Groundwater & Environmental Services, Inc.

WESTERN NEW YORK OFFICE

November 12, 2013

Mr. Gregory Sutton
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, New York 14203

Re: Supplemental Site Characterization Report
Former Nash Road Landfill
Town of Wheatfield
Niagara County, New York
NYSDEC Site # 932054

Dear Mr. Sutton:

Groundwater & Environmental Services, Inc. (GES) has prepared the enclosed *Supplemental Site Characterization Report* the Former Nash Road Landfill site; located in the Town of Wheatfield in Niagara County, New York. The work was completed in accordance with the call-out issued by New York State Department of Environmental Conservation (NYSDEC) on March 26, 2013 as well as the NYSDEC-approved *Site Characterization Workplan* prepared by GES and submitted on June 10, 2013.

If you have any questions or comments, please do not hesitate to contact GES at your convenience.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

Eric D. Popken
Project Manager

Enclosure

SUPPLEMENTAL SITE CHARACTERIZATION REPORT

Former Nash Road Landfill
Town of Wheatfield
Niagara County, New York
NYSDEC Site #932054

Prepared for

New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

Report Date

November 12, 2013

Prepared By:

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1.0 INTRODUCTION

This report has been prepared for New York State Department of Environmental Conservation (NYSDEC) to document the field activities undertaken in 2013 by Groundwater & Environmental Services, Inc. (GES) to characterize soil and water conditions, both at the surface and below grade, on the former Nash Road Landfill property located in the Town of Wheatfield in Niagara County, New York.

2.0 PREVIOUS SITE INVESTIGATIONS AND HISTORICAL DOCUMENTS

Previous site investigations included Phase II site investigations conducted in 1985 and 1989 prepared by Engineering-Science for NYSDEC. According to the 1989 *Phase II Site Investigation*, the Nash Road Landfill site was operated by the Niagara Sanitation Company between 1964 and 1968 for disposal of municipal and industrial wastes. NYSDEC records show that the site was used for disposal by the Niagara Falls Air Force Base, Bell Aerospace, Carborundum, Frontier Chemical, Graphite Specialties, Continental Can, and Grief Brothers. In June 1968, approximately 1600 cubic yards of material excavated from a sewer relocation project along Frontier Avenue (associated with the construction of the LaSalle Expressway) near the Love Canal site in Niagara Falls, New York was disposed at the Nash Landfill site in the area shown on **Figure 1**. Records indicated that the material contained chemical wastes. The 1985 *Phase II Investigation Report* was initially conducted across the site; however concerns regarding the portion of the site that received the Love Canal material prompted the 1989 study.

The 1985 and 1989 investigations established the following site conditions:

- The site geology consisted of five lithological units over dolostone bedrock: fill at grade, followed by a shallow sand lens, followed by clay, followed by a lower sand lens, followed by glacial till overlying the bedrock.
- The site hydrogeology consisted of three water bearing zones: a shallow zone located in the fill and shallow sand lens, an intermediate zone located in the lower sand lens, and a deeper zone in the glacial till.
- The 1989 investigation concluded that based on the soil and groundwater analytical data that was collected, the Love Canal wastes buried at the site have contributed to groundwater contamination in the shallow aquifer.

In addition to the historical documents referenced in the 1985 and 1989 investigations, additional historical documents were provided by Niagara County Department of Health (NCDOH) and are included in **Appendix A**. The historical documents reference additional chemical wastes that originated at or near the Love Canal site and were also buried at the Nash Road Landfill.

3.0 SITE CHARACTERIZATION WORKPLAN

On June 10, 2013, GES submitted the NYSDEC-approved *Site Characterization Work Plan* for the site, which included an outline for plans to further characterize and delineate impacts previously discovered on-site, to assist NYSDEC in determining if the site poses a significant threat to public health and the environment from the possible exposure of industrial wastes that were reportedly disposed at the site. The scope of work included a site walk over, review of historical data and site information, the collection of surface soil samples, groundwater samples, surface water samples and advancement of additional soil borings, and installation of monitoring wells.

4.0 SITE INSPECTION / SURVEY / SETTING

On April 10, 2013, GES met representatives from NYSDEC, New York State Department of Health (NYSDOH), and NCDOH to inspect the current site conditions. Site inspection involved identifying possible evidence of environmental contamination, location of existing monitoring wells, surface water locations, and site access.

The site is bordered to the north by the Holy Infant Shrine, to the east by a cemetery as well as property that contains a motel and livery service, to the south by utility right-of-ways (both overhead electric and underground natural gas and brine lines), followed by residences, and to the west by Nash Road, followed by residences. A site location map for the site is provided in **Figure 2**.

The site contained swamplands before landfilling began. The site is poorly drained and contains several ponds and areas of standing water. Since landfilling began, portions of the property are covered with surface water at certain times of the year, particularly in the spring and early summer.

The site is wooded with mature trees, dense brush, and patches of phragmites in wet areas, as shown in **Figure 1**.

Site topographically overall is flat with less than ten feet of relief, however landfilling of wastes and excavation of a disposal trench has resulted in irregular ground surface topography. Numerous mounds of soil/fill material were observed. Waste material was observed to be obtruding from the mounds. During the visit, evidence of partially buried waste were observed across the site, including tires, drums, battery casings, metal and plastic debris, and mounds of fill material. These observations were used to determine surface soil and water sample locations.

There were numerous indications of trespass, including residential dumping, clusters of beverage cans, and all-terrain vehicle (ATV) & walking trails. The site is not fenced or secured. “No Trespassing” signs were placed in some locations along the perimeter of the site, however they are in derelict condition and most were covered in overgrowth.

4.1 Site Survey

On April 24 and 25, 2013, GES surveyed the site using a Trimble GeoXH hand held Global Positioning System (GPS) unit with a Trimble GeoBeacon receiver. GPS data was collected to map the location of existing wells, planned surface sample locations, boundaries of surface water bodies, items observed during the April 10, 2013 inspection, and other site features. The data was entered into a Geographic Information System (GIS) database to produce the maps presented in this report. The site map was generated from available aerial maps for the site. Coordinates for all sample points are provided in **Appendix B** for future reference.

On July 26, 2013 GES returned to the site with the GPS equipment to collect position data for all soil borings and new monitoring wells.

5.0 SURFACE SOIL AND WATER SAMPLING

On May 29, 2013, GES collected surface soil, water, and sediment samples to characterize current surface environmental conditions of the site. Samples were collected in accordance with the sampling matrix provided in **Table 1** as well as the table provided below.

5.1 Surface Soil / Sediment Sampling

Surface soil sample locations were chosen to evaluate for potential exposure of contaminants to pedestrians and all-terrain vehicle (ATV) riders who travel through the site. Sample locations were biased towards walking and ATV paths where there is obvious evidence of exposed waste from the former dumping activities. One sediment sample (SED-1) was collected from the drainage swale close to the northern property boundary where surface water appears to drain from the interior of the site (**Figure 3**). The table below provides information on the surface soil sample locations and their location description.

Sample Name	Sample Type	Location Description	Purpose of Evaluation
SOIL-1	Surface Soil	ATV Trail	Exposure of contaminants to the public.
SOIL-2	Surface Soil	Near Nimo Electric Tower 365	Exposure of contaminants to the public along power line corridor, located adjacent to residences.
SOIL-3	Surface Soil	Near Nimo Electric Tower 364	Exposure of contaminants to the public along power line corridor, located adjacent to residences.
SOIL-4	Surface Soil	Ridge Mound of Fill Material	Exposure of contaminants to the public.
SOIL-5	Surface Soil	Black Staining Observed at Surface	Exposure of contaminants to the public.
SOIL-6	Surface Soil	Mound of Fill Material	Exposure of contaminants to the public.
SOIL-7	Surface Soil	Soil around large Boulders at Surface	Exposure of contaminants to the public.
SOIL-8	Surface Soil	Mound of Fill Material	Exposure of contaminants to the public.
SOIL-9	Surface Soil	Battery Casings Along Trail	Exposure of contaminants to the public.
SOIL-10	Surface Soil	Soil Around Drums at the Edge of one of the Ponds	Potential concentrated impacts at edge of pond related to the observed drums.
SOIL-11	Surface Soil	Soil from the "Barren Area" described in past reports and observed in 2013.	Exposure of contaminants to the public.
SED-1	Sediment	Sediment From Drainage Swale	Evaluate sediment where surface water drainage leaves large pond towards drainage swale along north and east perimeter of site.

Surface soil and sediment samples were collected from within the top three inches of surface material using manual techniques. Samples were collected in laboratory supplied bottleware and submitted to TestAmerica Laboratories, Inc. (TestAmerica) of Amherst, New York for laboratory analysis of semi-volatile organic compounds (SVOCs) via United States Environmental Protection Agency (USEPA) Method 8270 and USEPA Resource Conservation and Recovery Act (RCRA) List metals via USEPA method 6010B. Coordinates for all surface soil sample locations were collected using the GPS unit and are provided in **Appendix B** for future reference.

5.2 Surface Water Sampling

Surface water samples were collected to evaluate for potential exposure of contaminants in the pond water to the public, primarily at the former dumping site in the northeast area of the site as well as one sample collected to evaluate surface water leaving the interior of the site to the northeastern property boundary (**Figure 4**). The table below provides information on the surface soil sample locations and their location description.

Sample Name	Sample Type	Location Description	Purpose of Evaluation
SW-1	Surface Water	Drainage Swale	Evaluate surface water drainage that leaves large pond towards drainage swale along north and east perimeter of site.
SW-2	Surface Water	Pond Sample	Exposure of contaminants to the public.
SW-3	Surface Water	Pond Sample	Exposure of contaminants to the public.
SW-4	Surface Water	Water in Pond Near Drums at the Edge of one of the Ponds	Potential concentrated impacts at edge of pond related to the observed drums.
SW-5	Surface Water	Pond Sample	Exposure of contaminants to the public.
SW-6	Surface Water	Drainage Swale, near old drum labeled “atomizer”.	Potential concentrated impacts related to the observed drum. Also exposure of contaminants to the public.
SW-7	Surface Water	Pond Sample	Exposure of contaminants to the public.

Surface water samples were collected in lab supplied bottleware and submitted to TestAmerica for laboratory analysis of volatile organic compounds (VOCs) via USEPA Method 8260, SVOCs via USEPA method 8270, pesticides via USEPA method 8081, and herbicides via USEPA method 8151. Coordinates for all surface water sample locations were collected using the GPS unit and are provided in **Appendix B** for future reference.

6.0 SURFACE SOIL AND WATER SAMPLING RESULTS

6.1 Surface Soil Analytical Results

The surface soil sample locations, with respect to the site layout are illustrated on **Figure 3**. Surface soil analytical data are tabulated in **Table 2**. The laboratory analytical reports are included in **Appendix C**. Surface soil analytical results were compared to residential guidelines provided in Title 6 of the Official Compilation of New York State Codes, Rules and Regulations (6 NYCRR) Part 375, Restricted Use Soil Cleanup Objectives (SCOs). A summary of the analyzed compounds is provided below:

- Metals – Concentrations of metals were detected above residential SCOs at soil sample SOIL-9 (battery casings along path), including cadmium, mercury, and total chromium. While concentrations of lead at this location were the highest detected on-site, the concentration was below residential SCOs.
- SVOCs – Concentrations of SVOCs were detected above residential SCOs at soil samples SOIL-3 (proximate to Nimo Electric Tower #364), SOIL-8 (mound of fill material), SOIL-9 (battery casings along path), and SOIL-10 (near drums at the edge of one of the ponds). Typical compounds that were detected above residential SCOs included polycyclic aromatic hydrocarbons. (PAHs).

6.2 Surface Water Analytical Results

The surface water sample locations, with respect to the site layout are illustrated on **Figure 4**. Surface water sample analytical data are tabulated in **Table 3**. The laboratory analytical reports are included in **Appendix C**. All surface water analytical results were compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 standards (or guidance values where no standard exists). A summary of the analyzed compounds is provided below:

- Pesticides – Concentrations of pesticides were detected above TOGS 1.1.1 standards or guidance values at water samples SW-2 (pond sample), SW-3 (pond sample), and SW-5 (pond sample).
- Herbicides – Herbicides were not detected above laboratory detection limits in any of the surface water samples.
- VOCs – VOCs were not detected above laboratory limits in any of the surface water samples.
- SVOCs – SVOCs were not detected above laboratory limits in any of the surface water samples.

7.0 SUBSURFACE INVESTIGATION

From June 15 through 17, 2011, Quality Inspection Services, Inc. (QIS), of Buffalo, New York, under the supervision of GES, advanced thirteen soil borings (SB-A through SB-M) using an Acker Soil Scout track-mounted direct push drill rig. Soil borings were advanced to depths ranging from eight to twenty feet below grade (ftbg). Of the thirteen soil borings, five of the borings were converted to groundwater monitoring wells (OW-21 through OW-25). The subsurface investigation was focused in the northeast area of the site where it has been reported that chemical waste had been buried and covered with fill. The purpose of the investigation was to re-characterize and delineate any subsurface impacts in the vicinity of the former dumping site. It should be noted that some areas were inaccessible, specifically areas covered by standing water or dense brush.

7.1 Soil Borings

Soil samples were collected in approximate four-foot intervals via macro-core sampling. Soil samples were logged by GES personnel for color, moisture content, grain size, and visual evidence of hydrocarbon impact. A portion of each sample collected was placed into a re-sealable plastic bag and screened for the presence of volatile organic vapors. GES personnel used a MiniRAE 2000 photo-ionization detector (PID) equipped with a 10.6 electron-volt (eV) lamp which was calibrated to a 100 parts per million by volume (ppmv) isobutylene standard. From soil borings with elevated PID readings, the sample that recorded the highest PID reading from was submitted to TestAmerica Laboratories, Inc. for laboratory analysis of VOCs via USEPA Method 8260, SVOCs via USEPA method 8270, pesticides via USEPA method 8081, herbicides via USEPA method 8151, and RCRA-8 metals via USEPA Method 6010B. At soil borings SB-B, SB-H, and SB-J, additional samples were collected based on field observations made. A sample was not collected from SB-C due to poor recovery and low PID readings collected from the surrounding depth intervals.

