

REMEDIAL INVESTIGATION WORK PLAN

FOR

**WESTWOOD COUNTRY CLUB
772 NORTH FOREST ROAD (SBL #68.01-1-1)
AMHERST, ERIE COUNTY, NEW YORK
SITE No. C915291**

Prepared by:



C&S ENGINEERS, INC.
141 ELM STREET, SUITE 100
BUFFALO, NEW YORK 14203

Prepared on Behalf of:

MENSCH CAPITAL PARTNERS, LLC
5477 MAIN STREET
WILLIAMSVILLE, NY 14221

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REVISION 02

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ACRONYM LIST

AAR	ALTERNATIVES ANALYSIS REPORT
ACM	ASBESTOS-CONTAINING MATERIAL
ASP	ANALYTICAL SERVICES PROTOCOL
BGS	BELOW GROUND SURFACE
BSA	BUFFALO SEWER AUTHORITY
CAMP	COMMUNITY AIR MONITORING PLAN
CPP	CITIZEN PARTICIPATION PLAN
DER	DEPARTMENT OF ENVIRONMENTAL REMEDIATION
DUSR	DATA USABILITY AND SUMMARY REPORT
EDD	ELECTRONIC DATA DELIVERABLE
ELAP	ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
HASP	HEALTH AND SAFETY PLAN
IRM	INTERIM REMEDIAL MEASURES
MS/MSD	MATRIX SPIKE / MATRIX SPIKE DUPLICATE
NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NYSDOH	NEW YORK STATE DEPARTMENT OF HEALTH
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
PID	PHOTO-IONIZATION DETECTOR
RI	REMEDIAL INVESTIGATION
RI/AAR/RWP	REMEDIAL INVESTIGATION / ALTERNATIVE ANALYSIS REPORT / REMEDIAL WORK PLAN
SCO	SOIL CLEANUP OBJECTIVES
SITE	772 NORTH FOREST ROAD, AMHERST, NEW YORK
SVOC	SEMI-VOLATILE ORGANIC COMPOUNDS
U.S. EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
VOC	VOLATILE ORGANIC COMPOUNDS

EXECUTIVE SUMMARY

This document presents the Remedial Investigation Work Plan for the Brownfield Cleanup Program Site No. C915291 located at 772 North Forest Road, Amherst, NY. The project is summarized below:

Contaminant Source and Constituents

Contamination at the Site consists of heavy metals in the soil and sediment, the source of which is likely the application of heavy metal-based pesticides. The Site has been used as a golf course since 1921, and the use of heavy metal-based pesticides at the Westwood Country Club reportedly ended in 1994. No additional constituents of concern related to pesticide use were identified.

Extent of Contamination

The soil and sediment contamination is believed to be confined to the upper few inches of material. The soil contamination is expected to be mostly located within the more heavily manicured portions of the Site, primarily the greens and fairways, as well as in areas in which maintenance equipment and pesticides were stored. The sediment contamination is expected to be located closest to the edges of each of the ponds on the Site.

Proposed Site Redevelopment

The proposed clean-up will include soil and sediment remedial activities to allow the construction of the Amherst Central Park. The Town of Amherst is planning a world class park from the former Westwood Country Club to create a center of community recreation and civic life. Through many meetings and engagements with residents, stakeholders and constituents the Town has identified the following objectives for the Amherst Central Park (ACP):

- Transform the Westwood property to a world class park
- Preserve the Westwood Clubhouse as a Town Arts and Cultural Center
- Enhance and improve passive and active recreation facilities
- Develop a sports and wellness facility
- Develop an indoor field house for Town/school district use

The conceptual first draft master plan for the project includes:

- Creation of walking trails throughout the Site
- Construction of a Culture & Arts Theater near the existing Clubhouse
- Creation of a littoral wetland near the center of the Site at Ellicott Creek
- Improvement of the Par 3 Golf Course
- Provision for allowing the existing mature vegetation and wetland areas to remain intact
- Installation of a kayak launch along Ellicott Creek
- The creation of a sledding/training hill using the berm along Sheridan Drive
- Creation of a winter recreation and skating pond
- Installation of various park amenities and comfort stations

Because the bulk of the proposed park is intended for passive recreational use, the NYSDEC's Commercial Use Soil cleanup Objectives (SCOs) will be considered during the Remedial Investigation. Additionally, a small portion of the park will include active recreation and, therefore, Restricted Residential Use SCOs will also be considered.

Remedial Investigation

To facilitate the redevelopment of the Site as described above, the Site will require a more thorough site characterization. The proposed RI includes:

- The collection and analysis of surface and subsurface soil samples
- The installation and sampling of groundwater monitoring wells
- The collection and analysis of sediment samples

As part of the BCP process, the results of the RI will subsequently be used to identify and evaluate remedial alternatives. Once the preferred remedial alternative is selected, a Remedial Work Plan will be prepared.

1 INTRODUCTION

Mensch Capital Partners, LLC (Mensch), owners of the Westwood Country Club property on Sheridan Drive at North Forest Road in Amherst, is working with the Town of Amherst to create a new public park out of the former country club property. The 170-acre property is located at 772 North Forest Road, Amherst, New York, and is herein referred to as the "Site." **Figure 1** shows the location of the Site.

As part of the project Environmental Impact Statement prepared for the Town of Amherst, Mensch completed preliminary sampling of surface soils to determine if long-term, historic use of pesticides as part of routine golf course maintenance has impacted the property. Contamination was identified on the Site based on a limited site characterization program. Consequently, Mensch submitted an application to enter into the New York State Brownfield Cleanup Program (BCP) on November 13, 2014. The application was issued for public comment on December 8, 2014. The project was accepted into the program and assigned NYSDEC Site No. C915291.

To implement the BCP Remedial Investigation (RI) portion of the BCP project, Mensch retained C&S Engineers, Inc. (C&S). C&S has prepared this Work Plan to provide a detailed description of the RI program to be implemented at the Site, the purpose of which is to characterize the nature and extent of contamination occurring on the Site. The resulting information will be utilized to identify an appropriate approach for the remediation of the Site, if necessary, which will be described in an Alternatives Analysis Report.

This document has been developed in general accordance with DER-10, Technical Guidance for Site Investigation and Remediation, published by the New York State Department of Environmental Conservation (NYSDEC), and details the scope and objectives of the RI program. The following supporting technical documents have also been appended to the Work Plan:

- Community Air Monitoring Plan
- Quality Control Plan
- Health and Safety Plan

Collectively, these plans form one document that is intended to define the scope of tasks, technical approach and specific procedures to be utilized to complete the RI for the Site.

The scope of the RI program to be implemented at the site is the product of a scoping process that involved the review of historical information concerning the Site, a meeting with NYSDEC representatives, and limited site reconnaissance and sampling. Because the RI process is dynamic and iterative, the Work Plan may be modified during the site characterization process to incorporate new information and refine project objectives, as necessary.

1.1 Site Description

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192)

on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west. **Figure 2** shows the Site Boundaries.

The Site is relatively flat with some minor topographic relief commonly associated golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

The Site contains areas developed with a number of structures consisting of the clubhouse and associated buildings in one area and maintenance buildings in another. An area in the center of the Site is undeveloped but appears to contain piles of soil and other materials likely generated during routine maintenance operations. **Figure 3** shows the locations of the structures and the stockpile area.

Five ponds exist on-site. Rather than receiving rainwater run-off, water was often pumped into the ponds to create and maintain water features for the golf course. Each pond contains an overflow drain for heavy rain events which are connected via a network of underground pipes that discharge into Ellicott Creek. **Figure 4** shows the locations of the ponds and the piping network.

1.2 Site History

The Site was first developed as a golf course, including a clubhouse and golf course maintenance areas, in 1921 and has remained as such until 2014, when the course closed due to changes in market forces. Prior to 1921, land use was agricultural and residential.

1.3 Site Geography, Geology, and Hydrogeology

Structures on the property include six main buildings, several sheds, a swimming pool and tennis courts associated with the Westwood Country Club golf course, as shown on **Figure 3**. The Site has been subject of a recent investigation which demonstrated that the environmental integrity property has been impacted by the past site uses.

The Project Site is located within the Erie-Ontario Lake Plain physiographic province of New York. This physiographic region has little relief and is characteristic of an abandoned lakebed. The region includes three plains (Ontario, Huron, and Erie), which are separated by the east-west trending Niagara, Portage and Onondaga escarpments. The Town of Amherst is located in the Salina Lowland of the east-west trending Huron plain and is bounded by the Onondaga and Niagara escarpments, which are comprised of more resistant rock. No unique landforms or geological formations exist on or in the vicinity of the Site.

Topography on the Site averages approximately 600 feet above sea level. In general, the topography gradually drops approximately 10 to 13 feet in elevation from south to north across the Site. Overall, the topography of the Site is relatively level, with the exception of previous modifications resulting from the construction, operation, and maintenance of the existing private golf course, including golf tees, fairways, hazards, greens, ponds and cart paths. In addition, Ellicott Creek meanders along portions of the eastern boundary of the Site. The natural topography in the vicinity of the Site also has been influenced by previous development of sites adjacent to and in the vicinity of the Site, including residential neighborhoods to the east and west of the Site, and the Audubon Recreation Center and Golf Courses (Par 3 and 18-hole) to the north and northeast of the Site.

The Soil Survey of Erie County (U.S. Department of Agriculture, Soil Conservation Service www.websoilsurvey.nrcs.usda.gov) identifies soils on the Site as including: Claverack loamy fine sand, Cosad loamy fine sand, Lakemont silt loam, Odessa silt loam, Schoharie silt loam, Teel silt loam, and Urban land-Odessa complex series, with Odessa, Claverack and Cosad being the predominate soil types. Of these types, only Lakemont is considered hydric soil, although hydric inclusions are possible in Cosad, Odessa, and Teel soils series. These soil types on the Project Site are described as follows:

- The Claverack series consists of very deep, moderately well drained soils formed in sandy deposits that overlie clayey lacustrine sediments. They are nearly level to sloping soils in shallow deltas on lake plains.
- The Cosad series consists of very deep somewhat poorly drained soils formed in sandy deposits that overlie clayey lacustrine sediments. They are nearly level soils on lake plains.
- The Lakemont series consists of deep, poorly drained and very poorly drained soils of lake plains. They are nearly level soils formed in very slowly permeable reddish colored clayey lacustrine sediments.
- The Odessa series consists of very deep, somewhat poorly drained soils formed in clayey lacustrine deposits. These soils are in moderately low areas on lake plains.
- The Schoharie series consists of very deep, moderately well drained soils formed in clayey lacustrine sediments. They are on glacial lake plains and uplands mantled with lake sediments.
- The Teel series consists of very deep, moderately well drained soils on floodplains. They formed in nearly level silty alluvial deposits.
- The Urban Land-Odessa complex consists of nearly level areas of urban land and somewhat poorly drained Odessa soils. This complex is on relatively flat landscapes in the City of Buffalo and surrounding metropolitan area, including the Town of Amherst.

The results of the soil borings conducted during the geotechnical evaluation were consistent with the mapped soils information. Specifically, the soil borings encountered native soils consisting of glacial till deposited silty clay, clayey silt, silt and silty or clayey sand soils overlying the shale bedrock. In most cases, the soil borings indicated the presence of surface topsoil and man-placed fill or disturbed indigenous soils above native soils, and this is consistent with topographic modifications associated with golf course construction.

Bedrock in the vicinity of the Site consists generally of gray, medium hard, sound, thinly bedded to bedded shale rock of the Camillus shale formation, with occasional partings, seams and layers of gypsum. The depth to bedrock on the Site ranges from approximately 13.5 to 62.5 feet as evidenced by refusal in soil borings conducted during the geotechnical analysis of the Site.

Based on a review of NYSDEC data, the Site is not underlain by any mapped principal or primary aquifers. Groundwater at and in the vicinity of the Site is not used for public drinking water supply.

Groundwater was evaluated as part of a geotechnical evaluation of the Site. As part of its geotechnical analysis, three groundwater observation wells were installed. Results indicate that the water table is present at 17 to 22 feet beneath the surface, although perched water is present in the upper soils, in some instances within a few feet of the surface.

1.4 Proposed Site Redevelopment

The proposed clean-up will include soil and sediment remedial activities to allow the construction of the Amherst Central Park. The Town of Amherst is planning a world class park from the former Westwood Country Club to create a center of community recreation and civic life. Through many meetings and engagements with residents, stakeholders and constituents the Town has identified the following objectives for the Amherst Central Park (ACP):

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2 SUMMARY OF ENVIRONMENTAL CONDITIONS

2.1 Environmental Reports

Preliminary environmental information currently exists for the Site. The following summarizes the 2012 Phase I ESA and a limited soil characterization program completed in 2014.

Quality Inspection Services/Applus RTD Phase I ESA Report (February 2012)

The Phase I ESA for the BCP Site did not identify recognized environmental conditions (RECs).

C&S Surface Soil and Sediment Characterization (November 2014)

C&S conducted a sampling program to characterize surface soil and sediment at the BCP Site. The characterization program consisted of the sampling and analysis of 15 surface soil samples and 12 sediment samples at the Site. The surface soil samples were analyzed for pesticides, herbicides, and arsenic using USEPA Methods 8082, 8151, and 6010, respectively. The sediment samples were analyzed for arsenic using EPA Method 6010.

Contaminants detected during the 2014 site characterization include arsenic associated with pesticide use at the Site during routine golf course maintenance operations across the BCP Site. NYSDEC Industrial Use SCOs were exceeded in 5 of the 15 surface soil sampling locations, and one sediment sample fell within the Class B category.

The location of the soil and sediment samples and relative exceedance level is shown on **Figure 5**.

C&S Hole #6 Pilot Study Report (October 2015)

C&S conducted a pilot study on October 19 and 20, 2015. The Pilot Study was conducted on Hole #6 located north of the Grounds Maintenance Buildings. The Hole #6 pilot study area consists of the green, tee box, fairway and adjacent rough areas. The Pilot Study area occupies approximately 10 acres of the 170-acre Westwood Site.

