CBS Corporation

Environmental Remediation
PNC Center
20 Stanwix Street, 10th Floor
Pittsburgh, PA 15222

December 21, 2011

Vivek Nattanmai, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Re: Remedial Investigation Report, Townley Hill Road Dump Site
NYSDEC Site 8-08-006, Catlin, New York

Dear Mr. Nattanmai:

CBS Corporation (CBS) submits this Remedial Investigation (RI) Report to the New York State Department of Environmental Conservation (NYSDEC) pursuant to Section II of the Order on Consent and Administrative Settlement (Index #B8-0650-30-12) (the "Order") regarding the Townley Hill Road Dump Site in Catlin, New York (the "Site"). Per your request, enclosed are three electronic copies of the complete report, including supplemental (appended) information, on compact disc. We understand that you will provide electronic copies of the report to other reviewers within NYSDEC and the New York State Department of Health. This transmittal follows the electronic mail submittal to you of a single PDF file of the text, tables, and figures.

On behalf of CBS, Cummings/Riter Consultants, Inc. (Cummings/Riter) completed the RI report to describe studies conducted in accordance with the Remedial Investigation and Feasibility Study (RI/FS) Work Plan prepared by Cummings/Riter and dated November 29, 2004 (Exhibit D of the Order). Also, per the request of NYSDEC at the August 31, 2011 project review meeting, the evaluation and presentation of Site data in this report follow, to the extent practicable, the NYSDEC Division of Environmental Remediation *Technical Guidance for Site Investigation and Remediation* (*DER-10*).

We trust that this submittal satisfies your requirements at this time. If you have questions regarding this report or related project matters, please do not hesitate to contact me.

Respectfully submitted,

Leo M. Brausch
Consultant/Project Engineer
Environmental Remediation

LMB:
Enclosures

REMEDIAL INVESTIGATION REPORT
TOWNLEY HILL ROAD DUMP SITE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE REGISTRY NO. 8-08-006
CATLIN, CHEMUNG COUNTY, NEW YORK

PREPARED FOR:
CBS CORPORATION
20 STANWIX STREET, 10TH FLOOR
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PREPARED BY:
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PROJECT NO. 01304.20/06
DECEMBER 21, 2011

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LIST OF ACRONYMS

ASTM	American Society for Testing and Materials
bgs	Below ground surface
CBS	CBS Corporation
CD	Compact disk
CLP	Contract Laboratory Program
cm/sec	Centimeters per second
COC	Constituent of concern
CSM	Conceptual site model
CY	Cubic yard
DER	NYSDEC Division of Environmental Remediation
DUSR	Data Usability Summary Report
EM	Electromagnetic
EP	Extraction Procedure
FS	Feasibility Study
FSP	Field Sampling Plan
ft/day	Feet per day
ft/ft	Foot per foot
ft/yr	Feet per year
FWRIA	Fish and Wildlife Resources Impact Analysis
GPS	Global positioning system
GQS	NYCRR Title 6, Part 703 Groundwater Quality Standards
HSA	Hollow-stem auger
I.D.	Inside diameter
IRM	Interim remedial measure
K	Hydraulic conductivity
MCL	Maximum Contaminant Level
µg/kg	Micrograms per kilogram
µg/l	Micrograms per liter
mg/kg	Milligram per kilogram
mg/l	Milligram per liter
MSL	Mean sea level

LIST OF ACRONYMS
(CONTINUED)

mS/m	Millisiemens per meter
MSW	Municipal solid waste
ND	Not detected
NYCRR	New York Code, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
ppb	Parts per billion
ppm	Parts per million
PVC	Polyvinyl chloride
QA/QC	Quality assurance/quality control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial investigation
RI/FS	Remedial investigation/feasibility study
SCO	NYCRR Title 6, Part 375, Subpart 375-6 Remedial Program Soil Cleanup Objective
SVOC	Semivolatile organic compounds
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively identified compound
TOR	Top of riser
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound

REMEDIAL INVESTIGATION REPORT
TOWNLEY HILL ROAD DUMP SITE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE REGISTRY NO. 8-08-006
CATLIN, CHEMUNG COUNTY, NEW YORK

1.0 INTRODUCTION

Cummings/Riter Consultants, Inc. (Cummings/Riter) was retained by CBS Corporation (CBS) to conduct a Remedial Investigation (RI) pursuant to the Order on Consent and Administrative Settlement, Index #B8-0650-30-12 (Order) entered between CBS and the New York State Department of Environmental Conservation (NYSDEC) on October 10, 2010 for the Townley Hill Road Dump Site located near the town of Catlin, Chemung County, New York (the Site). A Site location map is presented as Figure 1.

The work completed for the RI was defined in the Remedial Investigation and Feasibility Study (RI/FS) Work Plan prepared by Cummings/Riter on behalf of CBS (dated November 29, 2004) and appended to and made part of the Order (Exhibit D). The RI/FS Work Plan defines the scope of work and provides the Sampling and Analysis Plan, including the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP), which defines the procedures for environmental media and waste sampling and corresponding laboratory analyses. The RI/FS Work Plan also provides the project Health and Safety Plan.

Per the request of NYSDEC at an August 31, 2011 project review meeting, the evaluation and presentation of Site data in this RI Report follow, to the extent practicable, the NYSDEC Division of Environmental Remediation (DER) *Technical Guidance for Site Investigation and Remediation* (*DER-10*). This report identifies where the *DER-10* guidance is inconsistent with the requirements of the RI/FS Work Plan, and in those instances where the NYSDEC guidance document conflicts with the RI/FS Work Plan, the RI/FS Work Plan that is incorporated into the Order takes precedence.

Following this introduction, the remainder of this report is structured as follows:

- Section 2.0 provides a Site description and summary of previous investigations,
- Section 3.0 describes geologic and hydrogeologic conditions at the Site,
- Section 4.0 provides a summary of the procedures used during the completion of the RI field activities,
- Section 5.0 evaluates environmental conditions with respect to Site media and presents the conceptual site model (CSM),
- Section 6.0 provides a qualitative human health assessment,
- Section 7.0 provides a fish and wildlife resources impact analysis, and
- Section 8.0 provides a summary of findings and recommendations.

Supplemental information that supports the RI, including field forms, the geophysical report, aquifer test evaluation forms, laboratory data deliverables, and data usability summary reports (DUSRs) are provided as appendices to this report in separate files in electronic (compact disk [CD]) format.

2.0 SITE BACKGROUND AND SETTING

This section provides the Site description and history and includes a brief summary of previous investigations conducted at the Site. The information included in this section was primarily taken from that provided in the Focused Remedial Investigation Report (NYSDEC, 1998) and research conducted by CBS.

2.1 SITE LOCATION AND DESCRIPTION

NYSDEC has classified the Site as an inactive hazardous waste site (Registry Site No. 8-08-006), as that term is defined in the New York Environmental Conservation Law, Section 27-1301.2. The Site occupies an approximate 10-acre portion of a larger 28-acre property located on Townley Hill Road near the town of Catlin, Chemung County, New York. The surrounding area is rural with small population centers along the Post Creek Valley to the northwest (Figure 1). A private residence is situated approximately 700 feet east of the identified "former drum disposal area" at the Site. The Site is not fenced, although a suspended steel cable across the driveway restricts vehicle access. Figure 2 presents a plan of the Site and identifies the location of both the "former drum disposal area" and the "former municipal waste disposal area" referenced in this report.

2.2 SITE HISTORY

Mr. Joseph E. Lobdell owned and operated the Site as a landfill beginning in the late 1950s or early 1960s. Beginning in 1964, the Site was owned by Mr. John A. Mandzak, who operated Superior Salvage Company (aka Superior Hauling and Superior Disposal). Throughout this period, the Site was reportedly used for disposal of municipal solid waste under a permit issued by the Chemung County Department of Health. The Site also reportedly received miscellaneous debris, including tires, junk automobiles, 55-gallon drums, and calcium fluoride sludge (Engineering-Science, Inc., 1988). Superior Salvage Company customers reportedly included local municipalities and the City of Corning School District, where Mr. Mandzak was reported to be the maintenance superintendent. According to NYSDEC, approximately 300 drums containing an incinerator ash-like waste material were disposed of at the Site.

According to available historical records from Westinghouse Electric Corporation (Westinghouse), an unknown quantity of calcium fluoride sludge from the Westinghouse Industrial & Government Tube Division manufacturing facility located in Horseheads, New York plant was disposed of in bulk at the "Mandzak property" (presumably the Site) between 1964 and 1967. This sludge reportedly consisted of "waste treatment plant sludge intermittently containing traces of lead phosphate and cadmium" from the Westinghouse Horseheads facility. The calcium fluoride sludge was reportedly buried in 8-foot deep trenches to the east of the Site access road (Engineering-Science, Inc., 1988).

On October 16, 1967, the Site was closed by the Chemung County Health Department due to complaints of odors and open burning. Beginning in 1969, most of the junked automobiles and other debris were removed by the new owner, Mr. James C. Case. With the assistance of the local offices of the U.S. Department of Agriculture, Soil Conservation Service, Mr. Case enlarged the on-Site pond and placed a soil cover over and revegetated most of the Site.

Chemung County foreclosed on the property in 1998 and subsequently sold the Site in 1999 to Northwoods Hunting Inc., of Ridgeway, Ontario (Northwoods). As identified in the Order, Northwoods is the current owner of the property that comprises the Site.

In April 1980, the Site was identified by NYSDEC as an inactive hazardous waste disposal site and placed on the Registry of Inactive Hazardous Waste Disposal Sites in New York. In 1983 and 1984, NYSDEC sampled the contents of the drums, and analyzed these drum samples for metals by the Extraction Procedure (EP), which was the testing protocol used at that time to determine if materials exhibited the characteristic of a hazardous waste under New York and Federal Resource Conservation and Recovery Act (RCRA) regulations. Results from the 1984 sampling event indicated an exceedance of the threshold EP toxicity concentrations for cadmium and lead. The Site was subsequently classified as a "Class 2" Site in December 1986.

In July 1988, NYSDEC conducted an interim remedial measure (IRM) in which it removed approximately 300 drums containing an ash-type waste and approximately 100 cubic yards (CY) of soil impacted by cadmium. In November 1994, NYSDEC removed an additional 236 CY of soil from the former drum disposal area. Following the

IRM, several Site investigations were conducted from 1990 through 1997, including the collection of numerous surface and subsurface soil samples. These investigations are discussed in Section 2.3.

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

Following completion of the IRM in 1988, NYSDEC retained Engineering-Science, Inc. to conduct a Phase I Preliminary Site Assessment, which resulted in a recommendation to conduct a Phase II investigation. Phase II investigative activities included sampling and analysis of soil, sediment, surface water, and groundwater.

Additional soil samples were collected between September 1991 and June 1993 to evaluate the effectiveness of the drum removal IRM. Surface (0 to 6 inches in depth) and subsurface (12 to 24 inches in depth) soil samples were collected and analyzed for cadmium. The results of the sampling showed detected concentrations of cadmium of up to 2,100 milligrams per kilogram (mg/kg), leading NYSDEC to remove additional soil. In November 1994, NYSDEC removed soil from the former drum disposal area to a depth of 24 inches below ground surface (bgs), resulting in 236 CY of material being sent off-site for disposal. Confirmatory soil sampling was conducted and indicated the continued presence of cadmium in the remaining soils at the former drum disposal area.

In December 1996, an NYSDEC "Immediate Investigation Work Assignment Work Plan" was finalized to further investigate Site soils, and in 1997, NYSDEC conducted a focused RI to determine the extent of cadmium-impacted soil in the former drum disposal area, assess the presence and extent of calcium fluoride sludge in the former municipal waste disposal area, and determine the presence or absence of hazardous waste in the former municipal waste disposal area. NYSDEC issued the Focused Remedial Investigation Report (NYSDEC, 1998) that presented the findings of the investigation and recommended a comprehensive RI/FS be conducted at the Site to investigate potential impacts to soil, sediment, and groundwater.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 GEOLOGIC SETTING

The Site is located in the Appalachian Uplands Physiographic Province where local topographic features result from glacial and fluvial processes. This province has a long, complex erosional history and can be classified as a mature, eroded plateau. Repeated glacial advances widened existing valleys and deposited accumulations of till. Deposition of lacustrine silts and clays resulted from local ice blockages of valleys. Large volumes of meltwater have dissected the region with stream valleys and deposited thick accumulations of outwash sand and gravel.

3.1.1 Topography and Physiography

The Site is located within the Susquehanna River basin. An unnamed tributary to Post Creek passes within 500 feet southeast of the Site. Post Creek is approximately 1,700 feet west of the Site (Figure 1).

The Site is located on a terrace, and the ground surface of the Site is relatively flat with steeply sloping sides (Figure 2). The hillsides adjacent to the Site slope steeply downward to the south and west and more gently upward to the northwest. The surrounding hillsides are wooded, and hardwoods have grown over the original fill area, except for a small area at the crest of the hill.

A small pond is located west of the former drum disposal area. A second, smaller pond located to the east of the former drum disposal area is shown on the Site plan (Figure 2). Surface runoff appears to flow into the unnamed tributary to Post Creek located to the southeast of the Site area. Runoff on the western portion of the Site likely flows directly toward Post Creek.

3.1.2 Soils

According to the U.S. Department of Agriculture Natural Cooperative Soil Survey for Chemung County, New York (Version 4, February 18, 2010), soils at the Site are classified as Mardin channery silt loam and Lordstown and Arnot very rocky soils.

These soil types are characterized as a very low permeability glacial till. The soils are also characterized as having a variable texture (*i.e.*, clay, silty clay, boulder clay, etc.), being poorly sorted, and having a highly variable thickness. Man-made ponds can be found in the area, reflecting the overall low permeability of Site soils.

Soil encountered at the Site during drilling and subsurface investigations consisted of brown and gray, silty sand and silty clay, with varying amounts of rock fragments. Soil thickness varied at the Site from 14.0 feet at Monitoring Well MW-1 to 47.5 feet at Monitoring Well MW-4. Soil thicknesses in southern monitoring wells (MW-3 and MW-4) were greater than those in the northern monitoring wells (MW-1 and MW-2) and are believed to be the result of glacial processes. A glacial terrace likely exists in the southern portion of the Site as evidenced by both the thickness and type of soil (glacial till) observed during drilling activities.

3.1.3 Bedrock

Bedrock in the Site region is of Upper Devonian age and consists of shale and siltstone from the Nunda and West Hill Formations of the West Falls Group (University of the State of New York, State Education Department, 1970). These beds reportedly dip gently to the south and show limited structural deformation. Bedrock was described in the boring logs as moderately hard to hard, gray and brown siltstone and shale. Varying amounts of clay-filled and iron-stained fractures were observed in bedrock, and fossiliferous shale beds were encountered.

Bedrock observed in the monitoring wells did not appear to be considerably weathered, and the transition from soil to bedrock was somewhat abrupt. Bedrock was encountered at depths ranging from 14.0 feet bgs at Monitoring Well MW-1 to 47.5 feet bgs at Monitoring Well MW-4. The monitoring wells at the Site were completed at depths of 31.8 feet bgs (MW-2) to 115.8 feet bgs (MW-3) depending on the depth to the first water-bearing fracture encountered in bedrock. Figure 3 illustrates general subsurface conditions at the Site in cross-sectional view. A top of bedrock structure contour map for the Site is provided as Figure 4.

3.2 HYDROGEOLOGIC SETTING

Groundwater at the Site is characterized by a single hydrostratigraphic zone associated with fractured bedrock. Groundwater was not encountered in the unconsolidated material beneath the Site. Depth to groundwater measurements were collected at the Site concurrent with groundwater sampling activities. The groundwater gauging results, surveyed well elevations, and groundwater elevations are summarized in Table 1. The results of the groundwater level gauging conducted in June 2011 and September 2011 indicate that Site groundwater flows to the west and southwest toward the Post Creek valley. Based on the Site geologic and hydrogeologic data, groundwater flow is believed to be primarily influenced by surface topography and the connectivity of bedrock fractures. Figure 3 shows groundwater depths in cross-section view across the Site. Groundwater potentiometric maps for the June 2011 and September 2011 events are provided as Figures 5 and 6, respectively.

The horizontal hydraulic gradient in the bedrock aquifer was 0.11 foot per foot (ft/ft) using water level data measured on September 8, 2011 from Monitoring Wells MW-1 and MW-3. The shallow bedrock aquifer has a median horizontal hydraulic conductivity (K) of 0.27 foot/day (ft/day) (or 9.84×10^{-5} centimeters per second [cm/sec]) based on slug testing (rising head and falling head) performed in all four of the monitoring wells (MW-1 through MW-4) installed in May 2011. These conductivities reflect both primary (formation) and secondary (fracture) permeabilities. Groundwater monitoring wells are spatially distributed across the Site, and the median K value is believed to be representative of Site-wide groundwater conditions. Based on this calculated and measured hydraulic information and an assumed porosity of approximately 25 percent, shallow groundwater at the Site has an average seepage velocity of 0.12 ft/day or approximately 44 feet per year (ft/yr). Table 2 provides a summary of the K values for the Site monitoring wells.

4.0 SUMMARY OF REMEDIAL INVESTIGATION ACTIVITIES

The RI activities described in this section were conducted in accordance with the RI/FS Work Plan. These activities included the following tasks:

- Soil sampling and analysis,
- Geophysical surveying,
- Test pit excavation and soil/waste sampling and analysis,
- Drilling and monitoring well installation,
- Aquifer testing,
- Groundwater sampling and analysis, and
- Surface water and sediment sampling and analysis.

The procedures used during each of these tasks were in accordance with the FSP and QAPP and are described in detail below. Field forms (*e.g.*, sample collection forms, test pit and boring logs, well development record) were prepared to document Site investigation activities. These forms, along with the geophysical investigation report, are provided as separate files in electronic (CD) format in Appendix A and Appendix B, respectively.

Residential well sampling and analysis was added to the scope of the work as discussed with NYSDEC at the August 31, 2011 project review meeting. Methods used for residential well sampling are also described in this section.

4.1 SOIL SAMPLING AND ANALYSIS

Surface soil sampling was completed to supplement the data available from the 1997 NYSDEC Site investigation and complete the delineation of the extent of soils impacted by cadmium and other constituents in the vicinity of the former drum disposal area. Prior to the initiation of this soil sampling, sample locations were marked using global positioning system (GPS) surveying techniques. On April 19 and 20, 2011, soil samples were collected for laboratory analysis from 20 locations (SS-1 through SS-16 and SS-18 through SS-21). Following receipt of the analytical data from these initial soil borings, three additional soil borings (SS-26 through SS-28) were advanced on August 18, 2011 to

further delineate the horizontal and vertical extent of cadmium and lead impacted soil. During the August 18, 2011 sampling, soils were re-sampled from six previously completed borings (SS-4, SS-5, SS-13, SS-18, SS-19, and SS-20) to provide samples that had been inadvertently disposed of by the analytical laboratory. The new borings were advanced immediately adjacent to the previous borings. Historical and recent soil sample locations and cadmium results are provided on Figure 7.

As described in the FSP, soil samples were collected by means of direct-push (Geoprobe®) techniques using macrocore samplers fitted with acetate sleeves. With the exception of the volatile organic compound (VOC) sample fractions, which were collected as discrete grab samples, the soil removed from the Geoprobe® macrocore was placed in a disposable aluminum foil pan and mixed (for each sample interval) with a disposable plastic scoop. The homogenized soil was then placed into the appropriate sample containers provided by the analytical laboratory using the plastic scoops. The fractions of the soil samples for VOC analysis were collected from a representative portion of the sample interval and placed directly into the sample containers provided by the laboratory. The required quality assurance/quality control (QA/QC) samples were also collected in accordance with the frequency defined in the QAPP.

The soil samples were classified on site by a Cummings/Riter geologist, based on physical characteristics that included soil type, cohesiveness, color, grain size, and relative moisture content. Soil sample collection forms are provided in Appendix B. The locations of the soil samples were staked for surveying. Four samples per location were collected at each boring from the ground surface to six inches in depth and from the next three one-foot intervals (0.5 to 1.5 feet bgs, 1.5 to 2.5 feet bgs, and 2.5 to 3.5 feet bgs). The analytical protocol was to initially analyze the uppermost sample from each location for lead and cadmium. If that sample was found to contain cadmium or lead concentrations above screening criteria, the next lower sample was analyzed. This iterative analytical protocol was followed for all of the soil sampling locations.

Samples from four locations (SS-2, SS-7, SS-11, and S-15) were selected for additional analysis to determine if constituents of concern (COCs) other than cadmium and lead

were present near the former drum disposal area. These samples were collected from the 0.5-foot to 1.5-feet depth interval at locations immediately adjacent to the former drum disposal area. The extended list of parameters included the following:

- Target Compound List (TCL) VOCs using U.S. Environmental Protection Agency (USEPA) Contract Lab Program (CLP) Method OLM 4.2,
- TCL semivolatile organic compounds (SVOCs) using USEPA CLP Method OLM 4.2,
- Pesticides using USEPA CLP Method OLM 4.2,
- Polychlorinated biphenyls (PCBs) using USEPA CLP Method OLM 4.2,
- Target Analyte List (TAL) metals using USEPA CLP Methods 6010B and 9012A, and
- Fluoride using USEPA CLP Method 300.0A.

The use of USEPA CLP analytical method was in accordance with the QAPP.

Although suggested by *DER-10*, reporting of tentatively identified compounds (TICs) was not included with the TCL VOC analysis for any Site media, as the analysis protocols completed during the RI followed the RI/FS Work Plan and QAPP, which did not specify TIC reporting.

4.2 GEOPHYSICAL SURVEYING

A geophysical survey was performed on April 19 and 20, 2011 to help in evaluating the limits of buried waste in the former municipal waste disposal area and the potential presence of sludge suspected to be disposed of in the northern portion of the former municipal waste disposal area. The Hutchinson Group, Ltd. of Murrysville, Pennsylvania, was retained to perform the geophysical survey. Prior to the initiation of the geophysical survey, the limits of the survey area were staked and flagged. The survey area extended beyond the suspected limits of buried waste to ensure adequate coverage.

The survey was performed using electromagnetic (EM) terrain conductivity mapping. For this survey, a Geonics (Limited Model EM-31 [EM-31]) non-contacting terrain conductivity meter and data logger was used. A Trimble ProXRS GPS unit was integrated with the EM-31 to provide the position of each measurement collected. The EM-31 measures the average conductivity of subsurface materials. Because disposed material typically has a different soil conductivity when compared to native soils, this type of survey can provide subsurface data to horizontally delineate the limits of buried waste. For this project, the EM-31 method was able to identify areas that contain material with significantly different conductivities (which show up as anomalies) when compared to the surrounding soils.

The EM-31 survey was completed using the quadrature (quad-phase) and in-phase component settings. The quad-phase vertical position readings provide average subsurface conductivity values to depths up to 20 feet. The quad-phase horizontal position readings provide average subsurface conductivity values to a depth of approximately ten feet. The comparison of quad-phase horizontal and vertical surveys can provide additional information on the depth of subsurface conductivity anomalies. In-phase position readings are used to identify buried metallic objects (readings less than zero) and assist in distinguishing variations in ground conductivity from buried ferrous metals.

The geophysical survey was conducted by systematically traversing the entire survey area to the extent practical. Vegetation was removed or cut to facilitate the geophysical survey, but areas of dense vegetation prohibited access to a few areas. The survey area was traversed twice with the EM-31 with data collected using the above-mentioned settings (quad-phase and in-phase).

Results of the conductivity survey were used to locate test pits that were subsequently excavated for confirming the limits of buried waste. The test pit locations are discussed in Section 4.3.

The geophysical survey completed with the EM-31 in the quad-phase setting indicated locations of highly conductive subsurface conditions in portions of the former municipal waste disposal area. In addition, the several small, highly conductive areas were

identified outside the former municipal waste disposal area east, west, and south of the large pond. The geophysical survey completed with the EM-31 in the in-phase setting identified several areas that likely contained buried metallic objects near the surface. The geophysical survey identified several areas likely containing metallic objects both inside and outside the former municipal waste disposal area. Figures 8 and 9 provide the quad-phase and in-phase geophysical survey maps, respectively. The geophysical investigation report is provided in Appendix B.

4.3 TEST PIT EXCAVATION AND SOIL/WASTE SAMPLING AND ANALYSIS

The results of the geophysical survey provided a basis for the test pit locations. Twelve perimeter test pits (TP-1 through TP-12) were excavated using a small backhoe to confirm the limits of buried waste in the former municipal waste disposal area. The backhoe bucket was decontaminated prior to, between test pit locations, and at the completion of the final test pit.

Prior to their excavation, the 12 perimeter test pits were located in the field using GPS techniques. In addition, four test pits (TP-13, TP-14, TP-15, and TP-19) were excavated within the interior of the disposal area and four test pits (TP-16, TP-17, TP-18, and TP-20) were excavated outside the former disposal area "footprint" in areas likely having surficial metallic objects. Test pit locations are shown on Figure 10.

Perimeter test pits were excavated outward until no identifiable waste was observed on the outboard side. Once the horizontal limit of waste was delineated, the excavation was extended to collect a soil sample beyond the observed limit of waste. Samples were collected from each of the perimeter test pits as follows:

- Subsurface soil (0 to 6 inches in depth) at a distance of approximately 10 feet beyond the horizontal limit of waste; and

- Subsurface soil (24 to 30 inches in depth) at a distance of approximately 10 feet beyond the horizontal limit of waste.

The soil samples were retrieved from the bucket of a backhoe performing the excavation using disposable plastic scoops and placed in disposable aluminum trays. An aliquot of the soil was removed for VOC analysis, and the remainder was homogenized.

The perimeter test pit soil samples were analyzed for the following parameters using the listed analytical methods:

- TCL VOCs using USEPA Method 8260B,
- TCL SVOCs using USEPA Method 8270C,
- Pesticides using USEPA Method 8081A,
- PCBs using USEPA Method 8082,
- TAL metals using USEPA Methods 6010B, 7412A, 9012A, and
- Fluoride using USEPA Method 300.0A.

The use of these USEPA analytical methods, in lieu of the CLP methods specified in the QAPP, was requested by CBS and approved by NYSDEC.

The soil samples were classified on Site by a Cummings/Riter geologist, based on physical characteristics that include soil type, cohesiveness, color, grain size, and relative moisture content. Test pit logs are provided in Appendix B. In cases where waste was not encountered, soil samples were not collected. After completion of the perimeter test pit excavations, the horizontal limits of waste and soil sample locations were staked for surveying.

In addition to the perimeter test pits, four interior test pits (TP-13, TP-14, TP-15, and TP-19) were excavated within the interior of the disposal area to delineate the vertical extent of the waste and confirm suspected "hot spots" identified during the geophysical survey. The interior test pits were excavated approximately one foot into the soil underlying the waste material. Samples of the underlying native soil (6 to 12 inches below the soil/waste contact) were collected at each of the interior test pit locations. Interior test pit samples were analyzed for the same analytical parameters as the perimeter test pits.

The NYSDEC Focused Remedial Investigation Report (1998) had identified a "suspected calcium fluoride sludge disposal area" at the Site based on observations during test pit excavations conducted in 1997, but neither of the interior test pits excavated within this area (TP-13 and TP-14), or any of the perimeter test pits that extended through this area

encountered calcium fluoride sludge. Another interior test pit (TP-19), which was located approximately 100 feet further north, encountered a lens of suspected calcium fluoride sludge. Samples of the following were collected at this test pit location:

- Surface material (0 to 6 inches in depth),
- Suspected calcium fluoride sludge (visibly identified by distinctive white color and chalky texture), and
- Underlying native soil (6 to 12 inches below the soil/sludge contact).

Surface materials and the underlying native soil samples were analyzed for the same analytical parameters as the perimeter tests. The calcium fluoride sludge sample was analyzed for the following parameters:

- RCRA characteristics (*i.e.*, ignitability, corrosivity, and reactivity) using USEPA SW-846 Methods,
- Toxicity Characteristic Leaching Procedure (TCLP) metals using USEPA Methods 6010B and 7470A,
- TCLP VOCs using USEPA Method 8260B,
- TCLP SVOCs using USEPA Method 8270C,
- TCLP pesticides using USEPA Method 8081A, and
- Total PCBs using USEPA Method 8082.

These analytical methods were in accordance with the QAPP, except where requested modifications were specifically approved by NYSDEC. An NYSDEC representative was on site and collected split samples at Test Pits TP-8, TP-13, TP-15, and TP-19. NYSDEC analytical results are discussed in Section 5.1.2.

Test pits were logged by a Cummings/Riter geologist to provide descriptions of the physical nature of the waste, adjacent and underlying soils, and any soils within the waste material. Test pit logs were completed and included soil and waste descriptions, depths, and any other relevant observations made during excavation of the test pits. Excavated

material was placed back into the test pits, and the location was staked for follow-up surveying using GPS techniques. Test pit locations are shown on Figure 10, while three cross-sectional waste profiles through the former municipal waste disposal area are provided on Figure 11.

4.4 DRILLING, MONITORING WELL INSTALLATION, AND WELL DEVELOPMENT

Drilling and well installation activities were conducted at four monitoring well locations (MW-1 through MW-4) to evaluate subsurface conditions, provide groundwater elevation data to determine groundwater flow directions, and provide a means for collecting groundwater samples. One monitoring well (MW-1) was located in an upgradient location, and three monitoring wells (MW-2 through MW-4) were located in assumed downgradient directions from the areas of waste disposal at the Site.

Borings for the monitoring wells were initially advanced through the unconsolidated deposits to the top of bedrock using 4¼-inch inside diameter (I.D.), 8¼-inch outside diameter, hollow-stem augers (HSAs). Split-barrel soil samples were collected continuously. Because groundwater was not encountered in the unconsolidated deposits, the borings were advanced into rock inside the HSAs using two-inch diameter ("NQ") wireline coring techniques until the total target depth of the borehole was reached. This total target depth was approximately ten feet beyond the depth where the first groundwater bearing zone was encountered. After wireline coring was completed, six-inch air-rotary drilling was used to ream the boring to facilitate the installation of a monitoring well.

The Cummings/Riter field geologist visually logged the soil samples and rock core/cuttings generated by the drilling process and noted zones of observed groundwater yield as the borings were advanced. Drill cuttings were spread on the ground surface by each of the monitoring well locations.

As described in the FSP, the monitoring wells were constructed with two-inch I.D., Schedule 40, polyvinyl chloride (PVC) casing and well screen. Ten-slot (0.01-inch), machine cut, slotted well screens in ten-foot lengths were installed at each location. A two-inch threaded PVC bottom plug and pressure cap were installed at the bottom and

top of the monitoring well, respectively. Clean filter-pack sand was placed adjacent to the well screen to a depth of approximately two feet above the top of the screen. A three- to five-foot sodium-bentonite seal was placed above the sand pack, and the monitoring wells were completed with a cement-bentonite grout mixture using the tremie method. Monitoring wells were completed with steel, protective surface casing set in a concrete pad to protect the wells from damage and surface water infiltration. Monitoring well installation details are provided on the boring logs included in Appendix A.

Drilling equipment was decontaminated between well locations, and after completion of drilling/sampling activities. Decontamination procedures for the split-barrel soil samplers and the other drilling equipment were conducted in accordance with the methods described in the QAPP.

Monitoring wells were developed using a submersible pump attached to polyethylene tubing. The pH, specific conductance, temperature, and turbidity were recorded for each well volume removed. Well development continued until a minimum of five well casing volumes had been removed and the discharge water from the monitoring well reached stable pH, specific conductance, and temperature readings (*i.e.*, plus or minus 10 percent) for three consecutive casing volumes. Well development forms are provided in Appendix A. Development water and decontamination water were placed in 55-gallon, steel drums. As discussed with NYSDEC during the August 31, 2011 Site inspection, the water was subsequently discharged to the ground surface on site after reviewing analytical results.

The new monitoring wells were surveyed using GPS techniques. The horizontal position of each monitoring well was located with reference to the New York State Plane Coordinate System. The vertical elevations of the top of protective casing, PVC riser, and ground surface were also surveyed for each monitoring well to the nearest 0.01 foot and referenced to mean sea level (MSL).

4.5 AQUIFER TESTING

After completing well development, aquifer testing in the form of slug tests was conducted in the four new monitoring wells to determine the approximate Site-specific

K value of the aquifer. Rising and falling head slug tests were performed at each monitoring well location in accordance with the procedures specified by the American Society for Testing and Materials (ASTM), Method D 4044-91 (ASTM, 1994).

Prior to performing each test, the water level in the well being tested was measured using an electronic water-level meter. Next, a pressure transducer/data logger was installed in the well, and the water level was permitted to stabilize prior to the start of testing. Once the water level in the well was stable, a slug constructed of solid PVC was lowered rapidly into the water. The data logger was programmed to collect water level data at the following intervals and durations:

- 0.5 second for 3 minutes,
- 1.0 second for 3 minutes,
- 5 seconds for 5 minutes,
- 10 seconds for 10 minutes, and
- 30 seconds for remainder of test.

The initiation of data collection coincided with the lowering of the slug into the water. The collection of water level data continued until the water level recovered to within 90 percent of the initial water level. A rising head slug test was then performed on the well after the data logger was reprogrammed and commenced with the removal of the PVC slug from the well. The collection of water level data continued until the water level in the well recovered to within 90 percent of the initial water level. The PVC slug and pressure transducer were decontaminated between test locations.

The K value was then calculated using both the Bouwer & Rice and Horslev analytical solutions included in the software program, AquiferTest® PRO (developed by Waterloo Hydrogeologic) in accordance with ASTM Method D 4105-91 (ASTM, 1994). Due to a data recording malfunction, falling head analysis at Monitoring Well MW-1 could not be completed. Monitoring Well MW-2 had limited water at the time of the aquifer testing; therefore, hydraulic conductivity analysis could not be performed. The output sheets for the Aquifer Test® Pro hydraulic conductivity analysis are provided in Appendix A.

4.6 GROUNDWATER SAMPLING AND ANALYSIS

Two rounds of groundwater sampling were conducted on June 7 and 8, 2011 and on September 8, 2011, respectively. Groundwater levels were measured in the four monitoring wells prior to purging and sampling. Groundwater level measurements were used to evaluate groundwater flow directions and calculate the horizontal hydraulic gradient in the first water-bearing unit beneath the Site. Water levels were measured from a reference point on the top of the PVC casing. Water level measurements and their resulting elevations are provided in Table 1.

The four monitoring wells were purged and sampled using portable QED Environmental Systems Well Wizard® low-flow, positive-displacement, bladder pumps. Purging and sampling was completed using low-flow techniques in accordance with the FSP. The water level in the well being sampled was monitored during purging, and the purge rate adjusted such that little or no drawdown occurred. Purge rates were maintained at a rate between 100 and 500 milliliters per minute to minimize drawdown in the well. The following geochemical parameters were measured every five minutes during purging after the initial tubing volume had been removed:

- Temperature,
- pH,
- Specific conductance,
- Oxidation-reduction potential,
- Dissolved oxygen, and
- Turbidity.

Purging was completed once the wells stabilized (*i.e.*, three readings within 10 percent for each geochemical field parameter). Groundwater samples were then collected by filling the sample containers from the pump discharge. The groundwater samples were analyzed for the following:

- TCL VOCs,
- TCL SVOCs,
- TAL metals,
- Pesticides,
- Herbicides,
- PCBs, and
- Fluoride.

Analytical methods used were consistent with those listed in Section 4.3. QA/QC samples, including a blind duplicate, matrix spike, matrix spike duplicate, and trip blank (VOCs only), were collected in accordance with the QAPP. Monitoring well purging records and water sample collection forms are provided in Appendix A. An NYSDEC representative was on-site during the June 2011 monitoring event and collected split samples at each monitoring well. NYSDEC analytical results are discussed in Section 5.2.2.

4.7 SURFACE WATER AND SEDIMENT SAMPLING AND ANALYSIS

Surface water and sediment sampling was conducted on June 8, 2011. Three samples were collected from the larger pond near the former municipal waste disposal area, and one sample was collected for the smaller on-Site pond to the east of the former municipal waste disposal area. In addition, the perimeter of the former municipal waste disposal area and drum disposal area was traversed to identify any additional surface drainage features, but no surface drainage features (*e.g.*, seeps or springs) were observed. Prior to sampling, the surface water and sediment sampling location were marked using GPS surveying techniques. Surface water and sediment sampling locations are provided on Figure 2.

Surface water and sediment samples were collected from locations within two feet of the pond shoreline. The surface water samples were collected prior to the sediment samples at each location to minimize water turbidity. Prior to surface water sampling, field parameters, including temperature, pH, specific conductance, turbidity, and oxidation-reduction potential, were measured and noted on the sample collection forms. The surface water samples were collected by gently submerging a laboratory-supplied transfer container approximately one foot beneath the water surface. A transfer bottle was used so that sample preservatives were not lost during sampling. A new transfer bottle was used at each sampling location.

After the completion of surface water sampling, sediment samples were collected from the upper six inches of sediment using a clean, stainless-steel hand auger. Excess water was decanted off the sediment. With the exception of the VOC sample fractions, which

were collected as discrete grab samples, sediment was placed in a disposable aluminum tray and homogenized with a disposable plastic scoop. A description of the sediment including color, grain size, soil type, and moisture content was noted on the sample collection form. Both surface water and sediment samples were analyzed for the following parameters:

- TCL VOCs,
- TCL SVOCs,
- Pesticides,
- PCBs,
- TAL metals, and
- Fluoride.

Analytical methods used were those listed in Section 4.3. QA/QC samples were collected in accordance with the QAPP. An NYSDEC representative collected split samples at each surface water and sediment sample location. NYSDEC analytical results are discussed in Sections 5.3 and 5.4.

The hand auger used in sediment sampling was cleaned prior to sampling and between sample locations using the following procedures detailed in the QAPP. Sample locations were staked, flagged, and surveyed using GPS techniques.

4.8 RESIDENTIAL SUPPLY WELL SAMPLING AND ANALYSIS

As discussed with NYSDEC at the August 31, 2011 project review meeting, groundwater samples were collected from two residential supply wells (identified as the Smaldone and Brown residences) located downgradient of the Site. Samples from the Smaldone and Brown residences were collected on September 7, 2011 and September 8, 2011, respectively. Several attempts were made to contact a third homeowner (Smith); however, the house appeared to be vacant when the attempts were made. Residential properties where groundwater samples were collected are shown on Figure 12. The homeowners were unable to provide pertinent well construction or treatment system information related to their supply wells.

Residential supply well samples were collected as close as possible to the existing well and before any in-line water treatment devices. The water was allowed to flow for

approximately five minutes before a sample was collected. Field parameters pH, specific conductivity, and temperature were monitored during residential well purging. The samples were analyzed for TCL VOCs using USEPA Method 524.2 and TAL metals using USEPA Methods 6010B and 7470A.