The soil boring locations, with respect to the site layout are illustrated on **Figure 5**. Soil boring logs containing soil lithology, field screening readings and general observations are included in **Appendix D**.

7.2 Monitoring Well Installation

Of the thirteen soil borings, five of the borings were converted to groundwater monitoring wells (OW-21 through OW-25). The table below summarizes the soil borings and their corresponding monitoring wells.

Soil Boring	Monitoring Well	Total Depth (ftbg)	Screened Interval (ftbg)
SB-A	OW-24	10	5-10
SB-B	OW-25	12	7-12
SB-C	OW-22	8	3-8
SB-D	OW-21	8	3-8
SB-F	OW-23	8	3-8

The monitoring wells were constructed with two inch inner diameter polyvinyl chloride (PVC) flush-threaded pipe. The wells were installed to depths ranging from eight to twelve ftbg in the shallow sandy water-bearing zone identified in the previous Phase II reports, as well as during this investigation. The screen openings were 0.01 inch machine slotted. The wells were completed with a sand filter pack surrounding the wells screen to a height of six to twelve inches above the top of the screen, followed by a 2 foot bentonite seal. The remaining well annulus was sealed with a bentonite-portland cement grout to near grade. The wells were installed to rise approximately two to three feet above grade and were completed with four inch diameter steel protective casings and locks. Coordinates for all monitoring wells locations were collected using the GPS unit.

7.3 Investigation Derived Waste

Investigation derived waste (IDW) in the form of auger cuttings and contaminated macro-core liners were staged in two steel 55-gallon drums, labeled and staged near the entrance to the site. A composite sample of the soil cuttings was collected for hazardous waste determination. On November 5, 2013, the drums were transported by the Environmental Service Group (ESG) of North Tonawanda, New York and transported to the Town of Tonawanda Landfill in Tonawanda, New York as non-hazardous waste. A copy of the completed manifest will be provided under separate cover.

7.4 Monitoring Well Development

Following installation of the monitoring wells, the wells were developed in order to repair damage to the formation caused by drilling activities and increase the porosity/permeability of the materials surrounding the well screen. The well development served to remove foreign materials from the groundwater, well annulus, or well screen during and/or after well installation, and to facilitate hydraulic communication between the formation and the well screen.

The wells were developed via mechanical surging method using a surge block device. The surge block can be used effectively to destroy the bridging of the fine formation particles and to create the agitation that is necessary to develop the well. The surge block technique was used alternatively with manual bailing so that material that has been agitated and loosened by the surging action could be removed. The surge block assembly was of sufficient weight to free-fall through the water in the well and create a vigorous outward surge. Surging began at the top of the well intake so that sand or silt loosened by the initial surging action could not cascade down on top of the surge block and prevent removal of the surge block from the well. Surging was initially conducted slowly, with the energy of the action increasing during the development process. Surging and bailing was conducted until either water clarity was improved or until the wells could not sustain further purging. Before and after well development, ground water chemistry readings were collected from the monitoring wells using a Horiba U-52 multi-parameter meter. Field chemistry readings are included in **Appendix E**.

7.5 Monitoring Well Sampling

On August 22, 2013, GES surveyed the top of casing (TOC) at all monitoring wells using standard laser level survey methods. TOCs were referenced to the TOC elevations of the existing monitoring wells, and were measured to the nearest ± 0.01 foot. **Table 5** lists the established TOC elevations for the newly-installed and existing groundwater monitoring wells.

On August 2, 2013, GES conducted groundwater sampling activities at newly installed monitoring wells OW-21 through OW-25, and existing shallow monitoring wells OW-1, OW-2, OW-11, OW-13, OW-14B, and OW-16.

Prior to purging, gauging was performed to determine static water levels and the presence of non-aqueous phase liquids (NAPL) using an oil/water interface probe. The interface probe measures depth to groundwater and phase separated hydrocarbons to the nearest ± 0.01-foot. The interface probe was decontaminated prior to use and between wells utilizing a tap water and Alconox™ rinse to prevent cross-contamination. NAPL was not detected in the wells.

Prior to sampling, the wells were purged utilizing dedicated polyethylene disposable bailers. Three to five well volumes were purged from the monitoring wells based on the recharge capability of the individual wells. Purge water was discharged to the surface after being treated with a portable carbon filter unit.

OW-11 was found to be bent below grade and could not be purged or sampled with a bailer. On August 22, 2013, GES purged and sampled the well using a peristaltic pump with dedicated polyethylene tubing.

Groundwater samples were collected in lab supplied bottleware and submitted to TestAmerica for laboratory analysis of VOCs via USEPA Method 8260, SVOCs via USEPA method 8270, pesticides via USEPA method 8081, herbicides via USEPA method 8151, and RCRA-8 metals via USEPA Method 6010B.

8.0 SUBSURFACE INVESTIGATION RESULTS

8.1 Lithology and Field Observations

The soil boring locations, with respect to the site layout are illustrated on **Figure 5**. Coordinates for all soil boring locations were collected using the GPS unit and are provided in **Appendix B** for future reference. Soil boring logs containing soil lithology, field screening readings and general observations are included in **Appendix D**.

In general, three distinct lithological layers were encountered during the subsurface investigation: fill material, a sand interval, and a clay interval that extended to the termination depth of the investigation. These layers were consistent with the upper layers encountered during previous subsurface investigations. A summary of the observed site lithology and field observations are described below:

- FILL – Fill material containing varying degrees of silt, clay & sand, organics, and debris. The debris consisted of a mixture of glass, plastic and metal. Fill material was generally observed from the surface to depths ranging from one to four ftbg. Deeper intervals of fill material were observed at SB-A (assumed 8 ft due to low recovery), SB-B (10 ft), and SB-H (minimum 12 ftbg before refusal was met). Fill material was not observed at SB-L, where the shallow lithology consisted of hard clay to a depth of four ftbg before encountering the shallow sand layer. While shallow soil observed at SB-B was not initially classified as fill material, based on past site investigations, the observed solvent odors, softness of the material relative to other presumed shallow native clay on-site, and a review of historical documents for the site, the clay material may have been re-worked fill material related to past chemical dumping at the site. This material was also observed at SB-M.
- SAND – fine to coarse sand was observed below the fill material. The sand layer was typically observed at depths ranging from 1 to 10 ftbg with a thickness of 4-8 ft. At soil borings SB-A, SB-B, SB-F, SB-J, and SB-L, the sand was grey to black in color. At all other soil borings, the sand was generally tan to brown. The sand interval was not encountered at SB-H and SB-M. As noted above, fill material was observed throughout the soil boring until boring refusal). At SB-M, the fill material extended through to the subsequent clay layer. Low sample recovery was often encountered in this interval. Wet to saturated conditions indicative of the shallow water table aquifer were generally observed at depths ranging from 3 ftbg to 6 ftbg and were generally observed in the sand interval.
- CLAY – Brown or grey, hard, clay was typically encountered below the sand interval. The clay layer was often less saturated than the sand lens and may be acting as an aquitard for the shallow aquifer discussed in previous environmental investigations. The clay layer extended to the termination of all soil borings with the exception of SB-H, where fill material was observed throughout the soil boring until boring refusal.
- Solvent odors were observed in several soil borings, including SB-B, SB-H, SB-J, AND SB-M. These odors were generally observed in the fill material and the sand interval.
- Elevated PID screening results (greater than 20 ppmv) were observed from soil samples collected from soil borings SB-B, SB-H, SB-J, and SB-M. Elevated PID screening results were generally observed from approximately 0 to 8 ftbg and located in the fill material. The highest readings were recorded in soil boring SB-H throughout its entirety and ranged from 940 ppmv to 1,214 ppmv with strong solvent odors.
- NAPL was observed at SB-H from 4 to 12 ftbg. The NAPL consisted of a dark brown highly viscous material with strong solvent odors.

8.2 Soil Boring Sample Analytical Results

Soil analytical data are tabulated in **Table 4**. The laboratory analytical reports are included in **Appendix C**. All subsurface soil analytical results were compared to residential guidelines provided in 6 NYCRR Part 375, Restricted Use SCOs. A summary of the analyzed compounds is provided below:

- Metals – Concentrations of metals were detected above SCOs at soil borings SB-F (cadmium, silver and mercury), SB-J (total chromium), and SB-M (total chromium). Mercury was detected most samples however was only detected above SCOs at SB-F.
- Pesticides – Concentrations of pesticides were detected above SCOs at soil borings SB-B, SB-H, SB-J, SB-L, and SB-M. Elevated concentrations of pesticides primarily consist of various

benzenehexachloride (BHC) compounds (including lindane) and aldrin that were detected at several orders of magnitude above residential SCOs.

- Herbicides – Herbicides were not detected above laboratory detection limits in any of the surface water samples.
- VOCs – Concentrations of VOCs were detected above SCOs at soil borings SB-B, SB-H, SB-J, and SB-M. Elevated concentrations of VOCs consisted primarily of benzene, toluene, and chlorinated benzenes.
- SVOCs – Concentrations of SVOCs were detected above SCOs at soil borings SB-A, SB-B, SB-H, SB-J, and SB-M. Detected SVOCs primarily consisted of various PAHs.

Figure 6 shows the approximate delineated limits of the area of the site that are impacted by Pesticides, VOCs, and SVOCs based on the soil boring analytical results of the investigation as well as previous site investigations. The limits were based on analytical exceedences above residential SCOs. It should be noted that the western and northern bounds of the delineated area are estimated, as site access was limited due to ponding and heavy brush.

8.3 Site Hydrology and Shallow Aquifer Hydrogeology

Groundwater gauging and analytical data are tabulated in **Table 5**. The monitoring well locations, with respect to the site layout are illustrated on **Figure 5**. Groundwater elevation contours based on the monitoring well gauging data from the shallow aquifer wells on the eastern side of the site are presented on **Figure 7**. As shown on **Figure 7**, at the time of the investigation, groundwater in the shallow aquifer flows to the north. Groundwater flow may be influenced by surface hydrology, including the large pond in northeastern area of the site, as groundwater flow mimics the surface drainage pattern of the northeast area of the site.

The large pond appears to drain to the north via a small swale located at the location of surface water sample SW-2 and sediment sample SED-1. This swale connects to a drainage ditch that runs east along the northern boundary of the site to the northeast corner of the site, where it makes a “dogleg” turn and continues to the south. The drainage ditch along the north side of the site provides a hydraulic barrier from surface drainage from the neighboring property to the north (religious shrine), and there does not appear to be any other surface water bodies that supply the site. The 1989 *Phase II Investigation* made reference to the ditch draining into Sawyer Creek; however the drainage ditch does not appear to continuously link to any creeks or streams, and may explain the large amount of ponding that occurs on-site.

It was observed during the sampling events and site visits that at the “dogleg” turn, a plastic drain pipe protruded from the eastern side of the ditch. The drain pipe appeared to bear towards and protrude at the western side of the pond that is located on the neighboring property to the east. The property to the east appears to contain a motel and a livery company. The drain pipe was shallower than standing water in either water body, therefore it could not be determined which direction flow would occur through the pipe.

It should also be noted that most site investigation activities occurred in the spring through mid-summer months, when the site received large amounts of precipitation. During a site visit on August 22, 2013 after several weeks without significant precipitation, many of the smaller ponds had dried, and the large pond had receded by approximately 5-10 feet along its edge, indicating that the surface hydrology is seasonally influenced.

8.4 Groundwater Analytical Results

The monitoring well locations, with respect to the site layout are illustrated on **Figure 5**. Groundwater gauging and analytical data are tabulated in **Table 5**. The laboratory analytical reports are included in **Appendix C**. All groundwater analytical results were compared to NYSDEC TOGS 1.1.1 standards (or guidance values where no standard exists) Class GA, type H(WS) for protection of drinking water. A summary of the analyzed compounds is provided below:

- Metals – Concentrations of metals were detected above TOGS 1.1.1 standards or guidance values at monitoring wells OW-11 (cadmium and lead), OW-16 (barium), OW-22 (lead), OW-23 (lead), and OW-29 (lead). Mercury was detected at OW-11 below standards.
- Pesticides – Concentrations of pesticides were detected above TOGS 1.1.1 standards or guidance values at all monitoring wells with the exception of OW-2 and OW-23. OW-11, OW-13, OW-16, and OW-25 all contained numerous detections of pesticides above standards or guidance values.
- Herbicides – Herbicides were not detected above laboratory detection limits in any of the surface water samples.
- VOCs – Concentrations of VOCs were detected above TOGS 1.1.1 standards or guidance values at monitoring wells OW-11, OW-16, OW-24, and OW-25. Elevated concentrations of VOCs consisted primarily of benzene and various chlorinated benzenes.
- SVOCs – Concentrations of SVOCs were detected above TOGS 1.1.1 standards or guidance values at monitoring well OW-13 and OW-25 which consisted primarily of phenolic compounds.

9.0 SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Provided below is a brief discussion of the results and recommendations for future actions.

9.1 Surface Soil Contaminant Exposure

As described in Section 6.1, concentrations of metals were detected above residential SCOs at soil sample SOIL-9. This sample was located at an area along one of the trails where black, broken battery casings were observed. Concentrations of SVOCs were detected above residential SCOs at soil samples SOIL-3 (proximate to Nimo Tower #364), SOIL-8 (mound of fill materials), SOIL-9 (battery casings along path), and SOIL-10 (near drums at the edge of one of the ponds). Typical compounds that were detected included PAHs.

The trails at the site have been moderately developed; ATV use by one of the residences was witnessed during the subsurface investigation, so it is known that these paths will continue to be eroded, thus exposing additional contaminants.

9.2 Surface Water Contaminant Exposure

As described in Section 6.2, concentrations of pesticides were detected above TOGS 1.1.1 standards or guidance values at water samples SW-2, SW-3, and SW-5. All three samples were collected from the ponds on-site. Apart from the drainage pipe that was found at the northeast corner of the site, the site is relatively isolated hydraulically from outside sources of surface water. The drainage ditch along the north side of the site provides a hydraulic barrier from surface drainage from the neighboring property to the north (religious shrine). There does not appear to be any other surface water bodies that supply the site, therefore it is likely that past dumping activities have had an effect on surface water quality in the northeastern area of the site.