A total of 138 soil samples were analyzed from the green, fairway, rough and tee box. All sample intervals were analyzed for arsenic (EPA Method 6010). Additionally, four sample locations were selected, one each from the tee, green, fairway and rough areas, for testing of all analytes listed in NYSDEC 6NYCRR 375-6.8 tables (referred to as “complete list”). The complete list includes the following parameters:

<i>Analytes</i>	<i>EPA Method</i>
Target Compound List (TCL) volatile organic compounds (VOCs)	8260
TCL semi-volatile organic compounds (SVOCs)	8270
TCL pesticides	8081A
Polychlorinated biphenyls (PCBs)	8082
Target Analyte List (TAL) metals	6010
Total cyanide	9010B

Hexavalent chromium	7196A
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The sample results from each area of Hole #6 are discussed below:

Green

- Arsenic was detected below Unrestricted Use SCOs in all four borings at the 0-2 inch interval.
- Arsenic was detected above Industrial Use SCO (16 mg/kg) in the 2-6 inch and 6-12 inch intervals at all four locations in the green. Arsenic concentrations ranged between 20.4 and 251 mg/kg, with the highest concentrations detected in the 2-6 inch interval samples. Arsenic was detected below Unrestricted Use SCOs in the underlying 12-18 inch intervals.
- Grid location T1-71 was selected for the complete analysis.
 - Mercury was detected in T1-71 above Industrial Use SCO to a depth of 12 inches, above the Unrestricted Use SCO in the 12-18 inch interval, and below the Unrestricted Use SCO in the 18 to 24 inch interval.
 - Copper was detected slightly above the Unrestricted Use SCO in the 0-2 inch sample interval.

Fairway

- Out of the 36 locations in the fairway only two locations, P1-64 and S1-70, contained concentrations of arsenic slightly exceeding the Unrestricted Use SCO.
 - P1-64 contained arsenic at 13.1 mg/kg in the 2-6 inch interval. The Unrestricted Use SCO is 13 mg/kg.
 - S1-70 contained arsenic at 14.1 mg/kg in the 0-2 inch interval. The concentration in the next interval (2-6 inches) was below Unrestricted Use SCO for arsenic.
- Grid location P1-65 was selected for the complete analysis.
 - Cadmium was detected above Commercial Use SCO (9.3 mg/kg) at 16.5 mg/kg. The underlying sample (2-6 inch interval) was below the Unrestricted Use SCO.
 - Trivalent chromium was detected above Restricted Residential at the 0-2 inch interval, above Residential Use in 2-6 inch interval, and below the Unrestricted Use SCO in the 6-12 inch interval.
 - Lead, mercury and zinc were detected above Unrestricted Use SCOs in the 0-2 inch interval only.

Rough

- Out of the 13 locations selected for the Pilot Study, no sample concentrations exceeded the Unrestricted Use SCO for arsenic.
- Grid location K1-62 was selected for the complete analysis. Only one analyte exceeded the SCOs:
 - K1-62 exceeded the Unrestricted Use SCO for trivalent chromium at 0-2 inch. Chromium concentrations were below the Unrestricted Use SCOs at 2-6 inch interval.

Tee Box

- Arsenic concentrations were below the SCOs in three of the four samples. Arsenic was detected above the Industrial Use SCO in the 0-2, 2-6 and 6-12 inch intervals in H1-47. Arsenic concentrations ranged between 20.2 and 92 mg/kg, and were highest in the uppermost samples. Arsenic concentrations were below Unrestricted Use SCO in 18-24 inch interval at this location.
- Grid location H1-48 was selected for the complete analysis.
 - Cadmium (0-2 inch) and mercury (0-2 and 2-6 inch) were detected above the Restricted Residential Use SCOs, and the mercury concentration was also above the Unrestricted Use SCO in the 6-12 inch interval.
 - Trivalent chromium (0-2 inch) was detected above Residential Use SCO.

C&S Hole #6 Supplemental Pilot Study Report (October 2016)

C&S conducted a supplemental pilot study on September 28 and October 10, 2016. The Pilot Study was conducted on Hole #6 and includes the same areas as the October 2015 pilot study.

A total of 151 soil samples were analyzed from the green, fairway, rough and tee box. All four sample intervals from each grid location were submitted to the laboratory for analysis of Target Analyte List (TAL) metals. Initially, only the 2- to 6-inch and 6- to 12-inch intervals were analyzed. If the 6- to 12-inch interval contained one or more contaminants at concentrations above the Unrestricted Use SCOs, the next sample interval below that was analyzed, and the process was repeated until all concentrations were below Unrestricted Use SCOs.

Additionally, five sample locations were selected, one each from the tee, green, and rough areas, and two locations on the fairway, for testing of all analytes listed in NYSDEC 6NYCRR 375-6.8 tables (referred to as “complete list”). The complete list includes the following parameters:

<i>Analytes</i>	<i>EPA Method</i>
Target Compound List (TCL) volatile organic compounds (VOCs)	8260
TCL semi-volatile organic compounds (SVOCs)	8270
TCL pesticides	8081A
Polychlorinated biphenyls (PCBs)	8082
Target Analyte List (TAL) metals	6010
Total cyanide	9010B

The sample results from each area of Hole #6 are discussed below:

Green

- Four borings were advanced in this area.
- Two surface soil samples were collected at grid locations S1-72 and T1-72.
- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Copper
 - Cyanide
 - Lead
 - Mercury
 - Silver
 - Zinc
- All four grid locations contained concentrations of metal contaminants above NYSDEC SCOs.
- Metal concentrations were below Unrestricted Use SCOs at 12-18 inches in the two grid locations and the bottom samples analyzed for the remaining two sample locations were above the SCOs. However, the bottommost samples at these two locations were collected from 12-18 inches.
- Grid location S1-72 was selected for the complete analysis.
 - PCB (Aroclor 1254) was detected above Unrestricted Use (0.1 mg/kg) at 0.292 mg/kg in the 2- 6-inch sample interval.

Fairway

- A total of 36 soil borings were advanced in this area.
- Ten surface soil samples were collected at grid locations K1-56, L1-59, M1-59, M1-61, M1-63, P1-64, P1-66, Q1-68, R1-67, R1-70.

- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Cyanide
 - Lead
 - Manganese
 - Mercury
 - Nickel
 - Silver
 - Zinc

- All but five sampling locations contained at least one metal at concentrations above the Unrestricted Use SCOs in the uppermost sample.

- Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - A total of 23 grid locations contained metals concentrations below the Unrestricted Use at the 6-12-inch interval.
 - A total of 11 grid locations contained concentrations below Unrestricted Use SCOs in the 12-18-inch interval.
 - One grid location contained concentrations below Unrestricted Use SCOs in the 18-24-inch interval.
 - The bottom sample analyzed in one sample locations were above the SCOs. However, the bottommost sample at this location was collected from 12-18 inches.

- Grid location P1-65 was selected for the complete analysis.
 - P-P' DDT was detected above Unrestricted Use (0.0033 mg/kg) at a concentration of 0.0243 mg/kg and PCB was detected above Unrestricted Use (0.1 mg/kg) at a concentration of 0.122 mg/kg.

Rough

- A total of 13 soil borings were advanced in this area.

- Two surface soil samples were collected at grid locations K1-54 and Q1-62.

- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Cyanide

- Lead
 - Mercury
 - Silver
 - Zinc
- Out of the 12 grid locations, nine grid locations contained concentrations of metal contaminants above NYSDEC SCOs.
 - Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - Four grid locations contained metals concentrations below the Unrestricted Use at the 2-6-inch interval.
 - Six grid locations contained metals concentrations below the Unrestricted Use at the 6-12-inch interval.
 - One grid locations contained concentrations below Unrestricted Use SCOs in the 12-18-inch interval.
 - The bottom sample (18-24 inches) analyzed in one sample location contained concentrations above the SCOs.
 - Grid location K1-62 was selected for the complete analysis. No analytes were detected above SCOs.

Tee Box

- Three borings were advanced in this area.
- One surface soil sample was collected at H1-47 grid location.
- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Cyanide
 - Lead
 - Mercury
 - Silver
 - Zinc
- All three sampling locations contained at least one metal at concentrations above the Unrestricted Use SCOs in the uppermost sample.
- Metal concentrations were below the Unrestricted Use SCOs in one sample at 6-12 inches and the remaining two at 12-18 inches.
- Grid location H1-49 (2-6 inches) was selected for the complete analysis:

- VOCs, SVOCs, PCBS, and herbicides were either not detected or were detected at concentrations below the Unrestricted Use SCOs.
- 4,4' – DDE, DDD and DDT were detected above Unrestricted Use (0.0033 mg/kg) at a concentration of 0.101 mg/kg, 0.00364 mg/kg and 0.015 mg/kg, respectively.

Waste Characterization

One composite soil sample was collected from the grid locations with the highest metal concentrations from the green and tee. Soil samples were collected from ground surface to 24 inches deep in grid locations H1-47 and T1-71. Samples were analyzed for waste characterization using the Toxicity Characteristic Leaching Procedure (TCLP). Results indicate that, although soils from this Site are contaminated with heavy metals, the concentrations do not exceed hazardous levels.

Groundwater

The main contaminants of concern for this Site are heavy metals such as arsenic, cadmium, cyanide and mercury found in the surface and subsurface soils. None of the contaminants found in the soils were detected in the groundwater samples. The groundwater samples did contain concentrations of magnesium and iron above NYSDEC groundwater standards; however, it is common for groundwater in this region to contain high concentrations of metals such as calcium, iron and magnesium.

C&S Pre-Remedial Investigation Sampling Report (June 2017)

C&S conducted the pilot study on June 15, 2017. The sampling was conducted to augment the data generated during the 2016 Pilot Study and provide additional information relative to the occurrence and distribution of various metals throughout the various portions of the Site. One location was sampled in each of the greens at Hole 15, on the northern end of the Site, and Hole 9, on the southern end of the Site. One location was sampled in each of the greens at Hole 15, on the northern end of the Site, and Hole 9, on the southern end of the Site. Two locations were sampled in each of the tee boxes on Hole 15 and Hole 9. Four locations were sampled in each of the fairways on Hole 15 and Hole 9, based on the 100-foot by 100-foot sampling grid.

A total of 31 soil samples were analyzed from the green, fairway, rough and tee box. All sample intervals from each grid location were submitted to the laboratory for analysis of Target Analyte List (TAL) metals.

Hole 15

Green

- One soil sample was collected at N1-4 grid location.
- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic

- Cadmium
 - Total Chromium
 - Lead
 - Mercury
- Metal concentrations were below the Unrestricted Use SCOs at 12 - 18 inches.

Fairway

- Four borings were advanced in this area.
- The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Mercury
 - Zinc

- Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

- A total of two soil borings were advanced in this area.
- Only one metal, mercury, was detected above Unrestricted Use in the 0-6-inch interval from L1-13; all other samples were below Unrestricted Use.

Hole 9

Green

- One soil sample was collected at N1-46 grid location.
- Metal concentrations were below the Unrestricted Use SCOs in the samples at 0 – 6 and 6 – 12 inches.

Fairway

- Four borings were advanced in this area.
- The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Cadmium
 - Total Chromium
 - Mercury

- Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

- A total of two soil borings were advanced in this area.
- Metal contaminants were detected in one grid location, B1-47, at levels that exceed Residential and Restricted Residential Uses. Concentrations appear to be below Unrestricted Use at the 18-24-inch interval.

Rough Areas

- A total of nine soil borings were advanced in the rough.
- The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Cadmium
 - Total Chromium
 - Lead
 - Mercury
 - Silver
 - Zinc
- Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - One grid location, B1-28, contained metals concentrations below the Unrestricted Use at the 0-2-inch interval.
 - Three grid locations contained metals concentrations below the Unrestricted Use at the 4-6-inch interval.
 - Four grid locations contained concentrations below Unrestricted Use SCOs in the 6-8-inch interval.
- Two rough sample locations were located within wooded areas that are expected to remain intact during and after site redevelopment. The sample results show metal concentrations were below Unrestricted Use SCOs at the 6 – 8-inch interval.
- One location, U1-75, (within the maintenance garage area) was sampled during the 2016 Pilot Study and contained metal concentrations above Restricted Residential Use in the deepest sample interval (18-24 inches). Based on a change in the sampling grid spacing and, consequently, nomenclature, this location is now referred to as K1-38. Metals concentrations were below Unrestricted Use at 30-36-inches.

The full reports are included in **Appendix A**.

2.2 Nature and Extent of Contamination

2.2.1 Soil

The surface soil samples did not contain detectable concentrations of pesticides and herbicides. The pre-RI soil sampling identified the presence of a number of metals in soils at concentrations above the NYSDEC SCOs throughout the Site. The following summarizes and discusses the data generated during the 2015, 2016, and 2017 Pilot Studies:

- The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in pesticides, herbicides, and fungicides, these metals once formed the basis for these products.
- Areas from the northern and southern portions of the Site contained lower metal contaminants in the greens, fairways and tee boxes that the concentrations observed in Hole 6 Pilot Studies. As an example, Hole 9 green sample contained no concentrations above NYSDEC standards. This finding may be related to the close proximity of Hole 6 to the maintenance area and the distal locations of Holes 9 and 15.
- Pilot Studies from Hole 6 indicates metal contaminations are present generally six inches below ground surface in the rough areas. Results from this 2017 sample collection event confirm that metal contaminants can be expected up to six inches below ground surface throughout the Site.
- Samples collected from wooded portions of the Site that are planned to remain as green space contained metal concentrations above Unrestricted Use SCOs up to 6-8-inches below ground surface.
- Generally, the depths of elevated metals concentrations (above Unrestricted Use SCOs) are:
 - Greens: within the top 12 to 18 inches
 - Fairways: within the top six inches
 - Tee boxes: within the top six to 12 to 18 inches
 - Rough: within the top two to six inches
- Contaminant concentrations are generally highest in the greens, followed by the tees and fairways. Although the concentrations in the rough are lower than in other areas, concentrations above the least strict guidelines, Industrial Use SCOs, are present in the rough in limited locations.

2.2.2 Sediment

The sediment sampling results ranged from 1.3 to 11.3 mg/kg. These concentrations are below the NYSDEC Unrestricted Use SCO. Using the NYSDEC's June 24, 2014 "Screening and Assessment of Contaminated Sediments Guidance," eleven of the concentrations are

characterized as Class A, which is defined as sediments that present little to no potential for risk to aquatic life. One sample, collected from the pond on Hole 15, contained arsenic concentrations falling within the Class B classification, indicating that the additional information is needed to determine the potential risk to aquatic life.