5.0 DATA EVALUATION

This section presents the evaluation of the characterization data collected at the Site during the RI, as well as pertinent results from prior investigations conducted on behalf of NYSDEC. Sections 5.1 through 5.5 compare RI sampling data to NYSDEC criteria to identify potential COCs and allow for delineation and quantification of affected media. The evaluation of the hydrogeologic data is also included in Section 5.2. Section 5.6 summarizes the data usability assessments (*i.e.*, DUSRs). Based on these evaluations, in addition to the information presented in Section 3.0, Section 5.7 presents the CSM.

5.1 SOIL CHARACTERIZATION

This section provides a summary of subsurface soil and test pit soil characterization data. Subsurface and test pit soil analytical summaries are provided in Tables 3 and 4, respectively.

As specified in NYSDEC guidance, subsurface soil and test pit soil results were compared to NYSDEC Remedial Program Commercial Category Soil Cleanup Objectives (SCOs) as given in Title 6 of the New York Code, Rules and Regulations (NYCRR), Part 375, Subpart 375-6. Initial comparisons are to the Unrestricted Use SCOs to provide a preliminary evaluation of soil quality. Following the preliminary evaluation, soil samples were then compared to Commercial SCOs as a means of evaluating soil quality with regard to current and expected future land use in addition to anticipated exposure scenarios. Use of the Commercial SCOs as the appropriate criteria is based on current and anticipated future Site usage (hunting lease), zoning of the Site (agricultural-residential), and Site exposure scenarios. Unless the former municipal waste disposal area was removed from the Site, future development for residential or agricultural use would be considered highly unlikely. Subsurface soil and test pit sample locations where constituent concentrations in soil exceed their corresponding Commercial SCOs are provided on Figures 7 and 10, respectively.

5.1.1 Subsurface Soils

In the RI, 23 borings (SS-1 through SS-16, SS-18 through SS-21, and SS-26 through SS-28) were advanced to assess the horizontal and vertical extent of cadmium and lead concentrations in soil near the former drum disposal area. Four samples per location were collected at each boring as described in Section 4.1. Soil results are provided in Table 3 and are compared to NYSDEC Commercial SCOs. Laboratory analytical data are provided in Appendix C.

With the exception of soil samples collected at Soil Borings SS-4, SS-5, SS-13, SS-18, SS-19, and SS-20, cadmium concentrations in the subsurface soil samples (0 to 6 inches in depth) were below Commercial SCOs. Cadmium concentrations in the six samples with exceedances ranged from 12.8 mg/kg (SS-4 [0'-0.5']) to 699 mg/kg (SS-18 [0'-0.5']). The NYSDEC Commercial SCO for cadmium is 9.3 mg/kg. All detected lead concentrations were below the corresponding Commercial SCO (1,000 mg/kg), and no other constituents were detected in concentrations exceeding Commercial SCOs in any of the four soil samples (SS-2 [0.5'-1.5'], SS-7 [0.5'-1.5'], SS-11 [0.5'-1.5'], and SS-15 [0.5'-1.5']) that were analyzed for the extended parameter list.

Following the step-wise protocol, the 0.5- to 1.5-feet bgs interval samples from Soil Borings SS-4, SS-5, SS-13, SS-18, SS-19, and SS-20 were analyzed for cadmium and lead. The only sample with a concentration exceeding Commercial SCOs was Soil Sample SS-18 (0.5'–1.5') in which the cadmium concentration was 34 mg/kg. The next lower Soil Sample SS-18 (1.5'-2.5') was analyzed and reported to contain a cadmium concentration (19 mg/kg) that again exceeded the Commercial SCO. The final sample collected from this location (SS-18 [2.5'-3.5']) was analyzed, and the detected cadmium concentration (5.3 mg/kg) was below the applicable Commercial SCO (9.3 mg/kg). The results of the soil investigation, in combination with those from the 1997 NYSDEC sampling, provide complete horizontal and vertical delineation of Site soils and indicate that further sampling is not warranted.

5.1.2 Test Pit Soils and Waste

Analytical results for soil samples collected from the perimeter and interior test pits were compared to NYSDEC Unrestricted and Commercial SCOs and are summarized in Table 4. The only analyte with concentrations exceeding NYSCEC Commercial SCOs

was cadmium. Cadmium exceedances were present in samples collected from TP-3 (0'-0.5'), TP-7 (0'-0.5'), TP-7 (2'-2.5'), TP-16 (2'-2.5'), and TP-16 (3'-3.5') with concentrations ranging from 10.2 mg/kg (TP-3 [0'-0.5']) to 23.2 mg/kg (TP-16 [2'-2.5']). The NYSDEC Commercial SCO for cadmium is 9.3 mg/kg. A summary of the cadmium exceedances in the test pit soil samples is provided on Figure 10.

A sample of material visibly identified as calcium fluoride sludge was collected at Test Pit TP-19 and analyzed for hazardous waste characteristics and PCBs. The results for this sample are provided in Table 5. These analytical results indicate that the identified calcium fluoride sludge exhibits the characteristics of an RCRA hazardous waste due to the concentration of cadmium in the TCLP leachate (2.1 milligrams per liter [mg/l]) versus the regulatory threshold of 1.0 mg/l. Cadmium concentrations were not elevated in soil samples collected above (TP-19 [0-0.5], 0.37 mg/kg) and below (TP-19 [7-7.5], less than 0.42 mg/kg) the calcium fluoride sludge. Test pit and waste sample results are provided in Appendix C.

NYSDEC analyzed a subset of test pit soil samples that included Samples TP-8 (0-0.5), TP-13 (10.5-11), TP-15 (8-8.5), and TP-19 (7-7.5). Generally, detected parameters and their concentrations in the NYSDEC and CBS samples are similar with a few exceptions. Detected parameter and concentration differences were most prevalent in Soil Sample TP-13 (10.5-11) as several parameters detected in the CBS sample were not detected in the NYSDEC sample. NYSDEC split sample results are provided in Appendix D.

5.2 GROUNDWATER CHARACTERIZATION

5.2.1 Hydrogeologic Characterization Results

As discussed in Section 4.6, groundwater levels for the Site monitoring wells were measured prior to the two sampling events (June 7 and 8, 2011 and September 8, 2011). The resulting groundwater elevations are summarized in Table 1. The water level elevations indicate flow is to the southwest as shown on Figures 5 and 6 and Figure 3 shows groundwater elevations in cross-section view across the Site.

The horizontal hydraulic gradient in the shallow bedrock groundwater zone is 0.11 ft/ft using water level data measured on both June 7, 2011 and September 8, 2011 for Monitoring Wells MW-1 and MW-3. The shallow bedrock groundwater zone has a

median K value of 0.27 ft/day (or 9.84 x 10^{-5} cm/sec) based on slug testing (rising head and falling head) performed in the four monitoring wells. Table 2 provides a summary of the K values for the shallow bedrock groundwater zone monitoring wells tested during this investigation. The assumed porosity of the shallow bedrock aquifer is estimated to be 0.25. Therefore, the average linear groundwater velocity in the shallow bedrock groundwater zone is estimated to be approximately 0.12 ft/day (or approximately 44 ft/year).

5.2.2 June 2011 Groundwater Characterization Results

Results from the groundwater sampling events conducted during the RI are summarized in Table 6, which includes comparisons of groundwater data to NYSDEC Groundwater Quality Standards (GQS) as specified in NYCRR Title 6, Part 703. Groundwater concentrations from the June 2011 sampling event exceeded the NYSDEC GQS for iron (300 micrograms per liter [µg/l]) at Monitoring Wells MW-1, MW-2, and MW-3 with reported concentrations ranging from 780 µg/l at Monitoring Well MW-1 to 1,900 µg/l at Monitoring Well MW-2. Concentrations of antimony and manganese (3.2 µg/l and 360 µg/l, respectively) detected in the sample collected from Monitoring Well MW-3 marginally exceeded their corresponding NYSDEC GQS (3 µg/l and 300 µg/l, respectively). The groundwater sample from Monitoring Well MW-4 had reported NYSDEC GQS exceedances for arsenic, manganese, and sodium. Monitoring Well MW-4 detected arsenic, manganese, and sodium at concentrations of 48 µg/l, 540 µg/l, and 71,000 µg/l, respectively, compared to corresponding NYSDEC GQS of 25 µg/l, 300 µg/l, and 20,000 µg/l, respectively. Cadmium was not detected above reporting limits in groundwater samples collected from Monitoring Wells MW-1, MW-3, and MW-4. The cadmium concentration in the sample collected in June 2011 from Monitoring Well MW-2 was below the reporting limit but estimated by the laboratory at a concentration of 0.17 µg/l. This estimated cadmium concentration was below the corresponding NYSDEC GQS (5 µg/l). A summary of the June 2011 NYSDEC GQS exceedances is provided on Figure 13.

One pesticide (delta-BHC) was detected in the Monitoring Well MW-2 sample, and one VOC (carbon disulfide) was detected in the Monitoring Well MW-4 sample. Both

concentrations were below the applicable NYSDEC GQS. SVOCs and PCBs were not detected above laboratory reporting limits. Laboratory analytical results are provided in Appendix C.

NYSDEC analyzed groundwater samples collected from Monitoring Wells MW-2 and MW-4. Generally, detected parameters and their concentrations in the NYSDEC and CBS samples were similar. The only significant difference between the sample sets was a detection of PCB-1254 in the NYSDEC sample that was not detected above the reporting limit in the CBS sample. This result appears to be an anomaly as this was the only detection of this compound. NYSDEC split sample results are provided in Appendix D.

5.2.3 September 2011 Groundwater Characterization Results

Results from the September 2011 groundwater sampling, along with comparisons to NYSDEC GQS are provided in Table 6. Laboratory analytical results are provided in Appendix C. The September 2011 groundwater data were similar to the June 2011 groundwater results.

Groundwater concentrations from the September 2011 sampling event exceeded the NYSDEC GQS (300 µg/l) for iron at Monitoring Wells MW-1, MW-3, and MW-4 at concentrations ranging from 400 µg/l (MW-4) to 2,700 µg/l (MW-1 duplicate sample). In addition, the concentration of manganese (340 µg/l) detected in the sample collected from Monitoring Well MW-3 marginally exceeded its corresponding NYSDEC GQS (300 µg/l). Similar to the June 2011 results, groundwater at Monitoring Well MW-4 exhibited exceedances for arsenic, manganese, and sodium at concentrations of 44 µg/l, 470 µg/l, and 76,000 µg/l, respectively, when compared to corresponding NYSDEC GQS of 25 µg/l, 300 µg/l, and 20,000 µg/l, respectively. Cadmium was detected not detected above reporting limits in groundwater samples collected from Monitoring Wells MW-1, MW-3, and MW-4. The cadmium concentration in the sample collected from Monitoring Well MW-2 was below the reporting limit but estimated by the laboratory at a concentration (0.20 µg/l) well below the corresponding NYSDEC GQS (5 µg/l). A summary of the September 2011 NYSDEC GQS exceedances is provided on Figure 13.

One VOC (acetone) was detected in each monitoring well sample at an estimated concentration, and the concentrations did not exceed the applicable standard. SVOCs, pesticides, and PCBs were not detected above laboratory detection limits in any sample.

5.3 SURFACE WATER CHARACTERIZATION

Surface water analytical results and comparisons of these data to NYSDEC Surface Water Quality Standards for Class D freshwater surface waters (NYCRR Title 6, Part 703) are summarized in Table 7 and laboratory analytical results are provided in Appendix C. SVOCs, pesticides, PCBs, and cyanide were not detected above laboratory reporting limits. Two VOCs (acetone and toluene) were detected; however, their concentrations were estimated by the laboratory because the concentrations were reported to be between the reporting limit and the method detection limit. Acetone and toluene concentrations did not exceed the corresponding NYSDEC surface water criteria (Class D fresh water). Each TAL metal except zinc was detected in at least one surface water sample; however, none of the concentrations exceeded NYSDEC surface water standards. Fluoride was detected in each sample collected, but NYSDEC has not promulgated a surface water standard for fluoride. In addition, USEPA has not developed a recommended surface water quality criterion for fluoride (USEPA, 2009).

NYSDEC analyzed the surface water sample collected at Sample Location SW-2. Detected parameters and concentrations in the NYSDEC surface water sampled corroborated the CBS sample. NYSDEC split sample results are provided in Appendix D.

5.4 SEDIMENT CHARACTERIZATION

Sediment analytical results are summarized in Table 8. For screening to identify potential COCs, sediment analytical results were conservatively compared to the most stringent NYSDEC Sediment Criteria provided in the *Technical Guidance for Screening Contaminated Sediments* (NYSDEC, 1999).

Concentrations of several metals exceeded NYSDEC sediment criteria. The following provides a summary of the sediment exceedances.

- Arsenic: Detected arsenic concentrations exceeded the corresponding sediment criterion (6 mg/kg) in each sediment sample collected. Arsenic concentrations ranged from 7.0 mg/kg (SD-4) to 15 mg/kg (SD-1).

- Cadmium: Detected concentrations exceeded the corresponding sediment criterion (0.6 mg/kg) in the sample and duplicate sample collected as Sediment Sample SD-2. Cadmium concentrations detected at Sediment Sample SD-2 were 3.8 mg/kg and 4.6 mg/kg.

- Iron: Detected iron concentrations exceeded the corresponding sediment criterion (2 percent or 20,000 mg/kg) in each sediment sample collected. Iron concentrations ranged from 25,000 mg/kg (2.5 percent, SD-2 duplicate sample and SD-4) to 30,000 mg/kg (3.0 percent, SD-1).

- Nickel: Detected nickel concentrations exceeded the corresponding sediment criterion (16 mg/kg) in each sediment sample collected. Nickel concentrations ranged from 23 mg/kg (SD-2 duplicate sample and SD-4) to 30 mg/kg (SD-1).

Two pesticides (4,4'-DDT and gamma-chlordane) exceeded sediment criteria (10 micrograms per kilogram [µg/kg] and 1 µg/kg, respectively) in Sediment Sample SD-2 and its duplicate. In Sediment Sample SD-2 and its duplicate, 4,4'-DDT was reported at concentrations of 340 µg/kg and 100 µg/kg while gamma-chlordane concentrations were 60 µg/kg and 22 µg/kg. Concentrations of one PCB Aroclor (PCB-1254) exceeded the applicable criterion (0.8 µg/kg) in each sediment sample. PCB-1254 concentrations ranged from 6.8 µg/kg (SD-4) to 6,700 µg/kg (SD-2). A summary of sediment exceedances is provided on Figure 14. Laboratory analytical results are provided in Appendix C.

NYSDEC analyzed sediment collected from Sample Location SD-4. Generally, detected parameters and concentrations in the NYSDEC and CBS samples were similar. The only significant difference between the samples was the detection of PCB-1254 in the CBS sample that was not detected above the reporting limit in the NYSDEC sample. The CBS sample result (estimated concentration of 6.8 µg/kg) exceeded the corresponding NYSDEC sediment criterion (Table 8). This condition may be the result of difference in

the PCB reporting limits for the two samples as the reporting limit for PCBs in the CBS and NYSDEC samples were 12 µg/kg and 74.9 µg/kg, respectively. NYSDEC split sample results are provided in Appendix D.

5.5 RESIDENTIAL SUPPLY WELL ASSESSMENT

Residential supply well samples were collected and analyzed for TCL VOCs using USEPA Method 524.2 (the USEPA analytical protocol applicable to drinking water) and for TAL metals using USEPA Methods 6010B and 7412A. The analytical results were compared to New York State Department of Health (NYSDOH) Maximum Contaminant Levels (MCLs) under the New York State Sanitary Code (NYCRR Title 10, Part 5, Subpart 5-1).

VOCs were not detected in either residential supply well sample above laboratory reporting limits. Several metals were detected in each residential well sample, but these detected metals concentrations were less than NYSDOH MCLs. The metals concentrations present are likely attributed to naturally occurring groundwater conditions. Residential supply well analytical results are summarized in Table 9. Laboratory analytical results are provided in Appendix C.

These findings are consistent with those from earlier sampling conducted by the NYSDOH. In 1989, 1995, and 1998, the NYSDOH sampled the private well servicing the nearest home within one-quarter mile of the site and found no site-related constituents.

5.6 DATA USABILITY SUMMARY REPORT OVERVIEW

A DUSR was completed to provide a thorough evaluation of the analytical data to determine if the data meet project-specific criteria for data quality and use. DATA VAL, Inc. (DATA VAL) of Endwell, New York, was retained by Cummings/Riter to complete the DUSR. DATA VAL personnel are pre-approved by the NYSDEC DER to perform DUSRs.

The majority of the data reported are considered to be technically defensible and completely usable in its present form. Data found to be unreliable were flagged in the

DUSR with an "R." Rejected data are not included in the analytical data tables. Despite the need to reject certain individual analysis for some samples, the QAPP-defined data quality objective for completeness (greater than 90 percent) was surpassed in the sampling and analysis program. DUSR summaries and validated laboratory data sheets are provided in Appendix E.

5.7 CONCEPTUAL SITE MODEL

This section, along with the information presented in Section 3.0, provides the basis for the CSM. The CSM was developed to describe mechanisms influencing the migration and fate of constituents present in Site media. The results of the RI indicate the presence of COCs in Site soil, sediment, and groundwater.

5.7.1 Former Drum Disposal Area

As previously discussed, approximately 300 drums of incinerator ash, presumably from the burning of municipal-type solid waste, were disposed of at the Site and were buried in a single excavation (Figure 7). NYSDEC removed these drums, along with 336 CY of impacted soil in response actions conducted in 1988 and 1994.

Cadmium is present in a wide variety of household products, and its occurrence in municipal solid waste (MSW) is widely documented. A study conducted by USEPA (1987) found cadmium concentrations in the bottom ash from municipal waste incinerators at concentrations ranging from 1.1 to 46 mg/kg and from 0.18 to 100 mg/kg in mixed samples of fly ash and bottom ash from such incinerators.

Given, however, that cadmium, but not other metals, were detected in soils associated with the former drum disposal area, it is inferred that another source of cadmium, possibly calcium fluoride sludge disposal, was co-located within the former drum disposal area. In either case, with regard to the CSM, the former drum disposal area and areas surrounding the drum disposal area, represent a source area for Site COCs. A list of Site COCs is provided in Section 6.0.

Investigations in the former drum disposal area have shown that cadmium has not migrated vertically through the soil column, as impacted soils were not typically identified at depths greater than six inches, and none of the soil samples exhibited a cadmium concentration above the Commercial SCO at a depth greater than 2.5 feet bgs.

5.7.2 Former Municipal Waste Disposal Area

Consistent with the past use of the Site as a landfill, MSW and other debris was identified throughout an approximate 1.8-acre area of the Site. Observations made during test pitting show that this waste is generally about 9 to 12.5 feet thick in the center of the disposal area and gradually thins toward the edges of the indicated disposal area. Calcium fluoride sludge was not found in either of the two interior test pits or any perimeter test pits excavated in the area previously identified as the "suspected calcium fluoride sludge disposal area." None of the soil samples collected at these test pits exhibited cadmium concentrations above the Commercial SCO. In the 2011 RI test pit excavations, calcium fluoride sludge was only identified in one test pit (TP-19) located about 100 feet further to the north; there the sludge was found in a thin lens at 2.5 to 3.0 feet bgs.

Although there were sporadic detections of varying concentrations of compounds, soils in the municipal waste disposal area generally did not exhibit high concentrations of cadmium. Where cadmium was above the Commercial SCO in soils within the former municipal waste disposal area, the impacts appeared to be localized and at relatively shallow depths. The soils samples from TP-19 both above and below the identified lens of calcium fluoride sludge did not exhibit elevated cadmium or lead concentrations.

In the 1997 focused RI sampling, visually identified calcium fluoride sludge was reported in 6 (C-1, C-2, TP-4, TP-6, TP-7, and TP-15) of 21 test pits excavated in the former municipal waste disposal area (Figure 15). Several physical descriptions, however, indicated inclusions of glass-like materials and analytical results showed cadmium above TCLP regulatory levels in only one of five samples of the suspected material. This sample (TP-15) was located within 50 feet of the location of RI Test Pit TP-19, where calcium fluoride sludge was found. In addition, the cadmium concentrations (33.3 mg/kg, 16.5 mg/kg, and 2,580 mg/kg) detected in soil samples collected from Focused RI Test Pits C-2, TP-5, and TP-15, respectively, exceeded the Commercial SCO. One of the

focused RI waste samples (C-1) also exhibited a TCLP lead concentration above the regulatory limit for characteristic hazardous waste. A summary of TCLP metals results and Commercial SCO cadmium exceedances in the 1997 Focused RI test pit soil samples is provided on Figure 15.

In the 1997 Focused RI, several polycyclic aromatic hydrocarbons (PAHs) were identified as COCs with concentrations exceeding NYSDEC generic SCOs. PAHs were not detected at concentrations exceeding Commercial SCOs during the recent RI.

5.7.3 Surface Water and Groundwater

The physical setting of the Site is described in Section 3.0. The Site is located on a topographic terrace, and the Site topography ranges from approximately 1,600 to 1,670 feet above MSL. Surface water runoff appears to be radial from the northern portion of the Site to the northwest, south, and southeast. The first groundwater-bearing zone is present in bedrock at depths of approximately 13 to 90 feet bgs and groundwater flows to the southwest.

The discharge point for both surface water and groundwater is likely to be either the unnamed tributary to Post Creek located to the southeast of the Site or Post Creek itself. The unnamed tributary to Post Creek is located approximately 500 feet southeast of the Site on the southeast side of Townley Hill Road at an approximate elevation of 1,570 to 1,600 feet MSL and flows from northeast to southwest. Post Creek is located in a valley approximately 1,700 feet west of the Site area at an elevation of 1,100 to 1,150 feet MSL.

Concentrations of arsenic, antimony, iron, and manganese have been detected above NYSDEC GQS in at least one of the four groundwater monitoring wells present at the Site. Site wells are completed to monitor groundwater in the shallow bedrock aquifer. The presence of these metals in Site groundwater can most likely be attributed to naturally occurring conditions associated with the aquifer properties (*e.g.*, soil mineralogy/rock type, weathering, etc.) as each metal was detected above reporting limits in the upgradient monitoring well (MW-1). As precipitation infiltrates vertically through the unconsolidated portion of the subsurface (glacial till), metals are dissolved and transported downward to the groundwater table where they eventually flow horizontally

to their discharge point. Samples from the residential wells also had reported detections of several of these metals demonstrating the ubiquitous nature of the metals in the shallow bedrock aquifer.

6.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

Impacts to environmental media are attributable to historical activities related to Site waste disposal operations. Based on the screening of environmental media samples against NYSDEC SCOs, potential COCs for the Site are as follows:

Soils:

- Cadmium

Groundwater:

- Arsenic

Sediment:

- Arsenic
- Cadmium
- Iron
- Nickel
- 4,4'-DDT
- Gamma-chlordane
- PCB-1254

As discussed in Section 5.7.3, iron, manganese, and sodium identified in groundwater are naturally occurring, and data from Site wells (both upgradient and downgradient) and from local residential wells show that these are not Site-related COCs. NYSDEC Surface Water Quality Standards for Class D freshwater surface waters were not exceeded, and no exposure related to the use of surface waters needs to be evaluated.

The source of COCs is believed to have been two potential source areas related to waste disposal practices at the Site: the former drum disposal area and the former municipal waste disposal area. The potential source areas within the Site were identified as a result of the NYSDEC and CBS investigations.

6.1 POTENTIAL PATHWAY IDENTIFICATION

Factors analyzed in the identification of potential pathways include source areas, migration routes, receptors, and potential exposure pathways. Potential exposure

pathways were deemed "complete" based on the presence of Site COCs at concentrations in excess of regulatory criteria and the presence of a potential receptor. An exposure pathway is deemed "incomplete" if regulated substances in Site media are less than regulatory criteria, an engineering or institutional control eliminates the pathway, or there is no potential receptor at the Site.

Potential source materials at the Site consist of COCs identified in soils, groundwater, and sediment as described in Sections 5.1 through 5.4. Soil, groundwater, and sediment represent potential source media because investigations have indicated that Site-related activities have impacted these media. COC concentrations in surface water did not exceed regulatory screening criteria.

Constituent migration in soil and groundwater may occur to other environmental media through various migration pathways. Potential migration pathways to ambient air from impacted soils include transport via fugitive dust generation (*e.g.*, wind erosion, vehicle traffic, or excavation). COC migration from soil to groundwater could occur through constituent leaching and infiltration through unsaturated soils to groundwater. Once in groundwater, COCs can potentially migrate advectively via groundwater flow to discharge points (*i.e.*, surface water). A potential pathway exists from soils to surface water and sediment via the transport of impacted soil particles by surface water runoff to surface water bodies. Impacted sediments can also act as a continuing source for surface waters.

Based on the potential source media and migration pathways identified above, the potential on-Site exposure media for the Site include surface and subsurface soil, Site-wide groundwater, and sediment in the on-Site ponds.

6.2 POTENTIAL RECEPTORS AND EXPOSURE PATHWAYS

The current and expected future site use of the Site is for limited recreational purposes (*i.e.*, hunting) and the potential receptors were based on these current and expected future uses of the Site. Unless the former municipal waste disposal area was removed from the Site, future development of the Site for residential or agricultural use would be considered highly unlikely.

Based on the current and expected future use, the likely human receptors include hunters present on an infrequent and short-term basis. Individuals (hunters) associated with the current Site use are not expected to be involved in any intrusive subsurface activities. Visitors and trespassers are also potential receptors, but their potential routes of exposure would be similar and they would be present on such an infrequent basis that quantitative assessment is not necessary.

Exposure pathways describe the constituent pathways from source media to the potential receptor. The following presents potentially complete exposure pathways based on receptors described above and current understanding of the Site:

- **Hunters:** Incidental ingestion of surface soil, dermal contact with surface soils, inhalation of particulate emissions, incidental ingestion of sediment, and dermal contact with sediment.

Direct contact with groundwater is not possible by individuals associated with current Site use, as groundwater is located deep below the ground surface (13 to 90 feet bgs) and is currently not used at the Site. Soil vapor to indoor air is not a completed pathway as COCs present are not volatile and permanent structures are not present at the Site.

6.3 POTENTIAL FUTURE EXPOSURE PATHWAYS

Potential future exposure pathways and receptors are similar to the current exposure scenario. However, potential future exposure pathways exist in addition to the current exposure pathways listed above. Exposure to COCs in groundwater by hunters through ingestion of or direct contact with groundwater could potentially occur in the future if an on-Site groundwater supply well is constructed and used. The inhalation or ingestion of fugitive dust in ambient air may occur if subsurface soils are disturbed at the Site through development activities. If remediation activities occur, there is a potential for exposure to soil and sediment by remediation workers. This activity would be of short duration, and the activities would be conducted using appropriate personal protective equipment and health and safety procedures. Evaluation of exposure to sediment by hunters would not be of sufficient frequency and magnitude to address potential risks to others.

6.4 POTENTIAL PATHWAY EVALUATION

The following sections evaluate each pathway identified as they apply to site media (*i.e.*, soils, groundwater, and sediment). The evaluation determines whether COC present in existing pathways exceed applicable NYSDEC standards for characterization purposes. Sections 5.1 through 5.4 provide an overview of current environmental conditions at the Site as compared to applicable NYSDEC standards.

6.4.1 Soils – Direct-Contact Pathway

As discussed in Section 5.1, cadmium exceeded NYSDEC Commercial SCOs in some Site soil samples. Surface and subsurface soil samples in both the former drum disposal area and municipal waste disposal area exhibited concentrations of cadmium above applicable NYSDEC standards. Therefore, the direct-contact pathway at these locations is complete. Soil remediation or institutional controls would be needed to make the direct-contact pathway incomplete.

6.4.2 Soils – Soil-to-Groundwater Pathway

As indicated above, cadmium concentrations were reported above NYSDEC SCOs in some Site samples. However, given the time since Site disposal activities have occurred, and cadmium concentrations were not detected above NYSDEC GQS, it is anticipated that groundwater quality is at equilibrium and will not significantly change in the future. Furthermore, groundwater associated with the Site is currently not being used. Remedial action alternatives (*e.g.*, soil cover, removal, treatment) for soils containing cadmium concentrations above regulatory standards will be evaluated during the FS. The implementation of remedial action would further reduce potential soil-to-groundwater impacts.

6.4.3 Groundwater Pathway

As discussed in Section 5.2, antimony, arsenic, iron, manganese, and sodium concentrations in groundwater are in excess of NYSDEC GQS. The presence of iron, manganese, and sodium are likely the result of naturally occurring conditions, and these metals were detected in the upgradient monitoring well (MW-1). The concentration of antimony detected in the June 2011 sample from Monitoring Well MW-3 (3.2 µg/l) marginally exceeded the NYSDEC GQS (3.0 µg/l), but the September 2011 antimony concentration reported at Monitoring Well MW-3 was below the corresponding standard.

Arsenic concentrations in a downgradient monitoring well (MW-4) exceeded NYSDEC standards during the two groundwater characterization sampling events. Arsenic in Site groundwater will be further evaluated in the FS.

Groundwater is not currently being used, and the groundwater direct-contact pathway is incomplete. In addition, analytical results from downgradient residential supply wells indicated there are no adverse effects from the Site on downgradient groundwater.

6.4.4 Sediment Pathway

Hunters, visitors, and trespassers could potentially be exposed to sediment, which contain COCs above applicable regulatory standards. Potential exposure is considered unlikely because access to the ponds is limited and exposure is limited by the presence of surface water in ponds. These conditions render the sediment direct-contact pathway negligible. Based on its prevalence, toxicity, and classification as a persistent organic pollutant, PCB-1254 in Site sediment will be further evaluated in the FS.

7.0 FISH AND WILDLIFE RESOURCES IMPACT ANALYSIS

A Fish and Wildlife Resources Impact Analysis (FWRIA) was performed to identify actual or potential impacts to fish and wildlife resources from Site constituents of ecological concern. A resource characterization consistent with Section 3.10.1 of *DER-10* was performed. The following provides the findings of the resource characterization.

7.1 RESOURCE IDENTIFICATION

A search for mapped fish, wildlife, and natural resources in the vicinity of the Site was performed using the NYSDEC Environmental Resource Mapper program. The search identified two natural resources near the Site: a state-regulated freshwater wetland approximately 0.7 mile west of the Site and the unnamed tributary to Post Creek immediately to the southeast of the Site (Figure 16). Unmapped resources include the ponds that are on Site (Figure 2) and the forested area surrounding the Site (Figure 12).

7.2 RESOURCE DESCRIPTION

The stream immediately to the southeast of the Site has a NYSDEC Class C designation. As previously discussed, two ponds are present at the Site (Figure 2). The ponds present at the Site do not have a formal NYSDEC freshwater classification. However, based on their existing and expected use, the ponds would likely retain a "Class D" freshwater classification. The majority of the Site is wooded (deciduous and coniferous trees); however, the portion of the Site that includes the former municipal waste disposal area contains dense brush, saplings, and multiflora rose.

No visible signs of stress related to previous Site use were observed during the RI activities. The former drum disposal and municipal waste disposal areas are vegetated and contain mature trees. No stained soils or leachate seeps were observed during RI activities. Areas outside the former wastes disposal areas exhibited no signs of impact such as stressed or dead vegetation, and no dead wildlife was observed at the Site.

Habitats found at the Site support a variety of wildlife species as a number of birds, mammals, and amphibians were observed during the RI activities. Conditions at the Site and surrounding area would not inhibit wildlife movement, and the Site could act as a corridor for wildlife movement. The density of wildlife at the Site and surrounding area is expected to be high.

Currently, the primary use for the Site is for hunting. Hunting is permitted at the Site and surrounding area under State and local ordinances. Ponds at the Site are not utilized for recreational purposes (*e.g.*, fishing, swimming) and appear to be too small and shallow to support a significant fishery. The Site could provide opportunities for bird watching and general nature viewing.

7.3 FISH AND WILDLIFE EXPOSURE PATHWAYS

No visible signs of stress to Site vegetation and biota were observed during RI field investigations conducted at the Site. Potential transport pathways of Site related COCs to off-Site ecological resources are incomplete as impacts to each media are confined to the Site based on the findings of the RI. The only Site media posing a potential risk to wildlife resources is sediment. COCs in Site sediment may potentially bioaccumulate in the food chain. Fish and wildlife utilizing the Site ponds could potentially be exposed to COCs identified in Site sediment although the exposure to Site sediment is highly unlikely.

7.4 CONTAMINANTS OF ECOLOGICAL CONCERN

The results of the fish and wildlife exposure pathway analysis for the Site indicate that there may be a potential risk to wildlife resources utilizing the Site ponds. Wildlife using the ponds has been identified as the toxicological end point for potential exposure from sediment COCs. Analytical results for sediment samples collected from the ponds were compared to NYSDEC published sediment quality criteria. A summary of sediment exceedances is provided on Figure 14.

Sediment criteria have been developed by the NYSDEC and are published in the *Technical Guidance for Screening Contaminated Sediments* (NYSDEC, 1999), which identifies the following four categories of protection.

- Human health bioaccumulation,
- Benthic aquatic life acute toxicity,
- Benthic aquatic life chronic toxicity, and
- Wildlife bioaccumulation.

Sediment is considered to be contaminated if the contaminant concentration exceeds the criteria for any of the categories of health and environmental risk. Four sediment samples were collected during the RI. The analytical results compared to the most conservative criteria are provided on Table 8. The major findings of the sediment characterization during the RI are provided in Section 5.4. Concentrations of four metals (arsenic, cadmium, iron, and nickel), two pesticides (4,4'-DDT and gamma-chlordane), and one PCB Aroclor (PCB-1254) exceeded NYSDEC sediment criteria. Based on its prevalence, toxicity, and classification as a persistent organic pollutant, PCB-1254 is contaminant of ecological concern.

7.5 SUMMARY AND RECOMMENDATIONS

The results of the FWRIA resource characterization analysis indicate that there is marginal potential for ecological resources to be impacted by contamination associated with sediment in Site ponds. The pathway analysis indicated that Site related contaminants are confined to the Site and the only Site media posing a potential risk to wildlife resources is sediment. It was determined that concentrations of four metals, two pesticides, and one PCB were above NYSDEC sediment quality criteria with PCB-1254 being the compound of greatest concern. Based on the findings of this assessment and the completion of a remedial evaluation of Site sediments during the FS, no additional ecological evaluation at the Site is warranted.

8.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

Based on the results of the completed scope of work as defined in the RI/FS Work Plan and the additional investigatory activities described above, the principal findings of the RI can be summarized as follows:

- Tables 10 through 13 summarize the exceedances of applicable standards in environmental media at the Site.

- The results of the soil investigation provide full horizontal and vertical delineation of impacted Site soils associated with the former drum disposal area and indicate that further sampling is not warranted. The volume of soil exhibiting cadmium concentrations above the Commercial SCO is estimated to be 865 CY.

- The results of the geophysical survey and subsequent test pit excavations have delineated both the horizontal and vertical limits of waste in the former municipal waste disposal area.

- Soil samples collected from the test pit excavations in the former municipal waste disposal area indicate that cadmium is the only Site COC to exceed corresponding regulatory limits in this area. Cadmium concentrations above the Commercial SCO (9.3 mg/kg) are sporadic, (5 of 33 soil samples collected from the test pits) with a maximum concentration of 23.2 mg/kg. Consistent with the findings of the recent RI, detections of cadmium in the 1997 NYSDEC focused RI test pit samples were sporadic.

- In the 1997 NYSDEC focused RI, several PAHs were identified as COCs with concentrations exceeding NYSDEC generic SCOs; however, PAHs were not detected at concentrations exceeding Commercial SCOs during the recent RI.

- Calcium fluoride sludge was not found in either of the two interior test pits or any of the perimeter test pits excavated in the area previously identified as the "suspected calcium fluoride sludge disposal area." None of the soil samples collected at these test pits exhibited cadmium concentrations above the Commercial SCO. Cadmium concentrations

in two 1997 NYSDEC interior test pit (C-2 and TP-15) soil samples collected in the "suspected calcium fluoride sludge disposal area" exceeded Commercial SCOs.

- A buried lens of calcium fluoride sludge was visibly identified in a test pit excavated within the municipal waste disposal area at a location approximately 100 feet north of the previously identified "suspected calcium fluoride sludge disposal area." Testing of this visibly distinctive material showed it to exhibit the characteristic of a RCRA hazardous waste due to the cadmium concentrations in the TCLP leachate. Soil samples above and below the lens of calcium fluoride sludge were not cadmium-impacted. This sludge was not observed in any of the other 18 test pits excavated in the municipal waste disposal area. This test pit (TP-19) was located within about 50 feet of the only 1997 NYSDEC test pit (TP-15) in which encountered waste material exceeded the TCLP regulatory threshold for cadmium and relatively close to 1997 text pit location (C-2) that found waste material with TCLP lead above the regulatory threshold. The calcium fluoride sludge will be further evaluated in the FS.

- Water levels measured in the Site monitoring wells indicate that shallow groundwater flow primarily follows topography to the south and southwest.

- Slug testing data indicate that the median horizontal hydraulic conductivity for the shallow bedrock aquifer is approximately 0.27 ft/day. The calculated horizontal hydraulic gradient is 0.11 ft/ft based on water levels measured in Site monitoring wells. Therefore, assuming an average porosity of 25 percent, the seepage velocity of shallow groundwater at the site is 0.12 ft/day (or approximately 44 ft/year).

- Analytical results from groundwater samples collected from Site monitoring wells showed varying concentrations of naturally occurring metals (*e.g.*, iron, manganese, and sodium) in both upgradient and downgradient wells. Antimony was detected in one of two samples from Site monitoring well (MW-3), and arsenic was detected in both samples collected at Monitoring Well MW-4. Arsenic in Site groundwater will be further evaluated in the FS. Cadmium was not detected in groundwater above regulatory standards.

- Analytical results from surface water samples collected at the Site did not indicate exceedances of any Site-related COCs.

- Arsenic, cadmium, iron, and nickel were detected in sediment samples collected at the Site at concentrations exceeding conservative screening level. Additionally, two pesticides and one PCB compound were detected at concentrations exceeding such screening levels. Further evaluation of COCs in Site sediment will be completed during the FS.

- Water samples collected from two downgradient residential supply wells did not indicate concentrations of any analyzed parameters above NYSDOH MCLs.

- The qualitative human health assessment completed during this RI has identified the direct-contact pathway for surface soil to be the only complete pathway that will need to be addressed through remedial action. Hunters who use the Site represent the current receptor. Similar receptors would be expected in the future. Unless the landfill that comprises the former municipal waste disposal area were removed from the Site, future development for residential or agricultural use would be considered highly unlikely.