While three pond samples were found to contain elevated concentrations of pesticides, the sample SW-1, (collected from what appeared to be a drainage outlet for the large pond) did not contain any detected concentrations of pesticides. Additional surface water sampling may be needed along the outlet ditch and the ponds to further study surface water quality as it relates to drainage patterns on-site and for possible seasonal influences.

9.3 Subsurface Soil Contaminant Exposure

As described in Section 8.2, elevated concentrations of contaminants, including pesticides, VOCs, SVOCs, and metals were detected in the area identified in **Figure 6**. The investigation delineated the impacts to the south and east, and to a less precise degree to the west and north due to limiting factors including ponds and dense brush. Exposure to the public may lie in the fact that at several of the soil borings discussed in Section 8.1, the highest contaminant impacts (based on field observations and PID readings) were often located in the top four feet. Shallow surface penetrations or erosion may lead to exposure to high concentrations of pesticides, VOCs, SVOCs, and metals. Several of the pesticides that were detected in elevated concentrations are known persistent organic pollutants and banned substances. Several trails run near or through this part of the site and may present an exposure risk if the surface is penetrated or exposed through erosion.

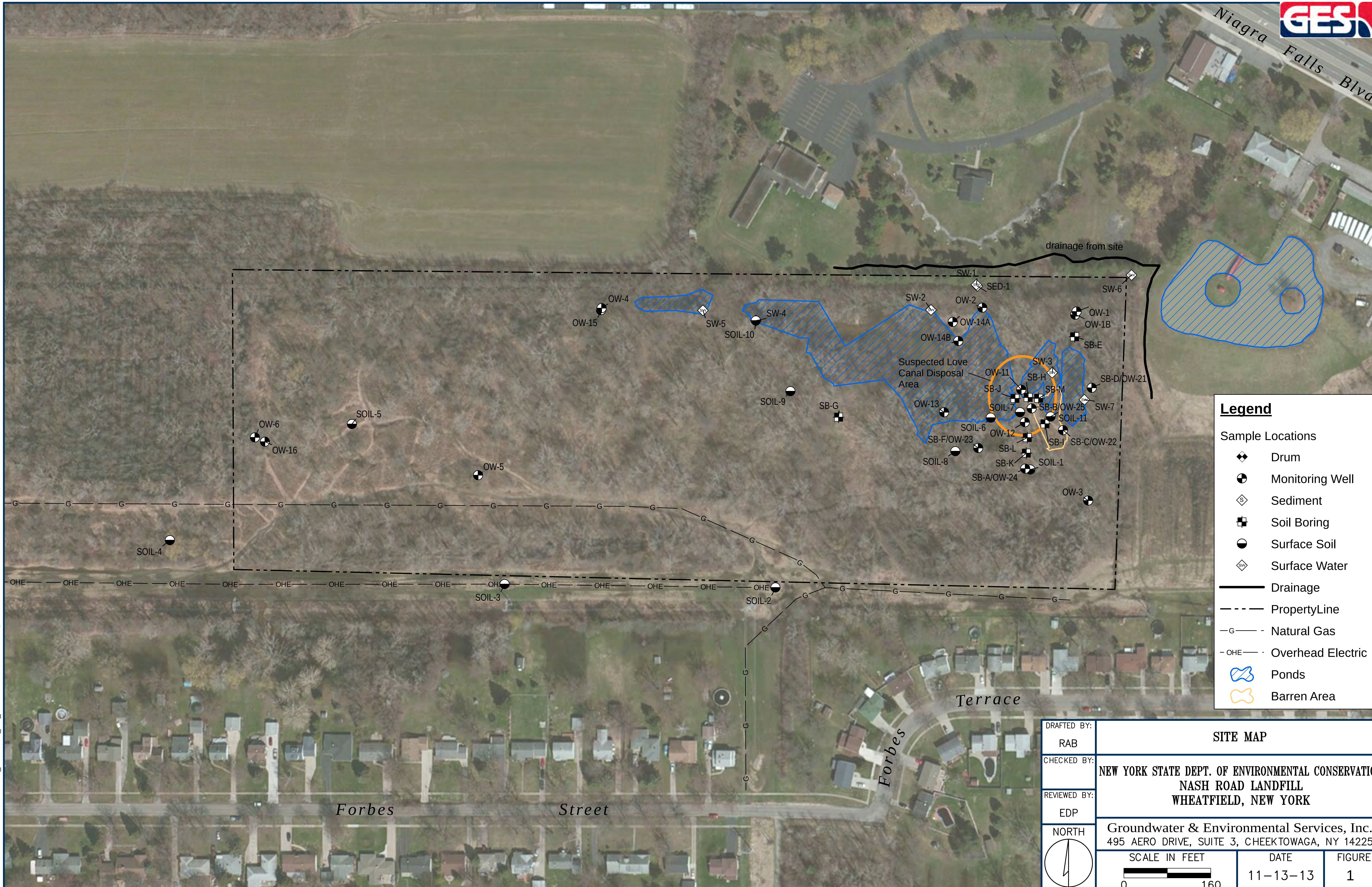
It is recommended that additional soil borings are advanced along the north and west sides of the area identified in **Figure 6** to more precisely delineate the impacts in this area. It is also recommended that site access be restricted in this area including the construction of fencing due to the shallow impacts.

9.4 Groundwater Contaminant Exposure

As described in Section 8.4, elevated concentrations of contaminants, including pesticides, VOCs, SVOCs, and metals were detected in nearly all the shallow wells sampled to varying degrees. Lead was detected in three of the wells and may be a result of general dumping activities on-site. Elevated concentrations of the pesticide alpha-BHC were detected at OW-25, co-located with SB-B, and in the impacted area identified in **Figure 6**. Groundwater quality at this location and in surrounding monitoring wells is likely influenced by the past chemical dumping activities, leading to a groundwater plume within the interior of the site. Groundwater flow at the time of the investigation was to the north, though monitoring wells OW-1 and OW-14B do not appear to be impacted by the plume of contaminants.

While exposure of groundwater to the public is likely limited (as area residents are served by public water), it is recommended that an additional monitoring well be installed to further characterize and delineate the plume to the north of OW-11, as well as additional groundwater sampling to evaluate seasonal changes in the groundwater flow and groundwater quality on-site.

FIGURES



DRAFTED BY: RAB	SITE MAP		
CHECKED BY:	NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION NASH ROAD LANDFILL WHEATFIELD, NEW YORK		
REVIEWED BY: EDP	Groundwater & Environmental Services, Inc. 495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225		
NORTH	SCALE IN FEET 0 160	DATE 11-13-13	FIGURE 1

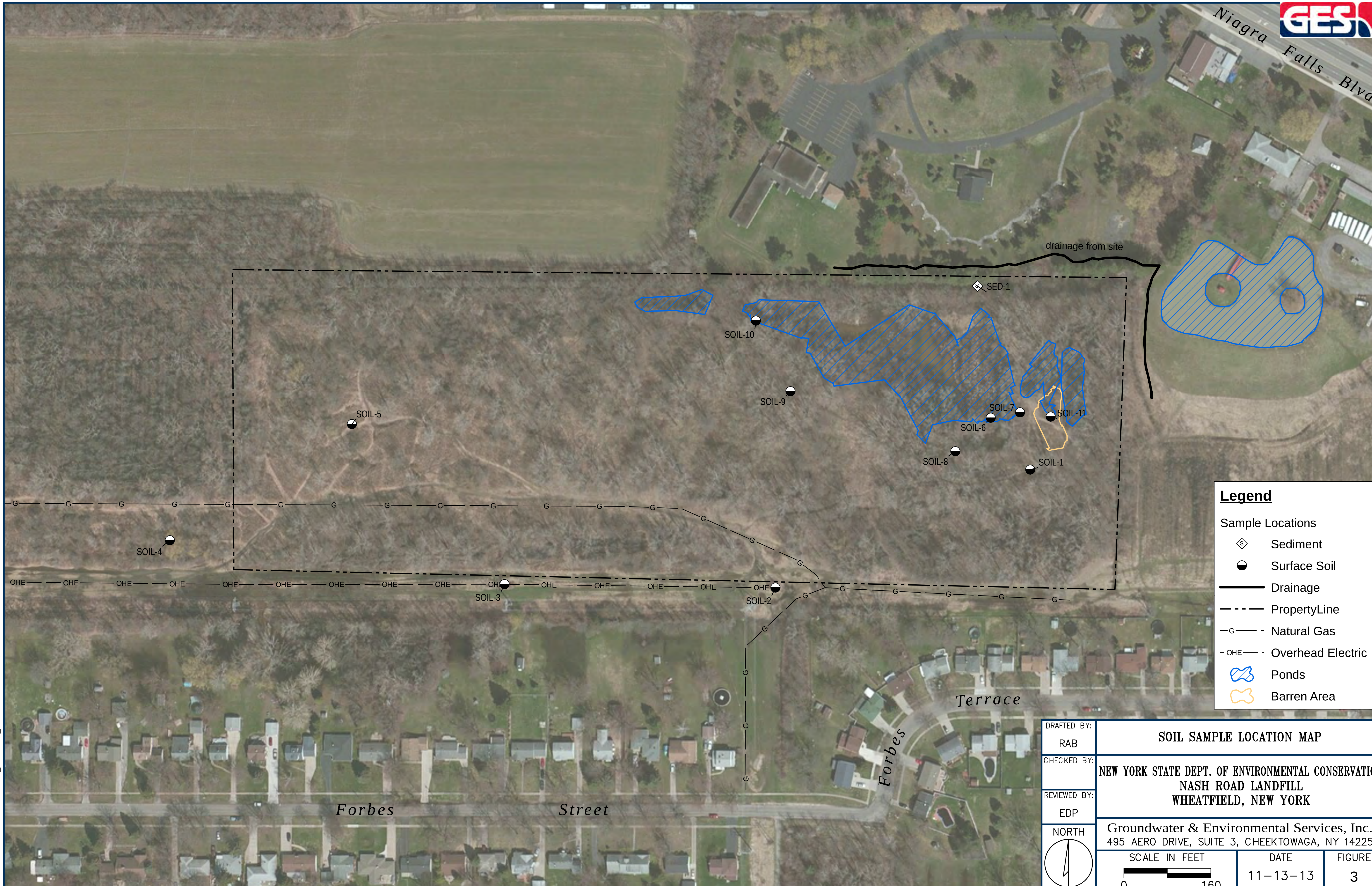
P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SM_LoveCanal.mxd - Scale 1:1,920 - 11/13/2013 10:37:16 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet

Sources:
USGS 7.5 Minute Series Topographic Quadrangles
Tonawanda East and Tonawanda West

DRAFTED BY: RAB	SITE LOCATION MAP
CHECKED BY:	NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION NASH ROAD LANDFILL WHEATFIELD, NEW YORK
REVIEWED BY: EDP	
NORTH	Groundwater & Environmental Services, Inc. 495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225

SCALE IN FEET	DATE	FIGURE
0 2,000	11-13-13	2

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SLM.mxd - Scale 1:24,000 - 11/13/2013 10:48:06 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet



DRAFTED BY: RAB

CHECKED BY:

REVIEWED BY: EDP

SOIL SAMPLE LOCATION MAP

NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION
NASH ROAD LANDFILL
WHEATFIELD, NEW YORK

Groundwater & Environmental Services, Inc.
495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225

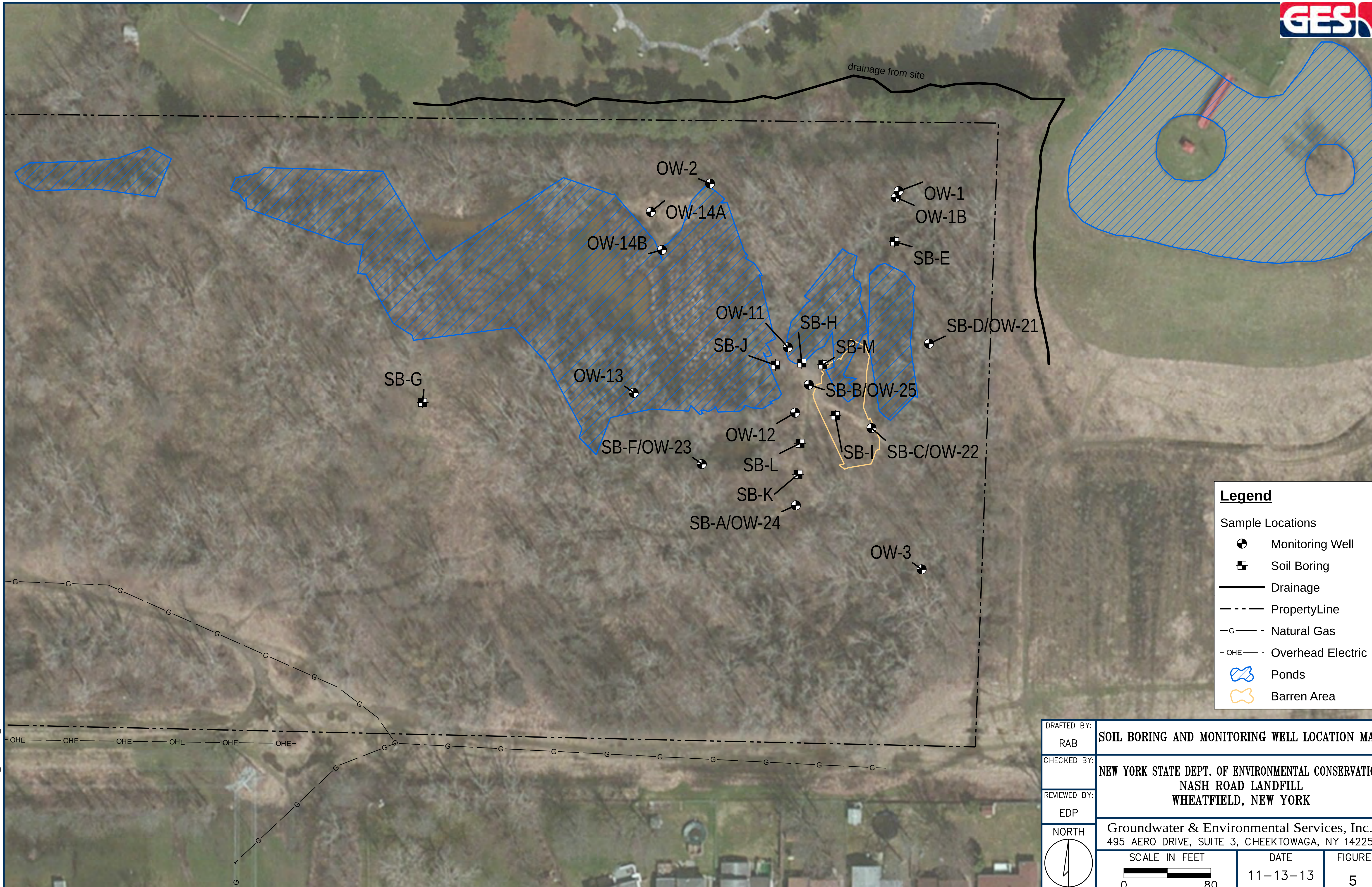
DATE: 11-13-13

FIGURE 3

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SSLM.mxd - Scale 1:1,920 - 11/13/2013 10:18:08 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet

