches Hg)	30	Start Pressure: (inches Hg)	
Stop Date/Time:	11/28/2007 913	Stop Date/Time:	
Stop Pressure: (inches Hg)	3.5	Stop Pressure: (inches Hg)	
Sample ID: Ammityville-1-52-189-SV02		Sample ID:	

Other Sampling Information:

Helium percentage achieved in enclosure for Tracer Gas Test:	98.7	Depth to sample point:	4.5-feet
Tracer Gas test result (% of Helium):	0	Nearest Groundwater Elevation:	17.5-ft Below Ground Surface
Noticeable Odor?	None	Additional info: Soil Vapor Construction Details Screen 4-ft to 4.5 ft Glass Beads 3.5-ft to 4.5-ft Bentonite 0-3.5-ft	
Purge Volume PID Reading (ppb)	0		
Duplicate Sample?	None		
Outdoor Ambient Temperature:	45		
Wind Direction:	5-Westerly		

Comments:

0-1 topsoil and oval cobbles

1-4.5 Light brown tight fine sand with silt. Many cobbles

SV02 was located on the western fence line approximately 15 feet northwest of the sturcure onsite.

Sampler Signature: Joe Von Uderitz

EA Engineering and Its Affiliate EA Science & Technology 6712 Brooklawn Parkway, Suite 104 Syracuse, NY 13211		Project #:	1436806
		Project Name:	NYSDEC: AMW Materials Testing
		Location:	Ammityville, New York
		Project Manager:	Jim Hayward

Sample Location Information:

Site ID Number: 1-52-189				Sampler(s):	Joe Von Uderitz
PID Meter Used (Model, Serial #) :	ppbRAE			Soil Vapor I.D. No.:	Ambient Air

SUMMA Canister Record:

SOIL VAPOR POINT			DUPLICATE SAMPLE (IF COLLECTED)	
Flow Regulator No.:	3201		Flow Regulator No.:	
Canister Serial No.:	1336		Canister Serial No.:	
Start Date/Time:	11/28/2007	712	Start Date/Time:	
Start Pressure: (inches Hg)	30		Start Pressure: (inches Hg)	
Stop Date/Time:	11/28/2007	840	Stop Date/Time:	
Stop Pressure: (inches Hg)	5		Stop Pressure: (inches Hg)	
Sample ID: Ammityville-1-52-189-Ambient Air			Sample ID:	

Other Sampling Information:

Helium percentage achieved in enclosure for Tracer Gas Test:	NA	Depth to sample point:	
Tracer Gas test result (% of Helium):	NA	Nearest Groundwater Elevation:	
Noticeable Odor?	NA	Additional info:	
Purge Volume PID Reading (ppb)	NA		
Duplicate Sample?	NA		
Outdoor Ambient Temperature:	45		
Wind Direction:	5-Westerly		

Comments:

Summa Canister was set up in center of the site ontop of a stock pile

Sampler Signature: Joe Von Uderitz

Appendix F

Field Survey Data

Survey Coordinates
AMW Materials Testing Site
(1-52-189)
North Ammityville, New York