- The FWRIA conducted during the RI has not identified significant actual or potential impacts to fish and wildlife resources from Site contaminants of ecological concern.

Based on this summary of findings, it is recommended that the RI for the subject Site be considered complete. Furthermore, because a complete pathway has been identified through the qualitative assessment of human health, it is recommended that a feasibility study be conducted to evaluate potential remedial alternatives needed to address this completed pathway.

REFERENCES

American Society for Testing and Materials, 1994, Method D 4044-91.

Bouwer, H. and Rice, R.C., 1976, *A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells,* Water Resources Research, V. 12, No. 3, pp. 423-428.

Engineering-Science, Inc., 1988, "Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigations, Townley Hill Road, Site No. 808006," September.

Hvorslev, M.J., 1951, *Time Lag and Soil Permeability in Groundwater Observations, Bulletin 36,* Waterways Experiment Station, U.S. Army Corps of Engineers, Mississippi, pp. 1-50..

New York State Department of Environmental Conservation, 1998, *Focused RI Report*.

New York State Department of Environmental Conservation, 1999, *Technical Guidance for Screening Contaminated Sediments,* January.

New York State Department of Environmental Conservation, 2010, *Technical Guidance for Site Investigation and Remediation (DER-10),* Division of Environmental Remediation, Albany, New York, May.

U.S. Department of Agriculture, 2010, *Natural Cooperative Soil Survey for Chemung County, New York, Version 4*, February 18.

U.S. Environmental Protection Agency, 1987, *Characterization of MWC Ashes and Leachates from MSE Landfills, Monofills, and Co-Disposal Sites, EPA 530-SW-87-028A,* Office of Solid Waste and Emergency Response, Washington, D.C., October.

U.S. Environmental Protection Agency, 2009, *Natural Recommended Water Quality Criteria,* Office of Water, Office of Science and Technology, Washington, D.C.

University of the State of New York, State Education Department, *Geologic Map of New York State,* 1970.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Monitoring Well	Top of Riser [a] Elevation (feet above MSL)[b]	Depth to Water (TOR)	Groundwater Elevation (feet above MSL)	Depth to Water (TOR)	Groundwater Elevation (feet above MSL)
		6/6/2011		9/8/2011	
MW-1	1667.76	42.05	1625.71	49.09	1618.67
MW-2	1609.74	23.39	1586.35	12.96	1596.78
MW-3	1636.57	87.76	1548.81	92.78	1543.79
MW-4	1601.40	17.89	1583.51	19.28	1582.12

Notes:

[a] Top of Riser - TOR

[b] Elevations reported in feet above mean sea level (MSL).

TABLE 2
SLUG TEST INPUT PARAMETERS AND ANALYSIS RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Falling Head Test

Well I.D.	Well Total Depth (feet bgs)[a]	Screened Interval (feet bgs)	Static Water Level at Test Start (8/2000) (feet TOR)[b]	Saturated Thickness (feet)	Casing Radius (feet)	Screen Length (feet)	Boring Radius (feet)	Gravel Pack Porosity (%)	Effective Well Radius (feet)	Hydraulic Conductivity (cm/sec)[c] (Bouwer and Rice Method)[d]	Hydraulic Conductivity (cm/sec) (Hvorslev Method)[e]	Average Rising Head Hydraulic Conductivity (cm/sec)
MW-1	77.71	67.71 - 77.71	42.05	41.67	0.167	10.0	0.25	25.0	0.167	NA[f]	NA	NA
MW-2	31.85	21.85 - 31.85	23.39	8.46	0.167	10.0	0.25	25.0	0.167	NA[g]	NA	NA
MW-3	115.85	105.85 - 115.85	87.75	28.10	0.167	10.0	0.25	25.0	0.167	6.70E-05	7.62E-05	7.16E-05
MW-4	55.98	45.98 - 55.98	17.89	38.09	0.167	10.0	0.25	25.0	0.167	1.91E-03	1.41E-03	1.66E-03

Rising Head Test

Well I.D.	Well Total Depth (feet bgs)[a]	Screened Interval (feet bgs)	Static Water Level at Test Start (8/2000) (feet TOR)[b]	Saturated Thickness (feet)	Casing Radius (feet)	Screen Length (feet)	Boring Radius (feet)	Gravel Pack Porosity (%)	Effective Well Radius (feet)	Hydraulic Conductivity (cm/s) (Bouwer and Rice Method)[d]	Hydraulic Conductivity (cm/s) (Hvorslev Method)[e]	Average Rising Head Hydraulic Conductivity (cm/s)
MW-1	77.71	67.71 - 77.71	42.05	36.04	0.167	10.0	0.25	25.0	0.167	9.98E-05	9.70E-05	9.84E-05
MW-2	31.85	21.85 - 31.85	23.39	8.49	0.167	10.0	0.25	25.0	0.167	NA	NA	NA
MW-3	115.85	105.85 - 115.85	87.75	28.47	0.167	10.0	0.25	25.0	0.167	4.41E-05	4.34E-05	4.37E-05
MW-4	55.98	45.98 - 55.98	17.89	38.17	0.167	10.0	0.25	25.0	0.167	1.41E-03	1.41E-03	1.41E-03

Notes:

[a] feet bgs is feet below ground surface.

[b] "TOR" is top of riser.

[c] cm/sec is centimeters per second.

[d] Bouwer and Rice Slug Test Method (1976), for the measurement of saturated hydraulic conductivity of aquifer materials in a single well.

[e] Hvorslev Method (1951), slug test analysis to estimate in situ hydraulic conductivity.

[f] Monitoring Well MW-1 falling head test failed due to data recording.

[g] Monitoring Well MW-2 calculations could not be made due to minimal water in well.

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-1 (0-0.5)	SS-2 (0-0.5)	SS-2 (0.5-1.5)	SS-3 (0-0.5)	SS-4 (0-0.5)	SS-4 (0-0.5)	SS-4 (0.5-1.5)	SS-5 (0-0.5)	SS-5 (0-0.5)	SS-5 (0.5-1.5)[j]		SS-6 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11	4/19/11
Depth (feet bgs)[a]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	0-0.5
Northing:			15341271.86	15341281.28		15341262.21	15341305.97		15341305.97	15341326.00	15341326.04			15341354.89
Easting:			1110750.97	1110660.48		1110587.82	1110594.56		1110594.56	1110591.33	1110591.33			1110580.85
Metals (mg/kg) [b]														
Aluminum	---[f]	---	--[g]	--	14,400 J	--	--	--	--	--	--	--	--	--
Antimony	---	---	--	--	1.1 U	--	--	--	--	--	--	--	--	--
Arsenic	13	16	--	--	12.3	--	--	--	--	--	--	--	--	--
Barium	350	400	--	--	62.4 J	--	--	--	--	--	--	--	--	--
Beryllium	7.2	590	--	--	0.65 J	--	--	--	--	--	--	--	--	--
Cadmium	2.5	9.3	0.91	0.61 B J [h]	0.17 B J	0.39 B	**12.8** [i]	**34**	4.8	**39.1**	5.5	0.22 J	0.83	5.1
Calcium	---	---	--	--	141 B J	--	--	--	--	--	--	--	--	--
Chromium	30	1,500	--	--	19.3	--	--	--	--	--	--	--	--	--
Cobalt	---	---	--	--	11.2	--	--	--	--	--	--	--	--	--
Copper	50	270	--	--	16.2	--	--	--	--	--	--	--	--	--
Iron	---	---	--	--	31,700 J	--	--	--	--	--	--	--	--	--
Lead	63	1,000	17.8	14.1	8.1	14.4	37.0	66	11	18.3	23	8.3	10	12.8
Magnesium	---	---	--	--	4,340 J	--	--	--	--	--	--	--	--	--
Manganese	1,600	10,000	--	--	319 J	--	--	--	--	--	--	--	--	--
Nickel	30	310	--	--	26.5	--	--	--	--	--	--	--	--	--
Potassium	---	---	--	--	883	--	--	--	--	--	--	--	--	--
Selenium	3.9	1,500	--	--	0.57 U	--	--	--	--	--	--	--	--	--
Silver	2	1,500	--	--	0.57 U	--	--	--	--	--	--	--	--	--
Sodium	---	---	--	--	30.4 B	--	--	--	--	--	--	--	--	--
Thallium	---	---	--	--	1.1 U	--	--	--	--	--	--	--	--	--
Vanadium	---	---	--	--	20.5	--	--	--	--	--	--	--	--	--
Zinc	109	10,000	--	--	63.4 J	--	--	--	--	--	--	--	--	--
Mercury	0.18	2.8	--	--	0.051 B	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (µg/kg) [c]														
1,1,1-Trichloroethane	680	500,000	--	--	9.8 U [i]	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	270	240,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	330	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1,100	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	20	30,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	2,400	280,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1,800	130,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	120	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
2-Hexanone	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Acetone	50	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Benzene	60	44,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Bromodichloromethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Bromoform	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-1 (0-0.5)	SS-2 (0-0.5)	SS-2 (0.5-1.5)	SS-3 (0-0.5)	SS-4 (0-0.5)	SS-4 (0-0.5)	SS-4 (0.5-1.5)	SS-5 (0-0.5)	SS-5 (0-0.5)	SS-5 (0.5-1.5)[(j)]		SS-6 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11	4/19/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	0-0.5
Northing:			15341271.86	15341281.28		15341262.21	15341305.97		15341305.97	15341326.00	15341326.04			15341354.89
Easting:			1110750.97	1110660.48		1110587.82	1110594.56		1110594.56	1110591.33	1110591.33			1110580.85
Volatile Organic Compounds (µg/kg) Cont'd														
Bromomethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Carbon disulfide	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	760	22,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Chlorobenzene	1,100	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Chloroethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Chloroform	370	350,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Chloromethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	250	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Cyclohexane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Dibromochloromethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Ethylbenzene	1,000	390,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Isopropylbenzene	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Methyl acetate	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Methylcyclohexane	930	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Methylene chloride	---	500,000	--	--	2.0 J B	--	--	--	--	--	--	--	--	--
Methyl-tert-butyl ether	50	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Styrene	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Tetrachloroethene	1,300	150,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Toluene	700	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	190	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Trichloroethene	470	200,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	---	---	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Vinyl chloride	20	13,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Xylene (Total)	260	500,000	--	--	9.8 U	--	--	--	--	--	--	--	--	--
Semivolatile Organic Compounds (µg/kg)														
1,1'-Biphenyl	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,2'-oxybis (1-Chloropropane)	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2-Chlorophenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	330	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
2-Nitroaniline	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
2-Nitrophenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
3-Nitroaniline	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-1 (0-0.5)	SS-2 (0-0.5)	SS-2 (0.5-1.5)	SS-3 (0-0.5)	SS-4 (0-0.5)	SS-4 (0-0.5)	SS-4 (0.5-1.5)	SS-5 (0-0.5)	SS-5 (0-0.5)	SS-5 (0.5-1.5)[(j)]		SS-6 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11	4/19/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	0-0.5
Northing:			15341271.86	15341281.28		15341262.21	15341305.97		15341305.97	15341326.00	15341326.04			15341354.89
Easting:			1110750.97	1110660.48		1110587.82	1110594.56		1110594.56	1110591.33	1110591.33			1110580.85
Semivolatile Organic Compounds (µg/kg) Cont'd														
4-Chloro-3-methylphenol	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
4-Chloroaniline	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	330	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
4-Nitroaniline	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
4-Nitrophenol	---	---	--	--	970 U	--	--	--	--	--	--	--	--	--
Acenaphthene	20,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Acenaphthylene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Acetophenone	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Anthracene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Atrazine	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzaldehyde	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	1,000	5,600	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	1,000	1,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	1,000	5,600	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzo(ghi)perylene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	800	56,000	--	--	390 U	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl) ether	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl) phthalate	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Caprolactam	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Carbazole	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Chrysene	1,000	56,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	330	560	--	--	390 U	--	--	--	--	--	--	--	--	--
Dibenzofuran	7,000	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Diethyl phthalate	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Fluoranthene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Fluorene	30,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	330	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Hexachloroethane	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	500	5,600	--	--	390 U	--	--	--	--	--	--	--	--	--
Isophorone	---	--	--	--	390 U	--	--	--	--	--	--	--	--	--
Naphthalene	12,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Nitrobenzene	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
N-Nitroso-di-n-propylamine	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	---	---	--	--	390 U	--	--	--	--	--	--	--	--	--
Pentachlorophenol	800	6,700	--	--	970 U	--	--	--	--	--	--	--	--	--
Phenanthrene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Phenol	330	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--
Pyrene	100,000	500,000	--	--	390 U	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][c]	SS-1 (0-0.5)	SS-2 (0-0.5)	SS-2 (0.5-1.5)	SS-3 (0-0.5)	SS-4 (0-0.5)	SS-4 (0-0.5)	SS-4 (0.5-1.5)	SS-5 (0-0.5)	SS-5 (0-0.5)	SS-5 (0.5-1.5)[j]		SS-6 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11	4/19/11
Depth (feet bgs)[a]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	0-0.5
Northing:			15341271.86	15341281.28		15341262.21	15341305.97		15341305.97	15341326.00	15341326.04			15341354.89
Easting:			1110750.97	1110660.48		1110587.82	1110594.56		1110594.56	1110591.33	1110591.33			1110580.85
Polychlorinated Biphenyls (µg/kg)														
Aroclor 1016	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Aroclor 1221	100	1,000	--	--	79 U	--	--	--	--	--	--	--	--	--
Aroclor 1232	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Aroclor 1242	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Aroclor 1248	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Aroclor 1254	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Aroclor 1260	100	1,000	--	--	39 U	--	--	--	--	--	--	--	--	--
Pesticides (µg/kg)														
4,4'-DDD	3.3	92,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
4,4'-DDE	3.3	62,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
4,4'-DDT	3.3	47,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Aldrin	5	680	--	--	2.0 U	--	--	--	--	--	--	--	--	--
alpha-BHC	20	3,400	--	--	2.0 U	--	--	--	--	--	--	--	--	--
alpha-Chlordane	94	24,000	--	--	2.0 U	--	--	--	--	--	--	--	--	--
beta-BHC	36	3,000	--	--	2.0 U	--	--	--	--	--	--	--	--	--
delta-BHC	40	500,000	--	--	2.0 U	--	--	--	--	--	--	--	--	--
Dieldrin	5	1,400	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Endosulfan I	2,400[8]	200,000	--	--	2.0 U	--	--	--	--	--	--	--	--	--
Endosulfan II	2,400[8]	200,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	2,400[8]	200,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Endrin	14	89,000	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Endrin aldehyde	---	---	--	--	3.9 U	--	--	--	--	--	--	--	--	--
Endrin ketone	---	---	--	--	3.9 U	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	100	9,200	--	--	2.0 U	--	--	--	--	--	--	--	--	--
gamma-Chlordane	---	---	--	--	2.0 U	--	--	--	--	--	--	--	--	--
Heptachlor	42	15,000	--	--	2.0 U	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	---	---	--	--	2.0 U	--	--	--	--	--	--	--	--	--
Methoxychlor	---	---	--	--	20 U	--	--	--	--	--	--	--	--	--
Toxaphene	---	---	--	--	200 U	--	--	--	--	--	--	--	--	--
General Chemistry (mg/kg)														
Cyanide, Total	27	27	--	--	0.59 U	--	--	--	--	--	--	--	--	--
Fluoride	---	---	--	--	0.39 B	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-7 (0-0.5)	SS-7 (0.5-1.5)	SS-8 (0-0.5)	SS-9 (0-0.5)	SS-10 (0-0.5)	SS-11 (0-0.5)	SS-11 (0.5-1.5)	SS-12 (0-0.5)	SS-13 (0-0.5)	SS-13 (0-0.5)	SS-13 (0.5-1.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/20/11	4/20/11	4/19/11	4/19/11	4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11
Depth (feet bgs)[a]:			0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5
Northing:			15341399.33		15341456.09	15341478.70	15341478.11	15341465.37		15341446.62	15341400.93		
Easting:			1110602.74		1110614.34	1110635.50	1110668.42	1110700.32		1110748.23	1110764.55		
Metals (mg/kg) [b]													
Aluminum	---[f]	---	--	13,800 J	--	--	--	--	14,300 J	--	--	--	--
Antimony	---	---	--	0.21 B	--	--	--	--	0.28 B	--	--	--	--
Arsenic	13	16	--	12.9	--	--	--	--	13.1	--	--	--	--
Barium	350	400	--	122 J	--	--	--	--	101 J	--	--	--	--
Beryllium	7.2	590	--	0.71 J	--	--	--	--	0.73 J	--	--	--	--
Cadmium	2.5	9.3	0.38 B J	0.11 B J	4.8	2.7	0.62	4.9 J	0.44 B J	0.83	**21.5**	**24**	0.49 J
Calcium	---	---	--	536 B J	--	--	--	--	344 B J	--	--	--	--
Chromium	30	1,500	--	16.8	--	--	--	--	18.6	--	--	--	--
Cobalt	---	---	--	11.1	--	--	--	--	12.6	--	--	--	--
Copper	50	270	--	17.3	--	--	--	--	19.1	--	--	--	--
Iron	---	---	--	28,300 J	--	--	--	--	31,600 J	--	--	--	--
Lead	63	1,000	23.7	17.8	8.1	8.5	8.5	10.6	11.4	15.1	23.2	21	11
Magnesium	---	---	--	3,800 J	--	--	--	--	4,110 J	--	--	--	--
Manganese	1,600	10,000	--	322 J	--	--	--	--	360 J	--	--	--	--
Nickel	30	310	--	24.8	--	--	--	--	25.8	--	--	--	--
Potassium	---	---	--	838	--	--	--	--	902	--	--	--	--
Selenium	3.9	1,500	--	0.55 U	--	--	--	--	0.47 U	--	--	--	--
Silver	2	1,500	--	0.55 U	--	--	--	--	0.47 U	--	--	--	--
Sodium	---	---	--	22.4 B	--	--	--	--	49 B	--	--	--	--
Thallium	---	---	--	1.1 U	--	--	--	--	0.94 U	--	--	--	--
Vanadium	---	---	--	19.2	--	--	--	--	20.4	--	--	--	--
Zinc	109	10,000	--	58.4 J	--	--	--	--	63.1 J	--	--	--	--
Mercury	0.18	2.8	--	0.029 B	--	--	--	--	0.0028 B	--	--	--	--
Volatile Organic Compounds (µg/kg) [c]													
1,1,1-Trichloroethane	680	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,1,2,2-Tetrachloroethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,1,2-Trichloroethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,1-Dichloroethane	270	240,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,1-Dichloroethene	330	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2,4-Trichlorobenzene	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2-Dibromo-3-chloropropane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2-Dibromoethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2-Dichlorobenzene	1,100	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2-Dichloroethane	20	30,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,2-Dichloropropane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,3-Dichlorobenzene	2,400	280,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
1,4-Dichlorobenzene	1,800	130,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
2-Butanone (MEK)	120	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
2-Hexanone	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
4-Methyl-2-pentanone (MIBK)	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Acetone	50	500,000	--	1.6 J	--	--	--	--	9.7 U	--	--	--	--
Benzene	60	44,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Bromodichloromethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Bromoform	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-7 (0-0.5)	SS-7 (0.5-1.5)	SS-8 (0-0.5)	SS-9 (0-0.5)	SS-10 (0-0.5)	SS-11 (0-0.5)	SS-11 (0.5-1.5)	SS-12 (0-0.5)	SS-13 (0-0.5)	SS-13 (0-0.5)	SS-13 (0.5-1.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/20/11	4/20/11	4/19/11	4/19/11	4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11
Depth (feet bgs)[a]:			0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5
Northing:			15341399.33		15341456.09	15341478.70	15341478.11	15341465.37		15341446.62	15341400.93		
Easting:			1110602.74		1110614.34	1110635.50	1110668.42	1110700.32		1110748.23	1110764.55		
Volatile Organic Compounds (µg/kg) Cont'd													
Bromomethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Carbon disulfide	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Carbon tetrachloride	760	22,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Chlorobenzene	1,100	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Chloroethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Chloroform	370	350,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Chloromethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
cis-1,2-Dichloroethene	250	500,000	--	1.5 J	--	--	--	--	9.7 U	--	--	--	--
cis-1,3-Dichloropropene	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Cyclohexane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Dibromochloromethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Dichlorodifluoromethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Ethylbenzene	1,000	390,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Isopropylbenzene	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Methyl acetate	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Methylcyclohexane	930	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Methylene chloride	---	500,000	--	1.9 J B	--	--	--	--	2.0 J B	--	--	--	--
Methyl-tert-butyl ether	50	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Styrene	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Tetrachloroethene	1,300	150,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Toluene	700	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
trans-1,2-Dichloroethene	190	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
trans-1,3-Dichloropropene	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Trichloroethene	470	200,000	--	13	--	--	--	--	9.7 U	--	--	--	--
Trichlorofluoromethane	---	---	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Vinyl chloride	20	13,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Xylene (Total)	260	500,000	--	9.9 U	--	--	--	--	9.7 U	--	--	--	--
Semivolatile Organic Compounds (µg/kg)													
1,1'-Biphenyl	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,2'-oxybis (1-Chloropropane)	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,4,5-Trichlorophenol	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
2,4,6-Trichlorophenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,4-Dichlorophenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,4-Dimethylphenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,4-Dinitrophenol	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
2,4-Dinitrotoluene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2,6-Dinitrotoluene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2-Chloronaphthalene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2-Chlorophenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2-Methylnaphthalene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
2-Methylphenol (o-Cresol)	330	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
2-Nitroaniline	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
2-Nitrophenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
3,3'-Dichlorobenzidine	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
3-Nitroaniline	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
4,6-Dinitro-2-methylphenol	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
4-Bromophenyl phenyl ether	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-7 (0-0.5)	SS-7 (0.5-1.5)	SS-8 (0-0.5)	SS-9 (0-0.5)	SS-10 (0-0.5)	SS-11 (0-0.5)	SS-11 (0.5-1.5)	SS-12 (0-0.5)	SS-13 (0-0.5)	SS-13 (0-0.5)	SS-13 (0.5-1.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/20/11	4/20/11	4/19/11	4/19/11	4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5
Northing:			15341399.33		15341456.09	15341478.70	15341478.11	15341465.37		15341446.62	15341400.93		
Easting:			1110602.74		1110614.34	1110635.50	1110668.42	1110700.32		1110748.23	1110764.55		
Semivolatile Organic Compounds (µg/kg) Cont'd													
4-Chloro-3-methylphenol	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
4-Chloroaniline	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
4-Chlorophenyl phenyl ether	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
4-Methylphenol (p-Cresol)	330	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
4-Nitroaniline	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
4-Nitrophenol	---	---	--	900 U	--	--	--	--	940 U	--	--	--	--
Acenaphthene	20,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Acenaphthylene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Acetophenone	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Anthracene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Atrazine	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzaldehyde	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzo(a)anthracene	1,000	5,600	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzo(a)pyrene	1,000	1,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzo(b)fluoranthene	1,000	5,600	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzo(ghi)perylene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Benzo(k)fluoranthene	800	56,000	--	360 U	--	--	--	--	370 U	--	--	--	--
bis(2-Chloroethoxy)methane	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
bis(2-Chloroethyl) ether	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
bis(2-Ethylhexyl) phthalate	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Butyl benzyl phthalate	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Caprolactam	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Carbazole	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Chrysene	1,000	56,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Dibenz(a,h)anthracene	330	560	--	360 U	--	--	--	--	370 U	--	--	--	--
Dibenzofuran	7,000	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Diethyl phthalate	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Dimethyl phthalate	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Di-n-butyl phthalate	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Di-n-octyl phthalate	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Fluoranthene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Fluorene	30,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Hexachlorobenzene	330	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Hexachlorobutadiene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Hexachlorocyclopentadiene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Hexachloroethane	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Indeno(1,2,3-cd)pyrene	500	5,600	--	360 U	--	--	--	--	370 U	--	--	--	--
Isophorone	---	--	--	360 U	--	--	--	--	370 U	--	--	--	--
Naphthalene	12,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Nitrobenzene	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
N-Nitroso-di-n-propylamine	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
N-Nitrosodiphenylamine	---	---	--	360 U	--	--	--	--	370 U	--	--	--	--
Pentachlorophenol	800	6,700	--	900 U	--	--	--	--	940 U	--	--	--	--
Phenanthrene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Phenol	330	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--
Pyrene	100,000	500,000	--	360 U	--	--	--	--	370 U	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-7 (0-0.5)	SS-7 (0.5-1.5)	SS-8 (0-0.5)	SS-9 (0-0.5)	SS-10 (0-0.5)	SS-11 (0-0.5)	SS-11 (0.5-1.5)	SS-12 (0-0.5)	SS-13 (0-0.5)	SS-13 (0-0.5)	SS-13 (0.5-1.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/20/11	4/20/11	4/19/11	4/19/11	4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11
Depth (feet bgs)[a]:			0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5
Northing:			15341399.33		15341456.09	15341478.70	15341478.11	15341465.37		15341446.62	15341400.93		
Easting:			1110602.74		1110614.34	1110635.50	1110668.42	1110700.32		1110748.23	1110764.55		
Polychlorinated Biphenyls (µg/kg)													
Aroclor 1016	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Aroclor 1221	100	1,000	--	75 U	--	--	--	--	75 U	--	--	--	--
Aroclor 1232	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Aroclor 1242	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Aroclor 1248	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Aroclor 1254	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Aroclor 1260	100	1,000	--	37 U	--	--	--	--	37 U	--	--	--	--
Pesticides (µg/kg)													
4,4'-DDD	3.3	92,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
4,4'-DDE	3.3	62,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
4,4'-DDT	3.3	47,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Aldrin	5	680	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
alpha-BHC	20	3,400	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
alpha-Chlordane	94	24,000	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
beta-BHC	36	3,000	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
delta-BHC	40	500,000	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
Dieldrin	5	1,400	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Endosulfan I	2,400[8]	200,000	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
Endosulfan II	2,400[8]	200,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Endosulfan sulfate	2,400[8]	200,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Endrin	14	89,000	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Endrin aldehyde	---	---	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
Endrin ketone	---	---	--	3.7 U	--	--	--	--	3.7 U	--	--	--	--
gamma-BHC (Lindane)	100	9,200	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
gamma-Chlordane	---	---	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
Heptachlor	42	15,000	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
Heptachlor epoxide	---	---	--	1.9 U	--	--	--	--	1.9 U	--	--	--	--
Methoxychlor	---	---	--	19 U	--	--	--	--	19 U	--	--	--	--
Toxaphene	---	---	--	190 U	--	--	--	--	190 U	--	--	--	--
General Chemistry (mg/kg)													
Cyanide, Total	27	27	--	0.56 U	--	--	--	--	0.57 U	--	--	--	--
Fluoride	---	---	--	0.89	--	--	--	--	0.34 B	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-14 (0-0.5)	SS-15 (0-0.5)	SS-15 (0.5-1.5)	SS-16 (0-0.5)	SS-18 (0-0.5)	SS-18 (0-0.5)	SS-18 (0.5-1.5)[(j)]		SS-18 (1.5-2.5)	SS-18 (2.5-3.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	1.5-2.5	2.5-3.5
Northing:			15341375.59	15341338.38		15341297.15	15341346.07	15341346.07				
Easting:			1110782.84	1110804.55		1110790.89	1110724.61	1110724.61				
Metals (mg/kg) [(b)]												
Aluminum	---[(f)]	---	--	--	13,100 J	--	--	--	--	--	--	--
Antimony	---	---	--	--	0.22 B	--	--	--	--	--	--	--
Arsenic	13	16	--	--	11.1	--	--	--	--	--	--	--
Barium	350	400	--	--	103 J	--	--	--	--	--	--	--
Beryllium	7.2	590	--	--	0.74 J	--	--	--	--	--	--	--
Cadmium	2.5	9.3	6.9	0.88 J	0.097 B J	1.3	**699**	**220**	**34**	**17**	**19**	5.3
Calcium	---	---	--	--	508 J	--	--	--	--	--	--	--
Chromium	30	1,500	--	--	16.8	--	--	--	--	--	--	--
Cobalt	---	---	--	--	11.8	--	--	--	--	--	--	--
Copper	50	270	--	--	18.6	--	--	--	--	--	--	--
Iron	---	---	--	--	28,400 J	--	--	--	--	--	--	--
Lead	63	1,000	14.0	11.5	10.7	14.5	68.8	28	14	15	15	13
Magnesium	---	---	--	--	3,950 J	--	--	--	--	--	--	--
Manganese	1,600	10,000	--	--	372 J	--	--	--	--	--	--	--
Nickel	30	310	--	--	25	--	--	--	--	--	--	--
Potassium	---	---	--	--	922	--	--	--	--	--	--	--
Selenium	3.9	1,500	--	--	0.49 U	--	--	--	--	--	--	--
Silver	2	1,500	--	--	0.49 U	--	--	--	--	--	--	--
Sodium	---	---	--	--	61.6 B	--	--	--	--	--	--	--
Thallium	---	---	--	--	0.98 U	--	--	--	--	--	--	--
Vanadium	---	---	--	--	19	--	--	--	--	--	--	--
Zinc	109	10,000	--	--	60.2 J	--	--	--	--	--	--	--
Mercury	0.18	2.8	--	--	0.029 B	--	--	--	--	--	--	--
Volatile Organic Compounds (µg/kg) [(c)]												
1,1,1-Trichloroethane	680	500,000	--	--	10 U	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,1-Dichloroethane	270	240,000	--	--	10 U	--	--	--	--	--	--	--
1,1-Dichloroethene	330	500,000	--	--	10 U	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	---	---	--	--	10 U	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,2-Dibromoethane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1,100	500,000	--	--	10 U	--	--	--	--	--	--	--
1,2-Dichloroethane	20	30,000	--	--	10 U	--	--	--	--	--	--	--
1,2-Dichloropropane	---	---	--	--	10 U	--	--	--	--	--	--	--
1,3-Dichlorobenzene	2,400	280,000	--	--	10 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1,800	130,000	--	--	10 U	--	--	--	--	--	--	--
2-Butanone (MEK)	120	500,000	--	--	10 U	--	--	--	--	--	--	--
2-Hexanone	---	---	--	--	10 U	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	---	---	--	--	10 U	--	--	--	--	--	--	--
Acetone	50	500,000	--	--	4.5 J	--	--	--	--	--	--	--
Benzene	60	44,000	--	--	10 U	--	--	--	--	--	--	--
Bromodichloromethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Bromoform	---	---	--	--	10 U	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-14 (0-0.5)	SS-15 (0-0.5)	SS-15 (0.5-1.5)	SS-16 (0-0.5)	SS-18 (0-0.5)	SS-18 (0-0.5)	SS-18 (0.5-1.5)[(j)]		SS-18 (1.5-2.5)	SS-18 (2.5-3.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	1.5-2.5	2.5-3.5
Northing:			15341375.59	15341338.38		15341297.15	15341346.07	15341346.07				
Easting:			1110782.84	1110804.55		1110790.89	1110724.61	1110724.61				
Volatile Organic Compounds (µg/kg) Cont'd												
Bromomethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Carbon disulfide	---	---	--	--	10 U	--	--	--	--	--	--	--
Carbon tetrachloride	760	22,000	--	--	10 U	--	--	--	--	--	--	--
Chlorobenzene	1,100	500,000	--	--	10 U	--	--	--	--	--	--	--
Chloroethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Chloroform	370	350,000	--	--	10 U	--	--	--	--	--	--	--
Chloromethane	---	---	--	--	10 U	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	250	500,000	--	--	10 U	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	---	---	--	--	10 U	--	--	--	--	--	--	--
Cyclohexane	---	---	--	--	10 U	--	--	--	--	--	--	--
Dibromochloromethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Dichlorodifluoromethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Ethylbenzene	1,000	390,000	--	--	10 U	--	--	--	--	--	--	--
Isopropylbenzene	---	---	--	--	10 U	--	--	--	--	--	--	--
Methyl acetate	---	---	--	--	10 U	--	--	--	--	--	--	--
Methylcyclohexane	930	---	--	--	10 U	--	--	--	--	--	--	--
Methylene chloride	---	500,000	--	--	1.6 J B	--	--	--	--	--	--	--
Methyl-tert-butyl ether	50	500,000	--	--	10 U	--	--	--	--	--	--	--
Styrene	---	---	--	--	10 U	--	--	--	--	--	--	--
Tetrachloroethene	1,300	150,000	--	--	10 U	--	--	--	--	--	--	--
Toluene	700	500,000	--	--	10 U	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	190	500,000	--	--	10 U	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	---	---	--	--	10 U	--	--	--	--	--	--	--
Trichloroethene	470	200,000	--	--	10 U	--	--	--	--	--	--	--
Trichlorofluoromethane	---	---	--	--	10 U	--	--	--	--	--	--	--
Vinyl chloride	20	13,000	--	--	10 U	--	--	--	--	--	--	--
Xylene (Total)	260	500,000	--	--	10 U	--	--	--	--	--	--	--
Semivolatile Organic Compounds (µg/kg)												
1,1'-Biphenyl	---	---	--	--	370 U	--	--	--	--	--	--	--
2,2'-oxybis (1-Chloropropane)	---	---	--	--	370 U	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	---	---	--	--	930 U	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	---	---	--	--	370 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	---	---	--	--	370 U	--	--	--	--	--	--	--
2,4-Dimethylphenol	---	---	--	--	370 U	--	--	--	--	--	--	--
2,4-Dinitrophenol	---	---	--	--	930 U	--	--	--	--	--	--	--
2,4-Dinitrotoluene	---	---	--	--	370 U	--	--	--	--	--	--	--
2,6-Dinitrotoluene	---	---	--	--	370 U	--	--	--	--	--	--	--
2-Chloronaphthalene	---	---	--	--	370 U	--	--	--	--	--	--	--
2-Chlorophenol	---	---	--	--	370 U	--	--	--	--	--	--	--
2-Methylnaphthalene	---	---	--	--	370 U	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	330	500,000	--	--	370 U	--	--	--	--	--	--	--
2-Nitroaniline	---	---	--	--	930 U	--	--	--	--	--	--	--
2-Nitrophenol	---	---	--	--	370 U	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	---	---	--	--	370 U	--	--	--	--	--	--	--
3-Nitroaniline	---	---	--	--	930 U	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	---	---	--	--	930 U	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	---	---	--	--	370 U	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-14 (0-0.5)	SS-15 (0-0.5)	SS-15 (0.5-1.5)	SS-16 (0-0.5)	SS-18 (0-0.5)	SS-18 (0-0.5)	SS-18 (0.5-1.5)[j]		SS-18 (1.5-2.5)	SS-18 (2.5-3.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[a]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	1.5-2.5	2.5-3.5
Northing:			15341375.59	15341338.38		15341297.15	15341346.07	15341346.07				
Easting:			1110782.84	1110804.55		1110790.89	1110724.61	1110724.61				
Semivolatile Organic Compounds (µg/kg) Cont'd												
4-Chloro-3-methylphenol	---	---	--	--	370 U	--	--	--	--	--	--	--
4-Chloroaniline	---	---	--	--	370 U	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	---	---	--	--	370 U	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	330	500,000	--	--	370 U	--	--	--	--	--	--	--
4-Nitroaniline	---	---	--	--	930 U	--	--	--	--	--	--	--
4-Nitrophenol	---	---	--	--	930 U	--	--	--	--	--	--	--
Acenaphthene	20,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Acenaphthylene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Acetophenone	---	--	--	--	370 U	--	--	--	--	--	--	--
Anthracene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Atrazine	---	---	--	--	370 U	--	--	--	--	--	--	--
Benzaldehyde	---	---	--	--	370 U	--	--	--	--	--	--	--
Benzo(a)anthracene	1,000	5,600	--	--	370 U	--	--	--	--	--	--	--
Benzo(a)pyrene	1,000	1,000	--	--	370 U	--	--	--	--	--	--	--
Benzo(b)fluoranthene	1,000	5,600	--	--	370 U	--	--	--	--	--	--	--
Benzo(ghi)perylene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Benzo(k)fluoranthene	800	56,000	--	--	370 U	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	---	---	--	--	370 U	--	--	--	--	--	--	--
bis(2-Chloroethyl) ether	---	---	--	--	370 U	--	--	--	--	--	--	--
bis(2-Ethylhexyl) phthalate	---	---	--	--	370 U	--	--	--	--	--	--	--
Butyl benzyl phthalate	---	---	--	--	370 U	--	--	--	--	--	--	--
Caprolactam	---	---	--	--	370 U	--	--	--	--	--	--	--
Carbazole	---	---	--	--	370 U	--	--	--	--	--	--	--
Chrysene	1,000	56,000	--	--	370 U	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	330	560	--	--	370 U	--	--	--	--	--	--	--
Dibenzofuran	7,000	--	--	--	370 U	--	--	--	--	--	--	--
Diethyl phthalate	---	--	--	--	370 U	--	--	--	--	--	--	--
Dimethyl phthalate	---	--	--	--	370 U	--	--	--	--	--	--	--
Di-n-butyl phthalate	---	--	--	--	370 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	---	--	--	--	370 U	--	--	--	--	--	--	--
Fluoranthene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Fluorene	30,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Hexachlorobenzene	330	---	--	--	370 U	--	--	--	--	--	--	--
Hexachlorobutadiene	---	---	--	--	370 U	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	---	---	--	--	370 U	--	--	--	--	--	--	--
Hexachloroethane	---	---	--	--	370 U	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	500	5,600	--	--	370 U	--	--	--	--	--	--	--
Isophorone	---	--	--	--	370 U	--	--	--	--	--	--	--
Naphthalene	12,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Nitrobenzene	---	---	--	--	370 U	--	--	--	--	--	--	--
N-Nitroso-di-n-propylamine	---	---	--	--	370 U	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	---	---	--	--	370 U	--	--	--	--	--	--	--
Pentachlorophenol	800	6,700	--	--	930 U	--	--	--	--	--	--	--
Phenanthrene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--
Phenol	330	500,000	--	--	370 U	--	--	--	--	--	--	--
Pyrene	100,000	500,000	--	--	370 U	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][d]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][e]	SS-14 (0-0.5)	SS-15 (0-0.5)	SS-15 (0.5-1.5)	SS-16 (0-0.5)	SS-18 (0-0.5)	SS-18 (0-0.5)	SS-18 (0.5-1.5)[j]		SS-18 (1.5-2.5)	SS-18 (2.5-3.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	4/20/11	4/20/11	4/19/11	4/19/11	8/18/11	8/18/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[a]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0.5-1.5	0.5-1.5	1.5-2.5	2.5-3.5
Northing:			15341375.59	15341338.38		15341297.15	15341346.07	15341346.07				
Easting:			1110782.84	1110804.55		1110790.89	1110724.61	1110724.61				
Polychlorinated Biphenyls (µg/kg)												
Aroclor 1016	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Aroclor 1221	100	1,000	--	--	74 U	--	--	--	--	--	--	--
Aroclor 1232	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Aroclor 1242	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Aroclor 1248	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Aroclor 1254	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Aroclor 1260	100	1,000	--	--	37 U	--	--	--	--	--	--	--
Pesticides (µg/kg)												
4,4'-DDD	3.3	92,000	--	--	3.7 U	--	--	--	--	--	--	--
4,4'-DDE	3.3	62,000	--	--	3.7 U	--	--	--	--	--	--	--
4,4'-DDT	3.3	47,000	--	--	3.7 U	--	--	--	--	--	--	--
Aldrin	5	680	--	--	1.9 U	--	--	--	--	--	--	--
alpha-BHC	20	3,400	--	--	1.9 U	--	--	--	--	--	--	--
alpha-Chlordane	94	24,000	--	--	1.9 U	--	--	--	--	--	--	--
beta-BHC	36	3,000	--	--	1.9 U	--	--	--	--	--	--	--
delta-BHC	40	500,000	--	--	1.9 U	--	--	--	--	--	--	--
Dieldrin	5	1,400	--	--	3.7 U	--	--	--	--	--	--	--
Endosulfan I	2,400[8]	200,000	--	--	1.9 U	--	--	--	--	--	--	--
Endosulfan II	2,400[8]	200,000	--	--	3.7 U	--	--	--	--	--	--	--
Endosulfan sulfate	2,400[8]	200,000	--	--	3.7 U	--	--	--	--	--	--	--
Endrin	14	89,000	--	--	3.7 U	--	--	--	--	--	--	--
Endrin aldehyde	---	---	--	--	3.7 U	--	--	--	--	--	--	--
Endrin ketone	---	---	--	--	3.7 U	--	--	--	--	--	--	--
gamma-BHC (Lindane)	100	9,200	--	--	1.9 U	--	--	--	--	--	--	--
gamma-Chlordane	---	---	--	--	1.9 U	--	--	--	--	--	--	--
Heptachlor	42	15,000	--	--	1.9 U	--	--	--	--	--	--	--
Heptachlor epoxide	---	---	--	--	1.9 U	--	--	--	--	--	--	--
Methoxychlor	---	---	--	--	19 U	--	--	--	--	--	--	--
Toxaphene	---	---	--	--	190 U	--	--	--	--	--	--	--
General Chemistry (mg/kg)												
Cyanide, Total	27	27	--	--	0.56 U	--	--	--	--	--	--	--
Fluoride	---	---	--	--	0.79	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-19 (0-0.5)	SS-19 (0-0.5)	SS-19 (0.5-1.5)	SS-20 (0-0.5)	SS-20 (0-0.5)	SS-20 (0.5-1.5)	SS-21 (0-0.5)	SS-26 (0-0.5)	SS-27 (0-0.5)	SS-28 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5
Northing:			15341380.81			15341428.15			15341409.65	15341276.11	15341313.79	15341403.36
Easting:			1110714.87			1110706.40			1110659.89	1110729.60	1110574.16	1110777.08
Metals (mg/kg) [(b)]												
Aluminum	---[(f)]	---	--	--	--	--	--	--	--	--	--	--
Antimony	---	---	--	--	--	--	--	--	--	--	--	--
Arsenic	13	16	--	--	--	--	--	--	--	--	--	--
Barium	350	400	--	--	--	--	--	--	--	--	--	--
Beryllium	7.2	590	--	--	--	--	--	--	--	--	--	--
Cadmium	2.5	9.3	**34.5 J**	**370**	5.1	**34.7**	7.1	0.55	4.3 J	1.9	3.8	1.5
Calcium	---	---	--	--	--	--	--	--	--	--	--	--
Chromium	30	1,500	--	--	--	--	--	--	--	--	--	--
Cobalt	---	---	--	--	--	--	--	--	--	--	--	--
Copper	50	270	--	--	--	--	--	--	--	--	--	--
Iron	---	---	--	--	--	--	--	--	--	--	--	--
Lead	63	1,000	19.6	47	24	18.9	11	7.6	19.2	19	19	17
Magnesium	---	---	--	--	--	--	--	--	--	--	--	--
Manganese	1,600	10,000	--	--	--	--	--	--	--	--	--	--
Nickel	30	310	--	--	--	--	--	--	--	--	--	--
Potassium	---	---	--	--	--	--	--	--	--	--	--	--
Selenium	3.9	1,500	--	--	--	--	--	--	--	--	--	--
Silver	2	1,500	--	--	--	--	--	--	--	--	--	--
Sodium	---	---	--	--	--	--	--	--	--	--	--	--
Thallium	---	---	--	--	--	--	--	--	--	--	--	--
Vanadium	---	---	--	--	--	--	--	--	--	--	--	--
Zinc	109	10,000	--	--	--	--	--	--	--	--	--	--
Mercury	0.18	2.8	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (µg/kg) [(c)]												
1,1,1-Trichloroethane	680	500,000	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	---	---	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	---	---	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	270	240,000	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	330	500,000	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	---	---	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	---	---	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	---	---	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	1,100	500,000	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	20	30,000	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	---	---	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	2,400	280,000	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	1,800	130,000	--	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	120	500,000	--	--	--	--	--	--	--	--	--	--
2-Hexanone	---	---	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	---	---	--	--	--	--	--	--	--	--	--	--
Acetone	50	500,000	--	--	--	--	--	--	--	--	--	--
Benzene	60	44,000	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	---	---	--	--	--	--	--	--	--	--	--	--
Bromoform	---	---	--	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-19 (0-0.5)	SS-19 (0-0.5)	SS-19 (0.5-1.5)	SS-20 (0-0.5)	SS-20 (0-0.5)	SS-20 (0.5-1.5)	SS-21 (0-0.5)	SS-26 (0-0.5)	SS-27 (0-0.5)	SS-28 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5
Northing:			15341380.81			15341428.15			15341409.65	15341276.11	15341313.79	15341403.36
Easting:			1110714.87			1110706.40			1110659.89	1110729.60	1110574.16	1110777.08
Volatile Organic Compounds (µg/kg) Cont'd												
Bromomethane	---	---	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	---	---	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	760	22,000	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	1,100	500,000	--	--	--	--	--	--	--	--	--	--
Chloroethane	---	---	--	--	--	--	--	--	--	--	--	--
Chloroform	370	350,000	--	--	--	--	--	--	--	--	--	--
Chloromethane	---	---	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	250	500,000	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	---	---	--	--	--	--	--	--	--	--	--	--
Cyclohexane	---	---	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	---	---	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	---	---	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	1,000	390,000	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	---	---	--	--	--	--	--	--	--	--	--	--
Methyl acetate	---	---	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	930	---	--	--	--	--	--	--	--	--	--	--
Methylene chloride	---	500,000	--	--	--	--	--	--	--	--	--	--
Methyl-tert-butyl ether	50	500,000	--	--	--	--	--	--	--	--	--	--
Styrene	---	---	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	1,300	150,000	--	--	--	--	--	--	--	--	--	--
Toluene	700	500,000	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	190	500,000	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	---	---	--	--	--	--	--	--	--	--	--	--
Trichloroethene	470	200,000	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	---	---	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	20	13,000	--	--	--	--	--	--	--	--	--	--
Xylene (Total)	260	500,000	--	--	--	--	--	--	--	--	--	--
Semivolatile Organic Compounds (µg/kg)												
1,1'-Biphenyl	---	---	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis (1-Chloropropane)	---	---	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	---	---	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	---	---	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	---	---	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	---	---	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	---	---	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	---	---	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	---	---	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	---	---	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	---	---	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	---	---	--	--	--	--	--	--	--	--	--	--
2-Methylphenol (o-Cresol)	330	500,000	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	---	---	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	---	---	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	---	---	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	---	---	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	---	---	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	---	---	--	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-19 (0-0.5)	SS-19 (0-0.5)	SS-19 (0.5-1.5)	SS-20 (0-0.5)	SS-20 (0-0.5)	SS-20 (0.5-1.5)	SS-21 (0-0.5)	SS-26 (0-0.5)	SS-27 (0-0.5)	SS-28 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5
Northing:			15341380.81			15341428.15			15341409.65	15341276.11	15341313.79	15341403.36
Easting:			1110714.87			1110706.40			1110659.89	1110729.60	1110574.16	1110777.08
Semivolatile Organic Compounds (µg/kg) Cont'd												
4-Chloro-3-methylphenol	---	---	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	---	---	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	---	---	--	--	--	--	--	--	--	--	--	--
4-Methylphenol (p-Cresol)	330	500,000	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	---	---	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	---	---	--	--	--	--	--	--	--	--	--	--
Acenaphthene	20,000	500,000	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	100,000	500,000	--	--	--	--	--	--	--	--	--	--
Acetophenone	---	--	--	--	--	--	--	--	--	--	--	--
Anthracene	100,000	500,000	--	--	--	--	--	--	--	--	--	--
Atrazine	---	---	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	---	---	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	1,000	5,600	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	1,000	1,000	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	1,000	5,600	--	--	--	--	--	--	--	--	--	--
Benzo(ghi)perylene	100,000	500,000	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	800	56,000	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	---	---	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl) ether	---	---	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl) phthalate	---	---	--	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	---	---	--	--	--	--	--	--	--	--	--	--
Caprolactam	---	---	--	--	--	--	--	--	--	--	--	--
Carbazole	---	---	--	--	--	--	--	--	--	--	--	--
Chrysene	1,000	56,000	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	330	560	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	7,000	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	---	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	---	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	---	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	---	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	100,000	500,000	--	--	--	--	--	--	--	--	--	--
Fluorene	30,000	500,000	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	330	---	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	---	---	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	---	---	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	---	---	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	500	5,600	--	--	--	--	--	--	--	--	--	--
Isophorone	---	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	12,000	500,000	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	---	---	--	--	--	--	--	--	--	--	--	--
N-Nitroso-di-n-propylamine	---	---	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	---	---	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	800	6,700	--	--	--	--	--	--	--	--	--	--
Phenanthrene	100,000	500,000	--	--	--	--	--	--	--	--	--	--
Phenol	330	500,000	--	--	--	--	--	--	--	--	--	--
Pyrene	100,000	500,000	--	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][(d)]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][(e)]	SS-19 (0-0.5)	SS-19 (0-0.5)	SS-19 (0.5-1.5)	SS-20 (0-0.5)	SS-20 (0-0.5)	SS-20 (0.5-1.5)	SS-21 (0-0.5)	SS-26 (0-0.5)	SS-27 (0-0.5)	SS-28 (0-0.5)
Sample Media:			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Collection Date:			4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	4/19/11	8/18/11	8/18/11	8/18/11
Depth (feet bgs)[(a)]:			0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0.5-1.5	0-0.5	0-0.5	0-0.5	0-0.5
Northing:			15341380.81			15341428.15			15341409.65	15341276.11	15341313.79	15341403.36
Easting:			1110714.87			1110706.40			1110659.89	1110729.60	1110574.16	1110777.08
Polychlorinated Biphenyls (µg/kg)												
Aroclor 1016	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	100	1,000	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	100	1,000	--	--	--	--	--	--	--	--	--	--
Pesticides (µg/kg)												
4,4'-DDD	3.3	92,000	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	3.3	62,000	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	3.3	47,000	--	--	--	--	--	--	--	--	--	--
Aldrin	5	680	--	--	--	--	--	--	--	--	--	--
alpha-BHC	20	3,400	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	94	24,000	--	--	--	--	--	--	--	--	--	--
beta-BHC	36	3,000	--	--	--	--	--	--	--	--	--	--
delta-BHC	40	500,000	--	--	--	--	--	--	--	--	--	--
Dieldrin	5	1,400	--	--	--	--	--	--	--	--	--	--
Endosulfan I	2,400[(8)]	200,000	--	--	--	--	--	--	--	--	--	--
Endosulfan II	2,400[(8)]	200,000	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	2,400[(8)]	200,000	--	--	--	--	--	--	--	--	--	--
Endrin	14	89,000	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	---	---	--	--	--	--	--	--	--	--	--	--
Endrin ketone	---	---	--	--	--	--	--	--	--	--	--	--
gamma-BHC (Lindane)	100	9,200	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	---	---	--	--	--	--	--	--	--	--	--	--
Heptachlor	42	15,000	--	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	---	---	--	--	--	--	--	--	--	--	--	--
Methoxychlor	---	---	--	--	--	--	--	--	--	--	--	--
Toxaphene	---	---	--	--	--	--	--	--	--	--	--	--
General Chemistry (mg/kg)												
Cyanide, Total	27	27	--	--	--	--	--	--	--	--	--	--
Fluoride	---	---	--	--	--	--	--	--	--	--	--	--