3 OBJECTIVES, SCOPE AND RATIONALE

The objectives of the scope of work described in this Work Plan are to evaluate contaminant impacts to soil and identify and evaluate appropriate remedial actions necessary to redevelop the Site. The investigation work will include evaluating the magnitude and extent of contaminant impacts, conducting a qualitative exposure assessment for actual or potential exposures to contaminants at the Site and/or emanating from the Site, and producing data that will support the development of an acceptable RI Report and subsequent Alternatives Analysis Report (AAR). The IRM portion of this document details the remedial methods proposed to address the contamination present at the Site.

The RI is based on information previously gathered regarding historical operations conducted at the Site, the results of the limited site characterization, and the project objectives. The RI will include the following:

- Radiological Survey – Because Technologically-Enhanced, Naturally Occurring Radioactive Material (TENORM) has been identified in construction material at a number of sites in Western New York, a survey of the parking areas will be performed.
- Surface Soil Evaluation – This task will be the focus of the project, as heavy metal is the only known contaminant of concern and pesticide applications occurred at the surface of the Site.
- Subsurface Soil Evaluation – This task will consist of two types of investigative activities: soil borings and test pits.
 - The soil boring task will be conducted in two areas of the Site in which impacts to the subsurface may have occurred. This task will consist of the advancement and sampling of soil borings in the area of the maintenance operations buildings (including the pesticide storage area) and the area in the central portion of the Site in which soil and other materials were placed, likely during routine golf course maintenance operations.
 - The test pit task will be conducted in an area of the Site that was identified by a resident as an area in which operational fluids (likely pesticides) were reportedly dumped by golf course employees.
- Groundwater Evaluation – Subsequent to completing the above tasks, groundwater monitoring wells will be installed. Although groundwater impacts at the Site are not anticipated, groundwater monitoring wells have been proposed to characterize site-wide groundwater conditions and flow direction as well as within the two areas targeted in the Subsurface Soil Evaluation.
- Sediment Evaluation – The limited sampling previously conducted at the Site identified arsenic in sediment at slightly elevated concentrations. This task is designed to provide additional characterization of the sediment within the ponds and in Ellicott Creek and help determine the presence, or lack of, impacts to sediments in Ellicott Creek.

The RI and IRM activities will be completed in general accordance with NYSDEC Division of Environmental Remediation: Technical Guidance for Site Investigation and Remediation dated May 2010 (DER-10).

4 REMEDIAL INVESTIGATION

Previous soil investigations encountered historic heavy metal-impacted soils at the Site. This part of the RI Work Plan describes the scope of investigative work necessary to collect sufficient data to determine the extent of contaminated fill material which will support subsequent remedial actions in achieving Commercial Use and/or **Restricted Residential Use SCOs**. Because the bulk of the proposed park is intended for passive recreational use, the NYSDEC's Commercial Use Soil cleanup Objectives (SCOs) will be considered during the Remedial Investigation. Additionally, a small portion of the park will include active recreation and, therefore, Restricted Residential Use SCOs will also be considered.

This section of the RI/IRM Work Plan includes:

- Field Investigation
- Sampling Program
- Laboratory Analysis

4.1 **Field Investigation**

The RI intends to supplement the previous site characterization information by the advancement of soil borings, installation of monitoring wells, and collecting and analyzing soil and groundwater samples.

4.1.1 Radiological Survey

Because Technologically-Enhanced, Naturally-Occurring Radioactive Materials (TENORMs) have been used as construction materials (primarily slag sub-base) at many properties in Western New York, the RI will include a Radiological Survey across the parking lot areas, pools and tennis courts. The survey will be conducted by Cabrera Services, Inc. and will include the establishment of background radiation levels; creation of transect lines; and use of a radiation meter (Ludlum Model #2221 with a 44-10 gamma scintillation probe) along transects. The locations of areas of elevated radiation measurements, if any, will be marked using Global Positioning System (GPS) or measured relative to fixed site features. Proposed Radiological Survey locations are shown on **Figure 6**.

4.1.2 Surface Soil Program

Surface soil samples will be collected from a large number of locations throughout the Site based on a grid. **Figure 7** shows the surface soil sampling locations.

The general details of the sampling program include the following:

- Sampling on a 50-foot by 50-foot grid, shown in Figure 7A, in areas in which historic pesticide application rates were presumed to be highest (tee boxes, fairways, greens, and practice greens)
 - Also includes a minimum of three samples per green
 - Borings at greens may need to extend beyond four feet depending on construction of the greens, including fill within elevated greens

- Sampling on a 50-foot by 50-foot grid in the operational areas and in the soil and other materials stockpile area
- Sampling on a 200-foot by 200-foot grid, shown in Figure 7B in all other areas of the Site
 - Where the Site abuts residential properties, the sampling locations will be placed within ten feet of the property line

Prior to sample collection, the grid locations will be marked out and surveyed using GPS. The surface soil sample collection will be initiated using a track-mounted, direct-push drilling rig. At each location, the drilling rig will advance shallow borings to four feet below existing ground surface. The sampling device will be a two-inch inner diameter macro-core sampler that consists of a four-foot long hollow tube lined with a disposable acetate liner and equipped with a hardened steel probing tip. Upon retrieval, each soil sample will be screened with a photoionization detector (PID) and evaluated for soil classification and evidence of contamination, and observations will be recorded.

From each sample location, five soil samples will be collected from the following depth horizons:

- Horizon A: 0 to 2 inches below grade
- Horizon B: 2 to 6 inches below grade
- Horizon C: 6 to 12 inches below grade
- Horizon D: 12 to 18 inches below grade
- Horizon E: 18 to 24 inches below grade

The samples will be placed in jars provided by the laboratory using decontaminated stainless steel sampling spoons. Decontamination procedures will include an alconox and water wash followed by a water rinse. The collected samples will be placed on ice in a cooler with ice and delivered to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for testing.

Because the pesticide applications occurred and the surface and heavy metals are not appreciably mobile, the samples from the A and B Horizons (0 to 2 inches and 2 to 6 inches, respectively) will be submitted to the laboratory for metals analysis. The samples from the remaining horizons will also be submitted to the laboratory but will be held pending the results of the uppermost samples.

For a particular location, if the B Horizon sample contains a metal concentration above the applicable Soil Cleanup Objective (SCO), the C Horizon sample will be analyzed to determine the bottom of the contaminated zone. In turn, if the C Horizon sample contains a metal concentration above the SCO, the D Horizon sample will be analyzed, and the E Horizon sample will be analyzed if the D Horizon sample is above the SCO.

In addition to metal analysis described above, a subset of the soil samples (55 samples) will be analyzed for the following analyte list:

- Target Compound List (TCL) volatile organic compounds (VOCs)
- TCL semi-volatile organic compounds (SVOCs)

- TCL pesticides
- Polychlorinated biphenyls (PCBs)
- Total cyanide
- Hexavalent chromium (15 of the 55 samples only)
- Per- and Polyfluoroalkyl Substances (PFAS)
- 1,4-dioxane

One VOC sample collected from each tee, fairway, green and practice green and up to 12 additional samples will be collected throughout the rest of the Site. Any soil samples with elevated PID measurements will be collected for VOC analysis.

The samples to be analyzed for this expanded list will be selected based on field observations, will be distributed spatially across the Site, and include at least one sample each from the maintenance area and the soil and other materials stockpile area.

4.1.3 Soil Boring Program

Soil borings will be advanced in the maintenance area and the stockpile area to characterize subsurface conditions. Four to six borings will be advanced in the maintenance area, particularly focusing on areas in which pesticides were likely handled. Four borings will be advanced in the stockpile area. Figure 8 shows the proposed boring locations.

The soil boring program will be completed using a track-mounted, direct-push drilling rig. At each location, the drilling rig will advance shallow borings to the shallower of refusal or 12 feet below grade. The sampling device will be a two-inch inner diameter macro-core sampler that consists of a four-foot long hollow tube lined with a disposable acetate liner and equipped with a hardened steel probing tip.

Upon retrieval, each soil sample will be classified and observations will be recorded on a log sheet. Soils from the borings will be screened in the field for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs with a PID collectively referred to as “evidence of impairment.”

Soil samples will be collected from the borings based on evidence of impairment. Up to four subsurface soil samples will be collected from each area and analyzed for the following analyte list:

- TCL VOCs
- TCL SVOCs
- TCL pesticides
- PCBs
- TAL metals
- Total cyanide
- Hexavalent chromium (one of the four samples only)
- PFAS
- 1,4-dioxane

Deep Native Soil Sampling

Additionally, up to 18 samples, one sample per golf course hole, will be collected from deeper native soils to a maximum depth of 15 feet below ground surface. The deep native soil characterization analysis will include:

- TCL VOCs
- TCL SVOCs
- TCL pesticides
- PCBs
- TAL metals
- Total mercury
- Total cyanide
- Hexavalent chromium
- PFAS
- 1,4-dioxane

Following sample collection, the non-dedicated portion of the macro-core sampler will be decontaminated by manually removing all soil material followed by washing with analconox detergent and rinsing with distilled water. Wash fluids will be allowed to infiltrate the ground surface of the Site in the vicinity of each soil sampling location. Excess soil will be returned to the boring from which it is removed.

4.1.4 Test Pit Program

The test pitting program is anticipated to consist of approximately six to eight test pits. The test pits will be excavated in the area identified by a local resident in which operational fluids were reportedly dumped by golf course employees. The area of the proposed test pits is shown on **Figure 8**. Actual test pit locations will be based on field observations.

The work to be completed as part of the test pitting program will be completed using a backhoe to advance test pits to the shallower of refusal, native material, or eight feet below grade. Soils from the test pits will be screened in the field for impairment by measuring total organic vapors using a photoionization detector (PID). Additionally, visual and olfactory indications of impairment and evidence of staining will be evaluate during test pit operations.

Test pit logs will be completed and include soil description, test pit dimensions, PID readings, etc. The test pit logs will be included in the RI Report.

Soil samples will be collected from the borings based on evidence of impairment. Up to four subsurface soil samples will be collected from the test pits and analyzed for the following analyte list:

- TCL VOCs
- TCL SVOCs
- TCL pesticides
- PCBs

- TAL metals
- Total cyanide
- Hexavalent chromium (one of the four samples only)
- PFAS
- 1,4-dioxane

4.1.5 Groundwater Monitoring

To characterize groundwater conditions at the Site, 13 monitoring wells will be installed and sampled. One well will be located in the maintenance area, one in the stockpile area, and eleven will be distributed across the Site. **Figure 8** shows the proposed monitoring well locations.

A rotary drill will be used to advance 4-1/4-inch hollow stem augers. Split-spoon samples will be advanced at two-foot intervals using a 140-pound hammer ahead of the augers. The augers and drilling rods will be decontaminated prior to use via high pressure sprayer. The split-spoons will be decontaminated prior to use via an Alconox wash followed by a potable water rinse. Between each soil sample and soil boring, decontamination procedures will be repeated.

Soils from the in the split-spoons will be screened in the field for visible impairment, olfactory indications of impairment, evidence of NAPLs, and/or indication of detectable VOCs with a PID collectively referred to as “evidence of impairment” and the results recorded on boring logs.

The overburden wells will be constructed to intersect the top of the water table. Each well will be completed with 5 to 10 feet of 2-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 PVC well riser to complete the well. The annulus will be sand packed with quartz sand to approximately one to two feet above the screen section, and one to two feet of bentonite chips or pellets. The remaining annulus will be grouted to ground surface. Each well will be completed with a stick-up protective casing.

Following installation, the monitoring wells will be developed through the removal of up to ten well volumes using dedicated bailers or a peristaltic or submersible pump.

Groundwater sampling will follow well development and be conducted using low flow purging and sampling techniques. Before purging the well, water levels will be measured using an electric water level sounder capable of measuring to the 0.01 foot accuracy. Peristaltic or bladder pumps using manufacturer-specified tubing will be used for purging and sampling groundwater. Calibration, purging and sampling procedures will be performed as specified by the USEPA¹ for low flow sampling. Decontamination will be conducted after each well is sampled to reduce the likelihood of cross contamination. Calibration times, purging volumes, water levels and field measurements will be recorded in a field log and will be provided in the Final Engineering Report.

¹ U.S. EPA Region 1 Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, January 19, 2010.

The groundwater samples will be analyzed for the following analyte list:

- TCL VOCs
- TCL SVOCs
- TCL pesticides
- PCBs
- TAL metals
- Total cyanide
- Hexavalent chromium (two of the 12 samples only)
- PFAS
- 1,4-dioxane

As a prerequisite screening of the Site, the NYSDEC requested one round of groundwater samples will be collected for PFAS and 1,4-dioxane on all 13 groundwater monitoring wells.

A second round of groundwater sampling will be performed approximately four weeks after the first round. The second round of groundwater samples will be analyzed for the same analytes as in the first round (excluding PFAS and 1,4-dioxane).

Wash, development, and purge fluids will be allowed to infiltrate the ground surface of the Site in the vicinity of each soil sampling location. Excess soil will be broadcast in the vicinity of the boring.

4.1.6 Sediment and Surface Water Sampling

To characterize the sediment at the Site, sediment samples will be collected from three locations in each of the five ponds. One of the three sampled will be located near the discharge piping of the pond. **Figure 8** shows the proposed locations of the sediment samples. Based on the previous sampling, the ponds contain a layer of sediment less than a foot thick underlain by dense clay.

Because it is likely that the impacts to sediment quality are most significant closest to the edges of the ponds, the sediment samples will be collected approximately five feet from the edge of the ponds. At each sampling location, a C&S field staff member will measure the depth of the sediment. The samples will be collected using a decontaminated shovel or other similar device. Two samples will be collected from each location: the first sample will consist of sediment and the second will consist of the underlying clay. The uppermost sample will be analyzed for:

- TCL VOCs
- TCL SVOCs
- TCL pesticides
- PCBs
- TAL metals
- Total cyanide
- Hexavalent chromium (three of the 15 samples only)
- PFAS
- 1,4-dioxane

- Total organic carbon (TOC)

The samples of the clay material will be submitted to the laboratory but placed on hold pending the results of the upper layer sampling. The results from the uppermost layer (the sediment) will be compared to the applicable standards. Any analyte detected at concentrations exceeding the standards in the uppermost sample will be analyzed in the clay sample from that sample pair.

Surface water will be collected from each pond within the Site. Surface water samples will be analyzed for the parameters listed above.

Additionally, sediment samples will be collected from Ellicott Creek. One sample will be collected from the following locations:

- Immediately upstream of the Site
- Immediately upstream of each pond outfall
- Immediately downstream of each pond outfall
- The downstream edge of the Site

The creek sediment samples will be analyzed for the same parameters as the pond sediment samples.