DRAFTED BY: RAB	SURFACE WATER SAMPLE LOCATION MAP
CHECKED BY:	NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION NASH ROAD LANDFILL WHEATFIELD, NEW YORK
REVIEWED BY: EDP	Groundwater & Environmental Services, Inc. 495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225
NORTH	SCALE IN FEET 0 160 | DATE 11–13–13 | FIGURE 4

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SWSLM.mxd - Scale 1:1,920 - 11/13/2013 10:19:24 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet



DRAFTED BY: RAB

CHECKED BY:

REVIEWED BY: EDP

SOIL BORING AND MONITORING WELL LOCATION MAP

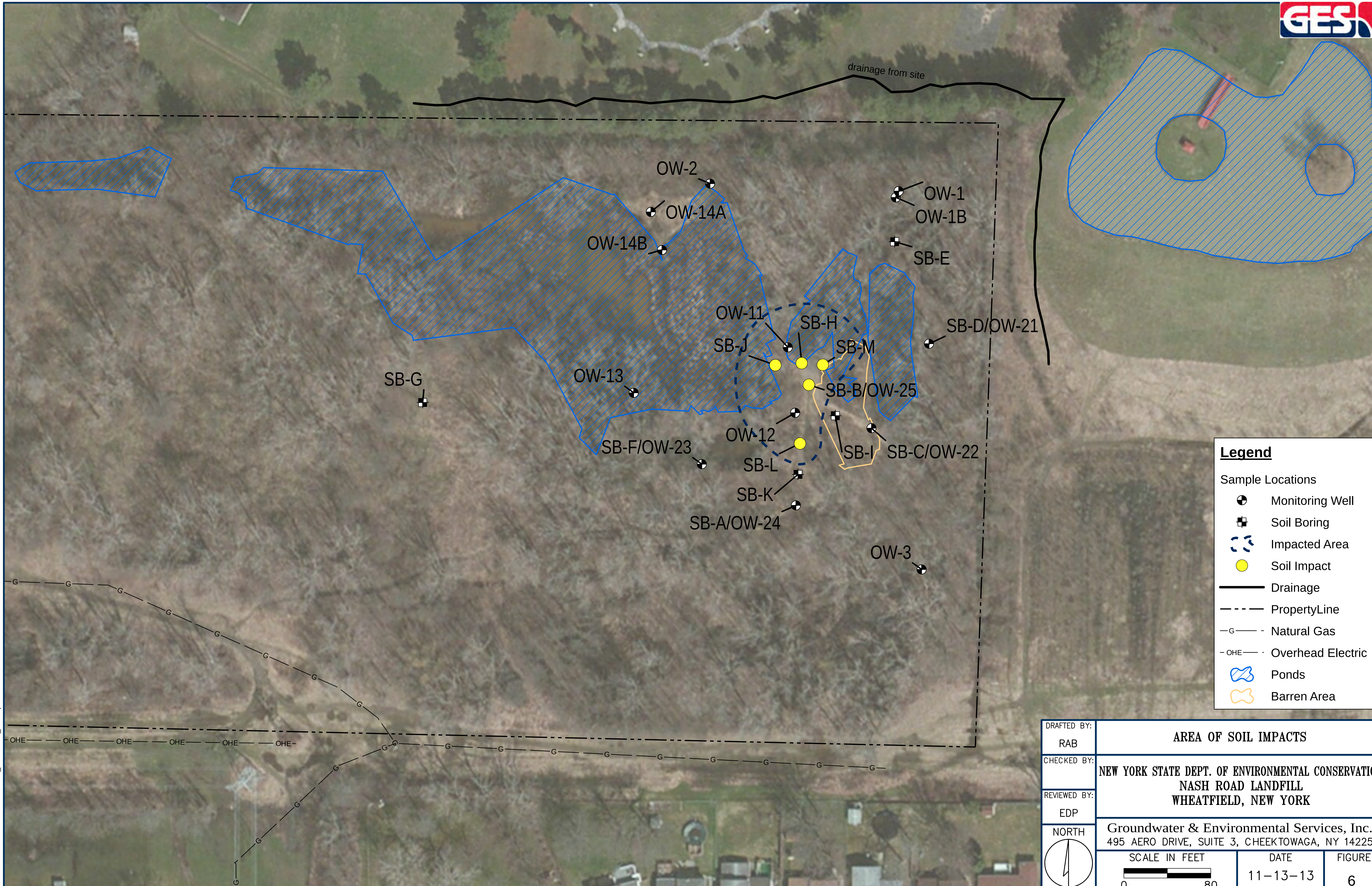
NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION
NASH ROAD LANDFILL
WHEATFIELD, NEW YORK

Groundwater & Environmental Services, Inc.
495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225

DATE 11-13-13

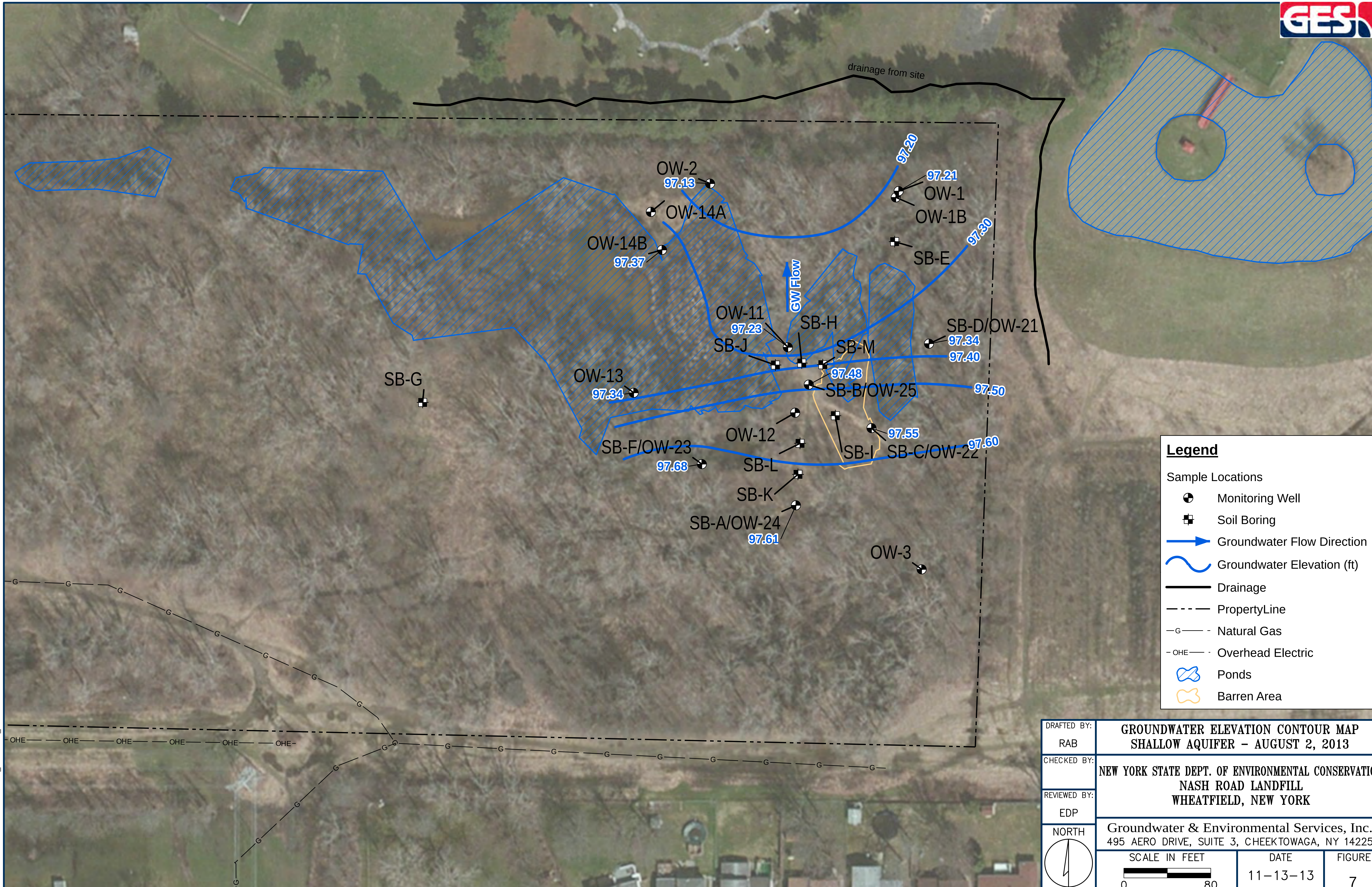
FIGURE 5

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SBMWLM.mxd - Scale 1:960 - 11/13/2013 10:10:58 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet



DRAFTED BY: RAB	AREA OF SOIL IMPACTS
CHECKED BY:	NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION NASH ROAD LANDFILL WHEATFIELD, NEW YORK
REVIEWED BY: EDP	Groundwater & Environmental Services, Inc. 495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225
NORTH	SCALE IN FEET 0 80 — DATE 11–13–13 — FIGURE 6

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_SoilImpact.mxd - Scale 1:960 - 11/13/2013 10:16:45 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet



DRAFTED BY: RAB

CHECKED BY:

REVIEWED BY: EDP

GROUNDWATER ELEVATION CONTOUR MAP
SHALLOW AQUIFER – AUGUST 2, 2013

NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION
NASH ROAD LANDFILL
WHEATFIELD, NEW YORK

Groundwater & Environmental Services, Inc.
495 AERO DRIVE, SUITE 3, CHEEKTOWAGA, NY 14225

DATE 11–13–13

FIGURE 7

P:\NYSDEC\Wheatfield\GIS\NYSDEC_Wheatfield_GWE.mxd - Scale 1:960 - 11/13/2013 10:09:32 AM - rbannister - NAD 1983 StatePlane New York West FIPS 3103 Feet

<u>TABLES</u>

Nash Road Landfill
Nash Road
Wheatfield, New York

Table 1
Sample Matrix

Sample Media	Purpose	Quantity	Analysis	Method
Surface Soil	Evaluate for potential exposure of contaminants to pedestrian traffic through site via surface soil within interior of the site, biased towards walking and ATV paths where there is obvious evidence of exposed waste from the former dumping activities.	10	SVOCs	8270
			RCRA-8 Metals	6010B
	Evaluate sediment where waters can leave site toward direction of pond on adjacent property.	1	SVOCs	8270
			RCRA-8 Metals	6010B
	Evaluate for potential exposure of contaminants to pedestrian traffic through site via surface soil along the power line corridor.	2	SVOCs	8270
			RCRA-8 Metals	6010B
Surface Water	Evaluate for potential exposure of contaminants in the pond water to the public, primarily at the former dumping site in the northeast area of the site.	6	SVOCs	8270
			VOCs	8260
			Pesticides	8081
			Herbicides	8151
	Evaluate water leaving the site the site toward direction of pond on adjacent property.	1	SVOCs	8270
			VOCs	8260
			Pesticides	8081
			Herbicides	8151
Subsurface Soil	Re-characterization/delineation of any subsurface impacts from the formmer dumping site in the northeast corner of the site.	15	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151
Groundwater	Collect groundwater samples from the existing shallow monitoring wells to evaluate current potential impact of the dumping activities to groundwater on-site.	6	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151
	Collect groundwater samples from newley installed shallow monitoring wells to evaluate current potential impact of the dumping activities to groundwater on-site.	5	SVOCs	8270
			VOCs	8260
			RCRA-8 Metals	6010B
			Pesticides	8081
			Herbicides	8151

Nash Road Landfill
Nash Road
Wheatfield, New York

Table 2
Soil Analytical Data
Surface Soil Samples
(May 2013)

Sample Point			SOIL-1	SOIL-2	SOIL-3	SOIL-4	SOIL-5	SOIL-6	SOIL-7	SOIL-8	SOIL-9	SOIL-10	SOIL-11	SED-1
Sample Type			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date		**6 NYCRR Part 375 Residential Use Soil Cleanup Objectives	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
CAS #	**Metals (mg/kg)**													
7440-38-2	ARSENIC	**16**	3.7	4.2	3.2	3.9	3	4	3.8	3.9	14.2	8.8	4.5	5.2
7440-39-3	BARIUM	**350**	55.5	56.1	42.3	53.7	39.2	120	83.7	90.7	143	149	88.1	81.4
7440-43-9	CADMIUM	**2.5**	1.3	0.8	0.28	0.2	0.2	0.33	1.3	0.62	**4.9**	2.1	0.45	2
7440-47-3	CHROMIUM, TOTAL	**36**	11.7	12.6	8.7	11.4	8.9	22	19.5	19.4	**43**	30.1	18.3	22.7
7439-92-1	LEAD	**400**	36.9	28	53.9	12	10.5	13.8	75.6	21.4	273	170	17.5	76.3
7782-49-2	SELENIUM	**36**	1	1.1	U	0.98	0.97	1	1.6	0.73	1.6	2.4	1.1	1.3
7440-22-4	SILVER	**36**	U	U	U	U	U	U	U	U	1.4	0.76	U	U
7439-97-6	MERCURY	**0.8**	0.039	0.16	0.039	0.037	0.04	0.022	0.098	0.062	**0.84**	0.42	0.076	0.47