TABLE 3
SOIL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Notes

(a) bgs = below ground surface.

(b) mg/kg = milligram per kilogram, or parts per million (ppm).

(c) µg/kg = microgram per kilogram, or parts per billion (ppb).

(d) New York Code, Rules and Regulations (NYCRR), Title 6, Part 375, Subpart 375-6.8(a): Unrestricted Use Soil Cleanup Cleanup Objectives.

(e) NYCRR, Title 6, Part 375, Subpart 375-6.8(b: Restricted Use Soil Cleanup Objectives - Commercial.

(f) "---" indicates that a Soil Cleanup Objective has not been established for this compound.

(g) "--" indicates that the parameter was not analyzed.

(h) Laboratory data qualifiers are as follows:

U = Result is less than the laboratory reporting limit.

J = Estimated result. Result is less than the reporting limit.

B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.

(i) Shaded and **bold** results indicate an exceedance of the NYSDEC Commercial Soil Cleanup Objective.

(j) Duplicate sample was collected at this location.

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-1(0-0.5) 5/10/2011	TP-1(2-2.5) 5/10/2011	TP-2 (0-0.5) 5/11/2011	TP-2 (2-2.5) 5/11/2011	TP-3 (0-0.5) 5/11/2011	TP-3 (2-2.5) 5/11/2011	TP-4 (0-0.5) 5/11/2011	TP-4 (2-2.5) 5/11/2011
Northing:			15341841.44		15341857.41		15341770.70		15341705.97	
Easting :			1110605.71		1110479.67		1110408.32		1110360.07	
Metals (mg/kg) [c]										
Aluminum	---[d]	---	12,200 J[c]	13,000 J	12,400 J	13,400 J	11,900 J	14,100 J	12,600 J	12,400 J
Antimony	---	---	1.1 UJ	0.21 BJ	1.1 UJ	0.34 BJ	0.26 BJ	0.2 BJ	0.27 BJ	1.1 UJ
Arsenic	13	16	6.1	7.3	6.6	12.5	7.3	8.9	8.3	9.8
Barium	350	400	45.4 J	59.4 J	48.2	77.8	95.3	73.9	71.6	120
Beryllium	7.2	590	0.59 J	0.64 J	0.63 J	0.76 J	0.63 J	0.67 J	0.66 J	0.75 J
Cadmium	2.5	9.3	0.36 B	1.3	0.56 U	0.53 U	**10.2** [f]	0.4 B	0.2 B	0.55 U
Calcium	---	---	683 J	914 J	265 B J	566 J	1,830 J	935 J	817 J	908 J
Chromium	30	1,500	13.5	16.2	16	18.1	14	17.3	15.8	16.8
Cobalt	---	--	11.6	12.2	10.2	13.2	9.3	13.3	15.4	11.5
Copper	50	270	9.5	15.3	12.9	13.3	10.4	16.7	15.1	16.8
Iron	---	---	28,000 J	28,200 J	25,100	29,200	25,300	29,800	28,500	29,500
Lead	63	1,000	16.2	25.4	7.2	9.6	24.8	12	12.9	7.1
Magnesium	---	---	3,480 J	4,230 J	4,120 J	4,610 J	3,050 J	4,360 J	3,920 J	4,310 J
Manganese	1,600	10,000	453 J	522 J	307	395	795	588	540	402
Nickel	30	310	22.2	26	26	27.3	20	26.2	25.2	27.3
Potassium	---	---	494 B	646	522 B	802	633	698	630	805
Selenium	3.9	1,500	0.57 U	0.51 U	0.56 U	0.53 U	0.6 U	0.58 U	0.59 U	0.55 U
Silver	2	1,500	0.57 U	0.51 U	0.56 U	0.53 U	0.6 U	0.58 U	0.59 U	0.55 U
Sodium	---	---	36.2 B	25.5 B	16.4 B	530 U	23 B	13.9 B	589 U	552 U
Thallium	---	---	1.1 U	1 U	0.43 B	1.1 U	0.25 B	1.2 U	0.3 B	1.1 U
Vanadium	---	---	18.5	18.8	16.9	18.4	18.1	19.5	19.2	18
Zinc	109	10,000	59.3 J	65 J	50.7 J	58.6 J	121 J	69.1 J	66.9 J	60 J E
Mercury	0.18	2.8	0.049	0.028 B	0.031 B	0.02 B	0.054	0.032 B	0.035 B	0.016 B
Volatile Organic Compounds (µg/kg) [g]										
1,1,1-Trichloroethane	680	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,1,2,2-Tetrachloroethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,1,2-Trichloroethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,1-Dichloroethane	270	240,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,1-Dichloroethene	330	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2,4-Trichlorobenzene	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2-Dibromo-3-chloropropane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2-Dibromoethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2-Dichlorobenzene	1,100	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2-Dichloroethane	20	30,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,2-Dichloropropane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,3-Dichlorobenzene	2,400	280,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
1,4-Dichlorobenzene	1,800	130,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
2-Butanone (Methyl Ethyl Ketone)	120	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
2-Hexanone	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
4-Methyl-2-pentanone	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Acetone	50	500,000	24 J	22 U	26 U	24 U	22 U	23 U	26 U	21 U
Benzene	60	44,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Bromodichloromethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Bromoform	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Bromomethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Carbon disulfide	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Carbon tetrachloride	760	22,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Chlorobenzene	1,100	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Chloroethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Chloroform	370	350,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Chloromethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
cis-1,2-Dichloroethene	250	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
cis-1,3-Dichloropropene	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Cyclohexane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-1(0-0.5) 5/10/2011	TP-1(2-2.5) 5/10/2011	TP-2 (0-0.5) 5/11/2011	TP-2 (2-2.5) 5/11/2011	TP-3 (0-0.5) 5/11/2011	TP-3 (2-2.5) 5/11/2011	TP-4 (0-0.5) 5/11/2011	TP-4 (2-2.5) 5/11/2011
Northing:			15341841.44		15341857.41		15341770.70		15341705.97	
Easting :			1110605.71		1110479.67		1110408.32		1110360.07	
Volatile Organic Compounds (µg/kg) [7] ***Cont'd***										
Dibromochloromethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Dichlorodifluoromethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Ethylbenzene	1,000	390,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Isopropylbenzene	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Methyl acetate	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Methyl tert-butyl ether	930	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Methylcyclohexane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Methylene chloride	50	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Styrene	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Tetrachloroethene	1,300	150,000	5.9 U	5.5 U	6.4 U	6 U	1.1 J	5.8 U	6.4 U	5.3 U
Toluene	700	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
trans-1,2-Dichloroethene	190	500,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
trans-1,3-Dichloropropene	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Trichloroethene	470	200,000	5.9 UJ	5.5 UJ	6.4 UJ	6 UJ	5.4 UJ	5.8 UJ	6.4 UJ	5.3 UJ
Trichlorofluoromethane	---	---	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Vinyl chloride	20	13,000	5.9 U	5.5 U	6.4 U	6 U	5.4 U	5.8 U	6.4 U	5.3 U
Xylenes (total)	260	500,000	18 U	17 U	19 U	18 U	16 U	17 U	19 U	16 U
Semivolatile Organic Compounds (µg/kg)										
1,1'-Biphenyl	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2,2'-oxybis(1-Chloropropane)	---	---	81	74 U	76 U	74 U	79 U	78 U	81 U	75 U
2,4,5-Trichlorophenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2,4,6-Trichlorophenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2,4-Dichlorophenol	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
2,4-Dimethylphenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2,4-Dinitrophenol	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
2,4-Dinitrotoluene	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2,6-Dinitrotoluene	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2-Chloronaphthalene	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
2-Chlorophenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2-Methylnaphthalene	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
2-Methylphenol (o-Cresol)	330	500,000	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
2-Nitroaniline	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
2-Nitrophenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
3,3'-Dichlorobenzidine	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
3-Nitroaniline	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
4,6-Dinitro-2-methylphenol	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
4-Bromophenyl phenyl ether	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
4-Chloro-3-methylphenol	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
4-Chloroaniline	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
4-Chlorophenyl phenyl ether	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
4-Methylphenol (p-Cresol)	330	500,000	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
4-Nitroaniline	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
4-Nitrophenol	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
Acenaphthene	20,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Acenaphthylene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Acetophenone	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Anthracene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Atrazine	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Benzaldehyde	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Benzo(a)anthracene	1,000	5,600	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Benzo(a)pyrene	1,000	1,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Benzo(b)fluoranthene	1,000	5,600	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Benzo(ghi)perylene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Benzo(k)fluoranthene	800	56,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
bis(2-Chloroethoxy)methane	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
bis(2-Chloroethyl) ether	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
bis(2-Ethylhexyl) phthalate	---	---	810 U	740 U	760 U	740 U	97 J	780 U	810 U	750 U
Butyl benzyl phthalate	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-1(0-0.5) 5/10/2011	TP-1(2-2.5) 5/10/2011	TP-2 (0-0.5) 5/11/2011	TP-2 (2-2.5) 5/11/2011	TP-3 (0-0.5) 5/11/2011	TP-3 (2-2.5) 5/11/2011	TP-4 (0-0.5) 5/11/2011	TP-4 (2-2.5) 5/11/2011
Northing:			15341841.44		15341857.41		15341770.70		15341705.97	
Easting :			1110605.71		1110479.67		1110408.32		1110360.07	
Semivolatile Organic Compounds (µg/kg) Cont'd										
Caprolactam	---	---	2,100 U	1,900 U	1,900 U	1,900 U	2,000 U	2,000 U	2,100 U	1,900 U
Carbazole	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Chrysene	1,000	56,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Dibenz(a,h)anthracene	330	560	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Dibenzofuran	7,000	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Diethyl phthalate	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Dimethyl phthalate	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Di-n-butyl phthalate	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Di-n-octyl phthalate	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Fluoranthene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Fluorene	30,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Hexachlorobenzene	330	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Hexachlorobutadiene	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Hexachlorocyclopentadiene	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Hexachloroethane	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Indeno(1,2,3-cd)pyrene	500	5,600	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Isophorone	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Naphthalene	12,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Nitrobenzene	---	---	810 U	740 U	760 U	740 U	790 U	780 U	810 U	750 U
N-Nitrosodi-n-propylamine	---	---	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
N-Nitrosodiphenylamine	---	---	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Pentachlorophenol	800	6,700	400 U	360 U	370 U	360 U	390 U	380 U	400 U	370 U
Phenanthrene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Phenol	330	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Pyrene	100,000	500,000	81 U	74 U	76 U	74 U	79 U	78 U	81 U	75 U
Polychlorinated Biphenyls (µg/kg)										
Aroclor 1016	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Aroclor 1221	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Aroclor 1232	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Aroclor 1242	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Aroclor 1248	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Aroclor 1254	100	1,000	20 U	18 U	19 U	18 U	21 J	19 U	20 U	19 U
Aroclor 1260	100	1,000	20 U	18 U	19 U	18 U	20 U	19 U	20 U	19 U
Pesticides (µg/kg)										
4,4'-DDD	3.3	92,000	2.1 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 UJ	2 UJ	2.1 UJ	1.9 UJ
4,4'-DDE	3.3	62,000	0.93 J	1.9 U	1.9 U	1.9 U	2.8 J	2 U	R	1.9 U
4,4'-DDT	3.3	47,000	2.1 UJ	1.9 UJ	1.9 U	1.9 U	2.4 J	2 U	2.1 U	1.9 U
Aldrin	5	680	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	R	1.9 U
alpha-BHC	20	3,400	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
alpha-Chlordane	94	24,000	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
beta-BHC	36	3,000	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
delta-BHC	40	500,000	2.1 U	1.9 U	1.9 U	1.9 U	R	R	R	1.9 U
Dieldrin	5	1,400	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 J	2.1 U	1.9 U
Endosulfan I	2,400[h]	2,000,008[h]	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Endosulfan II	2,400[h]	2,000,008[h]	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Endosulfan sulfate	2,400[h]	2,000,008[h]	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Endrin	14	89,000	2.1 U	1.9 U	1.9 U	1.9 U	2 U	R	2.1 U	1.9 U
Endrin aldehyde	---	---	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Endrin ketone	---	---	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
gamma-BHC (Lindane)	100	9,200	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
gamma-Chlordane	---	---	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Heptachlor	42	15,000	2.1 U	1.9 U	1.9 U	1.9 U	2 U	R	2.1 U	R
Heptachlor epoxide	---	---	2.1 U	1.9 U	1.9 U	1.9 U	2 U	2 U	2.1 U	1.9 U
Methoxychlor	---	---	4 UJ	3.6 UJ	3.7 U	3.6 U	3.9 U	3.8 U	4 U	3.7 U
Toxaphene	---	---	81 U	74 U	76 U	74 U	80 U	77 U	81 U	75 U
General Chemistry (mg/kg)										
Total Cyanide	27	27	0.13 B	0.55 U	0.57 U	0.56 U	0.51 B	0.58 U	0.3 B	0.56 U
Fluoride	---	---	7.5 J	44.3 J	1.1	1.3	38	19.4	3	2.2

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-5 (0-0.5) 5/11/2011 [i]	TP-5 (2-2.5) 5/11/2011	TP-6 (2-2.5) 5/11/2011	TP-6 (3-3.5) 5/11/2011	TP-7 (0-0.5) 5/11/2011	TP-7(2-2.5) 5/11/2011	TP-8(0-0.5) 5/12/2011	TP-8(2-2.5) 5/12/2011	TP-9(0-0.5) 5/10/2011
Northing:			15341645.54		15341605.72	15341605.72	15341431.30		15341486.41	15341486.41	15341588.58
Easting :			1110349.44		1110344.28	1110344.28	1110413.01		1110508.01	1110508.01	1110501.33
Metals (mg/kg) [c]											
Aluminum	---[d]	---	12,600 J	11,700 J	12,500 J	10,500 J	9,980 J	15,900 J	14,700 J	15,700 J	14,500 J	13,100 J
Antimony	---	---	1.2 UJ	0.23 BJ	0.26 BJ	0.28 BJ	1.1 UJ	0.52 BJ	0.42 BJ	0.25 BJ	0.22 BJ	0.37 BJ
Arsenic	13	16	5.2	6.4	7	6.2	6.7	12.8	10.9	14.7	13.9	10.2
Barium	350	400	122	93.5	85	34.3	45.4	178	172	127 J	144 J	124 J
Beryllium	7.2	590	0.57 J	0.55 J	0.64 J	0.56 J	0.58 J	0.9 J	0.84 J	0.83 J	0.88 J E	0.78 J
Cadmium	2.5	9.3	0.62 U	0.6 U	0.56 U	0.54 U	0.56 U	**15.4**	**12.6**	0.37 B	0.53 U	0.5 U
Calcium	---	---	278 B J	292 B J	361 B J	192 B J	152 B J	5,360 J	3,980 J	603 J	664 J	1,490 J
Chromium	30	1,500	13.4	12.9	14.6	12.4	11.7	19.4	18.6	19.2	17.9	18.5
Cobalt	---	--	9.6	8.1	9.5	11.6	10.8	13.1	16	13.8	15.6	12.8
Copper	50	270	7.8	8.1	12.2	8.8	10.2	18.5	16.9	18.8	15.1	24
Iron	---	---	21,800	23,000	24,000	22,900	22,800	29,300	29,200	32,700 J	29,500 J	30,500 J
Lead	63	1,000	7.7	9.4	9.4	5	5.5	40.7	38.8	8.1	7.6	18.7
Magnesium	---	---	2,770 J	2,590 J	3,380 J	3,270 J	3,080 J	4,410 J	4,640 J	4,470 J	4,270 J	4,150 J
Manganese	1,600	10,000	801	584	428	302	332	446	396	434 J	436 J	391 J
Nickel	30	310	16.6	15.8	23.3	22.1	21	28.1	29.3	30	29	27.2
Potassium	---	---	653	509 B	540 B	602	567	1,860	988	1,080	1,150	1,110
Selenium	3.9	1,500	0.41 B	0.6 U	0.56 U	0.54 U	0.56 U	0.57 U	0.58 U	0.49 U	0.53 U	0.5 U
Silver	2	1,500	0.62 U	0.6 U	0.56 U	0.54 U	0.56 U	0.57 U	0.58 U	0.49 U	0.53 U	0.18 B
Sodium	---	---	19.6 B	602 U	32.2 B	18.5 B	19.7 B	62.5 B	72.9 B	49.4 B	49.8 B	26.2 B
Thallium	---	---	0.82 B	1.2 U	0.3 B	1.1 U	0.55 B	0.44 B	1.2 U	0.98 U	1.1 U	0.56 B
Vanadium	---	---	19.4	20.3	18.5	15.2	15.1	22.6	20.9	20.8	19.9	18.7
Zinc	109	10,000	65 J	62.3 J	60.1 J	44.1 J	44 J	116 J	125 J	69.8 J	63.4 J	121 J
Mercury	0.18	2.8	0.034 B	0.041	0.028 B	0.023 B	0.027 B	0.045	0.035 B	0.032 B	0.027 B	0.12
Volatile Organic Compounds (µg/kg) [g]											
1,1,1-Trichloroethane	680	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,1,2,2-Tetrachloroethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,1,2-Trichloroethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,1-Dichloroethane	270	240,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,1-Dichloroethene	330	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,2,4-Trichlorobenzene	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	2.4 J
1,2-Dibromo-3-chloropropane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,2-Dibromoethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,2-Dichlorobenzene	1,100	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,2-Dichloroethane	20	30,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,2-Dichloropropane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,3-Dichlorobenzene	2,400	280,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
1,4-Dichlorobenzene	1,800	130,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
2-Butanone (Methyl Ethyl Ketone)	120	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
2-Hexanone	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
4-Methyl-2-pentanone	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Acetone	50	500,000	23 U	22 U	24 U	23 U	22 U	22 U	25 U	26 U	25 U	26 U
Benzene	60	44,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Bromodichloromethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Bromoform	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Bromomethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Carbon disulfide	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Carbon tetrachloride	760	22,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Chlorobenzene	1,100	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Chloroethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Chloroform	370	350,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Chloromethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
cis-1,2-Dichloroethene	250	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
cis-1,3-Dichloropropene	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Cyclohexane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-5 (0-0.5) 5/11/2011 [i]	TP-5 (2-2.5) 5/11/2011	TP-6 (2-2.5) 5/11/2011	TP-6 (3-3.5) 5/11/2011	TP-7 (0-0.5) 5/11/2011	TP-7(2-2.5) 5/11/2011	TP-8(0-0.5) 5/12/2011	TP-8(2-2.5) 5/12/2011	TP-9(0-0.5) 5/10/2011
Northing:			15341645.54		15341605.72	15341605.72	15341431.30		15341486.41	15341486.41	15341588.58
Easting :			1110349.44		1110344.28	1110344.28	1110413.01		1110508.01	1110508.01	1110501.33
Volatile Organic Compounds (µg/kg) [7] ***Cont'd***											
Dibromochloromethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Dichlorodifluoromethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Ethylbenzene	1,000	390,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Isopropylbenzene	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Methyl acetate	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Methyl tert-butyl ether	930	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Methylcyclohexane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Methylene chloride	50	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Styrene	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Tetrachloroethene	1,300	150,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Toluene	700	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
trans-1,2-Dichloroethene	190	500,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
trans-1,3-Dichloropropene	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Trichloroethene	470	200,000	5.9 UJ	5.4 UJ	5.9 UJ	5.9 UJ	5.4 UJ	5.5 UJ	6.3 UJ	6.4 UJ	6.3 UJ	6.4 UJ
Trichlorofluoromethane	---	---	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Vinyl chloride	20	13,000	5.9 U	5.4 U	5.9 U	5.9 U	5.4 U	5.5 U	6.3 U	6.4 U	6.3 U	6.4 U
Xylenes (total)	260	500,000	18 U	16 U	18 U	18 U	16 U	16 U	19 U	19 U	19 U	19 U
Semivolatile Organic Compounds (µg/kg)											
1,1'-Biphenyl	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2,2'-oxybis(1-Chloropropane)	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
2,4,5-Trichlorophenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2,4,6-Trichlorophenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2,4-Dichlorophenol	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
2,4-Dimethylphenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2,4-Dinitrophenol	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
2,4-Dinitrotoluene	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2,6-Dinitrotoluene	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2-Chloronaphthalene	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
2-Chlorophenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2-Methylnaphthalene	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
2-Methylphenol (o-Cresol)	330	500,000	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
2-Nitroaniline	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
2-Nitrophenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
3,3'-Dichlorobenzidine	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
3-Nitroaniline	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
4,6-Dinitro-2-methylphenol	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
4-Bromophenyl phenyl ether	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
4-Chloro-3-methylphenol	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
4-Chloroaniline	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
4-Chlorophenyl phenyl ether	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
4-Methylphenol (p-Cresol)	330	500,000	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
4-Nitroaniline	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
4-Nitrophenol	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
Acenaphthene	20,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Acenaphthylene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Acetophenone	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Anthracene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Atrazine	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Benzaldehyde	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Benzo(a)anthracene	1,000	5,600	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Benzo(a)pyrene	1,000	1,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Benzo(b)fluoranthene	1,000	5,600	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Benzo(ghi)perylene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Benzo(k)fluoranthene	800	56,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
bis(2-Chloroethoxy)methane	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
bis(2-Chloroethyl) ether	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
bis(2-Ethylhexyl) phthalate	---	---	830 U	810 U	760 U	730 U	760 U	810 U	7,800 U	740 U	780 U	750 U
Butyl benzyl phthalate	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-5 (0-0.5) 5/11/2011 [i]	TP-5 (2-2.5) 5/11/2011	TP-6 (2-2.5) 5/11/2011	TP-6 (3-3.5) 5/11/2011	TP-7 (0-0.5) 5/11/2011	TP-7(2-2.5) 5/11/2011	TP-8(0-0.5) 5/12/2011	TP-8(2-2.5) 5/12/2011	TP-9(0-0.5) 5/10/2011
Northing:			15341645.54		15341605.72	15341605.72	15341431.30		15341486.41	15341486.41	15341588.58
Easting :			1110349.44		1110344.28	1110344.28	1110413.01		1110508.01	1110508.01	1110501.33
Semivolatile Organic Compounds (µg/kg) Cont'd											
Caprolactam	---	---	2,100 U	2,000 U	1,900 U	1,900 U	1,900 U	2,000 U	20,000 U	1,900 U	2,000 U	1,900 U
Carbazole	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Chrysene	1,000	56,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Dibenz(a,h)anthracene	330	560	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Dibenzofuran	7,000	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Diethyl phthalate	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Dimethyl phthalate	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Di-n-butyl phthalate	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Di-n-octyl phthalate	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Fluoranthene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Fluorene	30,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Hexachlorobenzene	330	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Hexachlorobutadiene	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Hexachlorocyclopentadiene	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Hexachloroethane	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Indeno(1,2,3-cd)pyrene	500	5,600	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Isophorone	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Naphthalene	12,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Nitrobenzene	---	---	830 U	810 U	760 U	730 U	760 U	810 U	7,800 U	740 U	780 U	750 U
N-Nitrosodi-n-propylamine	---	---	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
N-Nitrosodiphenylamine	---	---	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Pentachlorophenol	800	6,700	410 U	400 U	380 U	360 U	370 U	400 U	3,800 U	360 U	390 U	370 U
Phenanthrene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Phenol	330	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Pyrene	100,000	500,000	83 U	81 U	76 U	73 U	76 U	81 U	780 U	74 U	78 U	75 U
Polychlorinated Biphenyls (µg/kg)												
Aroclor 1016	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Aroclor 1221	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Aroclor 1232	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Aroclor 1242	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Aroclor 1248	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Aroclor 1254	100	1,000	21 U	20 U	19 U	18 U	19 U	56 J	180 J	18 U	19 U	61 J
Aroclor 1260	100	1,000	21 U	20 U	19 U	18 U	19 U	20 U	20 U	18 U	19 U	19 U
Pesticides (µg/kg)												
4,4'-DDD	3.3	92,000	2.1 UJ	2 UJ	2 J	1.6 J	1.3 J	10 UJ	R	1.9 U	2 U	1.4 UJ
4,4'-DDE	3.3	62,000	R	0.63 J	1.9 U	1.8 U	0.84 J	10 U	2 U	1.9 U	2 U	1.9 U
4,4'-DDT	3.3	47,000	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	5
Aldrin	5	680	2.1 U	2 U	1.2 J	0.95 J	1.9 U	10 U	2 U	1.9 U	2 U	1.9
alpha-BHC	20	3,400	3.5 J	2 U	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	1.9 U
alpha-Chlordane	94	24,000	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	R	1.9 U	2 U	1.9 U
beta-BHC	36	3,000	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	1.9 U
delta-BHC	40	500,000	R	R	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	R
Dieldrin	5	1,400	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	R	1.9 U	2 U	1.7 J
Endosulfan I	2,400[h]	2,000,008[h]	2.1 U	2 U	1.9 U	2.5 J	1.9	R	R	R	R	1.9 U
Endosulfan II	2,400[h]	2,000,008[h]	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	1.9 U
Endosulfan sulfate	2,400[h]	2,000,008[h]	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	1 J	1.9 U	2 U	1.9 U
Endrin	14	89,000	2.1 U	2 U	1.9 U	1.8 U	1.9 U	6.3 J	8.9	1.9 U	2 U	1.9 U
Endrin aldehyde	---	---	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	0.96 J	1.9 U	2 U	1.9 U
Endrin ketone	---	---	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	R	1.9 U	2 U	1.9 U
gamma-BHC (Lindane)	100	9,200	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	2 U	1.9 U	2 U	1.9 U
gamma-Chlordane	---	---	2.1 U	2 U	1.9 U	1.8 U	1.9 U	10 U	R	1.9 U	2 U	1.9 J
Heptachlor	42	15,000	R	2 U	1.9 U	1.8 U	R	10 U	2 U	1.9 U	2 U	1.9 U
Heptachlor epoxide	---	---	2.1 U	R	1.9 U	1.8 U	1.9 U	10 U	R	1.9 U	2 U	1.9 U
Methoxychlor	---	---	4.1 U	4 U	3.8 U	3.6 U	3.7 U	20 U	3.9 U	3.6 U	3.8 U	3.7 UJ
Toxaphene	---	---	83 U	81 U	76 U	73 U	76 U	400 U	79 U	74 U	78 U	75 U
General Chemistry (mg/kg)												
Total Cyanide	27	27	0.62 U	0.61 U	0.57 U	0.55 U	0.56 U	0.6 U	0.59 U	0.56 U	0.59 U	0.57 U
Fluoride	---	---	0.59 B	0.58 B	0.48 B	0.49 B	0.48 B	62	73.3	8.2	4	13.5 J