Sediment and bank samples will be collected from the drainage feature at the southern end of the Site adjacent to Sheridan Drive. Two soil samples will be collected from each side of the bank from the top of bank and at the water line.

4.2 Sampling Plan and Laboratory Analysis

Table 1 summarizes the sampling program described in the sections above. Additionally, Quality Assurance/Quality Control (QA/QC) samples will be collected, and the following describes the minimum number of samples per media type.

- Surface soil samples
 - Blind duplicate – 5%
 - Matrix Spike/Matrix Spike Duplicate (MS/MSD) – 5%
- Subsurface soil samples (borings and test pits)
 - Blind duplicate – 5%
 - Matrix Spike/Matrix Spike Duplicate (MS/MSD) – 5%
- Groundwater samples
 - Trip blank – 1 per shipment
 - Blind Duplicate – 5%
 - Matrix Spike/Matrix Spike Duplicate (MS/MSD) – 5%
- Sediment samples
 - Blind duplicate – 5%
 - Matrix Spike/Matrix Spike Duplicate (MS/MSD) – 5%

C&S will utilize the services of an NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for analytical testing. The laboratory results for the samples will be reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary

Report (DUSR). The validator will evaluate the analytical results for the field samples and quality assurance/quality control samples and compare the findings to USEPA guidance to determine the accuracy and validity of the results.

Summaries of the RI activities will be submitted to the NYSDEC as monthly progress reports and will be included in the RI Report. All data submitted to the NYSDEC will be in approved electronic data deliverable (EDD) format.

4.3 Chemical Inventory

A chemical inventory will be conducted on all storage structures and rooms (buildings, portion of a building, sheds, containment areas, outbuildings, etc. – referred to as a Control Area) for regulated and hazardous materials. For each chemical in a Control Area the following information will be collected:

- Chemical Name – use chemical name, if known, or the common name.
- State – indicate if the chemical is solid, liquid, or gas at normal temperature and pressure. If found on site in various states, separate by listing each state in a separate row.
- Container Size – give the capacity of each type of container used to hold the chemical, whether in storage or when in use.
- Inside Building / Outside Building – the maximum quantities of the chemical that may be found inside any or all of the buildings on site, outside any or all of the buildings on site, and the total of these quantities.
- Used Open / Used Closed / Stored – A chemical is in “use” if the container is opened or connected to any equipment while on site. A chemical may be used in an “Open System” or a “Closed System.” The Open/Closed system of use refers to the ability of gas, liquid, vapor or dust to escape from the container into the atmosphere during normal operations. “Stored” means that the material is held (in storage) without being used up or without going through any process or process equipment. When in storage, a container is not opened or connected to any equipment and the chemical is not dispensed in any way.
- Total On-Site – add up the quantities used and stored, inside and outside buildings.
- Hazardous Waste Generated – Indicate if the chemical becomes or becomes a part of any hazardous waste generated by the facility.

Total quantities of chemicals by Control Area and for the entire Site will be reported at the end of the chemical inventory. The Interim Remedial Measure work plan will include methods for the proper collection and disposal for all chemicals located onsite.

5 QUALITY ASSURANCE AND QUALITY CONTROL PROTOCOLS

To ensure that suitable and verifiable data results are obtained from the information collected at the Site, quality assurance procedures are detailed in this section.

5.1 **Sampling Methods, Analytical Procedures and Documentation**

5.1.1 Sampling Methods

Sampling procedures will be conducted in accordance with the NYSDEC *Sampling Guidelines and Protocols Manual*. Collection of representative samples will include the following procedures:

- Ensuring that the sample taken is representative of the material being sampled;
- Using proper sampling, handling and preservation techniques;
- Properly identifying the collected samples and documenting their collection in field records;
- Maintaining chain-of-custody; and
- Properly preserving samples after collection.

Soil Sampling

Soil sampling will be performed using two methods: (1) field screening using a PID; and (2) grab samples. Whether soil samples are collected from the excavator bucket, direct-push rig sleeves, or split-spoons, they will be collected as grab samples that are split and placed into jars supplied by the laboratory as well as into individual zip-lock bags for screening. Screening soil samples will be allowed to sit in sealed zip-lock bag for a short period of time (minimum of five minutes). Head space measurements will then be taken from each zip-lock bag. To prevent cross contamination, zip-lock bags will not be reused and will be properly disposed. Calibration of all electronic field screening equipment will be completed daily and will be done to manufacturer's specifications.

As detailed in the *Sampling Guidelines and Protocols Manual*, grab samples will be placed in 4-ounce and 8-ounce, wide-mouth, glass jars. Sample jars will immediately be placed on ice in a cooler.

Water Sampling

Groundwater sampling will be conducted in accordance with USEPA guidance for low-flow purging and sampling, as described in **Section 4**.

Water samples will be collected in 40 ml and 1-liter glass jars and immediately placed on ice. The water will be analyzed for VOC, SVOC, PCBs, pesticides and metals on a standard turnaround time.

Sediment Sampling

Sediment samples will be collected via placing the collected sediment directly into pre-cleaned bottles provided by the laboratory and immediately placing the jars on ice. The bottles used will be based on the requirements of the analytical methods.

QA/QC Sampling

Duplicate samples will be collected from a minimum of 5% of the locations, and will be selected randomly.

Quality Assurance/Quality Control samples will not be collected and analyzed for the waste characterization sampling.

5.1.2 Analytical Procedures

Laboratory Analysis

Laboratory analysis will be conducted by a third-party laboratory that is accredited by the NYSDOH Environmental Laboratory Accreditation Program (ELAP). Laboratory analytical methods will include the most current NYSDEC Analytical Services Protocol (ASP).

Soil and groundwater samples sent to a certified laboratory will be analyzed in accordance with EPA SW-846 methodology for the following contaminants:

- VOCs (EPA Method 8260);
- SVOCs (EPA Method 8270C);
- Pesticides (USEPA 8081A);
- PCBs (USEPA 8082);
- Cyanide (USEPA Method 9010B);
- Mercury (USEPA Method 7471A);
- Hexavalent Chromium (USEPA Method 7196A); and
- Metals (EPA Method 6010B).
- 1,4 dioxane (EPA Method 8270SIM); and
- Per- and Poly-fluoroalkyl substances (EPA Method 537).

Category B deliverable will be requested to be used in a third-party data validation.

Data Usability

Data Usability Summary Report (DUSR) will be performed by a third-party data consultant using the most recent methods and criteria from the U.S. EPA. The DUSR will assess all sample analytical data, blanks, duplicates and laboratory control samples and evaluate the completeness of the data package. The waste characterization samples will not be validated.

5.1.3 Documentation

Custody Procedures

As outlined in NYSDEC *Sampling Guidelines and Protocols*, a sample is in custody under the following conditions:

- It is in your actual possession;
- It is in your view after being in your physical possession;
- It was in your possession and then you locked or sealed it up to prevent tampering;
or
- It is in a secure area.

The environmental professional will maintain all chain-of-custody documents that will be completed for all samples that will leave the Site to be tested in the laboratory.

Sample Nomenclature

Because such a large number of samples will be generated during the course of this project, strict adherence to a planned nomenclature scheme is necessary. The sampling nomenclature will be based on a grid created for the Site, and **Figure 7** shows the grid. The following presents the planned sample nomenclature:

- Surface soil samples – SS-A1-01-3-6
 - SS – Surface soil
 - A1 – East-west sample block
 - 01 – North-south sample block
 - 3-6 – Sample depth in inches
- Subsurface soil samples (soil borings) – SB-A1-01-36-48
 - SS – Subsurface soil
 - A1 – East-west sample block
 - 01 – North-south sample block
 - 36-48 – Sample depth in inches
- Subsurface soil samples (test pits) – TP-A1-01-36-48
 - SS – Subsurface soil
 - A1 – East-west sample block
 - 01 – North-south sample block
 - 36-48 – Sample depth in inches
- Groundwater samples – GW-MW02-01
 - GW – Groundwater
 - MW01 – Monitoring Well 02
 - 01 – First sampling event
- Sediment samples - SD-A1-01-0-6
 - SD – Subsurface soil
 - A1 – East-west sample block
 - 01 – North-south sample block
 - 0-6 – Sample depth in inches

For clarity, the letters “I” and “O” were omitted from the grid nomenclature to avoid confusion with the similar numbers one and zero.

Air Monitoring

Air monitoring will be conducted to verify no impacts to ambient air. Air monitoring will be conducted during the soil boring program. The monitoring will include periodic screening for VOCs. All records will be kept on-site during the investigation and will be made available for regulatory inspection. A daily air monitoring log will be maintained through the end of remedial investigation field activities. The specifics of the air monitoring procedures and criteria are detailed in the CAMP.

A CAMP is not generally required for investigation or delineation of site conditions, which are not considered intrusive. These activities include the collection of:

- Surface soil
- Groundwater
- Surface Water
- Sediment
- Ambient or indoor air
- Soil gas and sub-slab soil vapor (after the sampling ports have been installed)

6 HEALTH AND SAFETY

To verify the safety of the workers and the local community during the performance of the work, monitoring practices of the work environment will be in place during all phases of RI activities. A Health and Safety Plan (HASP) was prepared that details procedures for maintaining safe working conditions and minimizing the potential for exposure to contaminated material. The HASP is provided in **Appendix B**.

Air monitoring during RI activities will be conducted using PID. Details on air monitoring are provided in the Community Air Monitoring Plan (CAMP). The CAMP is provided in **Appendix C**.

7 QUALITATIVE EXPOSURE ASSESSMENT

As part of the RI, a Qualitative Exposure Assessment will be performed in accordance with DER-10 Appendix 3B and Section 3.6 of the BCP Guidance. This Qualitative Exposure Assessment will evaluate whether potential or completed exposure pathways exist. This assessment will be based on the soil, sediment and groundwater sampling data generated during the RI.

The Qualitative Exposure Assessment will include the following areas of evaluation:

- Source Areas – Areas with identified impacts will be included as part of the exposure assessment.
- Fate & Transport – The data will be evaluated for potential on-site impacts as well as off-site migration via soil, sediment, and groundwater.
- Route of Exposure – The results of site sampling will be interpreted to determine if contaminant concentrations are at levels that have the potential to be inhaled or ingested.
- Receptor Population – The Site will be evaluated to determine the size and makeup of potential on-site and down-gradient receptors including residents, workers, and neighbors.

8 CITIZEN PARTICIPATION ACTIVITIES

A Citizen Participation Plan (CPP) will be developed for the project and submitted separately within 20 days of an executed Brownfield Cleanup Agreement (BCA). The CPP will include the following (at a minimum):

- Updates to the names and addresses on the BCP Application (if any);
- Identifies major issues related to the Site;
- A description of citizen participation activities already performed;
- Identifies the document repository; and,
- Includes a description and schedule of public participation activities.

9 REPORTING

Based on the results of the work described above, one report will be prepared to describe the methodologies and results of the RI. The report will also identify and evaluate additional remedial activities for the Site, if any. The Report will describe:

- Investigative methods;
- Observations and findings;
- Inspection/monitoring observations of the remedial measures;
- Results of the community air monitoring program; and
- Analytical results.

The Alternatives Analysis Report (AAR) portion of the Report will include the following elements:

- Description of remaining contamination, if any
- Identification of potential, additional remedial measures
- Evaluation of potential, additional remedial measures, including no action following the remediation
- Identification of recommended additional remedy

The documents will be submitted to the NYSDEC for review and approval.

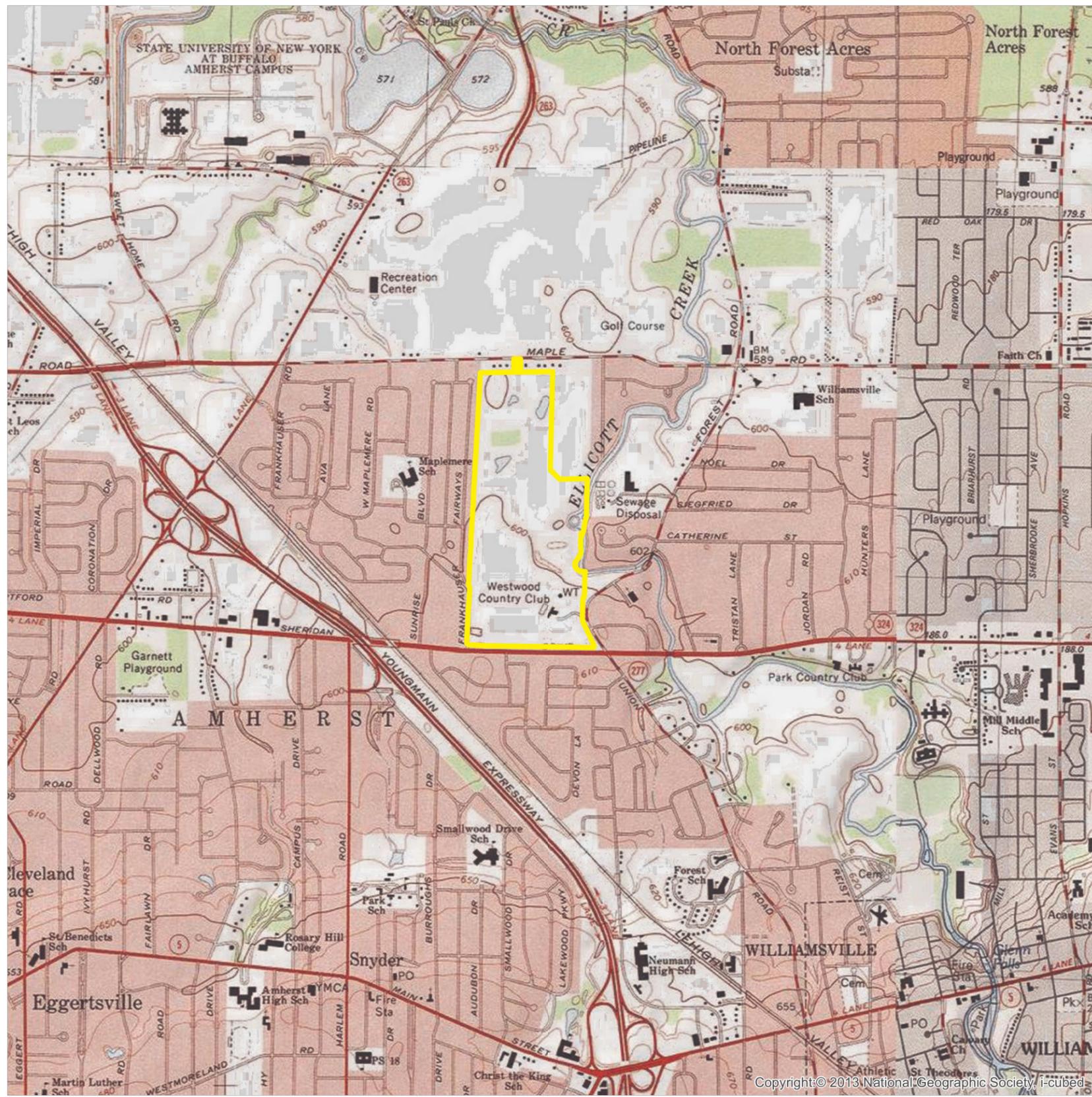
10 SCHEDULE

It is assumed that NYSDEC will promptly review this RI Work Plan followed by a 45-day comment period. Below is an anticipated schedule of milestones for the remediation of the Site.