CAS #	Semi-Volatile Organic Compounds (ug/kg)	Objective	SOIL-1	SOIL-2	SOIL-3	SOIL-4	SOIL-5	SOIL-6	SOIL-7	SOIL-8	SOIL-9	SOIL-10	SOIL-11	SED-1
95-95-4	2,4,5-TRICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
88-06-2	2,4,6-TRICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
120-83-2	2,4-DICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
105-67-9	2,4-DIMETHYLPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
51-28-5	2,4-DINITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
121-14-2	2,4-DINITROTOLUENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
606-20-2	2,6-DINITROTOLUENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
91-58-7	2-CHLORONAPHTHALENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
95-57-8	2-CHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
91-57-6	2-METHYLNAPHTHALENE	NS	13	6.8	U	4.1	U	3.6	U	97	U	U	U	U
95-48-7	2-METHYLPHENOL (O-CRESOL)	NS	U	U	U	U	U	U	U	U	U	U	U	U
88-74-4	2-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
88-75-5	2-NITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
91-94-1	3,3'-DICHLOROBENZIDINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
99-09-2	3-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U
59-50-7	4-CHLORO-3-METHYLPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
106-47-8	4-CHLOROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U
106-44-5	4-METHYLPHENOL (P-CRESOL)	NS	U	U	U	U	U	U	U	U	U	U	U	U
100-01-6	4-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
100-02-7	4-NITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U
83-32-9	ACENAPHTHENE	**100,000**	15	30	27	U	2.8	15	19	320	U	U	U	7
208-96-8	ACENAPHTHYLENE	**100,000**	U	U	U	U	U	U	U	5.8	U	U	U	U
98-86-2	ACETOPHENONE	NS	U	U	U	U	U	U	U	U	U	U	U	U
120-12-7	ANTHRACENE	**100,000**	19	51	150	8.3	5.5	33	58	480	U	48	U	U
1912-24-9	ATRAZINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
100-52-7	BENZALDEHYDE	NS	U	U	U	U	U	U	U	U	U	U	U	47
56-55-3	BENZO(A)ANTHRACENE	**1,000**	93	270	**2,300**	67	41	95	330	**1,100**	U	330	U	60
50-32-8	BENZO(A)PYRENE	**1,000**	75	240	**1,300**	56	36	81	290	930	U	270	U	67
205-99-2	BENZO(B)FLUORANTHENE	**1,000**	140	350	**2,100**	81	61	120	510	**1,500**	**1,700**	510	11	110
191-24-2	BENZO(G,H,I)PERYLENE	**100,000**	26	110	380	20	18	32	110	280	U	130	U	31
207-08-9	BENZO(K)FLUORANTHENE	**1,000**	58	130	970	36	27	49	190	530	U	220	U	59
85-68-7	BENZYL BUTYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	1300	U	U
92-52-4	BIPHENYL (DIPHENYL)	NS	U	U	U	U	U	U	U	27	U	U	U	U
111-91-1	BIS(2-CHLOROETHOXY) METHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U
111-44-4	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL	NS	U	U	U	U	U	U	U	U	U	U	U	U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	NS	U	U	990	U	U	U	U	U	U	U	U	U
105-60-2	CAPROLACTAM	NS	U	U	U	U	U	U	U	U	U	U	U	U
86-74-8	CARBAZOLE	NS	14	36	16	U	5.7	16	32	330	U	U	U	U
218-01-9	CHRYSENE	**1,000**	100	280	**2,100**	66	50	95	320	**1,100**	**1,600**	390	U	74
53-70-3	DIBENZ(A,H)ANTHRACENE	**330**	120	150	230	110	U	130	190	190	U	**600**	U	190
132-64-9	DIBENZOFURAN	NS	U	7	U	U	U	7.9	U	210	U	U	U	U
84-66-2	DIETHYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U
131-11-3	DIMETHYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U
84-74-2	DI-N-BUTYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U
117-84-0	DI-N-OCTYLPHTHALATE	NS	U	U	1,200	U	U	U	U	U	U	U	U	U
206-44-0	FLUORANTHENE	**100,000**	190	370	2,500	95	82	200	630	2,600	2,000	560	10	120
86-73-7	FLUORENE	**100,000**	9.4	13	14	U	U	14	20	290	U	U	U	U
118-74-1	HEXACHLOROBENZENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
87-68-3	HEXACHLOROBUTADIENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
67-72-1	HEXACHLOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U
193-39-5	INDENO(1,2,3-C,D)PYRENE	**500**	25	100	390	22	15	30	94	280	360	110	U	25
78-59-1	ISOPHORONE	NS	U	U	U	U	U	U	U	U	U	U	U	U
91-20-3	NAPHTHALENE	**100,000**	17	U	U	U	U	U	U	330	U	U	U	U
98-95-3	NITROBENZENE	NS	U	U	U	U	U	U	U	U	U	U	U	U
621-64-7	N-NITROSODI-N-PROPYLAMINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
86-30-6	N-NITROSODIPHENYLAMINE	NS	U	U	U	U	U	U	U	U	U	U	U	U
87-86-5	PENTACHLOROPHENOL	**2,400**	U	U	U	U	U	U	U	U	U	U	U	U
85-01-8	PHENANTHRENE	**100,000**	110	180	190	33	38	140	260	2,300	1,600	230	U	63
108-95-2	PHENOL	**100,000**	U	U	U	U	U	U	U	U	U	U	U	U
129-00-0	PYRENE	**100,000**	130	310	2,000	76	62	150	450	1,800	1,500	430	8.3	86
	Total SVOCs (ug/kg)		1,154	2,634	16,857	674	444	1,212	3,503	14,700	8,760	5,128	29.3	939

Notes:
U = below laboratory detection limits
ftbg = feet below grade
ppmV = parts-per-million by volume
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
BOLD = Exceeds standards or guidance value
CAS = Chemical Abstracts Services
**Title 6 of the Official Compilation of New York Codes, Rules and Regulations Part 375, Restricted Use Soil Cleanup Objectives for Residential Use. (parts-per-billion by volume, except for Metals, which are in parts-per-million by volum
NS=Not Specified by 6 NYCRR Part 375

Nash Road Landfill
NYSDEC Site #932054
Nash Road
Wheatfield, New York

Table 3
Surface Water Analytical Data
(May 2013)

Sample Point		NYSDEC TOGS 1.1.1 Ambient Water Quality Standards (or Guidance Where no Standard Exists) Class A, Type H (WS) for Protection of Drinking Water	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7
Sample Type			Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date			5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
CAS #	**Pesticides via 8081A (ug/L)**								
72-54-8	4,4'-DDD	0.3	U	U	U	U	U	U	U
72-55-9	4,4'-DDE	0.2	U	U	U	U	0.013	U	U
50-29-3	4,4'-DDT	0.2	U	U	U	U	U	U	U
309-00-2	Aldrin	0.002	U	U	U	U	U	U	U
319-84-6	alpha-BHC	0.01	U	**0.016**	**0.024**	U	**0.012**	U	0.01
5103-71-9	alpha-Chlordane	0.05	U	U	U	U	U	U	U
319-85-7	beta-BHC	0.04	U	U	**0.042**	U	U	U	U
319-86-8	delta-BHC	0.04	U	U	U	U	U	U	U
60-57-1	Dieldrin	0.004	U	**0.011**	U	U	U	U	U
959-98-8	Endosulfan I	0.009	U	U	U	U	U	U	U
33213-65-9	Endosulfan II	0.009	U	U	U	U	U	U	U
1031-07-8	Endosulfan Sulfate	NS	U	U	U	U	U	U	U
72-20-8	Endrin	0.2	U	U	U	U	U	U	U
7421-93-4	Endrin Aldehyde	5	U	U	U	U	U	U	U
53494-70-5	Endrin Keytone	5	U	U	U	U	U	U	U
58-89-9	gamma-BHC (Lindane)	0.05	U	0.012	0.019	U	0.021	U	0.015
12789-03-6	gamme-Chlordane	0.05	U	**0.33**	U	U	U	U	U
76-44-8	Heptachlor	0.04	U	U	U	U	U	U	U
1024-57-3	Heptachlor epoxide	0.03	U	U	0.024	U	U	U	U
72-43-5	Methoxychlor	35	U	U	U	U	U	U	U
8001-35-2	Toxaphene	0.06	U	U	U	U	U	U	U
CAS #	**Herbicides via 8151A (ug/L)**								
94-75-7	2,4-D (DICHLOROPHENOXYACETIC ACID)	50	U	U	U	U	U	U	U
93-76-5	2,4,5-T (TRICHLOROPHENOXYACETIC ACID)	NS	U	U	U	U	U	U	U
93-72-1	SILVEX (2,4,5-TP)	10	U	U	U	U	U	U	U
CAS #	**Volatile Organic Compounds (ug/L)**								
71-55-6	1,1,1-TRICHLOROETHANE	5	U	U	U	U	U	U	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	U	U	U	U	U	U	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	U	U	U	U	U	U	U
79-00-5	1,1,2-TRICHLOROETHANE	1	U	U	U	U	U	U	U
75-34-3	1,1-DICHLOROETHANE	5	U	U	U	U	U	U	U
75-35-4	1,1-DICHLOROETHENE	0.6	U	U	U	U	U	U	U
120-82-1	1,2,4-TRICHLOROBENZENE	5	U	U	U	U	U	U	U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	0.04	U	U	U	U	U	U	U
106-93-4	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0006	U	U	U	U	U	U	U
95-50-1	1,2-DICHLOROBENZENE	3	U	U	U	U	U	U	U
107-06-2	1,2-DICHLOROETHANE	5	U	U	U	U	U	U	U
78-87-5	1,2-DICHLOROPROPANE	5	U	U	U	U	U	U	U
541-73-1	1,3-DICHLOROBENZENE	3	U	U	U	U	U	U	U
106-46-7	1,4-DICHLOROBENZENE	3	U	U	U	U	U	U	U
591-78-6	2-HEXANONE	50	U	U	U	U	U	U	U
67-64-1	ACETONE	50	U	U	U	U	U	U	U
71-43-2	BENZENE	1	U	U	U	U	U	U	U
75-27-4	BROMODICHLOROMETHANE	50	U	U	U	U	U	U	U
75-25-2	BROMOFORM	50	U	U	U	U	U	U	U
74-83-9	BROMOMETHANE	5	U	U	U	U	U	U	U
75-15-0	CARBON DISULFIDE	NS	U	U	U	U	U	U	U
56-23-5	CARBON TETRACHLORIDE	0.4	U	U	U	U	U	U	U
108-90-7	CHLOROBENZENE	5	U	U	U	U	U	U	U
75-00-3	CHLOROETHANE	5	U	U	U	U	U	U	U
67-66-3	CHLOROFORM	7	U	U	U	U	U	U	U
74-87-3	CHLOROMETHANE (METHYL CHLORIDE)	5	U	U	U	U	U	U	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	5	U	U	U	U	U	U	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	U	U	U	U	U	U	U
110-82-7	CYCLOHEXANE	NS	U	U	U	U	U	U	U
124-48-1	DIBROMOCHLOROMETHANE	5	U	U	U	U	U	U	U
75-71-8	DICHLORODIFLUOROMETHANE	5	U	U	U	U	U	U	U
100-41-4	ETHYLBENZENE	5	U	U	U	U	U	U	U
98-82-8	ISOPROPYLBENZENE (CUMENE)	5	U	U	U	U	U	U	U
79-20-9	METHYL ACETATE	NS	U	U	U	U	U	U	U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	50	U	U	U	U	U	U	U
108-10-1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	NS	U	U	U	U	U	U	U
108-87-2	METHYLCYCLOHEXANE	NS	U	U	U	U	U	U	U
75-09-2	METHYLENE CHLORIDE	5	U	U	U	U	U	U	U
100-42-5	STYRENE	5	U	U	U	U	U	U	U
1634-04-4	TERT-BUTYL METHYL ETHER	NS	U	U	U	U	U	U	U
127-18-4	TETRACHLOROETHYLENE(PCE)	0.7	U	U	U	U	U	U	U
108-88-3	TOLUENE	5	U	U	U	U	U	U	U
156-60-5	TRANS-1,2-DICHLOROETHENE	5	U	U	U	U	U	U	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	0.4	U	U	U	U	U	U	U
79-01-6	TRICHLOROETHYLENE (TCE)	5	U	U	U	U	U	U	U
75-69-4	TRICHLOROFLUOROMETHANE	5	U	U	U	U	U	U	U
75-01-4	VINYL CHLORIDE	0.3	U	U	U	U	U	U	U
XYLENES	XYLENES, TOTAL	5	U	U	U	U	U	U	U
Total VOCs (ug/L)			U	U	U	U	U	U	U

Nash Road Landfill
NYSDEC Site #932054
Nash Road
Wheatfield, New York

Table 3
Surface Water Analytical Data
(May 2013)