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-9(2-2.5) 5/10/2011	TP-10(0-0.5) 5/10/2011	TP-10(2-2.5) 5/10/2011	TP-11(0-0.5) 5/12/2011	TP-11(2-2.5) 5/12/2011[i]		TP-12(0-0.5) 5/12/2011	TP-12(2-2.5) 5/12/2011	TP-13(10.5-11) 5/12/2011
Northing:			15341588.58	15341599.84		15341652.35			15341699.34		15341686.62
Easting :			1110501.33	1110614.19		1110620.08			1110619.22		1110530.08
Metals (mg/kg) [c]											
Aluminum	---[d]	---	14,100 J	17,800 J	14,800 J	12,500 J	13,700 J	13,200 J	12,000 J	11,000 J	14,800 J
Antimony	---	---	0.48 BJ	0.95 UJ	1 UJ	0.77 BJ	0.3 BJ	0.2 BJ	1.2 UJ	0.88 UJ	0.35 BJ
Arsenic	13	16	11.4	10.9	14.4	8.5	8.8	8.2	5.7	5.5	7.4
Barium	350	400	141 J	84.7 J	109 J	124 J	120 J	113 J	129 J	119 J	80.9 J
Beryllium	7.2	590	0.86 J	0.88 J	1 J	0.61 J	0.65 J	0.63 J	0.51 J	0.59 J	0.66 J
Cadmium	2.5	9.3	0.7	0.47 U	0.52 U	7.1	1.3	1.1	2.7	1.1	8.9
Calcium	---	---	1,860 J	453 B J	679 J	1,710 J	881 J	838 J	1,240 J	862 J	2,450 J
Chromium	30	1,500	20	23.4	20.1	26.1	16.4	16.4	12.6	13.7	17.6
Cobalt	---	--	13.4	12.8	16.3	10.2	11.3	11.2	8.4	9.3	11.3
Copper	50	270	33.4	11.3	11.8	33	15.9	14	7.2	7.8	13.9
Iron	---	---	33,000 J	37,100 J	31,800 J	24,100 J	24,500 J	24,800 J	20,600 J	23,200 J	26,700 J
Lead	63	1,000	62.3	3.8	6	289	38.2	34.4	32.3	17.6	22.8
Magnesium	---	---	4,400 J	5,370 J	5,100 J	3,500 J	3,470 J	3,590 J	2,430 J	3,380 J	4,070 J
Manganese	1,600	10,000	628 J	292 J	416 J	677 J	722 J	819 J	825 J	461 J	403 J
Nickel	30	310	30.9	32	32.6	22.6	21.6	22.6	14.5	22.1	25.9
Potassium	---	---	1,310	1,410	1,230	906	892	754	565 B	568	880
Selenium	3.9	1,500	0.55 U	0.47 U	0.52 U	0.29 B	0.53 U	0.6 U	0.61 U	0.44 U	0.5 U
Silver	2	1,500	0.55 U	0.47 U	0.52 U	0.084 B	0.53 U	0.6 U	0.61 U	0.44 U	0.5 U
Sodium	---	---	18.1 B	71.7 B	52.3 B	31.6 B	14.9 B	11.9 B	10.8 B	440 U	63.3 B
Thallium	---	---	1.1 U	0.95 U	0.42 B	0.53 B	1.1 U	1.2 U	0.34 B	0.88 U	1 U
Vanadium	---	---	20	25.9	19.7	20	21.2	20	19.8	16.6	20.5
Zinc	109	10,000	109 J	72.8 J	68.5 J	233 J	100 J	92.2 J	85.5 J	60.5 J	96.6 J
Mercury	0.18	2.8	0.16	0.035 B	0.031 B	0.11	0.062	0.053	0.065	0.031 B	0.045
Volatile Organic Compounds (µg/kg) [g]											
1,1,1-Trichloroethane	680	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,1,2,2-Tetrachloroethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,1,2-Trichloroethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,1-Dichloroethane	270	240,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,1-Dichloroethene	330	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2,4-Trichlorobenzene	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2-Dibromo-3-chloropropane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2-Dibromoethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2-Dichlorobenzene	1,100	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2-Dichloroethane	20	30,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,2-Dichloropropane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,3-Dichlorobenzene	2,400	280,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
1,4-Dichlorobenzene	1,800	130,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
2-Butanone (Methyl Ethyl Ketone)	120	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	2 J
2-Hexanone	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
4-Methyl-2-pentanone	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Acetone	50	500,000	21 U	28 J	31 J	16 J	14 J	10 J	27 U	25 U	22 J
Benzene	60	44,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	2.5 J
Bromodichloromethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Bromoform	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Bromomethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Carbon disulfide	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Carbon tetrachloride	760	22,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Chlorobenzene	1,100	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Chloroethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Chloroform	370	350,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Chloromethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
cis-1,2-Dichloroethene	250	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	3.3 J
cis-1,3-Dichloropropene	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U
Cyclohexane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.2 U	6.8 U	6.2 U	7.1 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-9(2-2.5) 5/10/2011	TP-10(0-0.5) 5/10/2011	TP-10(2-2.5) 5/10/2011	TP-11(0-0.5) 5/12/2011	TP-11(2-2.5) 5/12/2011[6]	TP-12(0-0.5) 5/12/2011	TP-12(2-2.5) 5/12/2011	TP-13(10.5-11) 5/12/2011
Northing:			15341588.58	15341599.84		15341652.35		15341699.34		15341686.62
Easting :			1110501.33	1110614.19		1110620.08		1110619.22		1110530.08
Volatile Organic Compounds (µg/kg)[7] Cont'd										
Dibromochloromethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Dichlorodifluoromethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Ethylbenzene	1,000	390,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	6.8 J
Isopropylbenzene	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	2.7 J
Methyl acetate	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Methyl tert-butyl ether	930	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Methylcyclohexane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Methylene chloride	50	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Styrene	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Tetrachloroethene	1,300	150,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Toluene	700	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	8
trans-1,2-Dichloroethene	190	500,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
trans-1,3-Dichloropropene	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Trichloroethene	470	200,000	5.3 UJ	5.9 UJ	5.7 UJ	6.8 UJ	6.5 UJ	6.8 UJ	6.2 UJ	7.1 UJ
Trichlorofluoromethane	---	---	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	7.1 U
Vinyl chloride	20	13,000	5.3 U	5.9 U	5.7 U	6.8 U	6.5 U	6.8 U	6.2 U	3.1 J
Xylenes (total)	260	500,000	16 U	18 U	17 U	21 U	20 U	19 U	20 U	19 U	14 J
Semivolatile Organic Compounds (µg/kg)										
1,1'-Biphenyl	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2,2'-oxybis(1-Chloropropane)	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
2,4,5-Trichlorophenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2,4,6-Trichlorophenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2,4-Dichlorophenol	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
2,4-Dimethylphenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	620
2,4-Dinitrophenol	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
2,4-Dinitrotoluene	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2,6-Dinitrotoluene	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2-Chloronaphthalene	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
2-Chlorophenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2-Methylnaphthalene	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	26 J
2-Methylphenol (o-Cresol)	330	500,000	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
2-Nitroaniline	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
2-Nitrophenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
3,3'-Dichlorobenzidine	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
3-Nitroaniline	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
4,6-Dinitro-2-methylphenol	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
4-Bromophenyl phenyl ether	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
4-Chloro-3-methylphenol	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
4-Chloroaniline	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
4-Chlorophenyl phenyl ether	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
4-Methylphenol (p-Cresol)	330	500,000	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
4-Nitroaniline	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
4-Nitrophenol	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
Acenaphthene	20,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Acenaphthylene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Acetophenone	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Anthracene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Atrazine	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Benzaldehyde	---	---	380 U	400 U	360 U	290 J	400 U	390 U	400 U	370 U	400 U
Benzo(a)anthracene	1,000	5,600	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Benzo(a)pyrene	1,000	1,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Benzo(b)fluoranthene	1,000	5,600	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Benzo(ghi)perylene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Benzo(k)fluoranthene	800	56,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
bis(2-Chloroethoxy)methane	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
bis(2-Chloroethyl) ether	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
bis(2-Ethylhexyl) phthalate	---	---	67 J	800 U	740 U	93 J	810 U	800 U	810 U	760 U	810 U
Butyl benzyl phthalate	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U

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TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-9(2-2.5) 5/10/2011	TP-10(0-0.5) 5/10/2011	TP-10(2-2.5) 5/10/2011	TP-11(0-0.5) 5/12/2011	TP-11(2-2.5) 5/12/2011[i]		TP-12(0-0.5) 5/12/2011	TP-12(2-2.5) 5/12/2011	TP-13(10.5-11) 5/12/2011
Northing:			15341588.58	15341599.84		15341652.35			15341699.34		15341686.62
Easting :			1110501.33	1110614.19		1110620.08			1110619.22		1110530.08
Semivolatile Organic Compounds (µg/kg) Cont'd											
Caprolactam	---	---	2,000 U	2,000 U	1,900 U	2,100 U	2,100 U	2,000 U	2,100 U	1,900 U	2,000 U
Carbazole	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Chrysene	1,000	56,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Dibenz(a,h)anthracene	330	560	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Dibenzofuran	7,000	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Diethyl phthalate	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Dimethyl phthalate	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Di-n-butyl phthalate	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Di-n-octyl phthalate	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Fluoranthene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Fluorene	30,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Hexachlorobenzene	330	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Hexachlorobutadiene	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Hexachlorocyclopentadiene	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Hexachloroethane	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Indeno(1,2,3-cd)pyrene	500	5,600	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Isophorone	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Naphthalene	12,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	1,200
Nitrobenzene	---	---	770 U	800 U	740 U	820 U	810 U	800 U	810 U	760 U	810 U
N-Nitrosodi-n-propylamine	---	---	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
N-Nitrosodiphenylamine	---	---	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Pentachlorophenol	800	6,700	380 U	400 U	360 U	400 U	400 U	390 U	400 U	370 U	400 U
Phenanthrene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Phenol	330	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Pyrene	100,000	500,000	77 U	80 U	74 U	82 U	81 U	80 U	81 U	76 U	81 U
Polychlorinated Biphenyls (µg/kg)											
Aroclor 1016	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Aroclor 1221	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Aroclor 1232	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Aroclor 1242	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Aroclor 1248	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Aroclor 1254	100	1,000	120 J	20 U	18 U	84 J	33 J	28 J	20 U	19 U	880 J
Aroclor 1260	100	1,000	19 U	20 U	18 U	20 U	20 U	20 U	20 U	19 U	20 U
Pesticides (µg/kg)											
4,4'-DDD	3.3	92,000	R	2 UJ	13	10 U	2.1 UJ	2 UJ	2.1 UJ	1.9 UJ	R
4,4'-DDE	3.3	62,000	1.7 J	2 U	2.8	6.2 J	2 J	2.8	1.6 J	1.9 U	2 U
4,4'-DDT	3.3	47,000	7.7	2 UJ	12	R	R	R	R	1.9 UJ	2 UJ
Aldrin	5	680	2.1	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
alpha-BHC	20	3,400	R	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
alpha-Chlordane	94	24,000	0.61 J	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
beta-BHC	36	3,000	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
delta-BHC	40	500,000	R	2 U	1.9 U	10 U	1 J	R	2.1 U	1.9 U	2 U
Dieldrin	5	1,400	R	2 U	4.3	10 U	2.1 U	R	2.1 U	1.9 U	2 U
Endosulfan I	2,400[h]	2,000,008[h]	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
Endosulfan II	2,400[h]	2,000,008[h]	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
Endosulfan sulfate	2,400[h]	2,000,008[h]	1.9 U	2 U	1.9 U	10 U	1.1 J	2 U	2.1 U	1.9 U	2 U
Endrin	14	89,000	1.9 U	2 U	1.9 U	10 U	3 J	3.5 J	2.1 U	1.9 U	21
Endrin aldehyde	---	---	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
Endrin ketone	---	---	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	R
gamma-BHC (Lindane)	100	9,200	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
gamma-Chlordane	---	---	3.1 J	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	10 J
Heptachlor	42	15,000	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	2 U
Heptachlor epoxide	---	---	1.9 U	2 U	1.9 U	10 U	2.1 U	2 U	2.1 U	1.9 U	R
Methoxychlor	---	---	3.8 UJ	4 UJ	3.6 UJ	20 UJ	4 UJ	3.9 UJ	4 UJ	1.9 UJ	15 J
Toxaphene	---	---	76 U	80 U	74 U	410 U	81 U	80 U	81 U	75 U	81 U
General Chemistry (mg/kg)											
Total Cyanide	27	27	0.57 U	0.6 U	0.55 U	0.8 J	0.28 J	0.22 B	0.61 U	0.56 U	0.6 U
Fluoride	---	---	9.1 J	7.4 J	5 J	9.2	4.1	4.3	14.7	7.4	50.6

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-14(12-12.5) 5/12/2011	TP-15(8-8.5) 5/12/2011	TP-16(2-2.5) 5/11/2011	TP-16(3-3.5) 5/11/2011	TP-19(0-0.5) 5/12/2011	TP-19(7-7.5) 5/12/2011
Northing:			15341629.17	15341508.76	15341432.79	15341432.79	15341803.41	
Easting :			1110508.09	1110433.22	1110350.28	1110350.28	1110597.60	
Metals (mg/kg) [c]								
Aluminum	---[d]	---	13,300 J	13,600 J	12,900 J	12,900 J	14,900 J	11,900 J
Antimony	---	---	0.22 BJ	0.24 BJ	0.56 BJ	0.48 BJ	0.25 BJ	0.25 BJ
Arsenic	13	16	4.9	4.4	8.2	8.5	12.2	9.3
Barium	350	400	105 J	146 J	126	120	69.6 J	88.3 J
Beryllium	7.2	590	0.67 J	0.66 J	0.68 J	0.65 J	0.8 J	0.67 J
Cadmium	2.5	9.3	0.54 U	0.65 U	**23.2**	**22.6**	0.37 B	0.42 U
Calcium	---	---	1,380 J	1,060 J	1,050 J	1,890 J	1,310 J	1,360 J
Chromium	30	1,500	17	14.1	14.1	15.3	19	15.7
Cobalt	---	--	11.2	12	9.8	10.1	12.6	11.2
Copper	50	270	33.7	8.2	10.7	14	14.6	15.6
Iron	---	---	24,700 J	20,800 J	25,400	28,800	33,900 J	28,100 J
Lead	63	1,000	43.7	13.3	25.7	36.9	17	7.1
Magnesium	---	---	3,170 J	2,610 J	2,940 J	2,880 J	4,660 J	4,370 J
Manganese	1,600	10,000	494 J	806 J	774	663	485 J	553 J
Nickel	30	310	20.4	17.5	20	20.2	28	26.8
Potassium	---	---	878	945	471 B	520 B	752	808
Selenium	3.9	1,500	0.54 U	0.65 U	0.58 U	0.62 U	0.55 U	0.42 U
Silver	2	1,500	0.54 U	0.65 U	0.58 U	0.62 U	0.55 U	0.42 U
Sodium	---	---	33.2 B	38 B	577 U	617 U	40.2 B	142 B
Thallium	---	---	1.1 U	0.42 B	1.2 U	1.2 U	1.1 U	0.84 U
Vanadium	---	---	20.5	21.3	19.1	21.1	22	16.7
Zinc	109	10,000	101 J	80.2 J	125 J	143 J	65.6 J	59.7 J
Mercury	0.18	2.8	0.056	0.053	0.052	0.05	0.036 B	0.016 B
Volatile Organic Compounds (µg/kg) [g]								
1,1,1-Trichloroethane	680	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,1,2,2-Tetrachloroethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,1,2-Trichloroethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,1-Dichloroethane	270	240,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,1-Dichloroethene	330	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,2,4-Trichlorobenzene	---	---	6.2 U	6.6 U	5.9 U	2.7 J	6.3 N	5.5 U
1,2-Dibromo-3-chloropropane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,2-Dibromoethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,2-Dichlorobenzene	1,100	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,2-Dichloroethane	20	30,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,2-Dichloropropane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,3-Dichlorobenzene	2,400	280,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
1,4-Dichlorobenzene	1,800	130,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
2-Butanone (Methyl Ethyl Ketone)	120	500,000	5.5 J	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
2-Hexanone	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
4-Methyl-2-pentanone	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Acetone	50	500,000	20 J	9.5 J	24 U	28 U	25 U	22 U
Benzene	60	44,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Bromodichloromethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Bromoform	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Bromomethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Carbon disulfide	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Carbon tetrachloride	760	22,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Chlorobenzene	1,100	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Chloroethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Chloroform	370	350,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Chloromethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
cis-1,2-Dichloroethene	250	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
cis-1,3-Dichloropropene	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Cyclohexane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-14(12-12.5) 5/12/2011	TP-15(8-8.5) 5/12/2011	TP-16(2-2.5) 5/11/2011	TP-16(3-3.5) 5/11/2011	TP-19(0-0.5) 5/12/2011	TP-19(7-7.5) 5/12/2011
Northing:			15341629.17	15341508.76	15341432.79	15341432.79	15341803.41	
Easting :			1110508.09	1110433.22	1110350.28	1110350.28	1110597.60	
Volatile Organic Compounds (µg/kg) [7] ***Cont'd***								
Dibromochloromethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Dichlorodifluoromethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Ethylbenzene	1,000	390,000	1.4 J	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Isopropylbenzene	---	---	3.1 J	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Methyl acetate	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Methyl tert-butyl ether	930	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Methylcyclohexane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Methylene chloride	50	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Styrene	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Tetrachloroethene	1,300	150,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Toluene	700	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
trans-1,2-Dichloroethene	190	500,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
trans-1,3-Dichloropropene	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Trichloroethene	470	200,000	6.2 UJ	6.6 UJ	5.9 UJ	7.1 UJ	6.3 UJ	5.5 UJ
Trichlorofluoromethane	---	---	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Vinyl chloride	20	13,000	6.2 U	6.6 U	5.9 U	7.1 U	6.3 U	5.5 U
Xylenes (total)	260	500,000	19 U	20 U	18 U	21 U	19 U	17 U
Semivolatile Organic Compounds (µg/kg)								
1,1'-Biphenyl	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2,2'-oxybis(1-Chloropropane)	---	---	82 U	87 U	78 U	420 U	83 U	72 U
2,4,5-Trichlorophenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2,4,6-Trichlorophenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2,4-Dichlorophenol	---	---	82 U	87 U	78 U	420 U	83 U	72 U
2,4-Dimethylphenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2,4-Dinitrophenol	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
2,4-Dinitrotoluene	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2,6-Dinitrotoluene	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2-Chloronaphthalene	---	---	82 U	87 U	78 U	420 U	83 U	72 U
2-Chlorophenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
2-Methylnaphthalene	---	---	29 J	87 U	78 U	420 U	83 U	72 U
2-Methylphenol (o-Cresol)	330	500,000	400 U	430 U	380 U	2,100 U	410 U	350 U
2-Nitroaniline	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
2-Nitrophenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
3,3'-Dichlorobenzidine	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
3-Nitroaniline	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
4,6-Dinitro-2-methylphenol	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
4-Bromophenyl phenyl ether	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
4-Chloro-3-methylphenol	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
4-Chloroaniline	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
4-Chlorophenyl phenyl ether	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
4-Methylphenol (p-Cresol)	330	500,000	400 U	430 U	380 U	2,100 U	410 U	350 U
4-Nitroaniline	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
4-Nitrophenol	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
Acenaphthene	20,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Acenaphthylene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Acetophenone	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Anthracene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Atrazine	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Benzaldehyde	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Benzo(a)anthracene	1,000	5,600	82 U	87 U	78 U	420 U	83 U	72 U
Benzo(a)pyrene	1,000	1,000	82 U	87 U	78 U	420 U	83 U	72 U
Benzo(b)fluoranthene	1,000	5,600	82 U	87 U	78 U	420 U	83 U	72 U
Benzo(ghi)perylene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Benzo(k)fluoranthene	800	56,000	82 U	87 U	78 U	420 U	83 U	72 U
bis(2-Chloroethoxy)methane	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
bis(2-Chloroethyl) ether	---	---	82 U	87 U	78 U	420 U	83 U	72 U
bis(2-Ethylhexyl) phthalate	---	---	820 U	870 U	780 U	4,200 U	830 U	720 U
Butyl benzyl phthalate	---	---	1,100	430 U	380 U	2,100 U	410 U	350 U

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TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	Unrestricted Use Soil Cleanup Objective [6 NYCRR Table 375-6.8(a)][a]	Restricted Use Soil Cleanup Objective - Commercial [6 NYCRR Table 375-6.8(b)][b]	TP-14(12-12.5) 5/12/2011	TP-15(8-8.5) 5/12/2011	TP-16(2-2.5) 5/11/2011	TP-16(3-3.5) 5/11/2011	TP-19(0-0.5) 5/12/2011	TP-19(7-7.5) 5/12/2011
Northing:			15341629.17	15341508.76	15341432.79	15341432.79	15341803.41	
Easting :			1110508.09	1110433.22	1110350.28	1110350.28	1110597.60	
Semivolatile Organic Compounds (µg/kg) Cont'd								
Caprolactam	---	---	2,100 U	2,200 U	2,000 U	11,000 U	2,100 U	1,800 U
Carbazole	---	---	82 U	87 U	78 U	420 U	83 U	72 U
Chrysene	1,000	56,000	82 U	87 U	78 U	420 U	83 U	72 U
Dibenz(a,h)anthracene	330	560	82 U	87 U	78 U	420 U	83 U	72 U
Dibenzofuran	7,000	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Diethyl phthalate	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Dimethyl phthalate	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Di-n-butyl phthalate	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Di-n-octyl phthalate	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Fluoranthene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Fluorene	30,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Hexachlorobenzene	330	---	82 U	87 U	78 U	420 U	83 U	72 U
Hexachlorobutadiene	---	---	82 U	87 U	78 U	420 U	83 U	72 U
Hexachlorocyclopentadiene	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Hexachloroethane	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Indeno(1,2,3-cd)pyrene	500	5,600	82 U	87 U	78 U	420 U	83 U	72 U
Isophorone	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Naphthalene	12,000	500,000	140	87 U	78 U	420 U	83 U	72 U
Nitrobenzene	---	---	820 U	870 U	780 U	4,200 U	830 U	720 U
N-Nitrosodi-n-propylamine	---	---	82 U	87 U	78 U	420 U	83 U	72 U
N-Nitrosodiphenylamine	---	---	400 U	430 U	380 U	2,100 U	410 U	350 U
Pentachlorophenol	800	6,700	400 U	430 U	380 U	2,100 U	410 U	350 U
Phenanthrene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Phenol	330	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Pyrene	100,000	500,000	82 U	87 U	78 U	420 U	83 U	72 U
Polychlorinated Biphenyls (µg/kg)								
Aroclor 1016	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Aroclor 1221	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Aroclor 1232	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Aroclor 1242	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Aroclor 1248	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Aroclor 1254	100	1,000	22 J	22 U	180 J	320 J	21 U	18 U
Aroclor 1260	100	1,000	21 U	22 U	19 U	21 U	21 U	18 U
Pesticides (µg/kg)								
4,4'-DDD	3.3	92,000	3 J	2.8	2 UJ	21 UJ	2.1 UJ	1.8 UJ
4,4'-DDE	3.3	62,000	2.1 U	1.8 J	R	14 J	2.1 U	1.8 U
4,4'-DDT	3.3	47,000	2.1 UJ	2.2 UJ	2 U	21 U	2.1 UJ	1.8 UJ
Aldrin	5	680	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
alpha-BHC	20	3,400	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
alpha-Chlordane	94	24,000	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
beta-BHC	36	3,000	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
delta-BHC	40	500,000	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Dieldrin	5	1,400	2.1 U	2.2 U	R	21 U	2.1 U	1.8 U
Endosulfan I	2,400[h]	2,000,008[h]	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Endosulfan II	2,400[h]	2,000,008[h]	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Endosulfan sulfate	2,400[h]	2,000,008[h]	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Endrin	14	89,000	2.1 U	2.2 U	7.1	R	2.1 U	1.8 U
Endrin aldehyde	---	---	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Endrin ketone	---	---	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
gamma-BHC (Lindane)	100	9,200	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
gamma-Chlordane	---	---	1.3 J	2.2 U	2.2	21 U	8 U	1.8 U
Heptachlor	42	15,000	R	2.2 U	R	21 U	2.1 U	1.8 U
Heptachlor epoxide	---	---	2.1 U	2.2 U	2 U	21 U	2.1 U	1.8 U
Methoxychlor	---	---	4.1 UJ	4.3 U	3.8 U	42 U	4.1 UJ	3.5 UJ
Toxaphene	---	---	83 U	87 U	78 U	840 U	84 U	72 U
General Chemistry (mg/kg)								
Total Cyanide	27	27	0.62 U	0.66 U	0.16 B	0.39 B	0.63 U	0.54 U
Fluoride	---	---	1.7	2.1	46.4	56.4	40.4	46.1

TABLE 4
TEST PIT SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Notes:

(a) New York Code, Rules and Regulations (NYCRR), Title 6, Part 375, Subpart 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.

(b) NYCRR, Title 6, Part 375, Subpart 375-6.8(b): Restricted Use Soil Cleanup Objectives - Commercial.

(c) "mg/kg" is milligram per kilogram, or parts per million (ppm).

(d) "---" indicates that a Soil Cleanup Objective has not been established for this compound.

(e) Laboratory data qualifiers are as follows:
"J" and "UJ" - represent a value that is estimated . Data present a usable estimation of the conditions being measured.
"U" - Indicates the parameter was not detected above the laboratory detection limit.
"B" - Indicates that the compound was found in the laboratory blank.
"R" - indicates data were found to be unreliable and should not be include din data table.

(f) Shaded and **bold** results indicate an exceedance of the Restricted Use Soil Cleanup Objective - Commercial.

(g) "µg/kg" is microgram per kilogram, or parts per billion (ppb).

(h) The Soil Cleanup Objective is for the sum of Endosulfan I, Endosulfan II, and Endosulfan sulfate.

(i) Duplicate sample collected.

TABLE 5
WASTE SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Sample ID:	**TP-19 (2.5-3.0) Waste**
Date:	**5/12/2011**
Northing:	**15341803.41**
Easting:	**1110597.60**
TCLP Metals (mg/l) [(a)]	
Arsenic	0.045 B[(b)]
Barium	1.4
Cadmium	2.1
Chromium	0.0028 B
Lead	0.69
Selenium	0.0043 B
Silver	0.05 U
Mercury	0.0002 U
TCLP Volatile Organic Compounds (mg/l)	
1,1-Dichloroethene	0.20 UJ
1,2-Dichloroethane	0.20 UJ
2-Butanone	0.20 UJ
Benzene	0.20 UJ
Carbon tetrachloride	0.20 UJ
Chlorobenzene	0.20 UJ
Chloroform	0.20 UJ
Tetrachloroethene	0.20 UJ
Trichloroethene	0.20 UJ
Vinyl chloride	0.20 UJ
TCLP Semivolatile Organic Compounds (mg/l)	
1,4-Dichlorobenzene	0.05 U
2,4,5-Trichlorophenol	0.05 U
2,4,6-Trichlorophenol	0.05 U
2,4-Dinitrotoluene	0.05 U
Cresols (total)	0.05 U
Hexachlorobenzene	0.05 U
Hexachlorobutadiene	0.05 U
Hexachloroethane	0.05 U
Nitrobenzene	0.05 U
Pentachlorophenol	0.25 U
Pyridine	0.10 U
Polychlorinated Biphenyls (µg/kg) [(c)]	
Aroclor 1016	20 U
Aroclor 1221	20 U
Aroclor 1232	20 U
Aroclor 1242	20 U
Aroclor 1248	20 U
Aroclor 1254	88 J
Aroclor 1260	20 U

TABLE 5
WASTE SAMPLE ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Sample ID:	**TP-19 (2.5-3.0) Waste**
Date:	**5/12/2011**
Northing:	**15341803.41**
Easting:	**1110597.60**
TCLP Pesticides (mg/l)	
Chlordane (technical)	0.005 U
Endrin	0.0005 U
Heptachlor	0.0005 U
Heptachlor epoxide	0.005 U
Lindane	0.005 U
Methoxychlor	0.001 U
Toxaphene	0.20 U
General Chemistry	
Ignitability	Negative
pH	7.2
Total Sulfide (mg/kg)[(d)]	26.5 B
Total Cyanide (mg/kg)	0.63 U

Notes:

(a) "mg/l" milligrams per liter or parts per million (ppm).

(b) Laboratory data qualifiers are as follows:

B = Estimated result. Result is less than the reporting limit.

U = Result is less than the laboratory reporting limit.

(c) "µg/kg" micrograms per kilogram or parts per billion (ppb).

(d) "mg/kg" milligrams per kilogram or parts per million (ppm).

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC	MW-1				MW-2		MW-3		MW-4	
Collection Date:	Class GA	6/7/2011[d]		9/8/2011[d]		6/7/2011	9/8/2011	6/8/2011	9/8/2011	6/8/2011	9/8/2011
Northing:	Groundwater Quality	15341722.00				15341666.10		15341264.78		15341213.36	
Easting:	Standards[b]	1110845.82				1110345.21		1110357.27		1110801.77	
Metals (µg/l) [a]											
Mercury	0.7	0.20 U [e]	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aluminum	--[c]	610 B	670 B	1,900	2,100	1,400 B	210	920 B	1,200	65 J B	28 J
Antimony	3	1.6 J	1.8 J	10 U	1.9 J	1.3 J	10 U	**3.2 J**	1.8 J	10 U	10 U
Arsenic	25	10 U	10 U	5.0 J	4.9 J	10 U	10 U	10 U	4.9 J	**48 B**	**44**
Barium	1,000	88 J	94 J	87 J	93 J	110 J	100 J	140 J	120 J	670	660
Beryllium	--	0.57 J B	0.55 J B	4.0 U	4.0 U	0.94 J B	4.0 U	0.75 J B	4.0 U	0.80 J B	4.0 U
Cadmium	5	5.0 U	5.0 U	5.0 U	5.0 U	0.17 J B	0.20 J	5.0 U	5.0 U	5.0 U	5.0 U
Calcium	--	40,000	41,000	39,000	40,000	50,000	64,000	62,000	55,000	35,000	31,000
Chromium	50	1.5 J	2.1 J	2.0 J	2.7 J	2.0 J	0.66 J	2.5 J	1.8 J	0.58 J	5.0 U
Cobalt	--	50 U	50 U	0.60 J	0.86 J	1.1 J	50 U	0.83 J	0.66 J	50 U	50 U
Copper	200	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25
Iron	300	**780**[f]	**950**	**2,200**	**2,700**	**1,900**	190	**1,400**	**1,500**	280	**400**
Lead	25	3.0 U	3.0 U	2.1 J	2.1 J	1.4 J	2.0 J	3.0 U	2.0 J	3.0 U	3.0 U
Magnesium	--	8,300	8,600	8,100	8,200	9,400	10,000	13,000	12,000	5,700	4,800 J
Manganese	300	200	210	210	210	54	3.6 J	**360**	**340**	**540**	**470**
Nickel	100	2.3 J	2.5 J	40	2.1 J	3.5 J	40 U	3.7 J	40 U	40 U	40 U
Potassium	--	2,300 J	2600 J	2,700 J	2,700 J	2700 J	3,800 J	2200 J	1,200 J	1400 J	1,100 J
Selenium	10	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Silver	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	20,000	10,000	11,000	13,000	13,000	7,500	11,000	14,000	14,000	**71,000**	**76,000**
Thallium	--	3.4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vanadium	--	50 U	2.4 J	2.6 J	3.0 J	3.1 J	50 U	2.0 J	50 U	50 U	50 U
Zinc	--	15 J	23	5.6 J	6.1 J	15 J	5.2 J	11 J	5.3 J	6.8 J	20 U
Volatile Organic Compounds (µg/l)											
1,1,1-Trichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-Chloropropane	0.04	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromoethane (EDB)	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	0.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC	MW-1				MW-2		MW-3		MW-4	
Collection Date:	Class GA	6/7/2011[(d)]		9/8/2011[(d)]		6/7/2011	9/8/2011	6/8/2011	9/8/2011	6/8/2011	9/8/2011
Northing:	Groundwater Quality	15341722.00				15341666.10		15341264.78		15341213.36	
Easting:	Standards[(b)]	1110845.82				1110345.21		1110357.27		1110801.77	
Volatile Organic Compounds (µg/l) (Continued)											
1,3-Dichlorobenzene	3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	--	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	--	20 UJ	20 UJ	8.3 J	8.8 J	20 U	6.2 J	20 U	8.6 J	20 U	6.7 J
Benzene	1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	60	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	6	5.0 U
Carbon tetrachloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform	7	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cyclohexane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylcyclohexane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	0.4	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes, Total	5	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC	MW-1				MW-2		MW-3		MW-4	
Collection Date:	Class GA	6/7/2011[d]		9/8/2011[d]		6/7/2011	9/8/2011	6/8/2011	9/8/2011	6/8/2011	9/8/2011
Northing:	Groundwater Quality	15341722.00				15341666.10		15341264.78		15341213.36	
Easting:	Standards[b]	1110845.82				1110345.21		1110357.27		1110801.77	
Semivolatile Organic Compounds (µg/l)											
1,1'-Biphenyl	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2,2'-oxybis[1-chloropropane]	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2,4,5-Trichlorophenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2,4,6-Trichlorophenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2,4-Dichlorophenol	TP [g]	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	TP	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2,4-Dinitrophenol	TP	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
2,4-Dinitrotoluene	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2,6-Dinitrotoluene	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2-Chloronaphthalene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2-Chlorophenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2-Methylnaphthalene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2-Methylphenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
2-Nitroaniline	5	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
2-Nitrophenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
3,3'-Dichlorobenzidine	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
3-Nitroaniline	5	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
4,6-Dinitro-2-methylphenol	--	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
4-Bromophenyl phenyl ether	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
4-Chloro-3-methylphenol	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
4-Chloroaniline	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
4-Chlorophenyl phenyl ether	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
4-Nitroaniline	5	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
4-Nitrophenol	--	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
Acenaphthene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Acenaphthylene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Acetophenone	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Anthracene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Atrazine	7.5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Benzaldehyde	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Benzo[a]anthracene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Benzo[a]pyrene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Benzo[b]fluoranthene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Benzo[g,h,i]perylene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Benzo[k]fluoranthene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Bis(2-chloroethoxy)methane	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC	MW-1				MW-2		MW-3		MW-4	
Collection Date:	Class GA	6/7/2011[d]		9/8/2011[d]		6/7/2011	9/8/2011	6/8/2011	9/8/2011	6/8/2011	9/8/2011
Northing:	Groundwater Quality	15341722.00				15341666.10		15341264.78		15341213.36	
Easting:	Standards[b]	1110845.82				1110345.21		1110357.27		1110801.77	
Semivolatile Organic Compounds (µg/l) (Continued)											
Bis(2-chloroethyl)ether	1.0	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Bis(2-ethylhexyl) phthalate	5	19 U	19 U	20 U	19 U	19 U	1.9 U	19 U	19 U	19 U	1.9 U
Butyl benzyl phthalate	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Caprolactam	--	48 U	48 U	49 U	49 U	48 U	49 U	48 U	49 U	48 U	49 U
Carbazole	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Chrysene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Dibenz(a,h)anthracene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Dibenzofuran	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Diethyl phthalate	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Dimethyl phthalate	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Di-n-butyl phthalate	50	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Di-n-octyl phthalate	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Fluoranthene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Fluorene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Hexachlorobenzene	0.04	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Hexachlorobutadiene	0.5	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Hexachlorocyclopentadiene	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Hexachloroethane	5	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Indeno[1,2,3-cd]pyrene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Isophorone	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Methylphenol, 3 & 4	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Naphthalene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Nitrobenzene	0.4	19 U	19 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
N-Nitrosodi-n-propylamine	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
N-Nitrosodiphenylamine	--	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Pentachlorophenol	TP	9.5 U	9.5 U	9.8 U	9.7 U	9.6 U	9.7 U	9.5 U	9.7 U	9.5 U	9.7 U
Phenanthrene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Phenol	TP	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Pyrene	--	1.9 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Polychlorinated Biphenyls (µg/l)											
PCB-1016	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1221	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1232	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1242	--	0.38 U	0.38 U	0.088 J	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1248	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1254	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1260	--	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Total PCBs	0.09	0.38 U	0.38 U	0.088 J	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC	MW-1				MW-2		MW-3		MW-4	
Collection Date:	Class GA	6/7/2011[d]		9/8/2011[d]		6/7/2011	9/8/2011	6/8/2011	9/8/2011	6/8/2011	9/8/2011
Northing:	Groundwater Quality	15341722.00				15341666.10		15341264.78		15341213.36	
Easting:	Standards[b]	1110845.82				1110345.21		1110357.27		1110801.77	
Pesticides (µg/l)											
4,4'-DDD	0.3	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
4,4'-DDE	0.2	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
4,4'-DDT	0.2	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Aldrin	--	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
alpha-BHC	0.01	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
alpha-Chlordane	0.05	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
beta-BHC	0.04	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
delta-BHC	0.04	0.047 U	0.048 U	0.047 U	0.048 U	0.017 J	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Dieldrin	0.004	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endosulfan I	--	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endosulfan II	--	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endosulfan sulfate	--	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endrin	--	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endrin aldehyde	5	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Endrin ketone	5	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
gamma-BHC (Lindane)	0.05	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
gamma-Chlordane	0.05	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Heptachlor	0.04	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Heptachlor epoxide	0.03	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U
Methoxychlor	35	0.094 U	0.095 U	0.094 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Toxaphene	0.06	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
General Chemistry											
Fluoride (µg/l)	1,500	35 J	37 J	160	170	580	610	310	140	470	260
Cyanide, Total (µg/l)	200	10 UJ	10 UJ	10 U	10 U	10 U	3.3 J	2.1 J	1.8 J	10 U	10 U

Notes:

[a] "µg/l" is micrograms per liter or parts per billion (ppb).

[b] New York Code, Rules and Regulation (NYCRR) Title 6, Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (August 1999).