DESC	Y_SPLONGIS	X_SPLONGIS	Y_UTM18N_N	X_UTM18N_N	ELEV	TOP_OF_PVC	TOP_OF_CAS	TYPE
BLDG COR	198073.53031	1149879.42191	4507658.10638	634937.48862	0.00000	---	---	Structure
BLDG COR	198086.21910	1150019.99828	4507662.45724	634980.28031	51.07855	---	---	Structure
CESSPOOL	199548.71340	1149856.64616	4508107.55606	634925.43676	53.14280	---	---	Dry Well
1-52-189-CP-01	199548.71340	1149856.64616	4508107.55606	634925.43676	---	---	---	Soil Sampling Location - Dry Well
CLF COR	198085.56997	1149860.52111	4507661.70679	634931.68759	0.00000	---	---	Structure
CLF COR	198102.08998	1150038.58666	4507667.35767	634985.89023	51.11050	---	---	Structure
DW-01	199875.09978	1149944.67143	4508207.31815	634951.13127	52.43421	---	---	Catch Basin
DW-11	199626.44257	1149865.56805	4508131.27347	634927.88565	53.57648	---	---	Catch Basin
DW-12	199622.10021	1149794.63981	4508129.70522	634906.28633	52.99707	---	---	Catch Basin
DW-14	199880.30937	1149912.09450	4508208.79292	634941.18518	52.46826	---	---	Catch Basin
DW-02	199910.64233	1149952.61999	4508218.17874	634953.42765	52.44227	---	---	Catch Basin
DW-03	199920.21429	1149959.81665	4508221.11993	634955.58854	52.26201	---	---	Catch Basin
DW-07	200193.40579	1149944.21472	4508304.31454	634949.88832	52.46219	---	---	Catch Basin
1-52-189-DW-01	199875.09978	1149944.67143	4508207.31815	634951.13127	44.93421	---	---	Sediment Sampling Location - Catch Basin
1-52-189-DW-02	199910.64233	1149952.61999	4508218.17874	634953.42765	44.94227	---	---	Sediment Sampling Location - Catch Basin
1-52-189-DW-07	200193.40579	1149944.21472	4508304.31454	634949.88832	44.96219	---	---	Sediment Sampling Location - Catch Basin
1-52-189-DW-11	199626.44257	1149865.56805	4508131.27347	634927.88565	41.07648	---	---	Sediment Sampling Location - Catch Basin
1-52-189-DW-12	199622.10021	1149794.63981	4508129.70522	634906.28633	37.49707	---	---	Sediment Sampling Location - Catch Basin
1-52-189-DW-14	199880.30937	1149912.09450	4508208.79292	634941.18518	44.96826	---	---	Sediment Sampling Location - Catch Basin
GP-01	199868.58134	1149952.28236	4508205.36074	634953.47280	53.22182	---	---	Groundwater Profile Point
1-52-189-GP-01-69-73	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-01-59-63	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-01-49-53	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-01-39-43	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-01-29-33	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-01-19-23	199868.58134	1149952.28236	4508205.36074	634953.47280	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
GP-02	199466.85819	1149780.99720	4508082.34896	634902.66768	53.17219	---	---	Groundwater Profile Point
1-52-189-GP-02-69-73	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-02-59-63	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-02-49-53	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-02-39-43	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-02-29-33	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
1-52-189-GP-02-19-23	199466.85819	1149780.99720	4508082.34896	634902.66768	---	---	---	Groundwater Sampling Location - Groundwater Profile Point
GPS PK 101	199597.27000	1149881.79000	4508122.44078	634932.93244	54.01000	---	---	Survey Point
GPS PK 102	200479.58000	1150018.32000	4508391.77837	634971.48023	54.56000	---	---	Survey Point
MAG NAIL	199163.81795	1149732.69233	4507989.83688	634888.99912	52.90000	---	---	Survey Point
MW-2	199916.76322	1149974.16569	4508220.11834	634959.97334	53.28000	53.02000	53.28000	Monitoring Well
1-52-189-GW-02	199916.76322	1149974.16569	4508220.11834	634959.97334	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-03	198084.55480	1149923.21293	4507661.61616	634950.79448	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-04	198087.77175	1149951.32366	4507662.69475	634959.34923	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-05	198090.55325	1149989.49854	4507663.67411	634970.97107	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-06	199555.54369	1149776.77851	4508109.36066	634901.07448	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-07	199597.86909	1149846.20836	4508122.49727	634922.08513	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-08	199465.37736	1149809.24408	4508081.99582	634911.28137	---	---	---	Groundwater Sampling Location - Monitoring Well
1-52-189-GW-09	200426.00002	1149787.98990	4508374.65300	634901.47481	---	---	---	Groundwater Sampling Location - Monitoring Well
MW-3	198084.55480	1149923.21293	4507661.61616	634950.79448	50.69000	50.40000	50.69000	Monitoring Well
MW-4	198087.77175	1149951.32366	4507662.69475	634959.34923	50.54000	50.36000	50.54000	Monitoring Well
MW-5	198090.55325	1149989.49854	4507663.67411	634970.97107	50.72000	50.54000	50.72000	Monitoring Well
MW-6	199555.54369	1149776.77851	4508109.36066	634901.07448	54.66000	54.07000	54.66000	Monitoring Well
1-52-189-SB-06-12.5-15	199555.54369	1149776.77851	4508109.36066	634901.07448	---	---	---	Subsurface Soil Sampling Location - Monitoring Well
MW-7	199597.86909	1149846.20836	4508122.49727	634922.08513	53.89000	53.45000	53.89000	Monitoring Well
1-52-189-SB-07-11-13	199597.86909	1149846.20836	4508122.49727	634922.08513	---	---	---	Subsurface Soil Sampling Location - Monitoring Well
MW-8	199465.37736	1149809.24408	4508081.99582	634911.28137	53.09000	52.78000	53.09000	Monitoring Well
1-52-189-SB-08-10-14.5	199465.37736	1149809.24408	4508081.99582	634911.28137	---	---	---	Subsurface Soil Sampling Location - Monitoring Well
1-52-189-SB-08-17.5-20	199465.37736	1149809.24408	4508081.99582	634911.28137	---	---	---	Subsurface Soil Sampling Location - Monitoring Well
1-52-189-SB-09-10-12	199465.37736	1149809.24408	4508081.99582	634911.28137	---	---	---	Subsurface Soil Sampling Location - Monitoring Well
MW-9	200426.00002	1149787.98990	4508374.65300	634901.47481	54.34000	53.49000	54.34000	Monitoring Well
SPIKE	199365.19393	1149917.94015	4508051.84474	634944.75235	53.78000	---	---	Survey Point
SPIKE	198095.65674	1150052.21601	4507665.44548	634990.06594	50.93000	---	---	Survey Point
SPIKE	199571.26196	1149768.72029	4508114.12309	634898.56696	53.96000	---	---	Survey Point
1-52-189-SED-01	---	---	4507681.96000	634952.89000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-02	---	---	4507689.02000	634953.63000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-03	---	---	4507695.89000	634957.84000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-04	---	---	4507689.43000	634957.68000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-05	---	---	4507680.98000	634958.61000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-06	---	---	4507683.54000	634962.25000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-SED-07	---	---	4507690.13000	634963.18000	---	---	---	Sediment Sampling Location - Recharge Basin
1-52-189-PT-01	---	---	4508108.14000	634892.92000	---	---	---	Soil Sampling Location - Excavation Pit
1-52-189-PT -02	---	---	4508110.98000	634890.73000	---	---	---	Soil Sampling Location - Excavation Pit
1-52-189-PT -03	---	---	4508100.66000	634895.29000	---	---	---	Soil Sampling Location - Excavation Pit
TopCulvert	---	---	4507690.71000	634967.12000	---	---	---	Structure