Anticipated Date	Milestone
<i>December 8, 2014</i>	<i>Brownfield Cleanup Program (BCP) Application Submission (Completed)</i>
<i>February 26, 2015</i>	<i>BCP Acceptance (Completed)</i>
<i>March 10, 2015</i>	<i>Brownfield Cleanup Agreement (BCA) Executed (Completed)</i>
<i>April 7, 2015</i>	<i>Remedial Investigation (RI) Work Plan (WP) Submission (Completed)</i>
<i>May 12, 2015</i>	<i>RI WP Conditionally Approved (Completed)</i>
May 31, 2021	Submission of Revised RI Work Plan
August 2021	Remedial Investigation Begins
May 2023	Remedial Investigation Ends
October 2023	RI / Alternative Analysis Report (RI/AAR) Submission
December 2023	RI/AAR Approval and Decision Document
December 2023	Remedial Action Work Plan (RAWP) Submission
February 2024	RAWP Approval
May 2024	Remedial Work Begins
August 2024	Remedial Work Ends
October 2024	Construction Completion Report (CCR)
December 2024	CCR Approval
December 2024	Final Engineering Report (FER) Submission
February 2025	FER Approved
April 2025	Certificate of Completion Issued

FIGURES

F:\Project\076 - Mensch Capital Partners\07600\001 - Westwood Sampling\Planning-Study\CADD\Sheet Files\FIGURE 1 SITE LOCATION.dwg

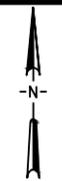


LEGEND

BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROJECT LIMITS



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 Buffalo, New York 14203
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 Fax: 716-847-1454
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 BROWNFIELD CLEANUP PROGRAM
 REMEDIAL INVESTIGATION
 AMHERST, NEW YORK**

MARK	DATE	DESCRIPTION
REVISIONS		
	PROJECT NO:	076.001.001
	DATE:	FEBRUARY 3, 2015
	DRAWN BY:	C. MARTIN
	DESIGNED BY:	C. MARTIN
	CHECKED BY:	M. COLMERAUER
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SITE LOCATION

FIGURE 1

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F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling Planning Study\CADD\Sheet Files\FIGURE 2 SITE MAP.dwg



LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
- 10 GOLF COURSE HOLE NUMBER
- 600 ELEVATION CONTOUR (FEET)

NOTES

- 1) BCP BOUNDARY CREATED FROM PROPERTY BOUNDARY. PROPERTY BOUNDARY PROVIDED IN "A.L.T.A. SURVEY FOR WESTWOOD COUNTRY CLUB," NUSSBAUMER & CLARK, INC., JULY 19, 2005.
- 2) ELEVATION CONTOURS OBTAINED FROM NEW YORK STATE, ERIE COUNTY LIDAR DATASET, 2008, VERTICAL COORDINATE SYSTEM: NORTH AMERICAN DATUM 1988 (GEOID 03). ORIGINAL DATASET IN METERS CONVERTED TO US SURVEY FEET.



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141 Elm Street.
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

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SITE MAP

FIGURE 2

F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling Planning Study\CADD\Sheet Files\FIGURE 3 SITE FEATURES.dwg



- LEGEND**
- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
 - GOLF COURSE HOLE NUMBER

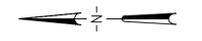
NOTES

1) BCP BOUNDARY CREATED FROM PROPERTY BOUNDARY. PROPERTY BOUNDARY AND SITE FEATURES PROVIDED IN "A.L.T.A. SURVEY FOR WESTWOOD COUNTRY CLUB," NUSSBAUMER & CLARK, INC., JULY 19, 2005.



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 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

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SITE BUILDINGS

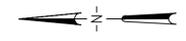
FIGURE 3

F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling Planning Study\CADD\Sheet Files\FIGURE 4 WATER FEATURES.dwg



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www.cscos.com

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WATER FEATURES

FIGURE 4

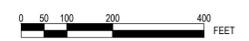


LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
- 10 GOLF COURSE HOLE NUMBER
- WATER BODY
- DRAINAGE LINE IMPROVEMENTS (1999)
- DRAINAGE LINE
- DROP INLET

NOTES

1) DRAINAGE FEATURES GEOREFERENCED AND DIGITIZED DRAWINGS FROM "DRAINAGE IMPROVEMENTS WESTWOOD COUNTRY CLUB" PLANS, DIDONTO ASSOCIATES, P.E., P.C., APRIL 1999.

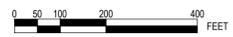


F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling\Planning\Study\CADD\Sheet Files\FIGURE 5 - SEDIMENT SOIL SAMPLE RESULTS.dwg



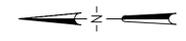
LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
 - GOLF COURSE HOLE NUMBER
 - X SOIL SAMPLE - EXCEEDED NYSDEC SOIL CLEANUP OBJECTIVE ("SCO") FOR ARSENIC
 - X SOIL SAMPLE LOCATION - ARSENIC CONCENTRATION ABOVE UNRESTRICTED USE SCO
 - X SOIL SAMPLE LOCATION - ARSENIC CONCENTRATION ABOVE INDUSTRIAL USE SOIL SCO
 - + SEDIMENT SAMPLE LOCATION FROM PONDS, ELLICOTT CREEK AND STORM WATER OUTFALL
- SOIL SAMPLING - OCTOBER 23, 2014
- SOIL SAMPLING - SEPTEMBER 29, 2014



C&S Engineers, Inc.
141 Elm Street.
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

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**SOIL AND SEDIMENT
SAMPLING RESULTS**

FIGURE 5

F:\Project\076 - Mensch Capital Partners\076001.001 - Westwood Sampling\Planning-Study\CADD\Sheet Files\FIGURE 6 RADIOLOGICAL SURVEY LOCATIONS.dwg

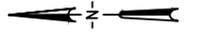


LEGEND

-  BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
-  GOLF COURSE HOLE NUMBER



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 Buffalo, New York 14203
 Phone: 716-847-1630
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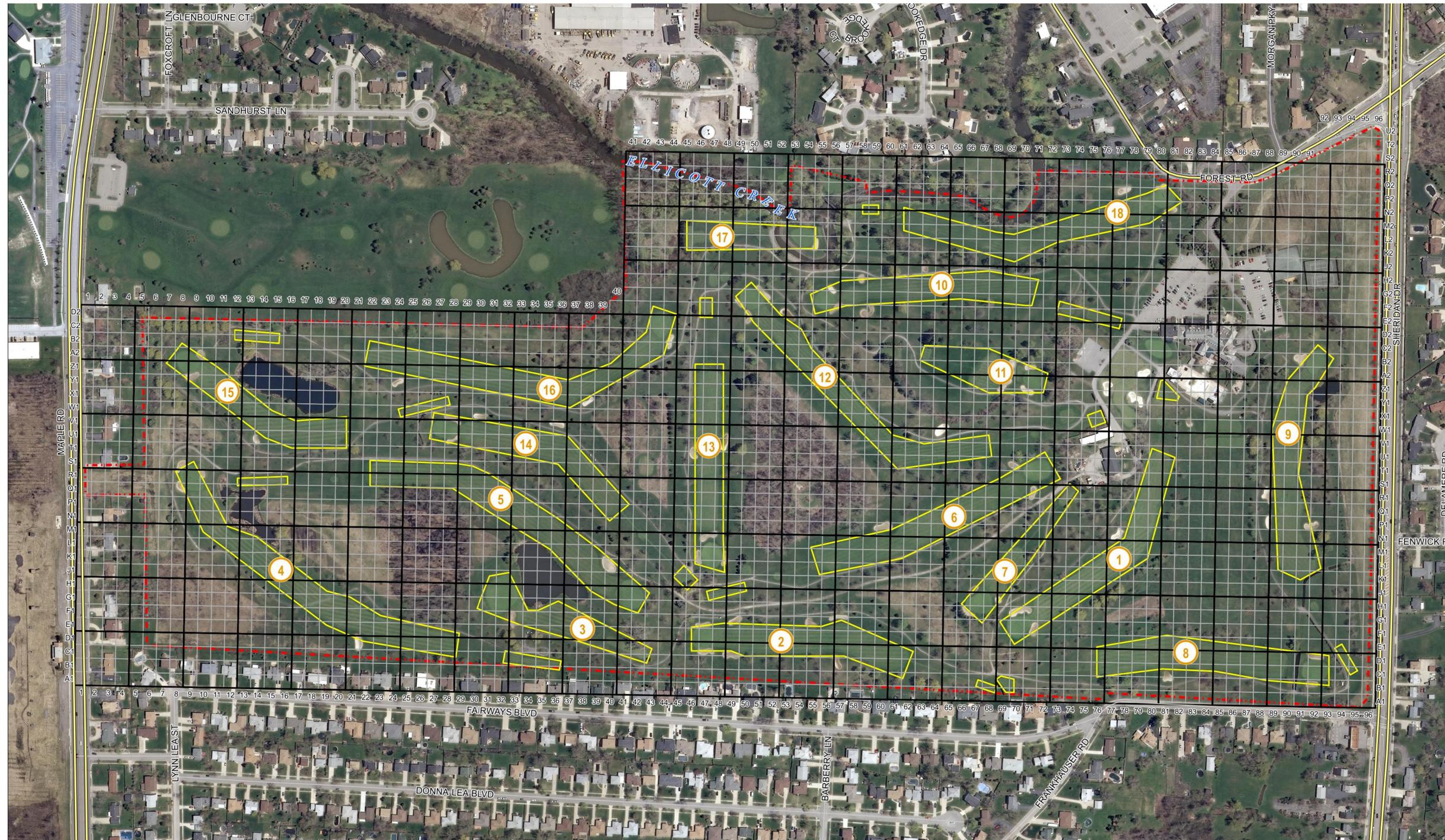
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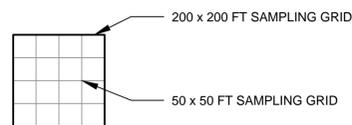
**RADIOLOGICAL
 SURVEY LOCATIONS**

FIGURE 6

F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling Planning\Study\CADD\Sheet Files\FIGURE 7 SURFACE SOIL SAMPLING GRID.dwg



- LEGEND**
- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
 - 10 GOLF COURSE HOLE NUMBER
 - SAMPLE AREA WITH 50 x 50 FT GRID SPACING (TEE, FAIRWAY AND GREEN)



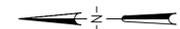
NOTES

1) GRID NAMING SCHEME CONSISTS OF ALPHA NUMERIC CHARACTERS A1 - Z1 AND A2 - U2 USED FROM EAST TO WEST (LETTERS I AND O WERE EXCLUDED). NUMBERS 1 TO 96 WERE USED NORTH TO SOUTH.



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141 Elm Street.
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Phone: 716-847-1630
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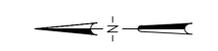
SURFACE SOIL
SAMPLING GRIDS

FIGURE 7



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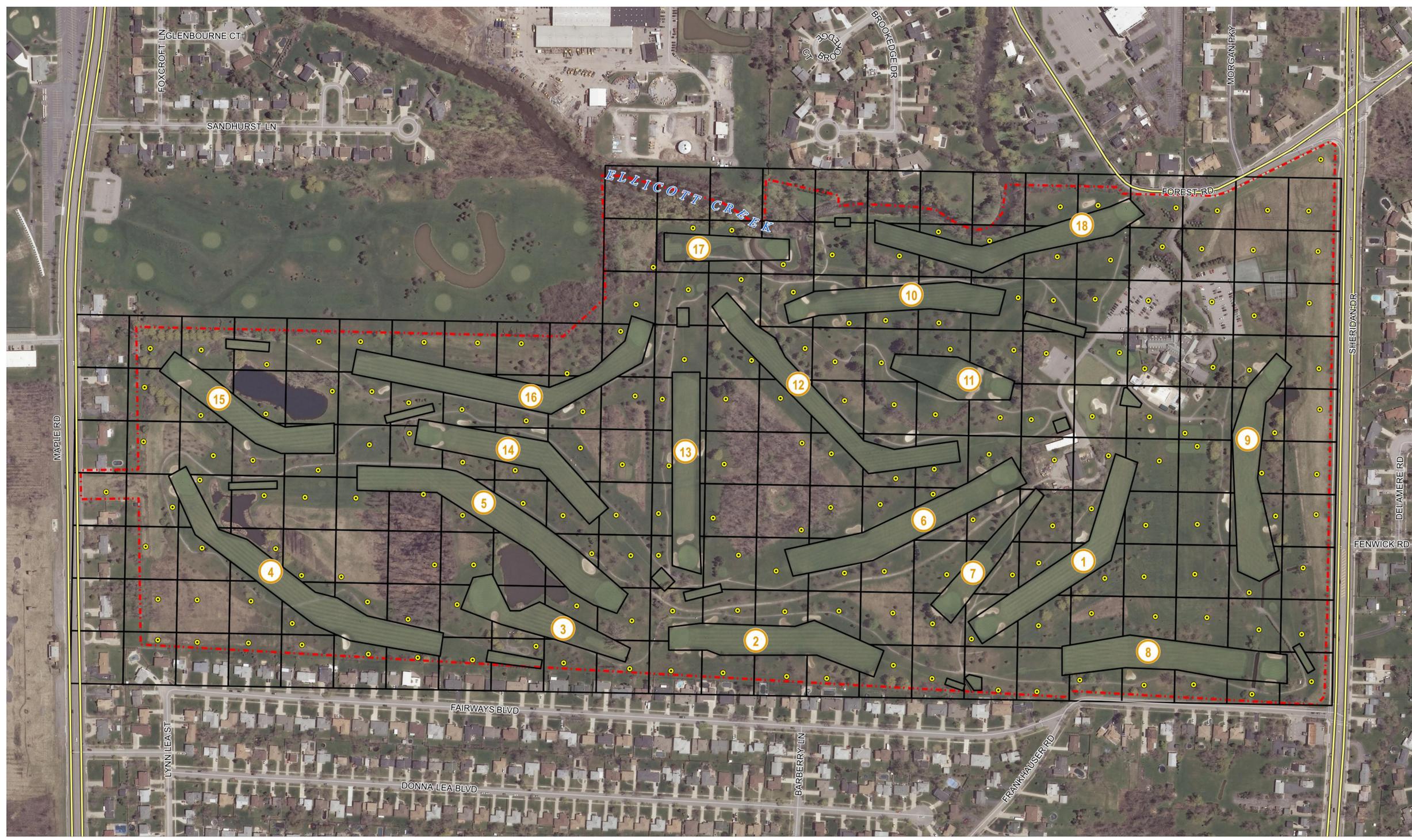