[c] "--" indicates that a corresponding water quality standard does not exist.

[d] Duplicate sample collected.

[e] Laboratory data qualifiers are as follows:
"UJ" amd "J" - indicate that the value is estimated. The data presented are a usable estimation of the conditions being measured.
"U" - Indicates the result is less than the laboratory reporting limit.
'"B" - Indicates that the compound was found in the laboratory blank.

[f] **Bolded** and shaded values indicate that the compound was detected in concentrations above the applicable water quality standard.

[g] Standard for these substances (total phenols) is 1.0 µg/l.

TABLE 7
SURFACE WATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC Class D Surface Water Standards.[b]	SW-1 [c]		SW-2	SW-3	SW-4
Collection Date:		6/7/2011		6/7/2011	6/7/2011	6/7/2011
Northing:		15341430.02		15341294.35	15341337.18	15341433.54
Easting:		1110457.26		1110443.54	1110554.20	1110957.46
Metals (µg/l) [a]						
Mercury	0.0026	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Aluminum	--[d]	170 J B[e]	81 J B	67 J B	340 B	4000 B
Antimony	--	1.7 J	10 U	1.6 J	10 U	10 U
Arsenic	310	3.4 J B	10 U	10 U	10 U	5.2 J B
Barium	--	70 J	40 J	34 J	20 J	190 J
Beryllium	--	0.71 J B	0.61 J B	0.64 J B	0.62 J B	0.91 J B
Cadmium	4.6	0.59 J B	0.29 J B	0.15 J B	0.23 J B	1.0 J B
Calcium	--	5300	4100 J	3500 J	2700 J	8100
Chromium	16	5.0 U	5.0 U	5.0 U	0.57 J	4.8 J
Cobalt	--	1.3 J	0.74 J	50 U	1.0 J	3.8 J
Copper	25.7	25 U	25 U	25 U	25 U	8.6 J
Iron	--	3700	2100	1500	1200	9600
Lead	183	2.1 J	3.0 U	3.0 U	1.7 J	7.3
Magnesium	--	1300 J	1200 J	1100 J	1000 J	3000 J
Manganese	--	2100	1300	760	260	1000
Nickel	773	2.6 J	40 U	40 U	1.9 J	18 J
Potassium	--	1300 J	1300 J	1200 J	1300 J	2400 J
Selenium	--	5.0 U	5.0 U	5.0 U	5.0 U	4.4 J
Silver	11.1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Sodium	--	5000 U	270 J	5000 U	250 J	1400 J
Thallium	20	10 U	10 U	10 U	10 U	5.6 J
Vanadium	190	50 U	50 U	50 U	50 U	4.0 J
Zinc	192.9	22	13 J	21	28	53
Volatile Organic Compounds (µg/l)						
1,1,1-Trichloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-Trichlorobenzene	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromo-3-Chloropropane	--	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
1,2-Dibromoethane (EDB)	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,3-Dichlorobenzene	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,4-Dichlorobenzene	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	--	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
2-Hexanone	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	--	20 UJ	20 UJ	20 UJ	20 UJ	7.1 J
Benzene	10	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	400	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 7
SURFACE WATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC Class D Surface Water Standards.[b]	SW-1 [c]		SW-2	SW-3	SW-4
Collection Date:		6/7/2011		6/7/2011	6/7/2011	6/7/2011
Northing:		15341430.02		15341294.35	15341337.18	15341433.54
Easting:		1110457.26		1110443.54	1110554.20	1110957.46
Volatile Organic Compounds (µg/l) (Continued)						
Chloroform	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Cyclohexane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dichlorodifluoromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl acetate	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylcyclohexane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	200	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	6,000	5.0 U	1.2 J	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	40	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes, Total	--	15 U	15 U	15 U	15 U	15 U
Semivolatile Organic Compounds (µg/l)						
1,1'-Biphenyl	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2,2'-oxybis[1-chloropropane]	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2,4,5-Trichlorophenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2,4,6-Trichlorophenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2,4-Dichlorophenol	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2,4-Dimethylphenol	1,000	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2,4-Dinitrophenol	400	47 U	48 U	48 U	48 U	48 U
2,4-Dinitrotoluene	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2,6-Dinitrotoluene	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2-Chloronaphthalene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2-Chlorophenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2-Methylnaphthalene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
2-Methylphenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
2-Nitroaniline	--	47 U	48 U	48 U	48 U	48 U
2-Nitrophenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
3,3'-Dichlorobenzidine	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
3-Nitroaniline	--	47 U	48 U	48 U	48 U	48 U
4,6-Dinitro-2-methylphenol	--	47 U	48 U	48 U	48 U	48 U
4-Bromophenyl phenyl ether	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
4-Chloro-3-methylphenol	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
4-Chloroaniline	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
4-Chlorophenyl phenyl ether	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
4-Nitroaniline	--	47 U	48 U	48 U	48 U	48 U
4-Nitrophenol	--	47 U	48 U	48 U	48 U	48 U
Acenaphthene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Acenaphthylene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Acetophenone	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Anthracene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Atrazine	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U

TABLE 7
SURFACE WATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC Class D Surface Water Standards.[b]	SW-1 [c]		SW-2	SW-3	SW-4
Collection Date:		6/7/2011		6/7/2011	6/7/2011	6/7/2011
Northing:		15341430.02		15341294.35	15341337.18	15341433.54
Easting:		1110457.26		1110443.54	1110554.20	1110957.46
Semivolatile Organic Compounds (µg/l) (Continued)						
Benzaldehyde	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Benzo[a]anthracene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Benzo[a]pyrene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Benzo[b]fluoranthene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Benzo[g,h,i]perylene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Benzo[k]fluoranthene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Bis(2-chloroethoxy)methane	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Bis(2-chloroethyl)ether	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Bis(2-ethylhexyl) phthalate	--	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ
Butyl benzyl phthalate	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Caprolactam	--	47 U	48 U	48 U	48 U	48 U
Carbazole	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Chrysene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Dibenz(a,h)anthracene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Dibenzofuran	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Diethyl phthalate	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Dimethyl phthalate	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Di-n-butyl phthalate	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Di-n-octyl phthalate	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Fluoranthene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Fluorene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Hexachlorobenzene	$3x10^{-5}$	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Hexachlorobutadiene	1	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Hexachlorocyclopentadiene	4.5	9.4 UJ	9.5 UJ	9.5 UJ	9.5 UJ	9.5 UJ
Hexachloroethane	0.6	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Indeno[1,2,3-cd]pyrene	--	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ	1.9 UJ
Isophorone	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Methylphenol, 3 & 4	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Naphthalene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Nitrobenzene	--	19 U	19 U	19 U	19 U	19 U
N-Nitrosodi-n-propylamine	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
N-Nitrosodiphenylamine	--	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Pentachlorophenol	1	9.4 U	9.5 U	9.5 U	9.5 U	9.5 U
Phenanthrene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Phenol	1	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Pyrene	--	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Polychlorinated Biphenyls (µg/l)						
PCB-1016	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1221	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1232	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1242	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1248	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1254	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
PCB-1260	$1.2x10^{-4}$	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U

TABLE 7
SURFACE WATER ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYSDEC Class D Surface Water Standards.[b]	SW-1 [c]		SW-2	SW-3	SW-4
Collection Date:		6/7/2011		6/7/2011	6/7/2011	6/7/2011
Northing:		15341430.02		15341294.35	15341337.18	15341433.54
Easting:		1110457.26		1110443.54	1110554.20	1110957.46
Pesticides (µg/l)						
4,4'-DDD	$1.1x10^{-5}$	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.48 UJ
4,4'-DDE	$1.1x10^{-5}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
4,4'-DDT	$1.1x10^{-5}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Aldrin	0.001	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.48 UJ
alpha-BHC	0.0002	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
alpha-Chlordane	$2x10^{-5}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
beta-BHC	0.007	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.48 UJ
delta-BHC	0.008	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.48 UJ
Dieldrin	0.001	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endosulfan I	--	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endosulfan II	--	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endosulfan sulfate	--	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endrin	0.086	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endrin aldehyde	--	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Endrin ketone	--	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
gamma-BHC (Lindane)	0.95	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
gamma-Chlordane	$2x10^{-5}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Heptachlor	$2x10^{-4}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Heptachlor epoxide	$3x10^{-4}$	0.047 U	0.047 U	0.047 U	0.047 U	0.48 U
Methoxychlor	--	0.094 U	0.094 U	0.094 U	0.094 U	0.96 U
Toxaphene	1.6	3.8 U	3.8 U	3.8 U	3.8 U	38 U
General Chemistry						
Fluoride (mg/l)[f]	--	0.28	0.2	0.3	0.17	0.033 J
Cyanide, Total (mg/l)	9,000	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ

Notes:

[a] "µg/l" is micrograms per liter or parts per billion (ppb).

[b] New York Code, Rules and Regulation (NYCRR) Title 6, Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (August 1999)

[c] Duplicate sample collected.

[d] "--" indicates that a corresponding water quality standard does not exist.

[e] Data qualifiers are as follows:

"UJ " and "J" - represent a value that is estimated. The data presented are a usable estimation of the conditions being measured.

"U" - Indicates the parameter was not detected.

'"B" - Indicates that the compound was found in the laboratory blank.

[f] "mg/l" is milligrams per liter or parts per million (ppm).

TABLE 8
SEDIMENT ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYDEC Sediment Criteria [b]	SD-1	SD-2[f]		SD-3	SD-4
Collection Date:		6/7/2011	6/7/2011		6/7/2011	6/7/2011
Northing:		15341430.02	15341294.35		15341337.18	15341433.54
Easting:		1110457.26	1110443.54		1110554.20	1110957.46
Metals (mg/kg) [a]						
Mercury	0.15	0.013 J [d]	0.016 J	0.015 J	0.031	0.015 J
Aluminum	--- [c]	13,000 B	11,000 B	11,000 B	12,000 B	11,000 B
Antimony	2	0.90 UJ	0.58 UJ	0.56 UJ	0.59 UJ	0.68 UJ
Arsenic	6	**15** [e]	**7.1**	**9.1**	**9.1**	**7.0**
Barium	---	100 J	130 J	120 J	160 J	110 J
Beryllium	---	0.75 B	0.61 B	0.61 B	0.71 B	0.51 B
Cadmium	0.6	0.11 J	**3.8**	**4.6**	0.072 J	0.29 J
Calcium	---	980 B	1,000 B	980 B	790 B	970 B
Chromium	26	18	15	15	17	14
Cobalt	---	12	11	10	12	10
Copper	16	14	15	16	16	16
Iron	20,000	**30,000 B**	**26,000 B**	**25,000 B**	**28,000 B**	**25,000 B**
Lead	31	6.5 B	11 B	12 B	11 B	9.9 B
Magnesium	---	4,500 J	3,600 J	3,600 J	4,000 J	3,400 J
Manganese	460	260 B	350 B	350 B	300 B	330 B
Nickel	16	**30**	**24**	**23**	**26**	**23**
Potassium	---	1100	790	860	820	780
Selenium	---	0.45 U	0.29 U	0.28 U	0.29 U	0.31 J
Silver	1	0.45 U	0.29 U	0.28 U	0.035 J	0.34 U
Sodium	---	100 J B	54 J B	54 J B	60 J B	53 J B
Thallium	---	0.39 J	0.15 J	0.14 J	0.20 J	0.42 J
Vanadium	---	19 J	16 J	16 J	18 J	15 J
Zinc	120	69 J	69 J	72 J	59 J	57 J
Volatile Organic Compounds (µg/kg) [g]						
1,1,1-Trichloroethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,1,2,2-Tetrachloroethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,1,2-Trichloroethane	600	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,1-Dichloroethane	700	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,1-Dichloroethene	20	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2,4-Trichlorobenzene	91,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2-Dibromo-3-Chloropropane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2-Dibromoethane (EDB)	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2-Dichlorobenzene	12,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2-Dichloroethane	700	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,2-Dichloropropane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,3-Dichlorobenzene	12,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
1,4-Dichlorobenzene	12,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
2-Butanone (MEK)	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
2-Hexanone	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
4-Methyl-2-pentanone (MIBK)	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Acetone	---	18 J	23 U	12 J	14 J	15 J
Benzene	600	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Bromodichloromethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Bromoform	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Bromomethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Carbon disulfide	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U

TABLE 8
SEDIMENT ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYDEC Sediment Criteria [b]	SD-1	SD-2[f]		SD-3	SD-4
Collection Date:		6/7/2011	6/7/2011		6/7/2011	6/7/2011
Northing:		15341430.02	15341294.35		15341337.18	15341433.54
Easting:		1110457.26	1110443.54		1110554.20	1110957.46
Volatile Organic Compounds (µg/kg) (Continued)						
Carbon tetrachloride	600	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Chlorobenzene	3,500	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Chloroethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Chloroform	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Chloromethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
cis-1,2-Dichloroethene	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
cis-1,3-Dichloropropene	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Cyclohexane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Dibromochloromethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Dichlorodifluoromethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Ethylbenzene	24,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Isopropylbenzene	12,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Methyl acetate	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Methyl tert-butyl ether	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Methylcyclohexane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Methylene Chloride	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Styrene	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Tetrachloroethene	800	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Toluene	49,000	4.4 J	5.9 U	1.2 J	6.8	2.4 J
trans-1,2-Dichloroethene	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
trans-1,3-Dichloropropene	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Trichloroethene	2,000	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Trichlorofluoromethane	---	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Vinyl chloride	70	9.6 U	5.9 U	5.8 U	6.1 U	7.0 U
Xylenes, Total	92,000	29 U	18 U	17 U	18 U	21 U
Semivolatile Organic Compounds (µg/kg)						
1,1'-Biphenyl	---	310 U	190 U	190 U	200 U	230 U
2,2'-oxybis[1-chloropropane]	--	64 U	39 U	39 U	41 U	47 U
2,4,5-Trichlorophenol	---	310 U	190 U	190 U	200 U	230 U
2,4,6-Trichlorophenol	---	310 U	190 U	190 U	200 U	230 U
2,4-Dichlorophenol	---	64 U	39 U	39 U	41 U	47 U
2,4-Dimethylphenol	---	310 U	190 U	190 U	200 U	230 U
2,4-Dinitrophenol	---	1,600 U	990 U	980 U	1,000 U	1,200 U
2,4-Dinitrotoluene	---	310 U	190 U	190 U	200 U	230 U
2,6-Dinitrotoluene	---	310 U	190 U	190 U	200 U	230 U
2-Chloronaphthalene	---	64 U	39 U	39 U	41 U	47 U
2-Chlorophenol	---	310 U	190 U	190 U	200 U	230 U
2-Methylnaphthalene	34,000	64 U	39 U	39 U	41 U	47 U
2-Methylphenol	---	310 U	190 U	190 U	200 U	230 U
2-Nitroaniline	---	1,600 U	990 U	980 U	1,000 U	1,200 U
2-Nitrophenol	---	310 U	190 U	190 U	200 U	230 U
3,3'-Dichlorobenzidine	---	310 U	190 U	190 U	200 U	230 U
3-Nitroaniline	---	1,600 U	990 U	980 U	1,000 U	1,200 U
4,6-Dinitro-2-methylphenol	---	1,600 U	990 U	980 U	1,000 U	1,200 U
4-Bromophenyl phenyl ether	---	310 U	190 U	190 U	200 U	230 U
4-Chloro-3-methylphenol	---	310 U	190 U	190 U	200 U	230 U
4-Chloroaniline	---	310 U	190 U	190 U	200 U	230 U
4-Chlorophenyl phenyl ether	---	310 U	190 U	190 U	200 U	230 U
4-Nitroaniline	---	1,600 U	990 U	980 U	1,000 U	1,200 U
4-Nitrophenol	---	1,600 U	990 U	980 U	1,000 U	1,200 U
Acenaphthene	140,000	64 U	39 U	39 U	41 U	47 U

TABLE 8
SEDIMENT ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYDEC Sediment Criteria [b]	SD-1	SD-2[f]		SD-3	SD-4
Collection Date:		6/7/2011	6/7/2011		6/7/2011	6/7/2011
Northing:		15341430.02	15341294.35		15341337.18	15341433.54
Easting:		1110457.26	1110443.54		1110554.20	1110957.46
Semivolatile Organic Compounds (µg/kg) (Continued)						
Acenaphthylene	---	64 U	39 U	39 U	41 U	47 U
Acetophenone	---	310 U	190 U	190 U	200 U	230 U
Anthracene	107,000	64 U	39 U	39 U	41 U	47 U
Atrazine	---	310 U	190 U	190 U	200 U	230 U
Benzaldehyde	---	310 U	190 U	190 U	120 J	140 J
Benzo[a]anthracene	12,000	64 U	39 U	39 U	41 U	47 U
Benzo[a]pyrene	1,300	64 U	39 U	39 U	41 U	47 U
Benzo[b]fluoranthene	12,000	64 U	39 U	39 U	41 U	47 U
Benzo[g,h,i]perylene	---	64 U	39 U	39 U	41 U	47 U
Benzo[k]fluoranthene	12,000	64 U	39 U	39 U	41 U	47 U
Bis(2-chloroethoxy)methane	---	310 U	190 U	190 U	200 U	230 U
Bis(2-chloroethyl)ether	30	64 U	39 U	39 U	41 U	47 U
Bis(2-ethylhexyl) phthalate	199,500	640 U	390 U	390 U	410 U	470 U
Butyl benzyl phthalate	---	310 U	190 U	190 U	200 U	230 U
Caprolactam	---	1,600 U	990 U	980 U	1,000 U	1,200 U
Carbazole	---	64 U	39 U	39 U	41 U	47 U
Chrysene	---	64 U	39 U	39 U	41 U	47 U
Dibenz(a,h)anthracene	---	64 U	39 U	39 U	41 U	47 U
Dibenzofuran	---	310 U	190 U	190 U	200 U	230 U
Diethyl phthalate	---	310 U	190 U	190 U	200 U	230 U
Dimethyl phthalate	---	310 U	190 U	190 U	200 U	230 U
Di-n-butyl phthalate	---	310 U	190 U	190 U	200 U	230 U
Di-n-octyl phthalate	---	310 U	190 U	190 U	200 U	230 U
Fluoranthene	1,020,000	64 U	39 U	39 U	41 U	47 U
Fluorene	8,000	64 U	39 U	39 U	41 U	47 U
Hexachlorobenzene	150	64 U	39 U	39 U	41 U	47 U
Hexachlorobutadiene	300	64 U	39 U	39 U	41 U	47 U
Hexachlorocyclopentadiene	4,400	310 U	190 U	190 U	200 U	230 U
Hexachloroethane	---	310 U	190 U	190 U	200 U	230 U
Indeno[1,2,3-cd]pyrene	12,000	64 U	39 U	39 U	41 U	47 U
Isophorone	---	310 U	190 U	190 U	200 U	230 U
Methylphenol, 3 & 4		160 J	190 U	190 U	200 U	230 U
Naphthalene	30,000	64 U	39 U	39 U	41 U	47 U
Nitrobenzene	---	640 U	390 U	390 U	410 U	470 U
N-Nitrosodi-n-propylamine	---	64 U	39 U	39 U	41 U	47 U
N-Nitrosodiphenylamine	---	310 U	190 U	190 U	200 U	230 U
Pentachlorophenol	40,000	310 U	190 U	190 U	200 U	230 U
Phenanthrene	120,000	64 U	39 U	39 U	41 U	47 U
Phenol	600	64 U	39 U	39 U	41 U	47 U
Pyrene	961,000	64 U	39 U	39 U	41 U	47 U
Polychlorinated Biphenyls (µg/kg)						
PCB-1016	0.8	16 U	98 U	9.5 U	10 U	12 U
PCB-1221	0.8	16 U	98 U	9.5 U	10 U	12 U
PCB-1232	0.8	16 U	98 U	9.5 U	10 U	12 U
PCB-1242	0.8	16 U	98 U	9.5 U	10 U	12 U
PCB-1248	0.8	16 U	98 U	9.5 U	10 U	12 U
PCB-1254	0.8	**15 J**	**6,700 J**	**2,300 J**	**89 J**	**6.8 J**
PCB-1260	0.8	16 U	98 U	9.5 U	10 U	12 U

TABLE 8
SEDIMENT ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID:	NYDEC Sediment Criteria [b]	SD-1	SD-2[f]		SD-3	SD-4
Collection Date:		6/7/2011	6/7/2011		6/7/2011	6/7/2011
Northing:		15341430.02	15341294.35		15341337.18	15341433.54
Easting:		1110457.26	1110443.54		1110554.20	1110957.46
Pesticides (µg/kg)						
4,4'-DDD	10	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
4,4'-DDE	10	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
4,4'-DDT	10	1.6 U	**340**	**100**	6.5	1.6
Aldrin	100	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
alpha-BHC	---	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
alpha-Chlordane	1	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
beta-BHC	---	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
delta-BHC	---	1.6 UJ	5.0 UJ	0.97 UJ	1.0 UJ	1.2 UJ
Dieldrin	100	1.6 U	R	R	1.0 U	1.2 U
Endosulfan I	30	1.6 U	6.5 J	3.7	1.0 U	1.2 U
Endosulfan II	30	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
Endosulfan sulfate	---	1.6 UJ	17 J	5.4 J	1.0 UJ	1.2 UJ
Endrin	800	1.2 J B	190 J	60 J	1.0 UJ	1.2 U
Endrin aldehyde	---	R	R	R	R	R
Endrin ketone	---	1.6 UJ	5.0 UJ	R	1.0 UJ	1.2 UJ
gamma-BHC (Lindane)	---	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
gamma-Chlordane	1	1.6 U	**60**	**22**	1.0 U	1.2 U
Heptachlor	0.8	1.6 U	5.0 U	0.97 U	1.0 U	1.2 U
Heptachlor epoxide	0.8	1.6 U	R	0.97 U	1.0 U	1.2 U
Methoxychlor	600	3.1 U	9.7 U	1.9 U	2.0 U	2.3 U
Toxaphene	20	64 U	200 U	38 U	41 U	46 U
General Chemistry (mg/kg)						
Fluoride	---	22 J	15 J	14 J	10 J	8.6 J
Cyanide, Total	---	0.71 J	0.075 J	0.29 UJ	0.070 J	0.14 J

Notes:

[a] "mg/kg" is milligrams per kilogram or parts per million (ppm).

[b] NYSDEC Sediment Criteria from Technical Guidance for Screening Contaminated Sediments (January 1999). Results were compared to the most stringent criteria.

[c] "---" indicates a NYSDEC Sediment Criteria hs not been established for the parameter.

[d] Data qualifiers are as follows:

"UJ" and "J" - represent a value that is estimated. The data presented are a usable estimation of the conditions being measured.

"U" - Indicates the parameter was not detected.

'"B" - Indicates that the compound was found in the laboratory blank.

"R" - indicates data were found to be unreliable and should not be used in the data tables.

[e] **Bold** and shaded values indicate an exceedance of the applicable NYSDEC Sediment Criteria.

[f] Duplicate sample was collected at this location.

[g] "µg/kg" is micrograms per kilogram or parts per billion (ppb).

TABLE 9
RESIDENTIAL WELL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	NYSDOH Public Water Systems MCL [b]	Smaldone 9/7/11	Brown 9/8/11
Metals (µg/l) [a]			
Mercury	2	0.20 U [d]	0.20 U
Aluminum	-- [c]	200 U	200 U
Antimony	6	10 U	10 U
Arsenic	10	10 U	10 U
Barium	2,000	15 J [d]	79 J
Beryllium	4	4.0 U	4.0 U
Cadmium	5	1.1 J	5.0 U
Calcium	--	9,600	51,000
Chromium	100	5.0 U	5.0 U
Cobalt	--	50 U	50 U
Copper	--	72	7.2 J
Iron	300 [e]	200	100 U
Lead	--	7.5	1.8 J
Magnesium	--	2,500 J	12,000
Manganese	300 [e]	55	19
Nickel	--	1.8 J	40 U
Potassium	--	5,000 U	760 J
Selenium	50	5.0 U	5.0 U
Silver	100	5.0 U	5.0 U
Sodium	--	63,000	17,000
Thallium	2	10 U	10 U
Vanadium	--	50 U	50 U
Zinc	5,000	99	21
Volatile Organic Compounds (µg/l)			
1,1,1-Trichloroethane	50	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	5	0.50 U	0.50 U
1,1,2-Trichloro-1,2,2-trifluoroethane	50	0.50 U	0.50 U
1,1,2-Trichloroethane	5	0.50 U	0.50 U
1,1-Dichloroethane	5	0.50 U	0.50 U
1,1-Dichloroethene	5	0.50 U	0.50 U
1,2,4-Trichlorobenzene	5	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	50	0.50 U	0.50 U
1,2-Dibromoethane (EDB)	50	0.50 U	0.50 U
1,2-Dichlorobenzene	5	0.50 U	0.50 U
1,2-Dichloroethane	5	0.50 U	0.50 U
1,2-Dichloropropane	5	0.50 U	0.50 U
1,3-Dichlorobenzene	5	0.50 U	0.50 U
1,4-Dichlorobenzene	5	0.50 U	0.50 U
2-Butanone (MEK)	50	0.50 U	0.50 U
2-Hexanone	50	0.50 U	0.50 U
4-Methyl-2-pentanone (MIBK)	50	0.50 U	0.50 U

TABLE 9
RESIDENTIAL WELL ANALYTICAL RESULTS
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Field ID: / Collection Date:	NYSDOH Public Water Systems MCL [b]	Smaldone 9/7/11	Brown 9/8/11
Volatile Organic Compounds (µg/l) cont'd			
Acetone	50	0.50 U	0.50 U
Benzene	5	0.50 U	0.50 U
Bromodichloromethane	50	0.50 U	0.50 U
Bromoform	50	0.50 U	0.50 U
Bromomethane	5	1.0 U	1.0 U
Carbon disulfide	50	0.50 U	0.50 U
Carbon tetrachloride	5	0.50 U	0.50 U
Chlorobenzene	5	0.50 U	0.50 U
Chloroethane	5	1.0 U	1.0 U
Chloroform	50	0.50 U	0.50 U
Chloromethane	5	0.50 U	0.50 U
cis-1,2-Dichloroethene	5	0.50 U	0.50 U
cis-1,3-Dichloropropene	5	0.50 U	0.50 U
Cyclohexane	50	0.50 U	0.50 U
Dibromochloromethane	50	0.50 U	0.50 U
Dichlorobromomethane	50	1.0 U	1.0 U
Dichlorodifluoromethane	5	0.50 U	0.50 U
Ethylbenzene	5	0.50 U	0.50 U
Isopropylbenzene	5	0.50 U	0.50 U
Methyl acetate	50	0.50 U	0.50 U
Methyl tert-butyl ether	10	0.50 U	0.50 U
Methylcyclohexane	50	0.50 U	0.50 U
Methylene Chloride	5	0.50 U	0.50 U
Styrene	5	0.50 U	0.50 U
Tetrachloroethene	5	0.50 U	0.50 U
Toluene	5	0.50 U	0.50 U
trans-1,2-Dichloroethene	5	0.50 U	0.50 U
trans-1,3-Dichloropropene	5	0.50 U	0.50 U
Trichloroethene	5	0.50 U	0.50 U
Trichlorofluoromethane	5	0.50 U	0.50 U
Vinyl chloride	2	0.50 U	0.50 U
Xylenes, Total	5	0.50 U	0.50 U

Notes:

[a] "µg/l" is micrograms per liter or parts per billion (ppb).

[b] New York State Department of Health public water systems maximum contaminent level (MCL) under New York Code, Rules and Regulation (NYCRR), Title 10, Part 5, Subpart 5-1.

[c] "--" indicates that a corresponding drinking water MCL does not exist.

[d] Data qualifiers are as follows:

"J" - represents a value that is estimated and is below the quantitation limit.

"U" - Indicates the parameter was not detected.

[e] If Iron and Manganese are present, the total concentration of both should not exceed 500 µg/l.

TABLE 10
SURFACE SOIL EXCEEDANCE SUMMARY
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Constituents	Concentration Range Detected (mg/kg)[a]	Unrestricted Use Soil Cleanup Objective[b]	Frequency Exceeding Standard	Restricted Use Soil Cleanup Objective - Commercial[d]	Frequency Exceeding Standard
Metals					
Arsenic	11.1 - 13.1	13	1 / 4	16	0 / 4
Chromium	16.8 - 19.3	30[c]	0 / 4	1,500	0 / 4
Cadmium	0.097 - 699	2.5	25 / 47	9.3	13 / 47
Lead	8 - 68.8	63	2 / 47	1,000	0 / 47

Notes:

[a] "mg/kg" is milligrams per kilogram or parts per million (ppm).

[b] New York Code, Rules and Regulations (NYCRR), Title 6, Part 375, Subpart 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.

[c] Trivalent chromium standard was used because it is relatively insoluable and is prevalent where oxidation processes occur.

[d] NYCRR, Title 6, Part 375, Subpart 375-6.8(b): Restricted Use Soil Cleanup Objectives - Commercial.

TABLE 11
TEST PIT SOIL EXCEEDANCE SUMMARY
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Constituents	Concentration Range Detected	Unrestricted Use Soil Cleanup Objective[d]	Frequency Exceeding Standard	Restricted Use Soil Cleanup Objective - Commercial[f]	Frequency Exceeding Standard
Metals (mg/kg) [a]					
Arsenic	4.4 - 14.7	13	3 / 33	16	0 / 33
Cadmium	ND[c] - 23.2	2.5	8 / 33	9.3	5 / 33
Chromium	11.7 - 26.1	30[e]	0 / 33	1,500	0 / 33
Lead	3.8 - 289	63	1 / 33	1,000	0 / 33
Nickel	14.5 - 32.6	30	3 / 33	310	0 / 33
Zinc	44 - 233	109	7 / 33	10,000	0 / 33
Polychlorinated Biphenyls (µg/kg) [b]					
Aroclor 1254	ND - 880	100	5 / 33	1,000	0 / 34
Pesticides (µg/kg)					
4,4'-DDE	ND - 14	3.3	2 / 33	62,000	0 / 33
4,4'-DDT	ND - 12	3.3	3 / 33	47,000	0 / 33
Endrin	ND - 21	14	1 / 33	89,000	0 / 33

Notes:

[a] "mg/kg" is milligrams per kilogram or parts per million (ppm).

[b] "µg/kg" is micrograms per kilogram or parts per billion (ppb).

[c] "ND" indicates not detected.

[d] New York Code, Rules and Regulations (NYCRR), Title 6, Part 375, Subpart 375-6.8(a): Unrestricted Use Soil Cleanup Objectives.

[e] Trivalent chromium standard was used because it is relatively insoluable and is prevalent where oxidation processes occur.

[f] NYCRR, Title 6, Part 375, Subpart 375-6.8(b): Restricted Use Soil Cleanup Objectives - Commercial.

TABLE 12
GROUNDWATER EXCEEDANCE SUMMARY
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Constituents	Concentration Range Detected (µg/l)[a]	Groundwater Quality Standard [c] (µg/l)	Frequency Exceeding Standard
Metals			
Antimony	ND[b] - 3.2	3	1 / 10
Arsenic	ND - 48	25	2 / 10
Iron	190 - 2,700	300	8 / 10
Manganese	3.6 - 540	300	4 / 10
Sodium	7,500 - 76,000	20,000	2 / 10

Notes:

[a] "µg/l" is micrograms per liter or parts per billion (ppb).

[b] "ND" indicates not detected.

[c] New York Code, Rules and Regulation (NYCRR) Title 6, Part 703: Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (August 1999).

TABLE 13
SEDIMENT EXCEEDANCE SUMMARY
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

Constituents	Concentration Range Detected	NYDEC Sediment Criteria [(d)]	Frequency Exceeding Standard
Metals (mg/kg) [(a)]			
Arsenic	7.0 - 15	6	5 / 5
Cadmium	0.072 - 4.6	0.6	2 / 5
Iron	25,000 - 30,000	20,000	5 / 5
Nickel	23 - 30	16	5 / 5
Polychlorinated Biphenyls (µg/kg) [(b)]			
PCB-1254	6.8 - 2,300	0.8	5 / 5
Pesticides (µg/kg)			
4,4'-DDT	ND[(c)] - 340	10	2 / 5
gamma-Chlordane	ND - 60	1	2 / 5

Notes:

[(a)] "mg/kg" is milligrams per kilogram or parts per million (ppm).

[(b)] "µg/kg" is micrograms per kilogram or parts per billion (ppb).

[(c)] "ND" indicates not detected.

[(d)] NYSDEC Sediment Criteria from Technical Guidance for Screening Contaminated Sediments (January 1999). Results were compared to the most stringent criteria.

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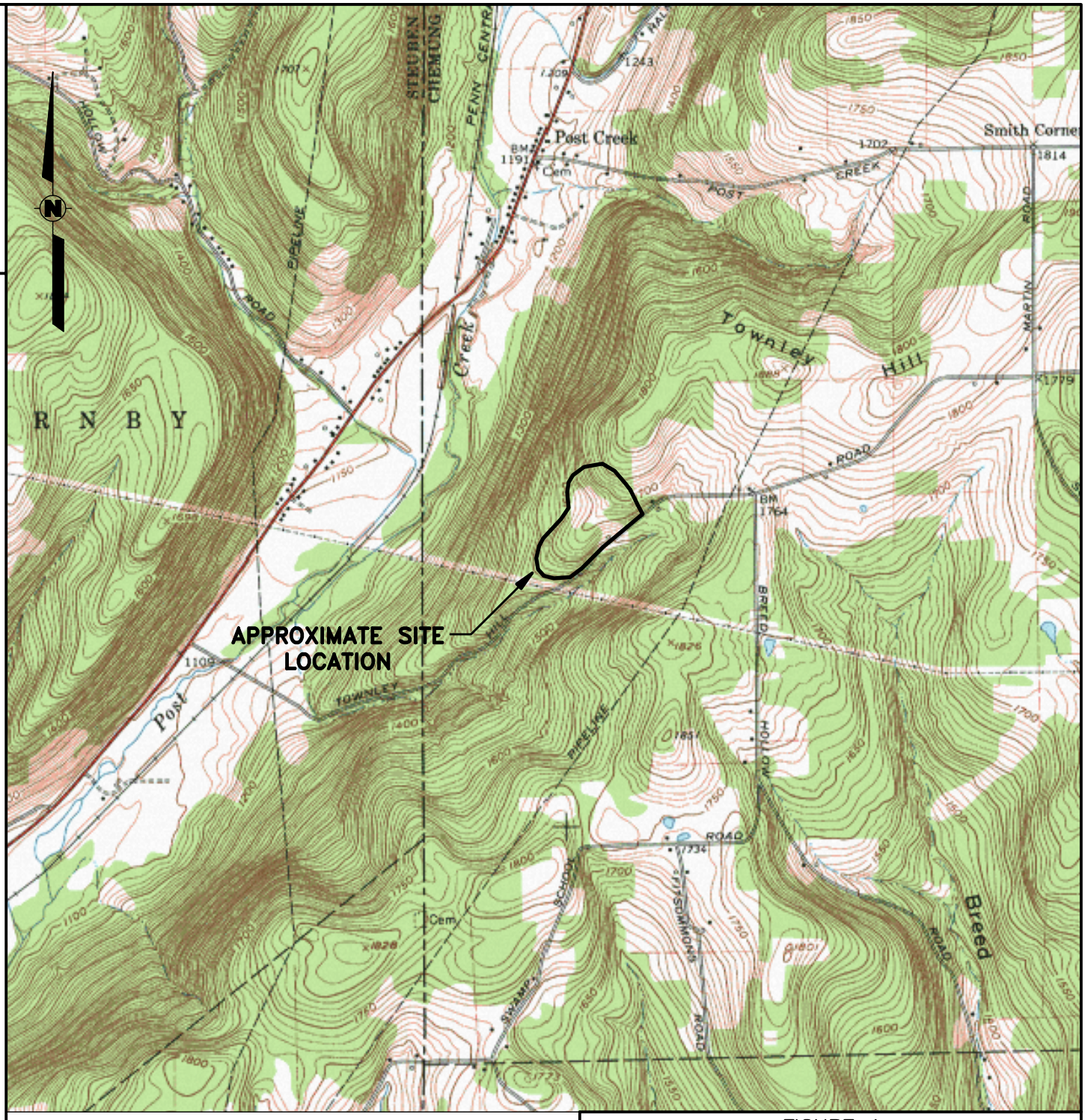


SCALE

0 2000 4000 FEET

REFERENCES:

7.5–MIN. TOPOGRAPHIC QUADRANGLE
BIG FLATS, NY, DATED 1969
PHOTOINSPECTED 1976
SCALE 1:24000

QUADRANGLE LOCATION

FIGURE 1

SITE LOCATION MAP

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

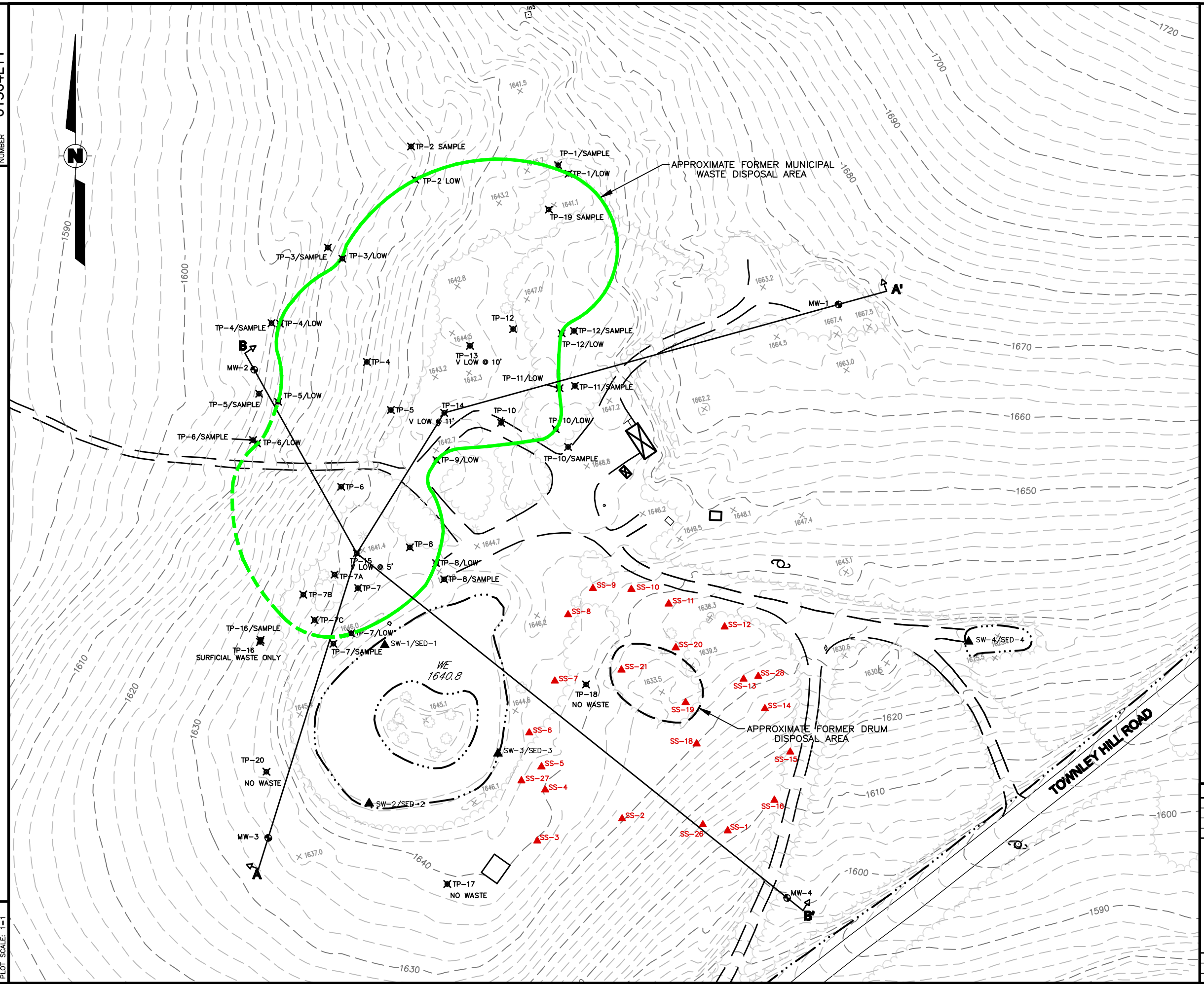
CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304A1