Sample Point		NYSDEC TOGS 1.1.1 Ambient Water Quality Standards (or Guidance Where no Standard Exists) Class A, Type H (WS) for Protection of Drinking Water	SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7
Sample Type			Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Sample Date			5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013	5/29/2013
CAS #	**Semi-Volatile Organic Compounds (ug/L)**								
95-95-4	2,4,5-TRICHLOROPHENOL	**NS**	U	U	U	U	U	U	U
88-06-2	2,4,6-TRICHLOROPHENOL	**NS**	U	U	U	U	U	U	U
120-83-2	2,4-DICHLOROPHENOL	**5**	U	U	U	U	U	U	U
105-67-9	2,4-DIMETHYLPHENOL	**50**	U	U	U	U	U	U	U
51-28-5	2,4-DINITROPHENOL	**10**	U	U	U	U	U	U	U
121-14-2	2,4-DINITROTOLUENE	**5**	U	U	U	U	U	U	U
606-20-2	2,6-DINITROTOLUENE	**0.07**	U	U	U	U	U	U	U
91-58-7	2-CHLORONAPHTHALENE	**10**	U	U	U	U	U	U	U
95-57-8	2-CHLOROPHENOL	**NS**	U	U	U	U	U	U	U
91-57-6	2-METHYLNAPHTHALENE	**NS**	U	U	U	U	U	U	U
95-48-7	2-METHYLPHENOL (O-CRESOL)	**NS**	U	5.1	U	U	U	U	1.2
88-74-4	2-NITROANILINE	**5**	U	U	U	U	U	U	U
88-75-5	2-NITROPHENOL	**NS**	U	U	U	U	U	U	U
91-94-1	3,3'-DICHLOROBENZIDINE	**5**	U	U	U	U	U	U	U
99-09-2	3-NITROANILINE	**5**	U	U	U	U	U	U	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	**1**	U	U	U	U	U	U	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	**1**	U	U	U	U	U	U	U
59-50-7	4-CHLORO-3-METHYLPHENOL	**1**	U	U	U	U	U	U	U
106-47-8	4-CHLOROANILINE	**5**	U	U	U	U	U	U	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	**NS**	U	U	U	U	U	U	U
106-44-5	4-METHYLPHENOL (P-CRESOL)	**NS**	U	36	U	U	U	U	1.0
100-01-6	4-NITROANILINE	**5**	U	U	U	U	U	U	U
100-02-7	4-NITROPHENOL	**NS**	U	U	U	U	U	U	U
83-32-9	ACENAPHTHENE	**NS**	U	U	U	U	U	U	U
208-96-8	ACENAPHTHYLENE	**NS**	U	U	U	U	U	U	U
98-86-2	ACETOPHENONE	**NS**	U	U	U	U	U	U	U
120-12-7	ANTHRACENE	**50**	U	U	U	U	U	U	U
1912-24-9	ATRAZINE	**3**	U	U	U	U	U	U	U
100-52-7	BENZALDEHYDE	**NS**	3.3	0.6	12	5.1	4.0	1.0	6.0
56-55-3	BENZO(A)ANTHRACENE	**0.002**	U	U	U	U	U	U	U
50-32-8	BENZO(A)PYRENE	**0.002**	U	U	U	U	U	U	U
205-99-2	BENZO(B)FLUORANTHENE	**0.002**	U	U	U	U	U	U	U
191-24-2	BENZO(G,H,I)PERYLENE	**NS**	U	U	U	U	U	U	U
207-08-9	BENZO(K)FLUORANTHENE	**0.002**	U	U	U	U	U	U	U
85-68-7	BENZYL BUTYL PHTHALATE	**NS**	U	U	U	U	U	U	U
92-52-4	BIPHENYL (DIPHENYL)	**5**	U	U	U	U	U	U	U
111-91-1	BIS(2-CHLOROETHOXY) METHANE	**5**	U	U	U	U	U	U	U
111-44-4	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER	**0.03**	U	U	U	U	U	U	U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	**5**	1.0	U	U	U	U	U	U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	**5**	U	U	U	U	U	U	U
105-60-2	CAPROLACTAM	**NS**	U	U	U	U	U	U	U
86-74-8	CARBAZOLE	**NS**	U	U	U	U	U	U	U
218-01-9	CHRYSENE	**0.002**	U	U	U	U	U	U	U
53-70-3	DIBENZ(A,H)ANTHRACENE	**NS**	U	U	U	U	U	U	U
132-64-9	DIBENZOFURAN	**NS**	U	U	U	U	U	U	U
84-66-2	DIETHYL PHTHALATE	**50**	U	U	U	U	U	U	U
131-11-3	DIMETHYL PHTHALATE	**50**	U	U	U	U	U	U	U
84-74-2	DI-N-BUTYL PHTHALATE	**50**	0.68	0.59	0.47	0.5	0.56	0.52	0.39
117-84-0	DI-N-OCTYLPHTHALATE	**50**	U	U	U	U	U	U	U
206-44-0	FLUORANTHENE	**50**	U	U	U	U	U	U	U
86-73-7	FLUORENE	**50**	U	U	U	U	U	U	U
118-74-1	HEXACHLOROBENZENE	**0.04**	U	U	U	U	U	U	U
87-68-3	HEXACHLOROBUTADIENE	**0.5**	U	U	U	U	U	U	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	**5**	U	U	U	U	U	U	U
67-72-1	HEXACHLOROETHANE	**5**	U	U	U	U	U	U	U
193-39-5	INDENO(1,2,3-C,D)PYRENE	**0.002**	U	U	U	U	U	U	U
78-59-1	ISOPHORONE	**50**	U	U	U	U	U	U	U
91-20-3	NAPHTHALENE	**13**	U	U	U	U	U	U	U
98-95-3	NITROBENZENE	**0.4**	U	U	U	U	U	U	U
621-64-7	N-NITROSODI-N-PROPYLAMINE	**NS**	U	U	U	U	U	U	U
86-30-6	N-NITROSODIPHENYLAMINE	**50**	U	U	U	U	U	U	U
87-86-5	PENTACHLOROPHENOL	**5**	U	U	U	U	U	U	U
85-01-8	PHENANTHRENE	**50**	U	U	U	U	U	U	U
108-95-2	PHENOL	**NS**	U	0.73	U	U	U	U	U
129-00-0	PYRENE	**50**	U	U	U	U	U	U	U
Total SVOCs (ug/L)			4.98	43.02	12.47	5.6	4.56	1.52	8.59

Notes:
U = below laboratory detection limits
ug/L = micrograms per liter
BOLD = exceeds standard or guidance value
ND = standard is to be below detection limits
CAS = Chemical Abstracts Services
* TOGS 1.1.1 - 1 ug/L standard applies to total chlorinated Phenols
NR=Not Regulated by TOGS 1.1.1

Table 4
Soil Analytical Data
Soil Boring Samples
(June 2013)

Sample Point		**6 NYCRR Part 375 Residential Use Soil Cleanup Objectives	SB-A	SB-B	SB-B	SB-D	SB-E	SB-F	SB-G	SB-H	SB-H	SB-I	SB-J	SB-J	SB-K	SB-L	SB-M
Sample Type			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ftbg)			4-12'	0-4'	10-11'	4-8'	4-8'	4-8'	4-8'	4-8'	8-12'	4-7'	0-4'	8-10'	2-4'	0-4	4-8'
Sample Date			6/3/2013	6/3/2013	6/3/2013	6/3/2013	6/3/2013	6/3/2013	6/4/2013	6/5/2013	6/5/2013	6/5/2013	6/6/2013	6/6/2013	6/6/2013	6/6/2013	6/6/2013
Photoionization Detector (ppmV)			4.8	656	170	0.5	1.4	0.6	1.5	1214	1035	10.8	439	249.0	8.2	40	100
CAS #	**Metals (mg/kg)**																
7440-38-2	ARSENIC	**16**	5.3	5.5	3.3	1.9	4.5	12.1	2.6	5.4	**27.7**	2.7	3.6	6.4	4.1	3.8	6.7
7440-39-3	BARIUM	**350**	61.4	81.5	66.5	10.2	62.4	134	13.9	85.7	83.6	18	55.4	87.6	29.8	88.1	58.7
7440-43-9	CADMIUM	**2.5**	**7.1**	0.5	0.14	0.21	0.44	**6.3**	0.3	0.2	0.48	0.14	0.55	1.9	0.14	0.34	0.74
7440-47-3	CHROMIUM, TOTAL	**36**	22.9	13.5	14.6	4.5	12.8	27	5.2	16	19.5	5	14.6	**40.4**	4.5	20.7	**61.9**
7439-92-1	LEAD	**400**	111	45.2	18.7	5.7	25.8	85.6	14.2	110	172	6.3	14.4	132	6.1	22	109
7782-49-2	SELENIUM	**36**	U	U	U	U	U	0.99	U	U	U	U	U	U	0.48	U	0.63
7440-22-4	SILVER	**36**	U	U	U	U	U	**482**	U	U	U	U	U	1.4	U	U	U
7439-97-6	MERCURY	**0.8**	0.3	0.32	0.047	U	0.024	**0.86**	0.012	0.21	**0.97**	U	0.049	**1.3**	U	0.17	**1.7**
CAS #	**Pesticides via 8081A (ug/kg)**																
72-54-8	4,4'-DDD	**2,600**	U	U	U	U	10	6.3	U	U	**5,700**	U	U	U	U	23	U
72-55-9	4,4'-DDE	**1,800**	U	U	U	U	6.6	3.6	U	U	U	7.8	U	**2,200**	U	66	U
50-29-3	4,4'-DDT	**1,700**	16	U	U	U	23	18	U	U	**4,500**	U	U	U	U	12	U
309-00-2	Aldrin	**19**	U	U	U	0.71	U	U	U	**15,000**	**18,000**	**29**	U	**36,000**	**37**	**180**	**8800**
319-84-6	alpha-BHC	**97**	U	**4,600**	**4,200**	4.3	23	8.1	63	**240,000**	**25,000**	45	**1,300**	**54,000**	63	**110**	**27000**
5103-71-9	alpha-Chlordane	**910**	U	U	U	U	U	U	U	U	U	U	U	**3,900**	U	U	U
319-85-7	beta-BHC	**72**	U	**1,300**	**1,700**	5	10	U	U	**49,000**	**54,000**	63	**790**	**21,000**	24	**300**	**17000**
319-86-8	delta-BHC	**100,000**	U	200	420	U	4.5	U	U	U	5,200	5.1	110	1,100	U	31	U
60-57-1	Dieldrin	**39**	U	U	U	U	U	5.2	U	U	U	U	U	U	U	U	U
959-98-8	Endosulfan I	**4,800**	U	U	U	U	U	U	U	U	U	U	U	1,700	U	U	U
33213-65-9	Endosulfan II	**4,800**	U	U	U	U	U	U	U	U	3,000	U	U	U	U	U	U
1031-07-8	Endosulfan Sulfate	**4,800**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
72-20-8	Endrin	**2,200**	U	U	U	U	U	U	U	U	**5,100**	U	U	U	U	U	U
7421-93-4	Endrin Aldehyde	**2,200**	U	U	U	U	U	U	U	U	U	U	U	U	U	15	U
53494-70-5	Endrin Keytone	**2,200**	6.2	190	U	U	U	U	U	U	U	U	U	1,200	U	9.4	U
58-89-9	gamma-BHC (Lindane)	**280**	U	U	**330**	U	3.4	2.6	U	**9,700**	**4,600**	5.5	**390**	**3,500**	4.8	66	**4800**
12789-03-6	gamma-Chlordane	NS	U	U	U	U	U	U	U	U	U	U	120	U	U	U	U
76-44-8	Heptachlor	**420**	U	U	U	U	U	U	U	U	**32,000**	45	U	**47,000**	40	240	U
1024-57-3	Heptachlor epoxide	**420**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
72-43-5	Methoxychlor	NS	U	480	U	U	U	U	U	U	3,500	U	250	1,100	2.4	17	U
8001-35-2	Toxaphene	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
CAS #	**Herbicides via 8151A (ug/kg)**																
94-75-7	2,4-D (DICHLOROPHENOXYACETIC ACID)	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
93-76-5	2,4,5-T (TRICHLOROPHENOXYACETIC ACID)	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
93-72-1	SILVEX (2,4,5-TP)	**58,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
											U						
CAS #	**Volatile Organic Compounds (ug/kg)**																
71-55-6	1,1,1-TRICHLOROETHANE	**100,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
79-00-5	1,1,2-TRICHLOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-34-3	1,1-DICHLOROETHANE	**19,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-35-4	1,1-DICHLOROETHENE	**100,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
120-82-1	1,2,4-TRICHLOROBENZENE	NS	U	13,000	2,100	U	0.72	U	U	4,100	32,000	6.8	2,400	7,200	U	50	5,800
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
106-93-4	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
95-50-1	1,2-DICHLOROBENZENE	**100,000**	U	3,500	1,800	U	U	U	U	2,300	18,000	3.6	520	3,800	U	51	4,400
107-06-2	1,2-DICHLOROETHANE	**2,300**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
78-87-5	1,2-DICHLOROPROPANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
541-73-1	1,3-DICHLOROBENZENE	**17,000**	U	6.5	8,600	U	U	U	U	U	U	U	U	38	U	5.9	1,900
106-46-7	1,4-DICHLOROBENZENE	**9,800**	220	9,300	**27,000**	1.4	1.6	U	U	6,100	**32,000**	7.3	1,100	7,700	U	110	**17,000**
591-78-6	2-HEXANONE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
67-64-1	ACETONE	**100,000**	68	32	100	8.9	U	24	20	U	U	25	240	350	17	35	56
71-43-2	BENZENE	**2,900**	13	58	**9,400**	1.2	1.5	1.1	3.2	**16,000**	**35,000**	2.5	340	**19,000**	0.4	15	**11,000**
75-27-4	BROMODICHLOROMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-25-2	BROMOFORM	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
74-83-9	BROMOMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-15-0	CARBON DISULFIDE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
56-23-5	CARBON TETRACHLORIDE	**1,400**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
108-90-7	CHLOROBENZENE	**100,000**	3,700	2,400	56,000	1.7	2.2	U	5	7,900	23,000	3.8	680	8,900	U	76	36,000
75-00-3	CHLOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
67-66-3	CHLOROFORM	**10,000**	U	U	U	U	U	U	U	U	U	U	U	24	U	U	U
74-87-3	CHLOROMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	2
10061-01-5	CIS-1,3-DICHLOROPROPENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
110-82-7	CYCLOHEXANE	NS	U	57	10,000	U	U	U	U	4,500	140,000	11	300	27,000	U	3.1	3,100
124-48-1	DIBROMOCHLOROMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-71-8	DICHLORODIFLUOROMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
100-41-4	ETHYLBENZENE	**30,000**	U	14	360	U	U	U	1.2	U	27,000	1.5	4.2	67	U	0.63	45
98-82-8	ISOPROPYLBENZENE (CUMENE)	NS	1.1	U	U	U	U	U	2.6	U	21,000	1.9	U	U	U	U	19
79-20-9	METHYL ACETATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	**100,000**	4.2	11	24	U	U	U	U	U	U	U	130	150	U	4.5	22
108-10-1	METHYL ISOBUTYL KETONE (4-METHYL-2-PEN	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	7.4
108-87-2	METHYLCYCLOHEXANE	NS	U	79	U	U	U	U	U	8,500	16,000	2.1	640	10,000	U	3.5	1,600
75-09-2	METHYLENE CHLORIDE	**51,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
100-42-5	STYRENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1634-04-4	TERT-BUTYL METHYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
127-18-4	TETRACHLOROETHYLENE(PCE)	NS	U	6.8	U	U	U	U	U	U	U	U	U	120	U	U	U
108-88-3	TOLUENE	**100,000**	2.9	11,000	7,500	4.4	5.9	4.1	6	**250,000**	**590,000**	22	7,300	**320,000**	4.2	31	**110,000**
156-60-5	TRANS-1,2-DICHLOROETHENE	**100,000**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
79-01-6	TRICHLOROETHYLENE (TCE)	NS	U	1.4	U	U	U	U	U	U	U	U	U	19	U	U	U
75-69-4	TRICHLOROFLUOROMETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
75-01-4	VINYL CHLORIDE	**210**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
XYLENES	XYLENES, TOTAL	**100,000**	U	25	53	U	U	U	12	U	U	U	12	190	U	3.5	90
Total VOCs (ug/kg)			4,009	39,491	122,937	17.6	11.92	29.2	50	299,400	934,000	87.5	13,666	404,558	21.6	389	191,041