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**200 FOOT GRID
 SURFACE SOIL
 SAMPLING**

FIGURE 7A



- LEGEND**
- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
 - GOLF COURSE HOLE NUMBER
 - 200 x 200 FOOT SAMPLE GRID
 - SOIL BORING LOCATION



F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling\Planning\CADD\Sheet Files\FIGURE 7A SURFACE SOIL SAMPLE LOCATIONS 200 GRID.dwg

1

2

3

4

C

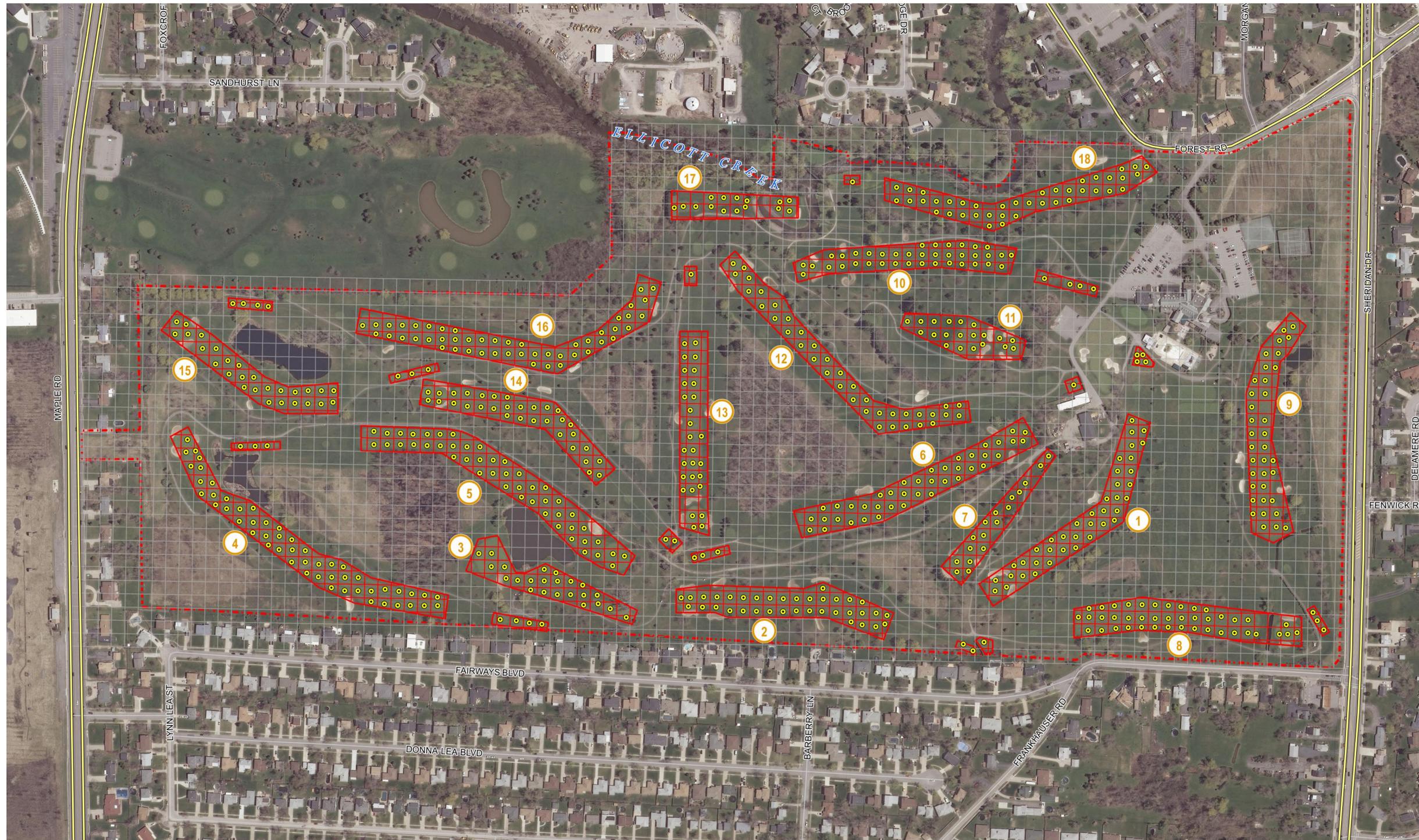
B

A

C

B

A



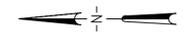
LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
- GOLF COURSE HOLE NUMBER
- 50 x 50 FOOT SAMPLE GRID
- SOIL BORING LOCATION



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**50 FOOT GRID
 SURFACE SOIL
 SAMPLING**

FIGURE 7B

1

2

3

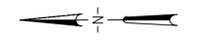
4

F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling\Planning\Study\CADD\Sheet Files\FIGURE 8 SEDIMENT SAMPLING SOIL BORING AND MONITORING WELL PLAN.dwg



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 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
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PROPOSED SEDIMENT SAMPLING, SOIL BORING, MONITORING WELL & TEST PIT LOCATIONS

FIGURE 8



LEGEND

	BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE		SEDIMENT SAMPLE LOCATION
	GOLF COURSE HOLE NUMBER		TEST PIT LOCATION
	WATER BODY		
	GROUNDWATER MONITORING WELL		
	SOIL BORING LOCATION		

0 50 100 200 400 FEET

TABLES

Table 1
Proposed Remedial Investigation Sampling Program

Matrix	Sample Type	Lab Analysis	No. Samples	Field Duplicates	Matrix Spike	Matrix Spike Duplicate	Trip Blank	Total	
Soil	50x50 Grid	TCL VOC	23	1	2	2	--	28	
		TCL SVOC	23	1	2	2	--	28	
		TCL Pesticides	23	1	2	2	--	28	
		Total PCB	23	1	2	2	--	28	
		TAL Metals	2516	29	29	29	--	2603	
		Cyanide	23	1	2	2	--	28	
		Hexavalent Chromium	8	1	2	2	--	13	
		PFAS	27	2	2	2	--	33	
		1,4-Dioxane	27	2	2	2	--	33	
		200x200 Grid	TCL VOC	27	2	1	1	--	31
	TCL SVOC		27	2	1	1	--	31	
	TCL Pesticides		27	2	1	1	--	31	
	Total PCB		27	2	1	1	--	31	
	TAL Metals		364	9	9	9	--	391	
	Cyanide		27	2	1	1	--	31	
	Hexavalent Chromium		7	1	1	1	--	10	
	PFAS		28	2	2	2	--	34	
	1,4-Dioxane		28	2	2	2	--	34	
	Test Pits		TCL VOC	4	1	1	1	--	7
		TCL SVOC	4	1	1	1	--	7	
		TCL Pesticides	4	1	1	1	--	7	
		Total PCB	4	1	1	1	--	7	
		TAL Metals	4	1	1	1	--	7	
		Cyanide	4	1	1	1	--	7	
		Hexavalent Chromium	1	1	1	1	--	4	
		PFAS	4	1	1	1	--	7	
		1,4-Dioxane	4	1	1	1	--	7	
		Deep Native Soil	TCL VOC	18	1	1	1	--	21
	TCL SVOC		18	1	1	1	--	21	
	TCL Pesticides		18	1	1	1	--	21	
	Total PCB		18	1	1	1	--	21	
	TAL Metals		18	1	1	1	--	21	
	Cyanide		18	1	1	1	--	21	
	Hexavalent Chromium		18	1	1	1	--	21	
	PFAS		18	1	1	1	--	21	
	1,4-Dioxane		18	1	1	1	--	21	
	Maintenance Building & Stockpile Areas		TCL VOC	8	1	1	1	--	11
		TCL SVOC	8	1	1	1	--	11	
		TCL Pesticides	8	1	1	1	--	11	
		Total PCB	8	1	1	1	--	11	
		TAL Metals	8	1	1	1	--	11	
		Cyanide	8	1	1	1	--	11	
		Hexavalent Chromium	2	0	0	0	--	2	
		PFAS	8	1	1	1	--	11	
		1,4-Dioxane	8	1	1	1	--	11	
		Sediment	TCL VOC	34	2	2	2	--	40
	TCL SVOC		34	2	2	2	--	40	
	TCL Pesticides		34	2	2	2	--	40	
	Total PCB		34	2	2	2	--	40	
	TAL Metals		34	2	2	2	--	40	
	Cyanide		34	2	2	2	--	40	
	Hexavalent Chromium		3	1	1	1	--	6	
	PFAS		34	2	2	2	--	40	
	1,4-Dioxane		34	2	2	2	--	40	
	Waste Characterization		TCLP VOC	133	--	--	--	--	133
		TCLP SVOC	133	--	--	--	--	133	
		PCB	133	--	--	--	--	133	
		TCLP Metal	133	--	--	--	--	133	
		Reactivity	133	--	--	--	--	133	
		Corrosivity	133	--	--	--	--	133	
		Ignitability	133	--	--	--	--	133	
		pH	133	--	--	--	--	133	
		Percent Solids	133	--	--	--	--	133	
		Water	Surface Water	Part 375 VOC	5	1	1	1	1
	Part 375 SVOC			5	1	1	1	--	8
	Part 375 Pesticides			5	1	1	1	--	8
	Total PCB			5	1	1	1	--	8
	Part 375 Metals			5	1	1	1	--	8
	Cyanide			5	1	1	1	--	8
	Hexavalent Chromium			5	1	1	1	--	8
	1,4 Dioxane			5	1	1	1	--	8
	PFOA/PFOS			5	1	1	1	--	8
	Groundwater			Part 375 VOC	26	2	2	2	2
			Part 375 SVOC	26	2	2	2	--	32
			Part 375 Pesticides	26	2	2	2	--	32
			Total PCB	26	2	2	2	--	32
			Part 375 Metals	26	2	2	2	--	32
			Cyanide	26	2	2	2	--	32
			Hexavalent Chromium	8	1	1	1	--	11
			1,4 Dioxane	13	1	1	1	--	16
			PFOA/PFOS	13	1	1	1	--	16

APPENDICES

APPENDIX A

PREVIOUSLY COMPLETED ENVIRONMENTAL INVESTIGATIONS



C&S Companies

141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

November 12, 2014

Mensch Capital Partners, LLC
5477 Main Street
Williamsville, New York 14221

Care of:

Brad Packard
Project Manager
Ciminelli Real Estate Corporation
350 Essjay Road
Williamsville, NY 14221

Re: Soil/Sediment Sampling – Westwood Golf Course, Amherst, New York

Mr. Packard:

At the request of Mensch Capital Partners (“Mensch”), C&S Engineers, Inc. (“C&S”) conducted soil and sediment sampling at the Westwood County Club (“Site”) in Amherst New York.

I. PROJECT DESCRIPTION

Ciminelli Real Estate Corporation is assisting Mensch with the future redevelopment of the golf course. Future plans for the Westwood site included a mixed use neighborhood with residential and retail developments. As part of the review process for the proposed project, an Environmental Impact Statement has been prepared and is undergoing comment and review by several agencies. Subsequently, the Erie County Department of Health (“ECDOH”) has recommended the implementation of a soil management plan at the site due to past and current use of pesticides and herbicides on site. Ciminelli has requested that C&S prepare a sampling plan to assess whether a soil management plan is necessary during the future development of the project.

In response to the ECDOH’s concern, C&S completed a soil and sediment characterization program at the Site as described below.

II. SAMPLING METHODS

A total of fifteen soil samples were collected from the Site on September 29, 2014. Based on the results of that sampling, sediment samples were collected in a subsequent field visit. A soil and sediment sample log is provided as attached Table 1, and attached Figure 1 presents sampling locations.

The soil samples targeted the area surrounding the pesticide/herbicide-fertilizer storage facility behind the maintenance facility; fairways; greens; and areas adjacent to ponds or within drainage swales. Table 2-1 below summarizes the sampling locations.

Table 2-1: Soil Sample Collection

<i>Sample ID</i>	<i>Sample Date</i>	<i>Sample Location</i>	<i>Start Depth</i>	<i>End Depth (inches)</i>
12F-06	9/29/2014	Hole 12 Fairway	0	14
12G-02	9/29/2014	Hole 12 Green	0	14
15G-01	9/29/2014	Hole 15 Green	0	14
16F-06	9/29/2014	Hole 16 Fairway	0	14
2F-02	9/29/2014	Hole 2 Fairway	0	16
3F-03	9/29/2014	Hole 3 Fairway	0	16
4F-04	9/29/2014	Hole 4 Fairway	0	14
6G-04	9/29/2014	Hole 6 Green	0	5
9F-01	9/29/2014	Hole 9 Fairway	0	14
DF-01	9/29/2014	Swale West of 9 Hole	0	14
DF-02	9/29/2014	Adjacent to 3 Hole Pond	0	14
DF-03	9/29/2014	Adjacent to 15 Hole Pond	0	14
DF-04	9/29/2014	Swale South of Ox Bow	0	14
SA-01	9/29/2014	Storage Area	0	14
SA-02	9/29/2014	Storage Area	0	7

The soil samples were collected using a hand push soil probe. Samples were collected within the first 14 inches from the surface. The soil samples were collected by peeling back the turf to expose the underlying soil, with the exception of the samples collected from the greens. Sample 6G-04 was collected from the circular plugs of sod created by an aerating machine. The plugs were approximately 0.25” diameter and five to six inches long. The other samples from the greens were collected from the edge of the green using a hand push soil probe. The resulting soil samples were collected for pesticides, herbicides and arsenic using USEPA Methods 8081, 8151, and 6010, respectively.