REVISION	DATE	DESCRIPTION

DRAWN BY:	T.N. Fitzroy	DATE:	08–06–01
CHECKED BY:	M.J. Valentine	DATE:	11–19–04
APPROVED BY:	W.A. Baughman	DATE:	11–19–04

DRAWING NUMBER 01304E11



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- TP-18 — SURVEYED TEST PIT SAMPLE/LIMIT OF BURIED WASTE (LOW) LOCATION
- SS-18 — SURFACE SOIL SAMPLE LOCATION
- SW-1/SED-1 — SURFACE WATER AND SEDIMENT SAMPLE LOCATION
- CROSS SECTION LINES

SCALE
40 0 40 80 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC.
CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 2
SITE PLAN

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

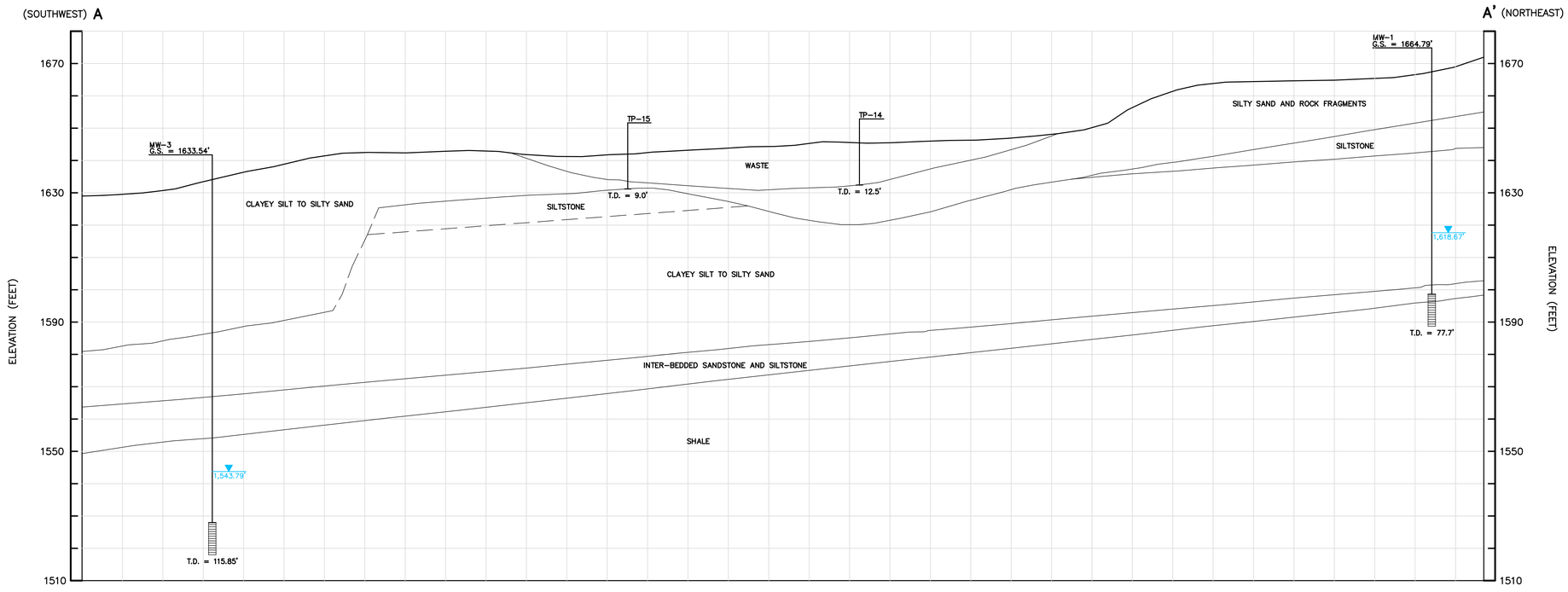
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: 1" = 40'	X	01304E11

DRAWN BY:	T.N. Fitzroy	DATE: 8-15-11
CHECKED BY:	C.L. Nix	DATE: 10-28-11
APPROVED BY:	M.J. Valentine	DATE: 10-28-11

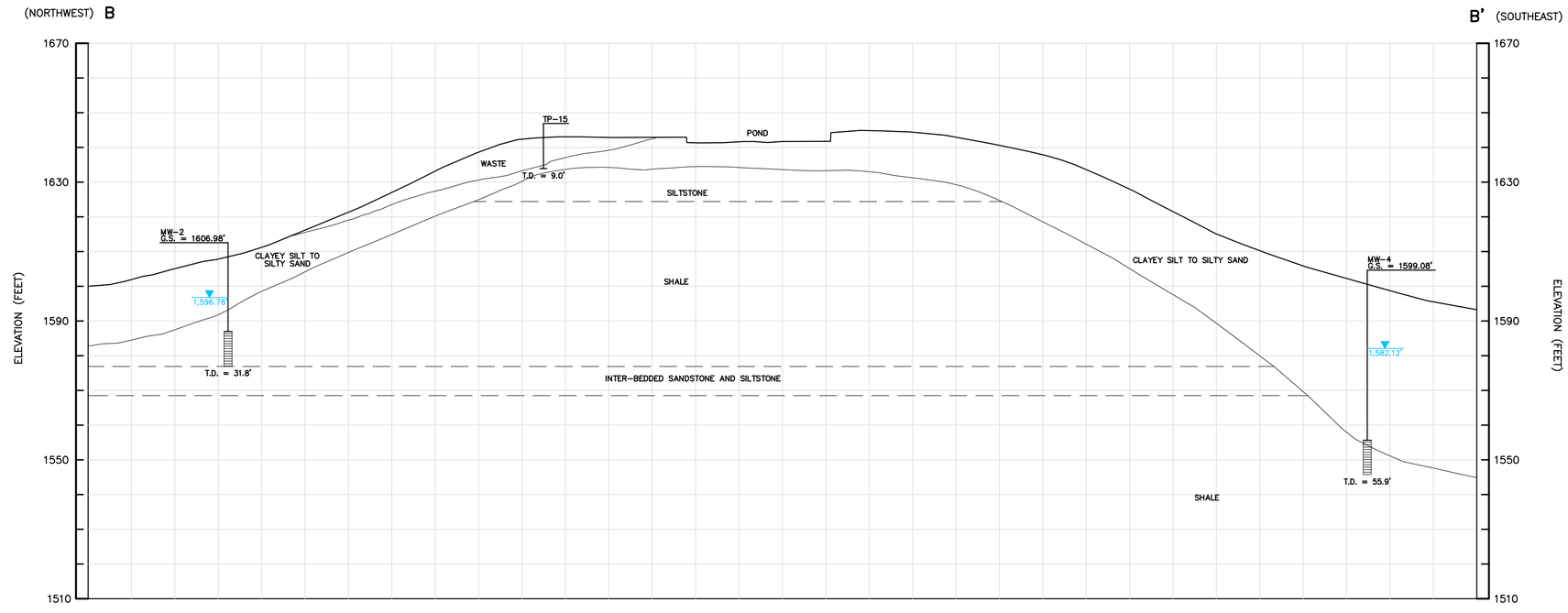
PLOT SCALE: 1=1

DRAWING NUMBER 01304E2_XS1



SECTION A–A'

(LOOKING NORTHWEST)



SECTION B–B'

(LOOKING NORTHEAST)

PLOT SCALE: 1=1

LEGEND:

- TP–15 — TEST PIT LOCATION
- 1,618.67' — STATIC GROUNDWATER ELEVATION (FEET, MSL) (SEPTEMBER 8, 2011)
- T.D. = TOTAL DEPTH (FEET BELOW GROUND SURFACE)
- G.S. = GROUND SURFACE ELEVATION
- SCREENED MONITORING WELL COMMUNICATION INTERVAL

NOTES:

1. ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.
2. THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE TEST PIT AND MONITORING WELL LOCATIONS. ALSO THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE CONDITIONS AT THESE TEST PIT AND MONITORING WELL LOCATIONS.
3. THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE SECTIONS WERE GENERALIZED FROM AND INTERPOLATED BETWEEN THE TEST PITS AND MONITORING WELLS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE TEST PITS AND IT IS POSSIBLE THAT SUBSURFACE CONDITIONS BETWEEN THE TEST PITS MAY VARY FROM THOSE INDICATED.

2X VERTICAL EXAGGERATION

VERTICAL SCALE: 20 0 20 40 FEET

HORIZONTAL SCALE: 40 0 40 80 FEET

REVISIONS

REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC.
CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 3

GEOLOGIC CROSS–SECTIONS A–A' AND B–B'

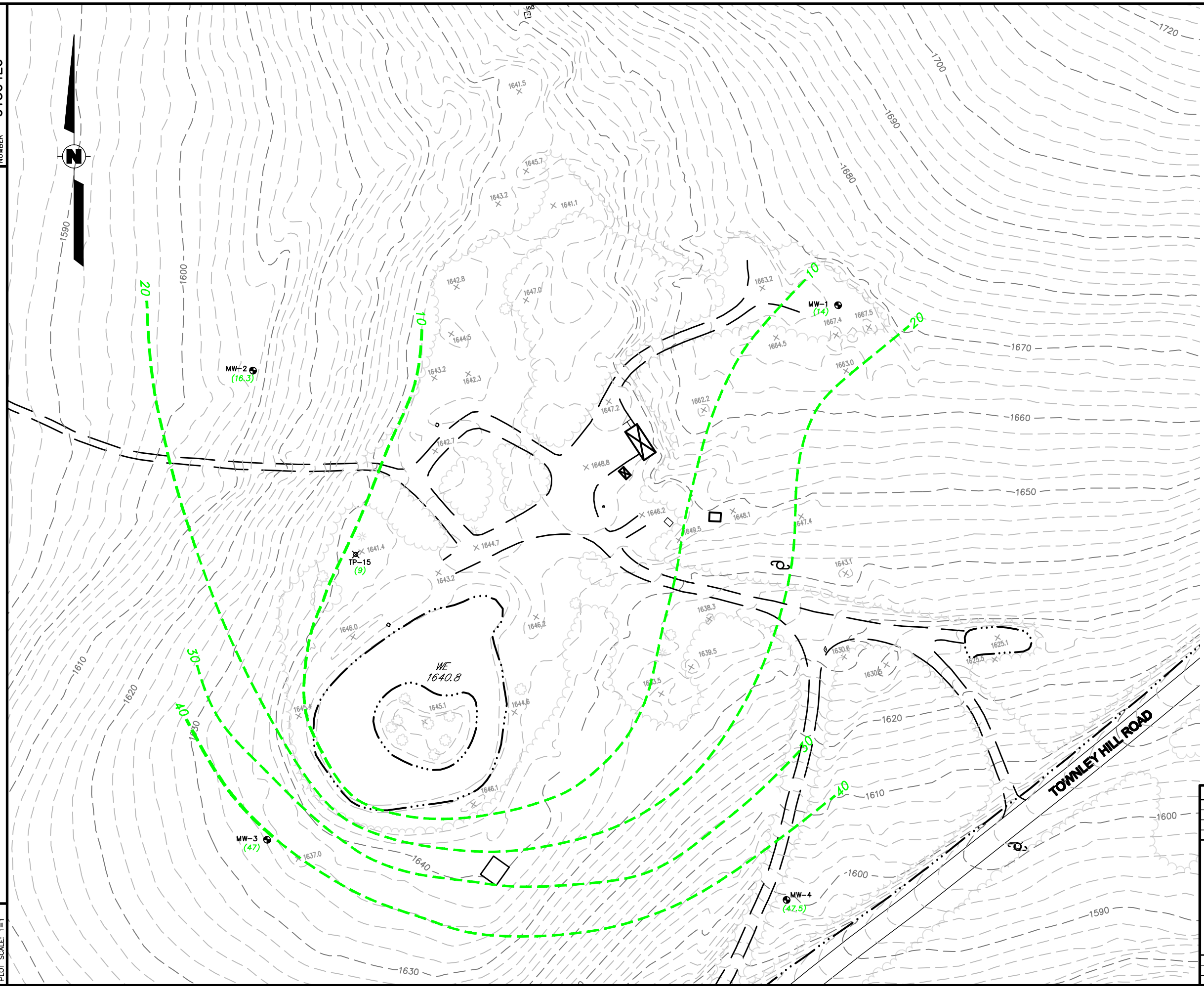
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	AS SHOWN	X	01304E2_XS1

DRAWN BY:	D.J. Martino	DATE: 08–23–11
CHECKED BY:	C.L. Nix	DATE: 10–28–11
APPROVED BY:	M.J. Valentine	DATE: 10–28–11

DRAWING NUMBER 01304E6



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- TP-15 — TEST PIT LOCATION
- (16.3) — DEPTH TO TOP OF BEDROCK (FEET BELOW GROUND SURFACE)
- 10 — APPROXIMATE TOP OF BEDROCK CONTOUR (FEET BELOW GROUND SURFACE)

SCALE
40 0 40 80 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC.
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300 Penn Center Blvd.
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Pittsburgh, PA 15235
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FIGURE 4
DEPTH TO TOP OF BEDROCK CONTOUR MAP

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

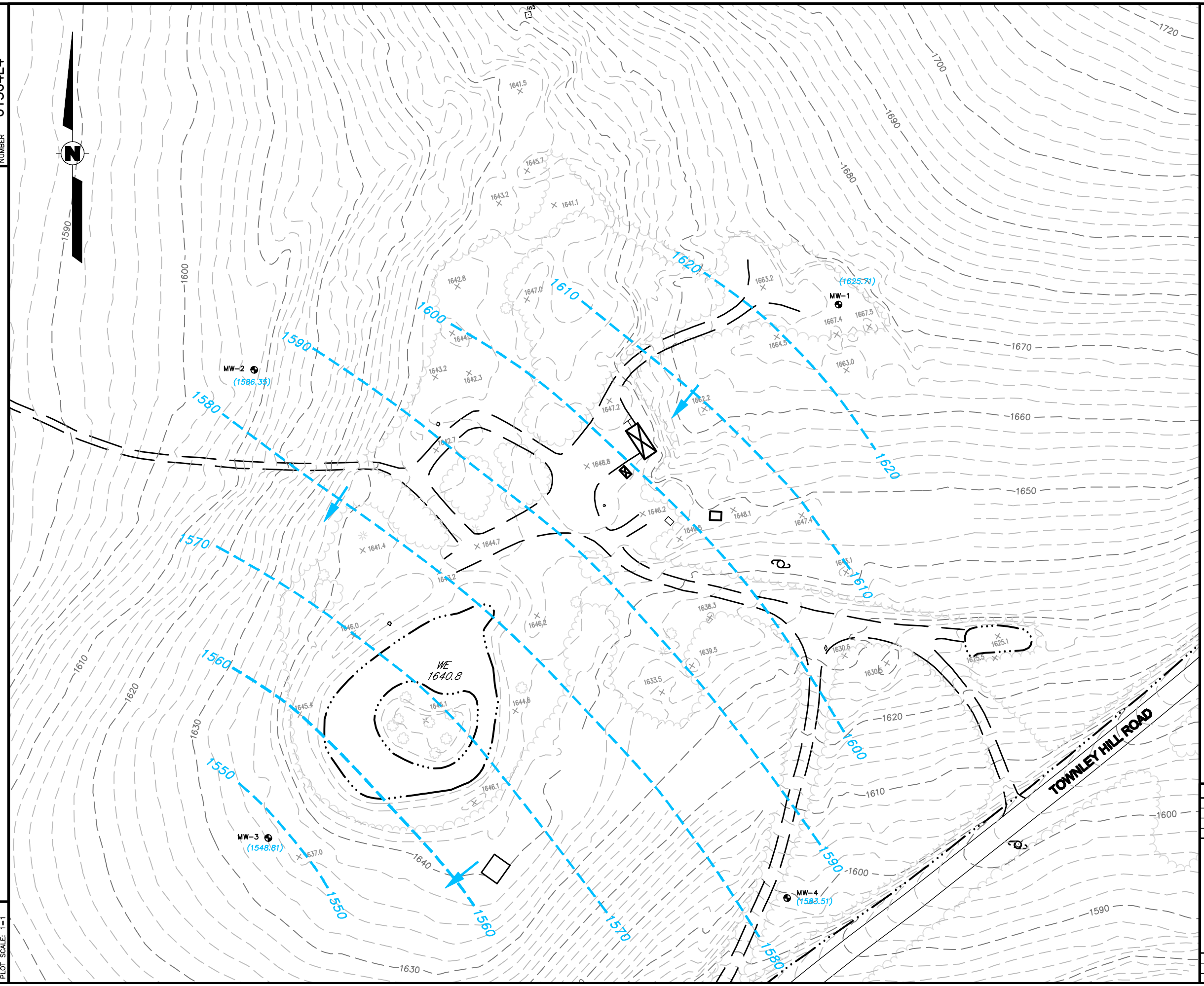
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: 1" = 40'	X	01304E6

DRAWN BY:	R.J. Koenigsberg	DATE: 10-14-11
CHECKED BY:	C.L. Nix	DATE: 10-28-11
APPROVED BY:	M.J. Valentine	DATE: 10-28-11

PLOT SCALE: 1=1

DRAWING NUMBER 01304E4



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- (1625.71) — GROUNDWATER ELEVATION (FT. MSL)
- 1600 — POTENTIOMETRIC SURFACE ELEVATION
- GROUNDWATER FLOW DIRECTION

SCALE
40 0 40 80 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC.
CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 5

POTENTIOMETRIC SURFACE MAP JUNE 6, 2011

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

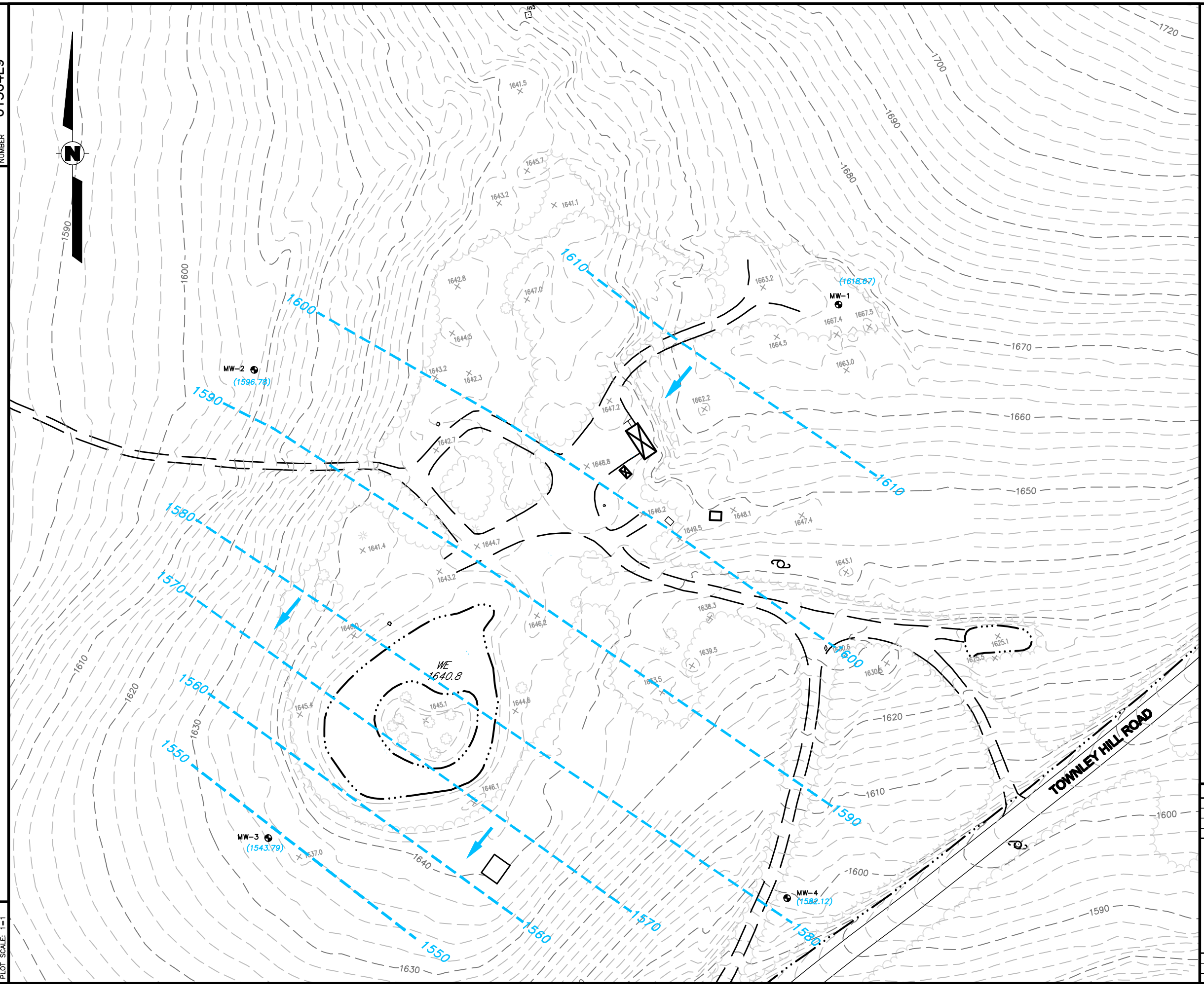
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE E | SCALE: 1" = 50' | REV. X | DRAWING NUMBER 01304E4

DRAWN BY: T.N. Fitzroy DATE: 8-15-11
CHECKED BY: C.L. Nix DATE: 10-28-11
APPROVED BY: M.J. Valentine DATE: 10-28-11

PLOT SCALE: 1=1

DRAWING NUMBER 01304E9



LEGEND:

- MW-1 — MONITORING WELL LOCATION
- (1618.67) — GROUNDWATER ELEVATION (FT. MSL)
- 1600 — POTENTIOMETRIC SURFACE ELEVATION
- GROUNDWATER FLOW DIRECTION

SCALE
40 0 40 80 FEET

PLOT SCALE: 1=1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4600
Fax: (412) 241-7500

FIGURE 6

POTENTIOMETRIC SURFACE MAP SEPTEMBER 8, 2011

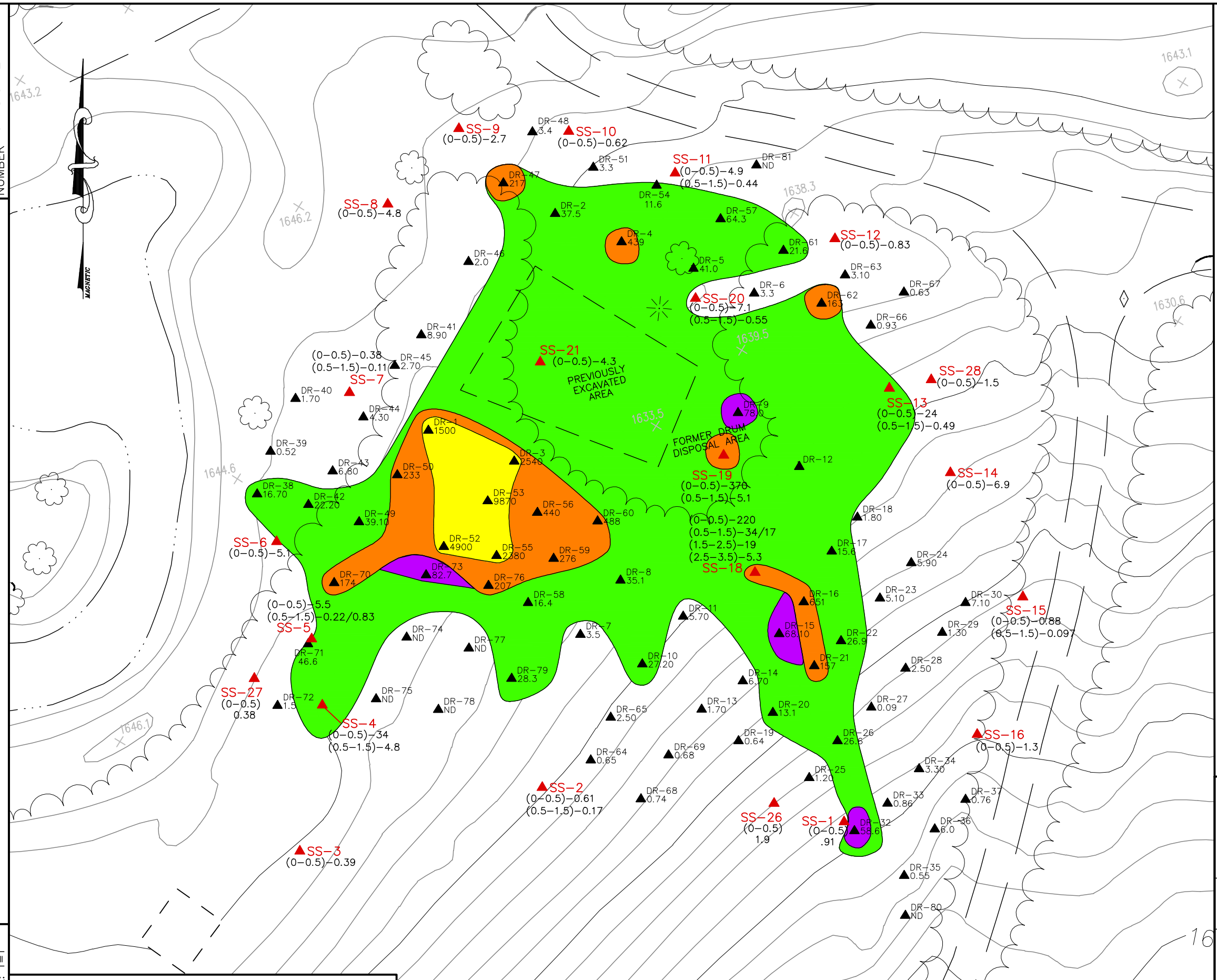
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: 1" = 50'	X	01304E9

DRAWN BY:	T.N. Fitzroy	DATE: 8-15-11
CHECKED BY:	C.L. Nix	DATE: 10-28-11
APPROVED BY:	M.J. Valentine	DATE: 10-28-11

DRAWING NUMBER 01304B11



LEGEND:

- DR-33 0.86 — NYSDEC FOCUSED RI (1997) SAMPLE LOCATION (WITH CADMIUM CONCENTRATION NOTED)
- SS-7 — CUMMINGS/RITER CONSULTANTS SOIL SAMPLE LOCATION (2011)
- SURFACE SOILS >1000 PPM CADMIUM
- SURFACE SOILS BETWEEN 100 AND 999 PPM CADMIUM
- SURFACE SOILS BETWEEN 50 AND 99 PPM CADMIUM
- SURFACE SOILS BETWEEN 9.3 AND 49 PPM CADMIUM

NOTES:

1. CONCENTRATIONS ARE IN MILLIGRAMS PER KILOGRAM.
2. "ND" INDICATES NON-DETECT.
3. "(0-0.5)" INDICATES DEPTH IN FEET BELOW GROUND SURFACE.
4. "X/X" INDICATES A DUPLICATE SAMPLE.

SCALE IN FEET

0 30 60 FEET

PLOT SCALE: 1=1

REFRENCE:
TOWNLEY HILL ROAD SITE CATLIN, NEW YORK, CHEMUNG COUNTY; FIGURE 4; TITLED "TEST PIT LOCATIONS MAIN LANDFILL" PROJECT 8-08-006

FIGURE 7
SOIL SAMPLE LOCATIONS AND CADMIUM CONCENTRATIONS

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

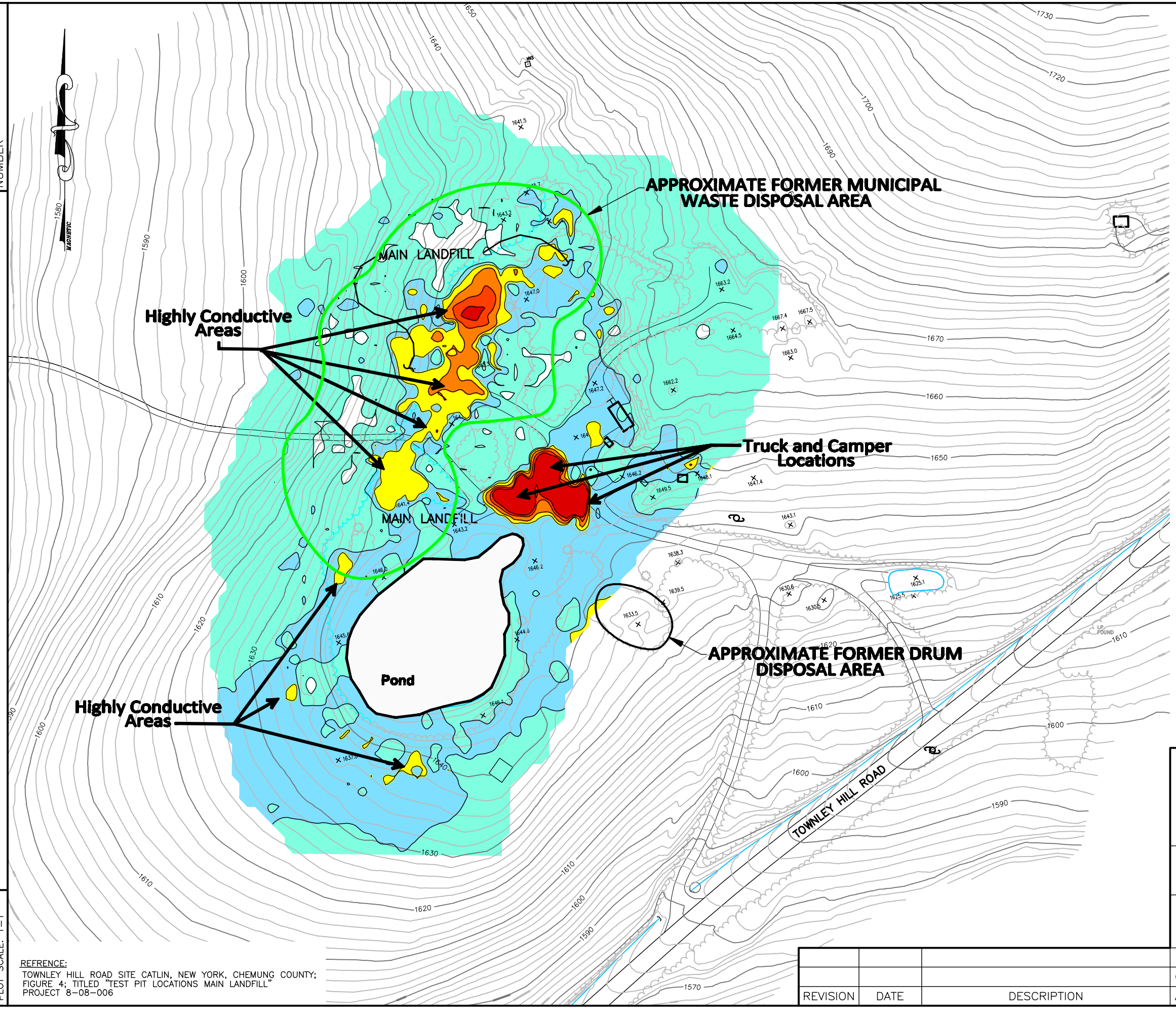
CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304B11

REVISION	DATE	DESCRIPTION

DRAWN BY: *R.J. Koenigsberg*	DATE: *10-17-11*
CHECKED BY: *C.L. Nix*	DATE: *10-28-11*
APPROVED BY: *M.J. Valentine*	DATE: *10-28-11*

DRAWING NUMBER 01304B13



NOTES:

1. GEOPHYSICAL SURVEY CONDUCTED APRIL 19–20, 2011 BY HUTCHINSON GROUP, LTD. USING GEONICS EM–31 FREQUENCY DOMAIN.
2. "mS/m" = MilliSiemens per meter

Color Scale

ELEVATED
- 40 mS/m
- 30 mS/m
- 20 mS/m
- 15 mS/m

BACKGROUND
- 10 mS/m
- 0 mS/m

SCALE
0 100 200 FEET

FIGURE 8
QUAD–PHASE TERRAIN CONDUCTIVITY MAP GEOPHYSICAL INVESTIGATION
TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304B13

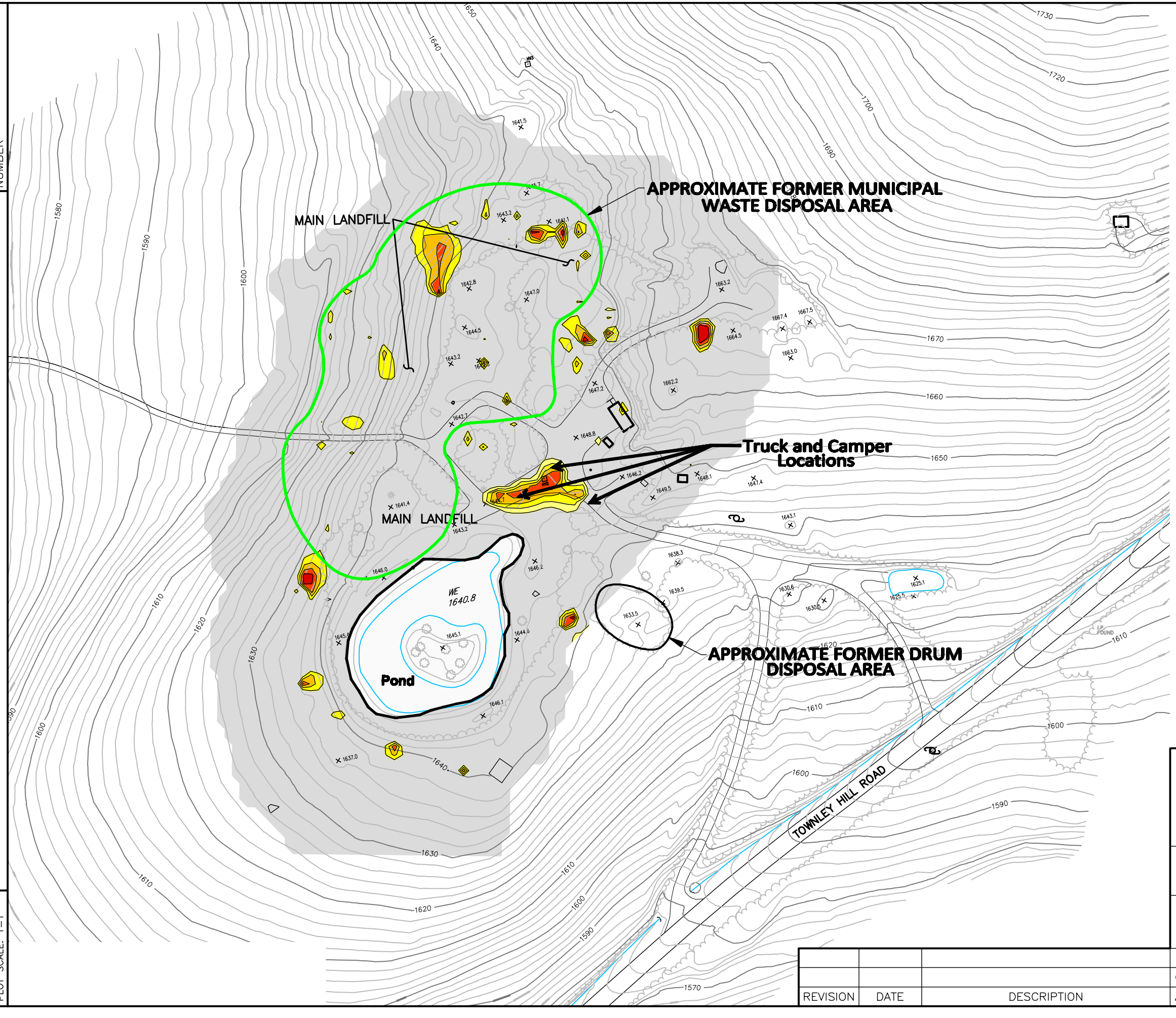
REVISION	DATE	DESCRIPTION

DRAWN BY: *R.J. Koenigsberg* DATE: *10–18–11*
CHECKED BY *C.L. Nix* DATE: *10–28–11*
APPROVED BY: *M.J. Valentine* DATE: *10–28–11*

REFRENCE:
TOWNLEY HILL ROAD SITE CATLIN, NEW YORK, CHEMUNG COUNTY; FIGURE 4; TITLED "TEST PIT LOCATIONS MAIN LANDFILL" PROJECT 8–08–006

PLOT SCALE: 1=1

DRAWING NUMBER 01304B12



NOTES:

1. GEOPHYSICAL SURVEY CONDUCTED APRIL 19–20, 2011 BY HUTCHINSON GROUP, LTD. USING GEONICS EM–31 FREQUENCY DOMAIN.
2. "mS/m" IS MILLISIEMENS/METER

Color Scale

Metal	22 mS/m
	18 mS/m
	14 mS/m
	10 mS/m
	6 mS/m
Background	2 mS/m
	-2 mS/m
	-6 mS/m
	-10 mS/m
Metal	-14 mS/m
	-18 mS/m
	-22 mS/m

SCALE
0 100 200 FEET

FIGURE 9
IN–PHASE TERRAIN CONDUCTIVITY MAP (METALS) GEOPHYSICAL INVESTIGATION

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304B12

REVISION	DATE	DESCRIPTION

DRAWN BY: *R.J. Koenigsberg* DATE: *10–18–11*
CHECKED BY *C.L. Nix* DATE: *10–28–11*
APPROVED BY: *M.J. Valentine* DATE: *10–28–11*

PLOT SCALE: 1=1

DRAWING NUMBER 01304E8

TP-2	(0'–0.5')
NO EXCEEDANCES	
TP-2	(2'–2.5')
NO EXCEEDANCES	

TP-1	(0'–0.5')
NO EXCEEDANCES	
TP-1	(2'–2.5')
NO EXCEEDANCES	

TP-3	(0'–0.5')	
CADMIUM	10.2	C
TP-3	(2'–2.5')	
NO EXCEEDANCES		

TP-19	(0'–0.5')
NO EXCEEDANCES	
TP-19	(7'–7.5')
NO EXCEEDANCES	

TP-12	(0'–0.5')
NO EXCEEDANCES	
TP-12	(2'–2.5')
NO EXCEEDANCES	

TP-13	(10.5'–11')
NO EXCEEDANCES	

TP-4	(0'–0.5')
NO EXCEEDANCES	
TP-4	(2'–2.5')
NO EXCEEDANCES	

TP-11	(0'–0.5')
NO EXCEEDANCES	
TP-11	(2'–2.5')
NO EXCEEDANCES	

TP-5	(0'–0.5')
NO EXCEEDANCES	
TP-5	(2'–2.5')
NO EXCEEDANCES	

TP-10	(0'–0.5')
NO EXCEEDANCES	
TP-10	(2'–2.5')
NO EXCEEDANCES	

TP-6	(0'–0.5')
NO EXCEEDANCES	
TP-6	(2'–2.5')
NO EXCEEDANCES	

TP-14	(12'–12.5')
NO EXCEEDANCES	

TP-9	(0'–0.5')
NO EXCEEDANCES	
TP-9	(2'–2.5')
NO EXCEEDANCES	

TP-15	(8'–8.5')
NO EXCEEDANCES	

TP-16	(2'–2.5')	
CADMIUM	23.2	C
TP-16	(3'–3.5')	
CADMIUM	22.6	C

TP-8	(0'–0.5')
NO EXCEEDANCES	
TP-8	(2'–2.5')
NO EXCEEDANCES	

TP-7	(0'–0.5')	
CADMIUM	15.4	C
TP-7	(2'–2.5')	
CADMIUM	12.6	C

TP-2 SAMPLE
TP-2 LOW
TP-1/SAMPLE
TP-1/LOW
TP-19 SAMPLE
TP-3/SAMPLE
TP-3/LOW
TP-4/SAMPLE
TP-4/LOW
TP-4
TP-13 V LOW @ 10'
TP-12
TP-12/SAMPLE
TP-12/LOW
TP-11/LOW
TP-11/SAMPLE
TP-5/SAMPLE
TP-5/LOW
TP-5
TP-14 V LOW @ 11'
TP-10
TP-10/LOW
TP-10/SAMPLE
TP-6/SAMPLE
TP-6/LOW
TP-6
TP-9/LOW
TP-8
TP-8/LOW
TP-8/SAMPLE
TP-15 V LOW @ 5'
TP-7A
TP-7B
TP-7
TP-7C
TP-7/LOW
TP-7/SAMPLE
TP-16/SAMPLE
TP-16 SURFICIAL WASTE ONLY
TP-18 NO WASTE
TP-20 NO WASTE
TP-17 NO WASTE
A
A'
B
B'
C
C'
TOWNLEY HILL ROAD

LEGEND:

- TP-18 — SURVEYED TEST PIT SAMPLE/LIMIT OF BURIED WASTE LOCATION
- APPROXIMATE EXTENT OF BURIED WASTE (DASHED WHERE INFERRED)
- APPROXIMATE LOCATION OF TEST PIT
- A A' — TOPOGRAPHIC WASTE PROFILE SECTION LINE

NOTES:

1. "LOW" = LIMIT OF WASTE
   "V LOW" = VERTICAL LIMIT OF WASTE
2. "C" INDICATES PARAMETER EXCEEDS NYSDEC RESTRICTED COMMERCIAL SOIL CLEANUP OBJECTIVE.
3. "X/X" INDICATES A DUPLICATE SAMPLE WAS COLLECTED AT THIS LOCATION.
4. ANALYTICAL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM.