Nash Road Landfill
Nash Road
Wheatfield, New York

Table 4
Soil Analytical Data
Soil Boring Samples
(June 2013)

		**6 NYCRR Part 375 Residential Use Soil Cleanup Objectives															
	Sample Point		**SB-A**	**SB-B**	**SB-B**	**SB-D**	**SB-E**	**SB-F**	**SB-G**	**SB-H**	**SB-H**	**SB-I**	**SB-J**	**SB-J**	**SB-K**	**SB-L**	**SB-M**
	Sample Type		**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
	Depth (ftbg)		**4-12'**	**0-4'**	**10-11'**	**4-8'**	**4-8'**	**4-8'**	**4-8'**	**4-8'**	**8-12'**	**4-7'**	**0-4'**	**8-10'**	**2-4'**	**0-4**	**4-8'**
	Sample Date		**6/3/2013**	**6/3/2013**	**6/3/2013**	**6/3/2013**	**6/3/2013**	**6/3/2013**	**6/4/2013**	**6/5/2013**	**6/5/2013**	**6/5/2013**	**6/6/2013**	**6/6/2013**	**6/6/2013**	**6/6/2013**	**6/6/2013**
	Photoionization Detector (ppmV)		**4.8**	**656**	**170**	**0.5**	**1.4**	**0.6**	**1.5**	**1214**	**1035**	**10.8**	**439**	**249.0**	**8.2**	**40**	**100**
CAS #	**Semi-Volatile Organic Compounds (ug/kg)**																
95-95-4	2,4,5-TRICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
88-06-2	2,4,6-TRICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
120-83-2	2,4-DICHLOROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
105-67-9	2,4-DIMETHYLPHENOL	NS	U	U	U	U	U	U	U	970	U	U	160	2,900	U	U	2,700
51-28-5	2,4-DINITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
121-14-2	2,4-DINITROTOLUENE	NS	U	U	U	U	U	U	U	U	U	U	69	9,700	U	U	9,200
606-20-2	2,6-DINITROTOLUENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
91-58-7	2-CHLORONAPHTHALENE	NS	U	U	1,600	U	U	U	U	1,300	6,600	U	52	7,200	U	2,200	1,100
95-57-8	2-CHLOROPHENOL	NS	U	U	U	U	U	U	U	230	U	U	170	U	U	U	U
91-57-6	2-METHYLNAPHTHALENE	NS	49	580	700	U	4.1	33	U	470	1,100	U	24	670	U	210	520
95-48-7	2-METHYLPHENOL (O-CRESOL)	NS	U	U	U	U	U	U	U	770	2,700	U	240	1,100	U	U	280
88-74-4	2-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
88-75-5	2-NITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
91-94-1	3,3'-DICHLOROBENZIDINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
99-09-2	3-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
59-50-7	4-CHLORO-3-METHYLPHENOL	NS	U	U	U	U	U	U	U	U	U	U	35	U	U	U	U
106-47-8	4-CHLOROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	490	U
106-44-5	4-METHYLPHENOL (P-CRESOL)	NS	350	U	U	U	U	U	U	2,000	7,400	U	650	2,900	U	U	1,200
100-01-6	4-NITROANILINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
100-02-7	4-NITROPHENOL	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
83-32-9	ACENAPHTHENE	**100,000**	U	610	550	U	U	75	51	U	U	U	U	1,100	U	U	380
208-96-8	ACENAPHTHYLENE	**100,000**	U	130	260	U	U	U	U	360	U	U	U	220	U	U	U
98-86-2	ACETOPHENONE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
120-12-7	ANTHRACENE	**100,000**	U	3,100	1,500	U	U	210	91	850	U	U	18	2,400	U	U	630
1912-24-9	ATRAZINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
100-52-7	BENZALDEHYDE	NS	U	U	U	U	U	U	U	1,000	170,000	U	55	3,300	U	2,200	1,100
56-55-3	BENZO(A)ANTHRACENE	**1,000**	360	**5,700**	**3,700**	U	U	390	320	**2,600**	U	U	U	**7,300**	U	370	**1,400**
50-32-8	BENZO(A)PYRENE	**1,000**	**1,200**	**4,300**	**3,200**	U	U	290	300	**2,300**	U	U	30	**5,900**	U	U	920
205-99-2	BENZO(B)FLUORANTHENE	**1,000**	U	**5,400**	**4,300**	U	U	400	390	**3,700**	U	U	57	**9,700**	U	530	**2,200**
191-24-2	BENZO(G,H,I)PERYLENE	**100,000**	110	2,000	1,200	U	11	100	130	900	U	U	23	2,000	U	150	550
207-08-9	BENZO(K)FLUORANTHENE	**1,000**	U	**2,400**	**3,400**	U	U	170	170	**1,600**	U	U	22	**3,900**	U	250	**1,100**
85-68-7	BENZYL BUTYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
92-52-4	BIPHENYL (DIPHENYL)	NS	41	140	350	U	U	U	U	730	U	U	28	1,500	U	1,400	680
111-91-1	BIS(2-CHLOROETHOXY) METHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
111-44-4	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHY	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	NS	1,200	U	U	82	490	U	760	3,100	64,000	160	240	730	67	U	33,000
105-60-2	CAPROLACTAM	NS	200	U	U	U	U	U	U	U	U	U	U	U	U	U	U
86-74-8	CARBAZOLE	NS	U	570	630	U	U	110	U	280	U	U	U	580	U	U	390
218-01-9	CHRYSENE	**1,000**	220	**4,700**	**3,600**	U	U	310	300	**2,500**	U	U	68	**5,900**	4.8	440	**1,500**
53-70-3	DIBENZ(A,H)ANTHRACENE	**330**	U	**1,600**	**1,400**	U	U	150	U	**1,300**	U	U	U	**1,800**	U	U	U
132-64-9	DIBENZOFURAN	NS	16	830	1,900	U	U	88	U	1,800	U	U	100	2,300	U	1,500	2,300
84-66-2	DIETHYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
131-11-3	DIMETHYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
84-74-2	DI-N-BUTYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
117-84-0	DI-N-OCTYLPHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
206-44-0	FLUORANTHENE	**100,000**	69	12,000	8,800	U	16	860	530	4,900	U	U	63	14,000	8.9	1,100	3,700
86-73-7	FLUORENE	**100,000**	46	1,500	2,100	U	U	130	U	760	U	U	30	1,200	U	U	U
118-74-1	HEXACHLOROBENZENE	NS	U	U	U	U	U	U	U	1,200	U	U	59	4,300	U	2,100	860
87-68-3	HEXACHLOROBUTADIENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
67-72-1	HEXACHLOROETHANE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
193-39-5	INDENO(1,2,3-C,D)PYRENE	**500**	U	**1,800**	**1,100**	U	U	99	120	**790**	U	U	13	**1,900**	U	150	480
78-59-1	ISOPHORONE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
91-20-3	NAPHTHALENE	**100,000**	280	830	2,100	U	U	65	130	2,600	6,400	U	270	17,000	U	3,100	3,700
98-95-3	NITROBENZENE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
621-64-7	N-NITROSODI-N-PROPYLAMINE	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
86-30-6	N-NITROSODIPHENYLAMINE	NS	71	U	U	U	U	U	U	U	U	U	U	U	U	U	U
87-86-5	PENTACHLOROPHENOL	**2,400**	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
85-01-8	PHENANTHRENE	**100,000**	160	12,000	10,000	U	14	930	370	4,400	U	U	88	9,100	9.1	950	3,500
108-95-2	PHENOL	**100,000**	110	9,100	U	U	U	U	U	1,400	3,900	U	600	1,400	U	U	U
129-00-0	PYRENE	**100,000**	91	U	5,000	U	13	580	420	3,100	U	U	46	8,400	6.5	730	2,200
	Total SVOCs (ug/kg)		4,573	69,290	57,390	82	548	4,990	4,082	47,910	262,100	160	3,210	130,400	96.3	17,870	75,590

Notes:
U = below laboratory detection limits
ftbg = feet below grade
ppmV = parts-per-million by volume
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
CAS = Chemical Abstracts Services
**Title 6 of the Official Compilation of New York Codes, Rules and Regulations Part 375, Restricted Use Soil Cleanup Objectives for Residential Use. (parts-per-billion by volume, except for Metals, which are in parts-per-million by volume)
NS=Not Specified by 6 NYCRR Part 375

Nash Road Landfill
NYSDEC Site #932054
Nash Road
Wheatfield, New York

Table 5
Groundwater Gauging and Analytical Data (August 2013)