The sediment samples were collected using a hand shovel. Sediment from the first 6 inches was collected and placed into jars for analysis of arsenic using USEPA Method 6010.

Sediment was collected from four ponds. Sediment samples were collected using a decontaminated shovel approximately 5 to 8 feet from the edge of the pond. From each pond, a discrete sample was collected from a location adjacent to a green, and composite sample was collected at the discharge point of the pond.

Sample pairs (one discrete and one composite) were also collected from Ellicott Creek. One pair (EC-01 and EC-02) was collected to characterize background sediment concentrations in Ellicott Creek at an upstream location. The other pair (DO-01 and DO-02) was collected from Ellicott Creek immediately downstream of the drainage outfall for the golf course. The ponds at the golf course drain into this single outlet that discharges into Ellicott Creek.



Table 2-2: Sediment Sample Collection

<i>Sample ID</i>	<i>Sample Date</i>	<i>Sample Location</i>	<i>Sample Type</i>	<i>Start Depth</i>	<i>End Depth (inches)</i>
15PD-01	10/23/2014	Hole 15 Pond	Discrete	0	3
15PD-02	10/23/2014	Hole 15 Pond	Composite	0	3
17PD-01	10/23/2014	Hole 17 Pond	Discrete	0	3
17PD-02	10/23/2014	Hole 17 Pond	Composite	0	3
3PD-01	10/23/2014	Hole 3 Pond	Discrete	0	3
3PD-02	10/23/2014	Hole 3 Pond	Composite	0	3
4PD-01	10/23/2014	Hole 4 Pond	Discrete	0	3
4PD-02	10/23/2014	Hole 4 Pond	Composite	0	3
DO-01	10/23/2014	Ellicott Creek (at Drainage Outfall)	Discrete	0	3
DO-02	10/23/2014	Ellicott Creek (at Drainage Outfall)	Composite	0	3
EC-01	10/23/2014	Ellicott Creek (Upstream)	Discrete	0	3
EC-02	10/23/2014	Ellicott Creek (Upstream)	Composite	0	3

III. SAMPLING RESULTS

Site soils generally consist of silty clay loam. Soil samples collected from greens contained trace amounts of fine sand. Sediment samples from ponds and drainage features consisted of 2 to 3 inches of black decomposing organic material followed by silty clay. Sediment samples from areas within Ellicott Creek (drainage outfall and upstream locations) consisted of coarse sand and gravel from the creek bottom and silty clay from the creek edge.

September 29, 2014 – Soil Sampling

The fifteen soil samples were analyzed for herbicides, pesticides and arsenic. Table 2 presents the analytical results, which are summarized below:

- No herbicides or pesticides were detected in the samples.
- Five of the fifteen soil samples contained concentrations that **exceeded Industrial Use SCO for arsenic**.
- Three samples were collected from greens, and arsenic in all three samples exceeded the New York State Department of Environmental Conservation (“NYSDEC”) Industrial Use Soil Cleanup Objective (“SCO”).
- The arsenic concentrations in the soil sample collected from the green located at Hole 12 was approximately four times higher (66 mg/kg) than the Industrial Use SCO (16 mg/kg).
- Of the six samples collected from fairways, one sample exceeded for arsenic (3F-03). The soil sample in the maintenance storage area exceeded arsenic for Industrial Use SCO.

October 15, 2014 – Sediment Sampling

The twelve sediment samples were analyzed for total arsenic. Table 2 presents the analytical results, which are summarized below:



- Arsenic was detected in all twelve sediment samples.
- All arsenic concentrations were below Unrestricted Use SCO and Protection of Ecological Resources.
- Using the NYSDEC's June 24, 2014 "Screening and Assessment of Contaminated Sediments Guidance," eleven of the concentrations are characterized as Class A, which is defined as sediments that present little to no potential for risk to aquatic life. One sample, the discrete sample collected from the pond on Hole 15, contained arsenic concentrations falling within the Class B classification, indicating that the additional information is needed to determine the potential risk to aquatic life.

IV. DISCUSSION AND CONCLUSIONS

Soil

Although pesticides and herbicides were not detected in on-site soils, the characterization program described above identified the presence of arsenic in on-site soils at concentrations above the NYSDEC Industrial Use SCO. The highest detected concentrations were identified in samples collected from greens, although samples collected from a fairway and from the pesticide/herbicide-fertilizer storage facility behind the maintenance facility also contained elevated arsenic concentrations.

Arsenic-containing ("arsenical") pesticides such as monosodium methane arsenate, lead arsenate, sodium arsenate and calcium arsenate were historically used for treating lawns and ornamental turf.¹ From the early 1900s to 1980s, these inorganic arsenical pesticides were widely used for commercial and agricultural applications, although most inorganic arsenical pesticides have been banned from use since that time. Considering that Westwood Country Club has been operating since 1921, it is likely that arsenical pesticides have been used at the Site in the past.

Of note, the highest concentrations of arsenic were identified in the samples collected from the greens, which is consistent with typical golf course maintenance practices. Golf greens are highly managed turfs that require consistent application of pesticides. It is likely that in the history of Westwood Country Club arsenical pesticides were used with applications targeting greens.

C&S obtained Westwood documentation of the pesticide use for the 2014 season. The pesticides currently used were checked using the EPA Pesticide Product Label System.² Based on the documentation provided, no arsenic containing pesticides are currently used.

Currently, the entire site is vegetated and the likelihood of exposure to arsenic contaminated soil is low. Arsenic in the soil is a concern if the soil is disturbed, creating exposure routes, or if the material is placed in other areas of the Site or moved off-site during redevelopment.

¹ EPA, "Arsenical Pesticides, Man, and the Environment," 1972.

² EPA Pesticide Product Label System: <http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1>



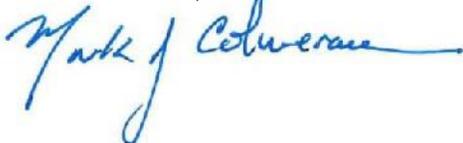
Sediment

There were no exceedances of the Unrestricted Use Soil Cleanup Objective or Protection of Ecological Resources for arsenic in the sediments in ponds, the outflow to Ellicott Creek or the samples collected at upstream locations within Ellicott Creek. However, a sediment sample collected from one of the ponds contained an arsenic concentration falling within the NYSDEC's Class B sediment category, indicating that additional information is needed to evaluate the potential risk to aquatic life. The remaining sediment sample results fell within the Class A range, indicating that the sediments that present little to no potential for risk to aquatic life. Additional studies may be necessary to adequately characterize the sediments in the pond proximal to Hole 15.

Thank you for the opportunity to work with you on this project. Should you have any questions regarding this proposal or require additional information, please feel free to contact me at (716) 847-1630.

Sincerely,

C&S ENGINEERS, INC



Mark Colmerauer
Regional Environmental Service Manager

cc: B. Packard, Ciminelli Real Estate Corporation



141 Elm Street
Buffalo, New York 14203
www.cscos.com

Table 1

Soil/Sediment Sample Log

Project Name: WESTWOOD COUNTRY CLUB SOIL/SEDIMENT SAMPLING

Location: AMHERST, NEW YORK

Client: MENSCH CAPITAL PARTNERS

Date: Monday, October 27, 2014 **Contractor:** _____

Sample ID	Sample Date	Collection Time	Analysis	Sample Location	Start Depth	End Depth	Depth Unit	COC No.	Description	Color	Remarks
12F-06	9/29/2014	12:00 PM	8151A, 8081B, 6010 - ARSENIC ONLY	12 HOLE FAIRWAY	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	MOIST
12G-02	9/29/2014	12:20 PM	8151A, 8081B, 6010 - ARSENIC ONLY	12 HOLE GREEN	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	MOIST; TRACE SAND
15G-01	9/29/2014	11:00 AM	8151A, 8081B, 6010 - ARSENIC ONLY	15 HOLE GREEN	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	TRACE SAND
16F-06	9/29/2014	11:40 AM	8151A, 8081B, 6010 - ARSENIC ONLY	16 HOLE FAIRWAY	0	14	INCH	480-68232	SILTY CLAY LOAM	BLACK/BROWN	WET
2F-02	9/29/2014	9:20 AM	8151A, 8081B, 6010 - ARSENIC ONLY	2 HOLE FAIRWAY	0	16	INCH	480-68232	SILTY CLAY LOAM	BROWN	DENSE SITY CLAY
3F-03	9/29/2014	9:50 AM	8151A, 8081B, 6010 - ARSENIC ONLY	3 HOLE FAIRWAY	0	16	INCH	480-68232	SILTY CLAY LOAM	BROWN	
4F-04	9/29/2014	10:30 AM	8151A, 8081B, 6010 - ARSENIC ONLY	4 HOLE FAIRWAY	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	WET
6G-04	9/29/2014	12:50 PM	8151A, 8081B, 6010 - ARSENIC ONLY	6 HOLE GREEN	0	5	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	TRACE SAND
9F-01	9/29/2014	8:30 AM	8151A, 8081B, 6010 - ARSENIC ONLY	9 HOLE FAIRWAY	0	14	INCH	480-68232	SILTY SAND	BROWN	MOIST; 50% SILT
DF-01	9/29/2014	9:00 AM	8151A, 8081B, 6010 - ARSENIC ONLY	SWALE WEST OF 9 HOLE	0	14	INCH	480-68232	SILT WITH ORGANIC MATERIAL	BLACK/BROWN	
DF-02	9/29/2014	10:10 AM	8151A, 8081B, 6010 - ARSENIC ONLY	AJACENT TO 3 HOLE POND	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	DENSE TAN SITY CLAY AT 10"-12"
DF-03	9/29/2014	11:20 AM	8151A, 8081B, 6010 - ARSENIC ONLY	ADJACENT TO 15 HOLE POND	0	14	INCH	480-68232	SILTY CLAY	BROWN	DRY 20% SILT
DF-04	9/29/2014	12:30 PM	8151A, 8081B, 6010 - ARSENIC ONLY	SWALE SOUTH OF OX BOW	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	DRY TRACE FINE SAND
SA-01	9/29/2014	7:30 AM	8151A, 8081B, 6010 - ARSENIC ONLY	STORAGE AREA	0	14	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	TRACE SILT ; 10%-20% CLAY
SA-02	9/29/2014	8:15 AM	8151A, 8081B, 6010 - ARSENIC ONLY	STORAGE AREA	0	7	INCH	480-68232	SILTY CLAY LOAM	DARK BROWN	TRACE SILT ; 10%-20% CLAY
15PD-01	10/23/2014	11:45 AM	6010 - ARSENIC ONLY	15 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
15PD-02	10/23/2014	11:35 AM	6010 - ARSENIC ONLY	15 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
17PD-01	10/23/2014	12:20 PM	6010 - ARSENIC ONLY	17 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
17PD-02	10/23/2014	12:18 PM	6010 - ARSENIC ONLY	17 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
3PD-01	10/23/2014	10:50 AM	6010 - ARSENIC ONLY	3 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
3PD-02	10/23/2014	11:00 AM	6010 - ARSENIC ONLY	3 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
4PD-01	10/23/2014	11:10 AM	6010 - ARSENIC ONLY	4 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
4PD-02	10/23/2014	11:15 AM	6010 - ARSENIC ONLY	4 HOLE POND	0	3	INCH	480-69993	SILTY CLAY WITH ORGANIC MATERIAL	BLACK/BROWN	
DO-01	10/23/2014	12:10 PM	6010 - ARSENIC ONLY	DRAINAGE OUTFALL	0	3	INCH	480-69993	CORASE SAND AND SILTY CLAY	BROWN	
DO-02	10/23/2014	12:00 PM	6010 - ARSENIC ONLY	DRAINAGE OUTFALL	0	3	INCH	480-69993	CORASE SAND AND SILTY CLAY	BROWN	
EC-01	10/23/2014	12:38 PM	6010 - ARSENIC ONLY	ELLCOTT CREEK	0	3	INCH	480-69993	CORASE SAND AND SILTY CLAY	BROWN	
EC-02	10/23/2014	12:40 PM	6010 - ARSENIC ONLY	ELLCOTT CREEK	0	3	INCH	480-69993	CORASE SAND AND SILTY CLAY	BROWN	

**TABLE 2: SOIL & SEDIMENT SAMPLING RESULTS
WESTWOOD COUNTRY CLUB
AMHERST, NEW YORK**

Sample ID	Date	Matrix	NYSDEC Soil Cleanup Objectives				Arsenic (mg/kg)	Location
			Unrestricted*	Residential / Restricted-	Sediment Screening Criteria -			
				Residential / Commercial & Industrial*	Class A Range	Class B Range		
12F-06	9/29/2014	SO	13	16	NA	NA	9.1	Hole 12 Fairway
12G-02	9/29/2014	SO	13	16	NA	NA	66.3	Hole 12 Green
15G-01	9/29/2014	SO	13	16	NA	NA	23.6	Hole 15 Green
16F-05	9/29/2014	SO	13	16	NA	NA	7.4	Hole 16 Fairway
2F-02	9/29/2014	SO	13	16	NA	NA	7.4	Hole 2 Fairway
3F-03	9/29/2014	SO	13	16	NA	NA	18.2	Hole 3 Fairway
4F-04	9/29/2014	SO	13	16	NA	NA	9.9	Hole 4 Fairway
6G-04	9/29/2014	SO	13	16	NA	NA	26.8	Hole 6 Green
9F-01	9/29/2014	SO	13	16	NA	NA	2.4	Hole 9 Fairway
DF-01	9/29/2014	SO	13	16	NA	NA	3.3	Swale West Of 9 Hole
DF-02	9/29/2014	SO	13	16	NA	NA	6.7	Adjacent To 3 Hole Pond
DF-03	9/29/2014	SO	13	16	NA	NA	4.6	Adjacent To 15 Hole Pond
DF-04	9/29/2014	SO	13	16	NA	NA	3.1	Swale South Of Ox Bow
SA-01	9/29/2014	SO	13	16	NA	NA	16.4	Storage Area
SA-02	9/29/2014	SO	13	16	NA	NA	2.2	Storage Area
15PD-01	10/23/2014	SD	13	16	<10	10 - 33	11.3	Hole 15 Pond
15PD-02	10/23/2014	SD	13	16	<10	10 - 33	5.0	Hole 15 Pond
17PD-01	10/23/2014	SD	13	16	<10	10 - 33	2.3	Hole 17 Pond
17PD-02	10/23/2014	SD	13	16	<10	10 - 33	2.1	Hole 17 Pond
3PD-01	10/23/2014	SD	13	16	<10	10 - 33	3.5	Hole 3 Pond
3PD-02	10/23/2014	SD	13	16	<10	10 - 33	5.3	Hole 3 Pond
4PD-01	10/23/2014	SD	13	16	<10	10 - 33	4.4	Hole 4 Pond
4PD-02	10/23/2014	SD	13	16	<10	10 - 33	8.3	Hole 4 Pond
DO-01	10/23/2014	SD	13	16	<10	10 - 33	3.1	Drainage Outfall
DO-02	10/23/2014	SD	13	16	<10	10 - 33	3.2	Drainage Outfall
EC-01	10/23/2014	SD	13	16	<10	10 - 33	1.5	Ellicott Creek
EC-02	10/23/2014	SD	13	16	<10	10 - 33	1.3	Ellicott Creek

Notes:

SO = Soil

SD = Sediment

* Unrestricted Use SCO and Protection of Ecological Resources SCO are both 13 mg/kg. Residential, Restricted Residential, Commercial and Industrial Use SCOs are all 16 mg/kg.