SCALE
40 0 40 80 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

CUMMINGS RITER CONSULTANTS, INC.
CORPORATE HEADQUARTERS
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Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 10
TEST PIT SOIL SAMPLING RESULTS

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

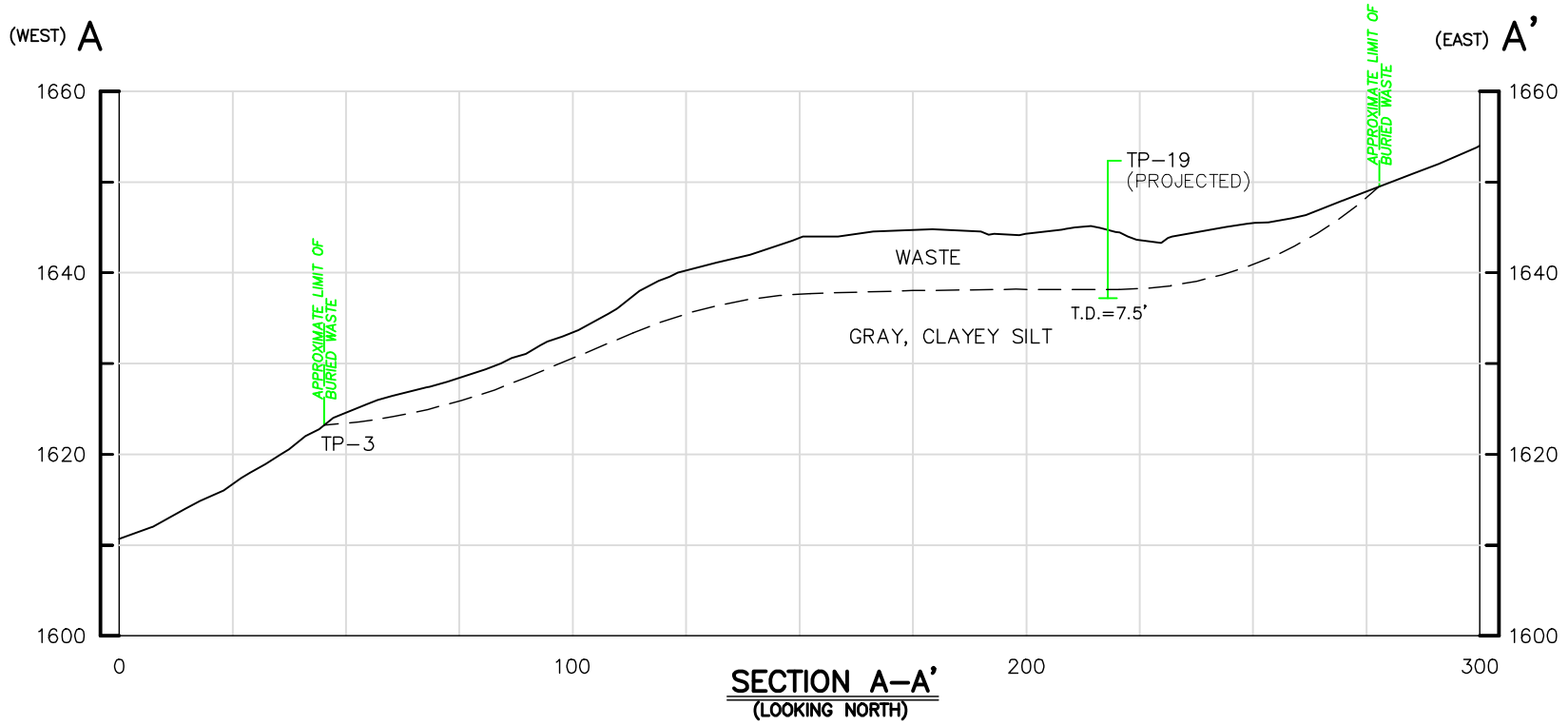
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	1" = 40'	X	01304E8

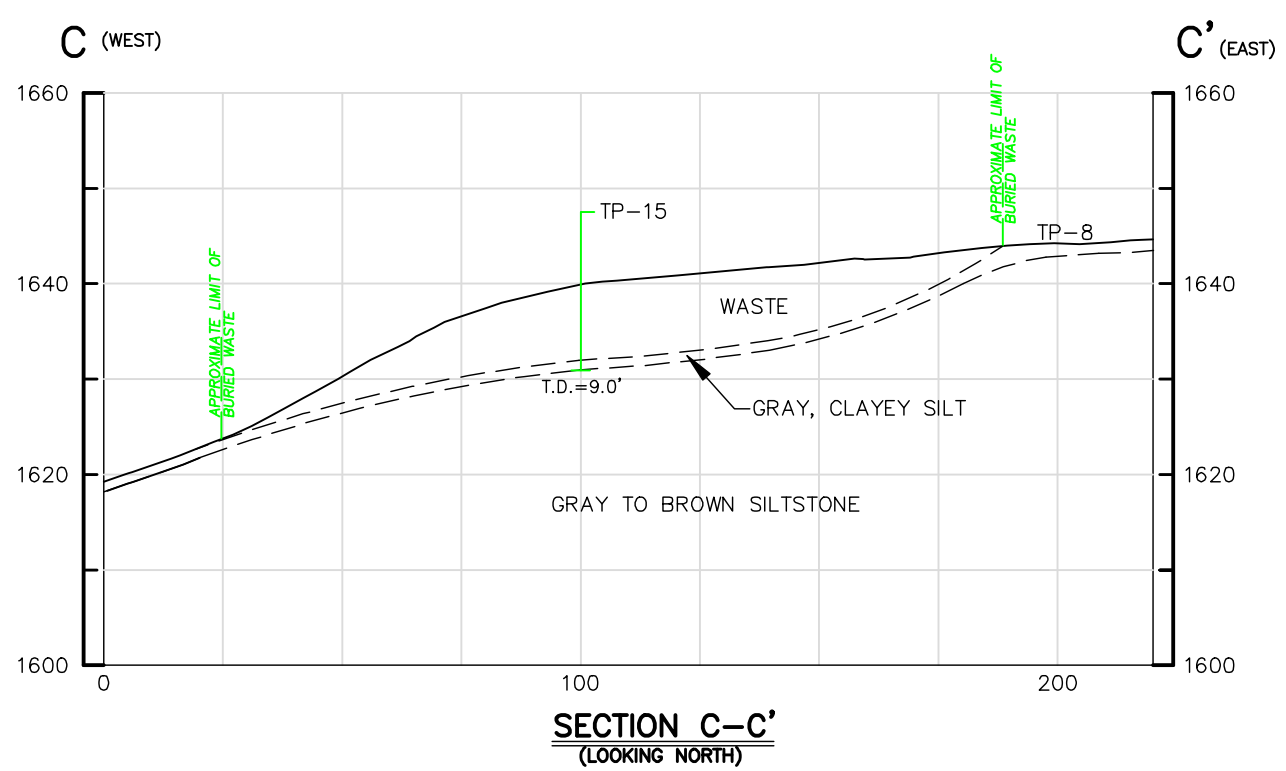
DRAWN BY:	D.J. Martino	DATE: 08–23–11
CHECKED BY:	C.L. Nix	DATE: 10–28–11
APPROVED BY:	M.J. Valentine	DATE: 10–28–11

PLOT SCALE: 1=1

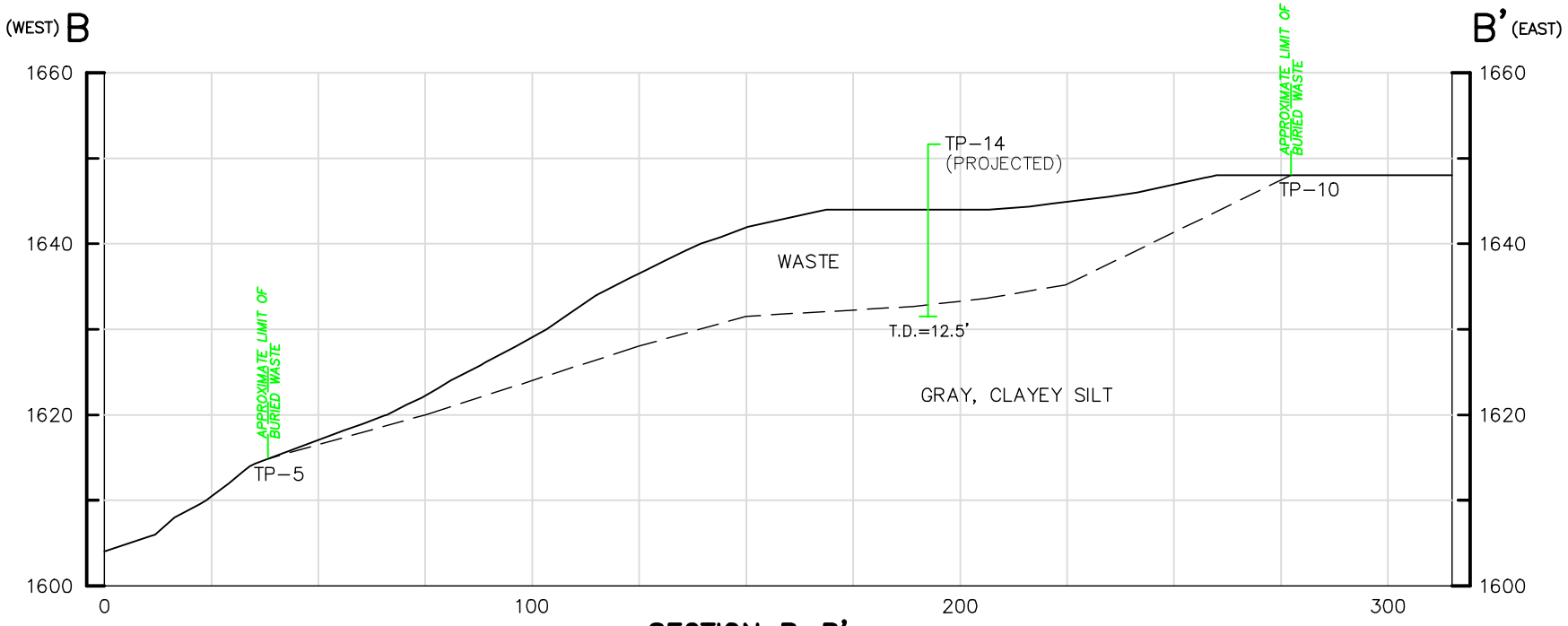
DRAWING NUMBER 01304E2_XS



SECTION A–A'
(LOOKING NORTH)



SECTION C–C'
(LOOKING NORTH)



SECTION B–B'
(LOOKING NORTH)

NOTES:

1. ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.
2. THE TEST PIT AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE TEST PIT LOCATIONS. ALSO THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE CONDITIONS AT THESE TEST PIT LOCATIONS.
3. THE DEPTH AND THICKNESS OF THE SUBSURFACE STRATA INDICATED ON THE SECTIONS WERE GENERALIZED FROM AND INTERPOLATED BETWEEN THE TEST PITS. INFORMATION ON ACTUAL SUBSURFACE CONDITIONS EXISTS ONLY AT THE LOCATION OF THE TEST PITS AND IT IS POSSIBLE THAT SUBSURFACE CONDITIONS BETWEEN THE TEST PITS MAY VARY FROM THOSE INDICATED.

LEGEND:

TP–19 — TEST PIT LOCATION

T.D.=7.5' — TOTAL DEPTH

2X VERTICAL EXAGGERATION

VERTICAL SCALE
10 0 10 20 FEET

HORIZONTAL SCALE
20 0 20 40 FEET

PLOT SCALE: 1=1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 11

TOPOGRAPHIC WASTE PROFILES

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: AS SHOWN	X	01304E2_XS

DRAWN BY:	D.J. Martino	DATE: 08–23–11
CHECKED BY:	C.L. Nix	DATE: 10–28–11
APPROVED BY:	M.J. Valentine	DATE: 10–28–11

DRAWING NUMBER 01304B14

SCALE IN FEET

0 400 800 FEET

FIGURE 12

RESIDENTIAL WELL LOCATIONS

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304B14

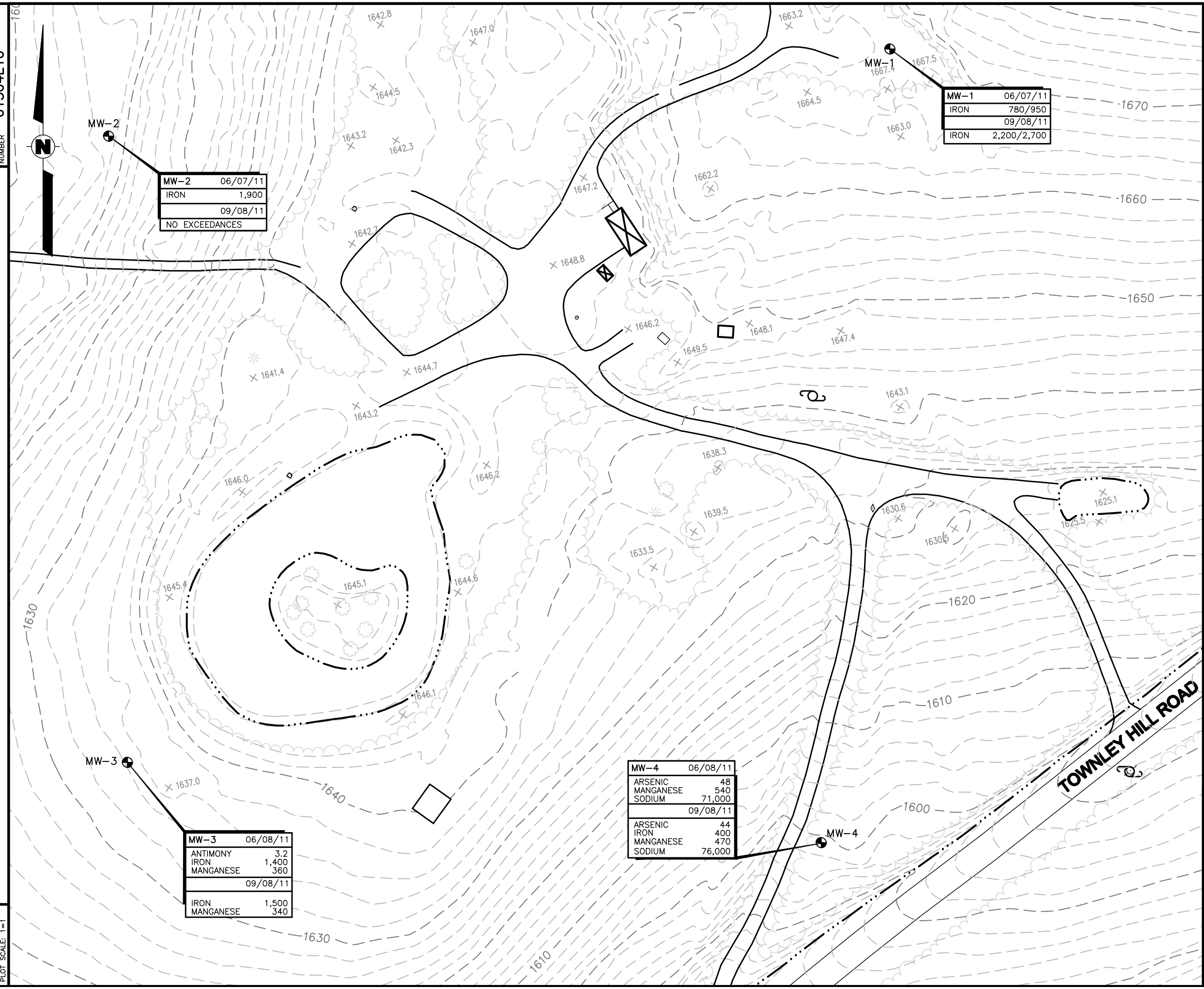
PLOT SCALE: 1=1

REFRENCE:
IMAGE OBTAINED FROM © 2011 NEW YORK GIS © 2011 GOOGLE MAPS.

REVISION	DATE	DESCRIPTION

DRAWN BY: *D.J. Martino* DATE: *10-18-11*
CHECKED BY: *C.L. Nix* DATE: *10-28-11*
APPROVED BY: *M.J. Valentine* DATE: *10-28-11*

DRAWING NUMBER 01304E10



LEGEND:

MW-1 MONITORING WELL LOCATION

NOTES:

1. RESULTS WERE COMPARED TO NYSDEC GROUNDWATER QUALITY STANDARDS.
2. ANALYTICAL RESULTS REPORTED IN MICROGRAMS PER LITER.
3. "X/X" INDICATES A DUPLICATE SAMPLE WAS COLLECTED.

SCALE
30 0 30 60 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 13

SUMMARY OF GROUNDWATER EXCEEDANCES

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

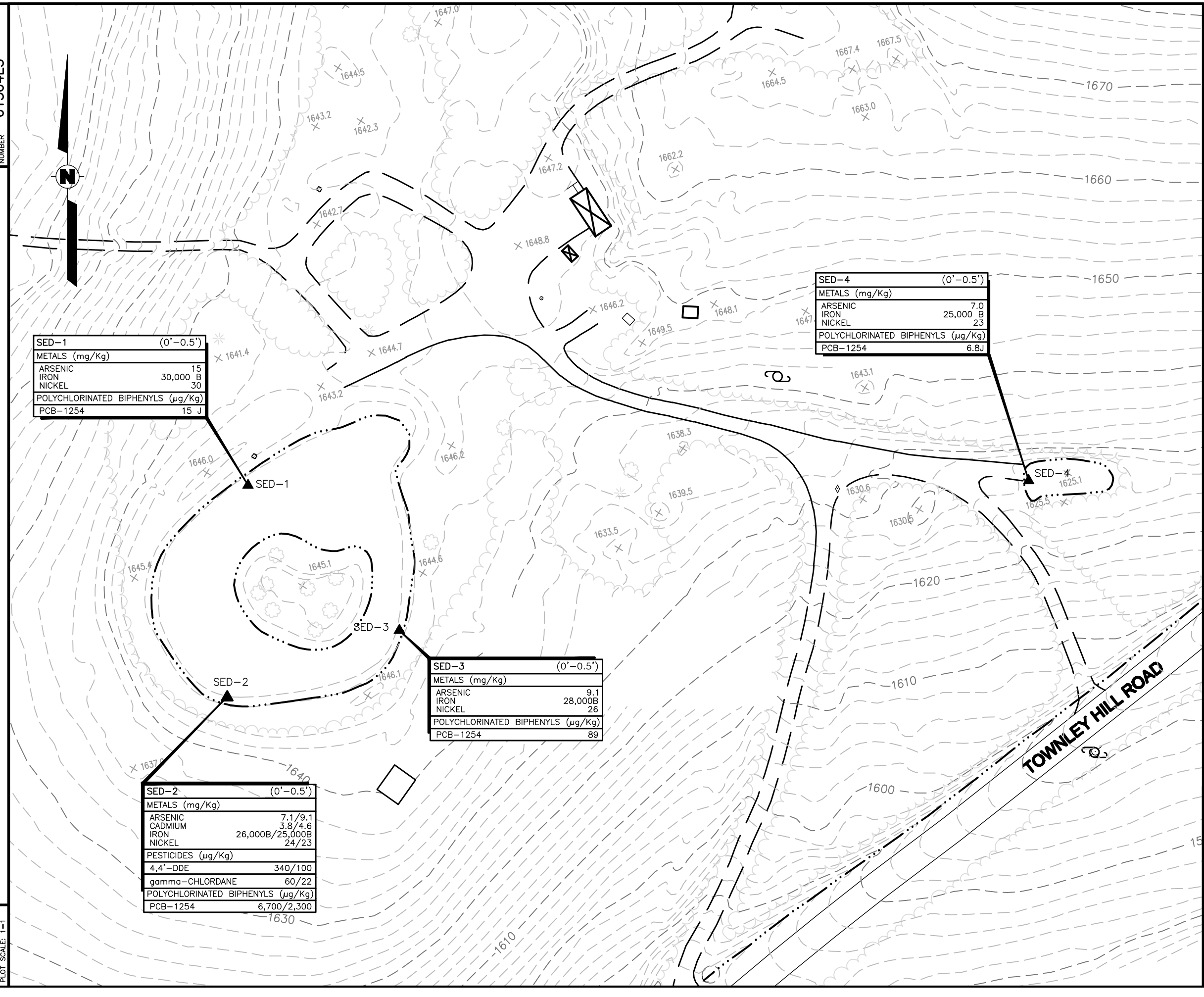
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: 1" = 30'	X	01304E10

DRAWN BY:	R.J. Koenigsberg	DATE: 10-14-11
CHECKED BY:	C.L. Nix	DATE: 10-28-11
APPROVED BY:	M.J. Valentine	DATE: 10-28-11

PLOT SCALE: 1=1

DRAWING NUMBER 01304E3



SED-1	(0'-0.5')
METALS (mg/Kg)	
ARSENIC	15
IRON	30,000 B
NICKEL	30
POLYCHLORINATED BIPHENYLS (µg/Kg)	
PCB-1254	15 J

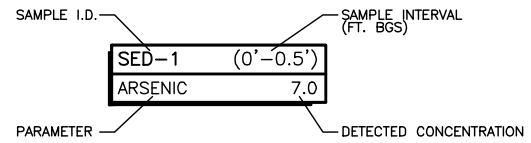
SED-4	(0'-0.5')
METALS (mg/Kg)	
ARSENIC	7.0
IRON	25,000 B
NICKEL	23
POLYCHLORINATED BIPHENYLS (µg/Kg)	
PCB-1254	6.8J

SED-3	(0'-0.5')
METALS (mg/Kg)	
ARSENIC	9.1
IRON	28,000B
NICKEL	26
POLYCHLORINATED BIPHENYLS (µg/Kg)	
PCB-1254	89

SED-2	(0'-0.5')
METALS (mg/Kg)	
ARSENIC	7.1/9.1
CADMIUM	3.8/4.6
IRON	26,000B/25,000B
NICKEL	24/23
PESTICIDES (µg/Kg)	
4,4'-DDE	340/100
gamma-CHLORDANE	60/22
POLYCHLORINATED BIPHENYLS (µg/Kg)	
PCB-1254	6,700/2,300

LEGEND:

SED-1 ▲ SEDIMENT SAMPLE LOCATION (JUNE 2011)



NOTES:

1. ONLY CONCENTRATIONS EXCEEDING NYSDEC SEDIMENT SCREENING CRITERIA ARE SHOWN.
2. ANALYTICAL RESULTS FOR METALS REPORTED IN MILLIGRAMS PER KILOGRAM AND RESULTS FOR PESTICIDES AND POLYCHLORINATED BIPHENYLS REPORTED IN MICROGRAMS PER KILOGRAM.
3. "B" INDICATES COMPOUND WAS FOUND IN THE LABORATORY BLANK. "J" INDICATES A VALUE THAT IS ESTIMATED AND IS BELOW THE REPORTING LIMIT.
4. "X/X" INDICATES A DUPLICATE SAMPLE WAS COLLECTED.

SCALE
30 0 30 60 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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Pittsburgh, PA 15235
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Fax: (412) 241-7500

FIGURE 14

SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCE SUMMARY

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

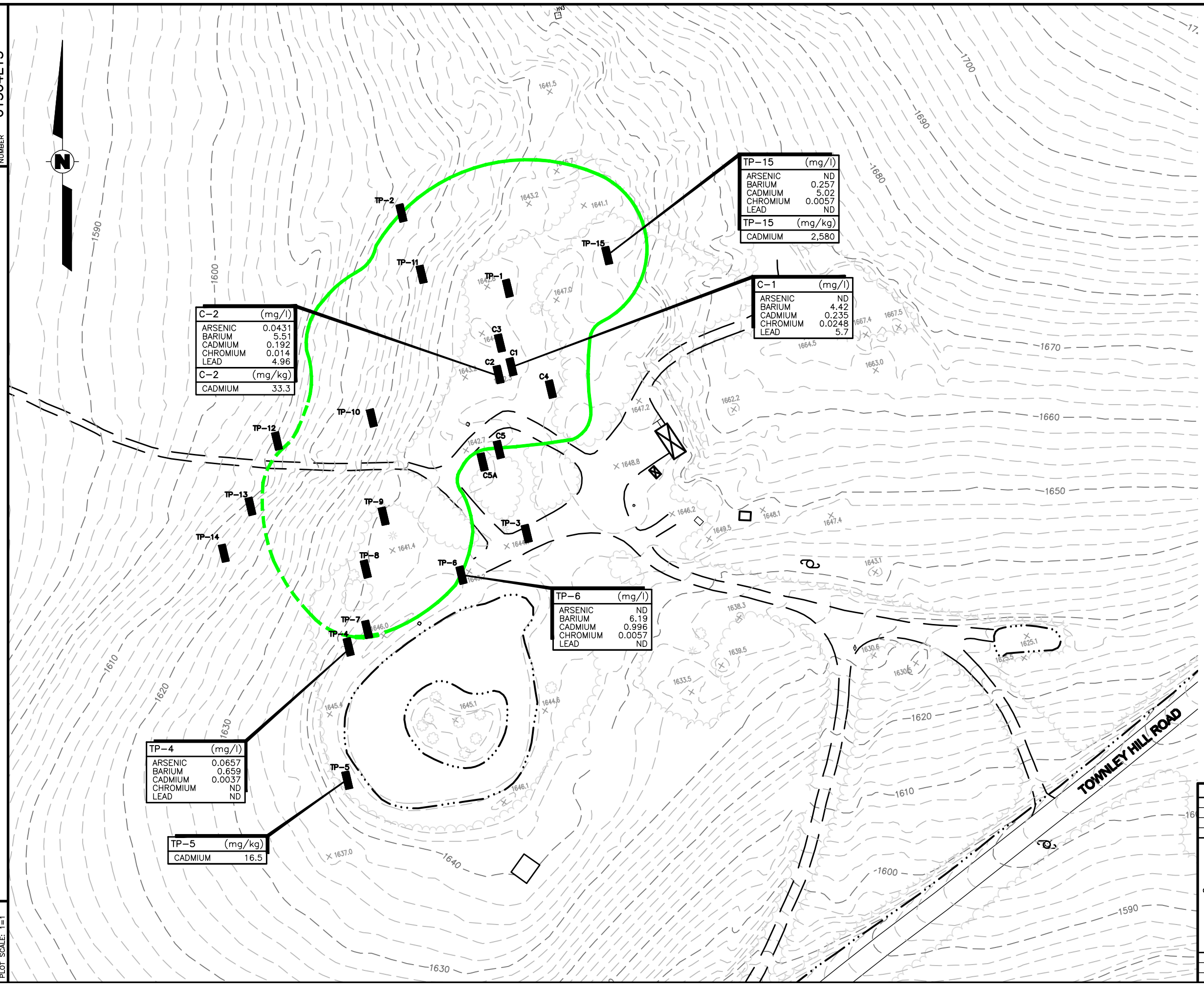
PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

SIZE	SCALE	REV.	DRAWING NUMBER
E	SCALE: 1" = 30'	X	01304E3

DRAWN BY:	D.J. Martino	DATE: 08-25-11
CHECKED BY:	C.L. Nix	DATE: 10-28-11
APPROVED BY:	M.J. Valentine	DATE: 10-28-11

PLOT SCALE: 1=1

DRAWING NUMBER 01304E13



LEGEND:

TP-1 NYSDEC FOCUSED RI (1997) TEST PIT LOCATION

APPROXIMATE FORMER MUNICIPAL WASTE DISPOSAL AREA (DASHED WHERE INFERRED)

NOTES:

1. DATA PRESENTS TCLP METALS ANALYTICAL RESULTS FOR WASTE AND SOIL SAMPLES COLLECTED IN THE FORMER MUNICIPAL WASTE DISPOSAL AREA. CADMIUM CONCENTRATIONS IN TEST PIT SOIL SAMPLES EXCEEDING COMMERCIAL SOIL CLEANUP OBJECTIVES ARE ALSO PRESENTED.
2. NYSDEC HAZARDOUS WASTE TCLP CONTAMINANT CONCENTRATION FOR TOXICITY INCLUDE:

ANALYTE	REGULATORY LEVEL (mg/l)
ARSENIC	5.0
BARIUM	100
CADMIUM	1.0
CHROMIUM	5.0
LEAD	5.0

3. "ND" INDICATES NON-DETECT
4. "mg/l" IS MILLIGRAMS PER LITER "mg/kg" IS MILLIGRAMS PER KILOGRAM

SCALE
40 0 40 80 FEET

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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CORPORATE HEADQUARTERS
300 Penn Center Blvd.
Suite 800
Pittsburgh, PA 15235
(412) 241-4500
Fax: (412) 241-7500

FIGURE 15
1997 NYSDEC FOCUSED REMEDIAL INVESTIGATION TEST PIT RESULTS

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

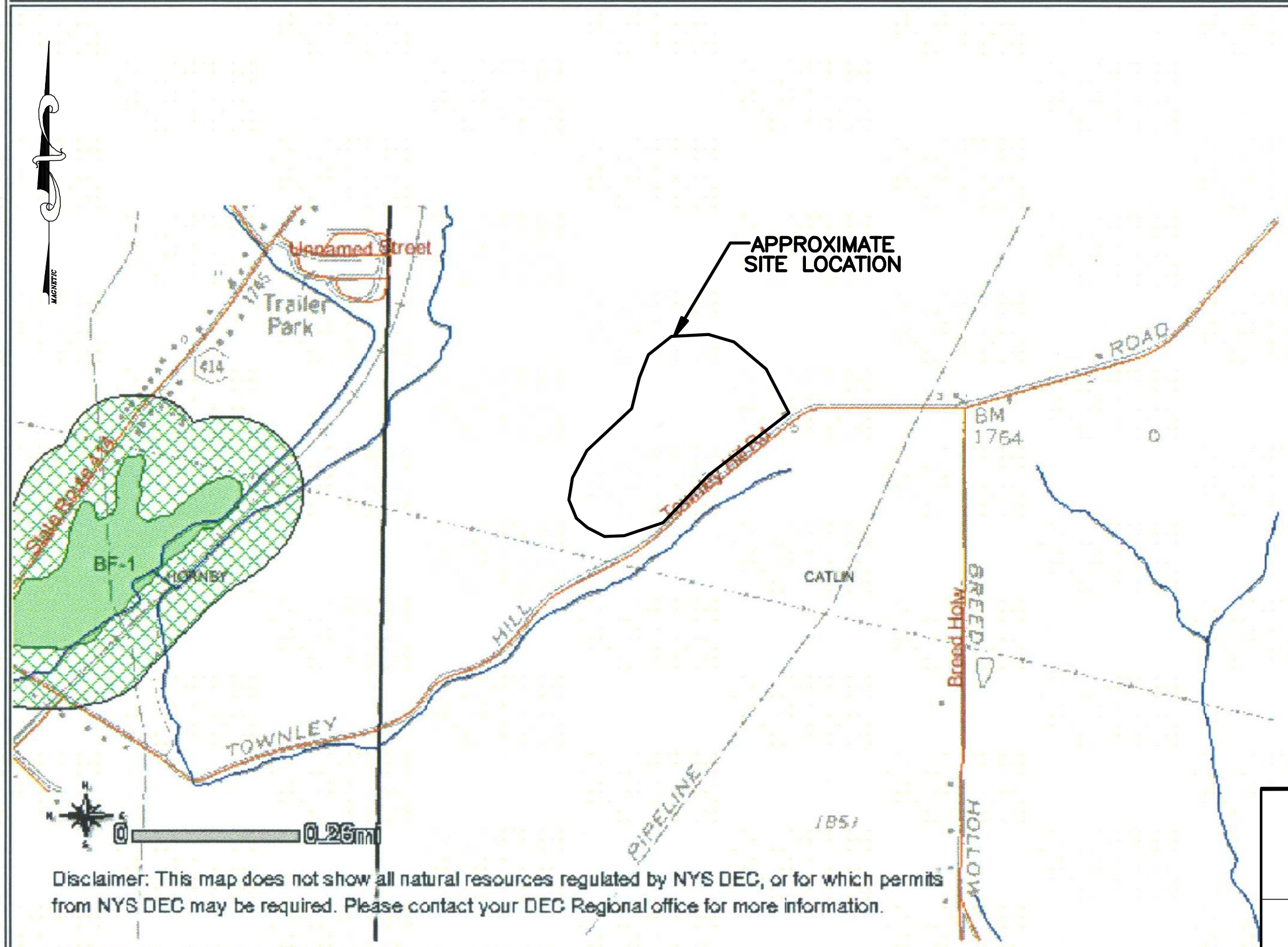
SIZE E | SCALE: 1" = 40' | REV. X | DRAWING NUMBER 01304E13

DRAWN BY: D.J. Martino DATE: 11-7-11
CHECKED BY: C.L. Nix DATE: 11-9-11
APPROVED BY: M.J. Valentine DATE: 11-9-11

PLOT SCALE: 1=1

DRAWING NUMBER 01304B15

Townley Hill Road



Disclaimer: This map does not show all natural resources regulated by NYS DEC, or for which permits from NYS DEC may be required. Please contact your DEC Regional office for more information.

MinX: 336848, MaxX: 340019, MinY: 4676465, MaxY: 4675115

Visible Layers

- Highlighted Feature
- Classified Streams
- Classified Ponds
- State-Regulated Freshwater Wetlands
- Wetland Checkzone
- State-Regulated Freshwater Wetlands
- Rare Plants and Rare Animals
- Significant Natural Communities Buffered
- Natural Communities Nearby
- Significant Natural Communities
- Interstate Highways
- Adirondack Park Boundary
- Counties

FIGURE 16

ENVIRONMENTAL RESOURCE LOCATIONS

TOWNLEY HILL ROAD DUMP SITE
CHEMUNG COUNTY, NEW YORK

PREPARED FOR
CBS CORPORATION
PITTSBURGH, PENNSYLVANIA

CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 01304B15

PLOT SCALE: 1=1

REFERENCE:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ONLINE PROTECTED RESOURCES INTERACTIVE MAP

REVISION	DATE	DESCRIPTION

DRAWN BY: *T.N. Fitzroy* DATE: *08–25–11*
CHECKED BY: *C.L. Nix* DATE: *11–9–11*
APPROVED BY: *M.J. Valentine* DATE: *11–9–11*