	Monitoring Well	NYSDEC TOGS 1.1.1 Groundwater Standards (or Guidance Where no Standard Exists) Class GA, Type H(WS) for Protection of Drinking Water	OW-1	OW-2	OW-11	OW-13	OW-14B	OW-16	OW-21	OW-22	OW-23	OW-24	OW-25
	Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Sample Date		8/2/2013	8/2/2013	8/22/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013
	Depth to Water (ft below TOC)		3.09	2.17	4.29	3.06	3.23	6.18	4.66	3.96	3.68	5.20	4.24
	Top of Casing Elevation (ft)		100.30	99.30	101.52	100.40	100.60	103.30	102.00	101.51	101.36	102.81	101.72
	Groundwater Elevation (ft)		97.21	97.13	97.23	97.34	97.37	97.12	97.34	97.55	97.68	97.61	97.48
CAS #	**Metals via 6010B (ug/L)**												
7440-38-2	ARSENIC	**25**	5.9	U	U	12	5.9	U	11	6.1	12	7.3	**28**
7440-39-3	BARIUM	**1,000**	65	69	160	44	70	**2500**	150	210	170	180	730
7440-43-9	CADMIUM	**5**	1.1	0.67	**7**	0.57	U	U	0.73	1.4	3.2	1.4	U
7440-47-3	CHROMIUM, TOTAL	**50**	5.9	2.1	9.3	9.4	8.3	3.5	23	7.2	27	3.4	4.4
7439-92-1	LEAD	**25**	U	U	**62**	22	4	17	5.1	**39**	**30**	U	6.8
7782-49-2	SELENIUM	**10**	U	U	U	U	U	U	U	U	U	U	9.6
7440-22-4	SILVER	**50**	U	U	U	U	U	U	U	U	U	U	U
7439-97-6	MERCURY	**0.7**	U	U	0.25	U	U	U	U	U	U	U	U
CAS #	**Pesticides via 8081A (ug/L)**												
72-54-8	4,4'-DDD	**0.3**	U	U	U	0.039	U	0.087	U	U	U	U	U
72-55-9	4,4'-DDE	**0.2**	U	U	0.078	U	U	U	U	U	U	U	U
50-29-3	4,4'-DDT	**0.2**	U	U	**0.22**	U	U	0.16	U	U	U	U	U
309-00-2	Aldrin	**ND**	U	U	U	**0.018**	U	**0.085**	U	U	U	**0.049**	U
319-84-6	alpha-BHC	**0.01**	U	U	**0.24**	**0.019**	0.0075	U	**0.026**	**0.33**	0.0093	U	**300**
5103-71-9	alpha-Chlordane	**0.05**	U	U	U	U	U	**0.10**	U	U	U	U	U
319-85-7	beta-BHC	**0.04**	U	U	**0.35**	U	U	**0.084**	U	U	U	U	**110**
319-86-8	delta-BHC	**0.04**	U	U	**0.063**	U	U	**0.096**	U	U	U	U	**3.1**
60-57-1	Dieldrin	**0.004**	U	U	U	U	U	**0.089**	U	U	U	U	U
959-98-8	Endosulfan I	**NS**	U	U	U	U	U	0.10	U	U	U	U	U
33213-65-9	Endosulfan II	**NS**	U	U	U	U	U	0.18	U	U	U	U	U
1031-07-8	Endosulfan Sulfate	**NS**	U	U	U	U	U	0.050	U	U	U	U	U
72-20-8	Endrin	**ND**	U	U	U	U	U	U	U	U	U	U	U
7421-93-4	Endrin Aldehyde	**5**	U	U	U	0.038	U	0.13	U	U	U	U	U
53494-70-5	Endrin Keytone	**5**	U	U	U	0.019	U	U	U	U	U	U	U
58-89-9	gamma-BHC (Lindane)	**0.05**	**0.095**	U	U	0.010	U	**0.058**	U	0.031	0.0071	**0.060**	**2.6**
12789-03-6	gamme-Chlordane	**0.05**	U	U	U	**0.072**	U	0.011	U	U	0.033	U	**19**
76-44-8	Heptachlor	**0.04**	U	U	U	U	U	U	U	U	U	U	U
1024-57-3	Heptachlor epoxide	**0.03**	U	U	U	U	U	U	U	U	U	U	U
72-43-5	Methoxychlor	**35**	U	U	U	0.050	U	0.027	U	U	U	0.080	U
8001-35-2	Toxaphene	**0.06**	U	U	U	U	U	U	U	U	U	U	U
CAS #	**Herbicides via 8151A (ug/L)**												
94-75-7	2,4-D (DICHLOROPHENOXYACETIC ACID)	**50**	U	U	U	U	U	U	U	U	U	U	U
93-76-5	2,4,5-T (TRICHLOROPHENOXYACETIC ACID)	**35**	U	U	U	U	U	U	U	U	U	U	U
93-72-1	SILVEX (2,4,5-TP)	**0.26**	U	U	U	U	U	U	U	U	U	U	U
CAS #	**Volatile Organic Compounds (ug/L)**												
71-55-6	1,1,1-TRICHLOROETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
79-34-5	1,1,2,2-TETRACHLOROETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
79-00-5	1,1,2-TRICHLOROETHANE	**1**	U	U	U	U	U	U	U	U	U	U	U
75-34-3	1,1-DICHLOROETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
75-35-4	1,1-DICHLOROETHENE	**5**	U	U	U	U	U	U	U	U	U	U	U
120-82-1	1,2,4-TRICHLOROBENZENE	**5**	U	U	U	U	U	U	U	U	U	U	**59**
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	**0.04**	U	U	U	U	U	U	U	U	U	U	U
106-93-4	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	**5**	U	U	U	U	U	U	U	U	U	U	U
95-50-1	1,2-DICHLOROBENZENE	**3**	U	U	2.3	U	U	U	U	U	U	U	**77**
107-06-2	1,2-DICHLOROETHANE	**0.6**	U	U	U	U	U	U	U	U	U	U	U
78-87-5	1,2-DICHLOROPROPANE	**1**	U	U	U	U	U	U	U	U	U	U	U
541-73-1	1,3-DICHLOROBENZENE	**3**	U	U	2.2	U	U	U	U	U	U	U	**190**
106-46-7	1,4-DICHLOROBENZENE	**3**	U	U	10	U	U	U	U	U	U	**5.4**	**860**
591-78-6	2-HEXANONE	**50**	U	U	U	U	U	U	U	U	U	U	U
67-64-1	ACETONE	**50**	U	U	5.5	U	U	U	U	U	U	U	U
71-43-2	BENZENE	**1**	U	U	**530**	U	U	**2.9**	U	U	U	**1.8**	**4,600**
75-27-4	BROMODICHLOROMETHANE	**50**	U	U	U	U	U	U	U	U	U	U	U
75-25-2	BROMOFORM	**50**	U	U	U	U	U	U	U	U	U	U	U
74-83-9	BROMOMETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
75-15-0	CARBON DISULFIDE	**NS**	U	U	U	U	U	U	U	U	U	U	U
56-23-5	CARBON TETRACHLORIDE	**5**	U	U	U	U	U	U	U	U	U	U	U
108-90-7	CHLOROBENZENE	**5**	U	U	**45**	U	U	**15**	U	U	U	**88**	U
75-00-3	CHLOROETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
67-66-3	CHLOROFORM	**7**	U	U	U	U	U	U	U	U	U	U	U
74-87-3	CHLOROMETHANE (METHYL CHLORIDE)	**5**	U	U	U	U	U	U	U	U	U	U	U
156-59-2	CIS-1,2-DICHLOROETHYLENE	**5**	U	U	U	U	U	U	U	U	U	U	U
10061-01-5	CIS-1,3-DICHLOROPROPENE	**0.4**	U	U	U	U	U	U	U	U	U	U	U
110-82-7	CYCLOHEXANE	**NS**	U	U	40	U	U	U	U	U	U	U	U
124-48-1	DIBROMOCHLOROMETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
75-71-8	DICHLORODIFLUOROMETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
100-41-4	ETHYLBENZENE	**5**	U	U	U	U	U	U	U	U	U	U	U
98-82-8	ISOPROPYLBENZENE (CUMENE)	**5**	U	U	U	U	U	U	U	U	U	U	U
79-20-9	METHYL ACETATE	**NS**	U	U	U	U	U	U	U	U	U	U	U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	**50**	U	U	U	U	U	U	U	U	U	U	U
108-10-1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE	**NS**	U	U	U	U	U	U	U	U	U	U	U
108-87-2	METHYLCYCLOHEXANE	**NS**	U	U	8.5	U	U	U	U	U	U	U	U
75-09-2	METHYLENE CHLORIDE	**5**	U	U	U	U	U	U	U	U	U	U	U
100-42-5	STYRENE	**5**	U	U	U	U	U	U	U	U	U	U	U
1634-04-4	TERT-BUTYL METHYL ETHER	**10**	U	U	U	U	U	U	U	U	U	U	U
127-18-4	TETRACHLOROETHYLENE(PCE)	**5**	U	U	U	U	U	U	U	U	U	U	U
108-88-3	TOLUENE	**5**	U	U	15	U	U	U	U	U	U	U	**1,100**
156-60-5	TRANS-1,2-DICHLOROETHENE	**5**	U	U	U	U	U	U	U	U	U	U	U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	**0.4**	U	U	U	U	U	U	U	U	U	U	U
79-01-6	TRICHLOROETHYLENE (TCE)	**5**	U	U	U	U	U	U	U	U	U	U	U
75-69-4	TRICHLOROFLUOROMETHANE	**5**	U	U	U	U	U	U	U	U	U	U	U
75-01-4	VINYL CHLORIDE	**2**	U	U	U	U	U	U	U	U	U	U	U
XYLENES	XYLENES, TOTAL	**5**	U	U	U	U	U	U	U	U	U	U	U
	Total VOCs (ug/L)		U	U	658.5	U	U	17.9	U	U	U	95.2	6,886

Nash Road Landfill
NYSDEC Site #932054
Nash Road
Wheatfield, New York

Table 5
Groundwater Gauging and Analytical Data (August 2013)

Monitoring Well		NYSDEC TOGS 1.1.1 Groundwater Standards (or Guidance Where no Standard Exists) Class GA, Type H(WS) for Protection of Drinking Water	OW-1	OW-2	OW-11	OW-13	OW-14B	OW-16	OW-21	OW-22	OW-23	OW-24	OW-25
Sample Type			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Sample Date			8/2/2013	8/2/2013	8/22/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013	8/2/2013
Depth to Water (ft below TOC)			3.09	2.17	4.29	3.06	3.23	6.18	4.66	3.96	3.68	5.20	4.24
Top of Casing Elevation (ft)			100.30	99.30	101.52	100.40	100.60	103.30	102.00	101.51	101.36	102.81	101.72
Groundwater Elevation (ft)			97.21	97.13	97.23	97.34	97.37	97.12	97.34	97.55	97.68	97.61	97.48
CAS #	**Semi-Volatile Organic Compounds (ug/L)**												
95-95-4	2,4,5-TRICHLOROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
88-06-2	2,4,6-TRICHLOROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
120-83-2	2,4-DICHLOROPHENOL	5	U	U	U	U	U	U	U	U	U	U	U
105-67-9	2,4-DIMETHYLPHENOL	50	U	U	U	U	U	U	U	U	U	U	**430**
51-28-5	2,4-DINITROPHENOL	10	U	U	U	U	U	U	U	U	U	U	U
121-14-2	2,4-DINITROTOLUENE	5	U	U	U	U	U	U	U	U	U	U	U
606-20-2	2,6-DINITROTOLUENE	5	U	U	U	U	U	U	U	U	U	U	U
91-58-7	2-CHLORONAPHTHALENE	10	U	U	U	U	U	U	U	U	U	U	U
95-57-8	2-CHLOROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	10
91-57-6	2-METHYLNAPHTHALENE	NS	U	U	U	U	U	U	U	U	U	U	U
95-48-7	2-METHYLPHENOL (O-CRESOL)	1*	U	U	U	U	U	U	U	U	U	U	61
88-74-4	2-NITROANILINE	5	U	U	U	U	U	U	U	U	U	U	U
88-75-5	2-NITROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
91-94-1	3,3'-DICHLOROBENZIDINE	5	U	U	U	U	U	U	U	U	U	U	U
99-09-2	3-NITROANILINE	5	U	U	U	U	U	U	U	U	U	U	U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
101-55-3	4-BROMOPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U
59-50-7	4-CHLORO-3-METHYLPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
106-47-8	4-CHLOROANILINE	5	U	U	U	U	U	U	U	U	U	U	U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	NS	U	U	U	U	U	U	U	U	U	U	U
106-44-5	4-METHYLPHENOL (P-CRESOL)	1*	U	U	U	**3.2**	U	U	U	U	U	U	**520**
100-01-6	4-NITROANILINE	5	U	U	U	U	U	U	U	U	U	U	U
100-02-7	4-NITROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
83-32-9	ACENAPHTHENE	20	U	U	U	U	U	U	U	U	U	U	U
208-96-8	ACENAPHTHYLENE	NS	U	U	U	U	U	U	U	U	U	U	U
98-86-2	ACETOPHENONE	NS	U	U	U	U	U	1.5	U	U	U	U	U
120-12-7	ANTHRACENE	50	U	U	U	0.82	U	U	U	U	U	0.97	U
1912-24-9	ATRAZINE	7.5	U	U	U	U	U	U	U	U	U	U	U
100-52-7	BENZALDEHYDE	NS	0.3	U	U	0.86	U	0.36	U	0.28	U	0.29	8.4
56-55-3	BENZO(A)ANTHRACENE	0.002	U	U	U	U	U	U	U	U	U	U	U
50-32-8	BENZO(A)PYRENE	ND	U	U	U	U	U	U	U	U	U	U	U
205-99-2	BENZO(B)FLUORANTHENE	0.002	U	U	U	U	U	U	U	U	U	U	U
191-24-2	BENZO(G,H,I)PERYLENE	NS	U	U	U	U	U	U	U	U	U	U	U
207-08-9	BENZO(K)FLUORANTHENE	0.002	U	U	U	U	U	U	U	U	U	U	U
85-68-7	BENZYL BUTYL PHTHALATE	NS	U	U	U	U	U	U	U	U	U	U	U
92-52-4	BIPHENYL (DIPHENYL)	5	U	U	U	U	U	U	U	U	U	U	U
111-91-1	BIS(2-CHLOROETHOXY) METHANE	5	U	U	U	U	U	U	U	U	U	U	U
111-44-4	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	1	U	U	U	U	U	U	U	U	U	U	U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	5	U	U	U	U	U	U	U	U	U	U	U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	5	U	U	U	U	U	U	2.8	U	U	3.1	U
105-60-2	CAPROLACTAM	NS	U	U	U	U	U	U	U	U	U	U	U
86-74-8	CARBAZOLE	NS	U	U	U	U	U	U	U	U	U	U	U
218-01-9	CHRYSENE	0.002	U	U	U	U	U	U	U	U	U	U	U
53-70-3	DIBENZ(A,H)ANTHRACENE	NS	U	U	U	U	U	U	U	U	U	U	U
132-64-9	DIBENZOFURAN	NS	U	U	U	U	U	U	U	U	U	U	U
84-66-2	DIETHYL PHTHALATE	50	U	U	U	U	U	0.49	U	0.57	0.21	0.33	U
131-11-3	DIMETHYL PHTHALATE	50	U	U	U	U	U	U	U	U	U	U	U
84-74-2	DI-N-BUTYL PHTHALATE	50	0.67	0.47	0.33	0.48	0.75	1.0	0.59	U	0.50	U	U
117-84-0	DI-N-OCTYLPHTHALATE	50	U	U	U	U	U	U	U	U	U	U	U
206-44-0	FLUORANTHENE	50	U	U	U	0.51	U	U	U	0.39	0.51	0.43	U
86-73-7	FLUORENE	50	U	U	U	U	U	0.41	U	U	U	U	U
118-74-1	HEXACHLOROBENZENE	0.04	U	U	U	U	U	U	U	U	U	U	U
87-68-3	HEXACHLOROBUTADIENE	0.5	U	U	U	U	U	U	U	U	U	U	U
77-47-4	HEXACHLOROCYCLOPENTADIENE	5	U	U	U	U	U	U	U	U	U	U	U
67-72-1	HEXACHLOROETHANE	5	U	U	U	U	U	U	U	U	U	U	U
193-39-5	INDENO(1,2,3-C,D)PYRENE	0.002	U	U	U	U	U	U	U	U	U	U	U
78-59-1	ISOPHORONE	50	U	U	U	U	U	0.43	U	U	U	U	U
91-20-3	NAPHTHALENE	10	U	U	U	U	U	U	U	U	U	U	**27**
98-95-3	NITROBENZENE	0.4	U	0.89	U	U	U	U	U	U	U	U	U
621-64-7	N-NITROSODI-N-PROPYLAMINE	NS	U	U	U	U	U	U	U	U	U	U	U
86-30-6	N-NITROSODIPHENYLAMINE	50	U	U	U	U	U	U	U	U	U	U	U
87-86-5	PENTACHLOROPHENOL	1*	U	U	U	U	U	U	U	U	U	U	U
85-01-8	PHENANTHRENE	50	0.78	U	0.64	0.84	U	0.83	0.91	0.80	0.85	1.0	U
108-95-2	PHENOL	1*	U	U	1	U	U	U	**2.5**	U	U	U	**43**
129-00-0	PYRENE	50	U	U	U	0.36	U	U	U	U	U	U	U
Total SVOCs (ug/L)			1.75	1.36	1.97	7.07	0.75	5.02	6.8	2.04	2.07	6.12	1,099

Notes:
U = below laboratory detection limits
ug/L = micrograms per liter
ND = standard is to be below detection limits
CAS = Chemical Abstracts Services
* TOGS 1.1.1 - 1 ug/L standard applies to total chlorinated Phenols
NR=Not Regulated by TOGS 1.1.1
NS=Not Specified by TOGS 1.1.1