C&S Engineers, Inc.
 141 Elm Street
 Suite 100
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com



**WESTWOOD COUNTY CLUB
 SOIL INVESTIGATION
 WILLIAMSVILLE, NEW YORK**



LEGEND

- SITE BOUNDARY
- ⊗ SOIL SAMPLE LOCATION - ARSENIC CONCENTRATION BELOW UNRESTRICTED USE SCO
- ⊗ SOIL SAMPLE LOCATION - ARSENIC CONCENTRATION ABOVE INDUSTRIAL USE SCO
- ⊗ 15G-01 SOIL SAMPLE EXCEEDED NYSDEC SOIL CLEANUP OBJECTIVES FOR ARSENIC
- + SEDIMENT SAMPLING - OCTOBER 23, 2014
- + SEDIMENT SAMPLE LOCATION FROM PONDS, ELLICOTT CREEK AND STORM WATER OUTFALL

MARK	Date	Matrix	NYSDEC Soil Cleanup Objectives		Arsenic (mg/kg)	Location
			Unrestricted	Residential / Restricted-Residential / Commercial & Industrial		
12F-06	9/29/2014	SO	13	16	9.1	Hole 12 Fairway
12G-02	9/29/2014	SO	13	16	66.3	Hole 12 Green
15G-01	9/29/2014	SO	13	16	23.6	Hole 15 Green
16F-05	9/29/2014	SO	13	16	7.4	Hole 16 Fairway
2F-02	9/29/2014	SO	13	16	7.4	Hole 2 Fairway
3F-03	9/29/2014	SO	13	16	18.2	Hole 3 Fairway
4F-04	9/29/2014	SO	13	16	9.9	Hole 4 Fairway
6G-04	9/29/2014	SO	13	16	26.8	Hole 6 Green
9F-01	9/29/2014	SO	13	16	2.4	Hole 9 Fairway
DF-01	9/29/2014	SO	13	16	3.3	Swale West Of 9 Hole
DF-02	9/29/2014	SO	13	16	6.7	Adjacent To 3 Hole Pond
DF-03	9/29/2014	SO	13	16	4.6	Adjacent To 15 Hole Pond
DF-04	9/29/2014	SO	13	16	3.1	Swale South Of Ox Bow
SA-01	9/29/2014	SO	13	16	16.4	Storage Area
SA-02	9/29/2014	SO	13	16	2.2	Storage Area
15PD-01	10/23/2014	SD	13	16	11.3	Hole 15 Pond
15PD-02	10/23/2014	SD	13	16	5.0	Hole 15 Pond
17PD-01	10/23/2014	SD	13	16	2.3	Hole 17 Pond
17PD-02	10/23/2014	SD	13	16	2.1	Hole 17 Pond
3PD-01	10/23/2014	SD	13	16	3.5	Hole 3 Pond
3PD-02	10/23/2014	SD	13	16	5.3	Hole 3 Pond
4PD-01	10/23/2014	SD	13	16	4.4	Hole 4 Pond
4PD-02	10/23/2014	SD	13	16	8.3	Hole 4 Pond
DO-01	10/23/2014	SD	13	16	3.1	Drainage Outfall
DO-02	10/23/2014	SD	13	16	3.2	Drainage Outfall
EC-01	10/23/2014	SD	13	16	1.5	Ellicott Creek
EC-02	10/23/2014	SD	13	16	1.3	Ellicott Creek



MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 063.001.001		
DATE: SEPT. 9, 2013		
DRAWN BY: C. MARTIN		
DESIGNED BY: C. MARTIN		
CHECKED BY: M. COLMERAUER		

SOIL SAMPLING RESULTS

FIGURE 1

Path: P:\Project\0721 - Menach Capital Partners\072101 - Westwood Sampling\Planning\Study\GIS\Map\063\WESTWOOD_SOIL_SAMPLING_PLAN.mxd



C&S Companies

141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

March 7, 2016

Michael J. Hinton, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915

Re: Hole #6 Pilot Study Report – Westwood Golf Course, Amherst, New York

Dear Mike,

At the request of Mensch Capital Partners, LLC (Mensch), C&S Engineers, Inc. (C&S) conducted soil sampling on a portion of the Westwood County Club (Site) in Amherst New York. The Site was accepted into the Brownfield Cleanup Program on March 10, 2015. The Remedial Investigation Work Plan was accepted by the New York State Department of Environmental Conservation (NYSDEC) on October 5, 2015. Prior to the full implementation of the RI Work Plan across the entire Site, a portion of the Site was selected to evaluate soil conditions and help determine if the proposed approach to the RI is appropriate. A Pilot Study was conducted on the green, fairway, rough and tee of Hole #6. This letter report describes the results of the Pilot Study.

I. SITE DESCRIPTION

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192) on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west.

The Site is relatively flat with some minor topographic relief commonly associated with golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

The Pilot Study was conducted on Hole #6 located north of the Grounds Maintenance Buildings. The Hole #6 pilot study area consists of the green, tee box, fairway and adjacent rough areas. The Pilot Study area occupies approximately 10 acres of the 170-acre Westwood Site. Figure 1 shows the location of the pilot study on the Westwood Site.

II. SAMPLING METHODS

C&S conducted the pilot study on October 19 and 20, 2015. TREC Environmental, Inc. was contracted to drill 56 soil borings from ground surface to approximately 4 feet below ground surface (bgs). Drilling was conducted using a track mounted Geo-probe drilling unit. Each boring location was sampled to four feet using a one-inch by four-foot steel sampling tube fitted with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between drilling locations to avoid potential cross contamination of samples.

Figure 2 Sample Locations shows the locations that were drilled for this pilot study.

Material description and physical evidence of contamination (staining or sheen) of each direct-push sample was recorded on soil boring logs provided in *Appendix A*.

The RI Work Plan included two sampling grids for the Site. For the green, fairway and tee box borings were spaced across a 50-foot by 50-foot grid. A 200-foot by 200-foot grid was used for the rough areas surrounding the green, fairway and tee box.

From each sampling location, five soil samples were collected from the following depth intervals:

- 0 to 2 inches below grade
- 2 to 6 inches below grade
- 6 to 12 inches below grade
- 12 to 18 inches below grade
- 18 to 24 inches below grade

All sample intervals were analyzed for arsenic (EPA Method 6010). Additionally, four sample locations were selected, one each from the tee, green, fairway and rough areas, for testing of all analytes listed in NYSDEC 6NYCRR 375-6.8 tables (referred to as “complete list”). The complete list includes the following parameters:

<i>Analytes</i>	<i>EPA Method</i>
Target Compound List (TCL) volatile organic compounds (VOCs)	8260
TCL semi-volatile organic compounds (SVOCs)	8270
TCL pesticides	8081A
Polychlorinated biphenyls (PCBs)	8082
Target Analyte List (TAL) metals	6010
Total cyanide	9010B
Hexavalent chromium	7196A

All five sample intervals from each grid location were sent to the laboratory. Initially, only the 0- to 2-inch and 2- to 6-inch intervals were analyzed. If the 2 to 6-inch interval contained arsenic concentrations above the Unrestricted Soil Cleanup Objectives (SCOs), the next sample interval below that was analyzed, and the process was repeated until arsenic concentrations were below Unrestricted Use SCOs. Complete list samples follow this same analysis program.

A total of 20 Quality Assurance/Quality Control (QA/QC) samples were collected. Ten Matrix Spike/Matrix Spike Duplicate (MS/MSD) and ten blind duplicates were submitted to the laboratory.

The laboratory results for the samples were reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary Report (DUSR). The DUSR has not yet been completed for these samples.

Table 1: Soil Sampling Program summarizes samples collected from each grid location.

III. SAMPLING RESULTS

Pilot Study surface soils generally consist of silty clay loam, and the upper two inches of soil in the greens also contained trace amounts of fine sand. Subsurface soils are predominately brown dense clay with organic matter. No petroleum odors or visual evidence of contamination were observed in the samples.

A total of 274 soil samples were collected and sent to the laboratory from the green, fairway, rough and tee box. The first two intervals were analyzed by the laboratory. As described in the approved Work Plan, if metal concentrations exceeded Unrestricted SCOs the next sample intervals was analyzed. If metal concentrations were below Unrestricted use, no deeper samples were analyzed. From the 274 soil samples collected from the Site, a total of 138 soil samples were analyzed by the laboratory. Tables 2 and 3 summarize the laboratory results and compares these results to NYSDEC SCOs and Table 4 presents only those analytes that were detected at concentrations above the Unrestricted Use SCOs in at least one sample.

Based on analytical results, only concentrations of metals exceeded the SCOs, as no VOCs, SVOCs, pesticides, herbicides or PCBs were detected at concentrations above Unrestricted Use SCOs. The sample results from each area of Hole #6 are discussed below:

Green

- Four borings were advanced beyond the depth of 2-6 inches in this area.
- Arsenic was detected below Unrestricted Use SCOs in all four borings at the 0-2 inch interval.
- Arsenic was detected above Industrial Use SCO (16 mg/kg) in the 2-6 inch and 6-12 inch intervals at all four locations in the green. Arsenic concentrations ranged between 20.4 and 251 mg/kg, with the highest concentrations detected in the 2-6 inch interval samples. Arsenic was detected below Unrestricted Use SCOs in the underlying 12-18 inch intervals.
- Grid location T1-71 was selected for the complete analysis.
 - Mercury was detected in T1-71 above Industrial Use SCO to a depth of 12 inches, above the Unrestricted Use SCO in the 12-18 inch interval, and below the Unrestricted Use SCO in the 18 to 24 inch interval.
 - Copper was detected slightly above the Unrestricted Use SCO in the 0-2 inch sample interval.

Fairway

- Out of the 36 locations in the fairway only two locations, P1-64 and S1-70, contained concentrations of arsenic slightly exceeding the Unrestricted Use SCO.
 - P1-64 contained arsenic at 13.1 mg/kg in the 2-6 inch interval. The Unrestricted Use SCO is 13 mg/kg.
 - S1-70 contained arsenic at 14.1 mg/kg in the 0-2 inch interval. The concentration in the next interval (2-6 inches) was below Unrestricted Use SCO for arsenic.



- Grid location P1-65 was selected for the complete analysis.
 - Cadmium was detected above Commercial Use SCO (9.3 mg/kg) at 16.5 mg/kg. The underlying sample (2-6 inch interval) was below the Unrestricted Use SCO.
 - Trivalent chromium was detected above Restricted Residential at the 0-2 inch interval, above Residential Use in 2-6 inch interval, and below the Unrestricted Use SCO in the 6-12 inch interval.
 - Lead, mercury and zinc were detected above Unrestricted Use SCOs in the 0-2 inch interval only.

Rough

- Out of the 13 locations selected for the Pilot Study, no sample concentrations exceeded the Unrestricted Use SCO for arsenic.
- Grid location K1-62 was selected for the complete analysis. Only one analyte exceeded the SCOs:
 - K1-62 exceeded the Unrestricted Use SCO for trivalent chromium at 0-2 inch. Chromium concentrations were below the Unrestricted Use SCOs at 2-6 inch interval.

Tee Box

- Arsenic concentrations were below the SCOs in three of the four samples. Arsenic was detected above the Industrial Use SCO in the 0-2, 2-6 and 6-12 inch intervals in H1-47. Arsenic concentrations ranged between 20.2 and 92 mg/kg, and were highest in the uppermost samples. Arsenic concentrations were below Unrestricted Use SCO in 18-24 inch interval at this location.
- Grid location H1-48 was selected for the complete analysis.
 - Cadmium (0-2 inch) and mercury (0-2 and 2-6 inch) were detected above the Restricted Residential Use SCOs, and the mercury concentration was also above the Unrestricted Use SCO in the 6-12 inch interval.
 - Trivalent chromium (0-2 inch) was detected above Residential Use SCO.

IV. FINDINGS AND CONCLUSIONS

Although pesticides and herbicides were not detected in soils, the Pilot Study identified the presence of a number of metals in soils at concentrations above the NYSDEC SCOs. The detected metal concentrations above Unrestricted SCOs included arsenic, cadmium, copper, lead, mercury, trivalent chromium, and zinc. More specifically:

- Arsenic and mercury were encountered at the greatest depths (12-18 inches) and in the highest concentrations (in excess of Industrial SCOs) in the tee and green samples, and in lower concentrations (in excess of Unrestricted SCOs) in the fairway samples.

- Trivalent chromium was encountered at depths 2-6 inches below the surface in the tee and fairway samples and at levels in excess of Restricted Residential SCOs, while only encountered at depths 0-2 inches and in excess of Unrestricted SCOs in the rough sample.
- Cadmium was encountered at depths 0-2 inches below the surface in the tee and fairway samples and at levels in excess of Restricted Residential SCOs.
- Copper, lead and zinc were only encountered at depths 0-2 inches below the surface and at levels in excess of Unrestricted SCOs. Lead and zinc were identified in the fairway samples, while copper was identified in the green sample.

The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in pesticides, herbicides, and fungicides, these metals once formed the basis for these products. The general presence of higher concentrations in the tee boxes and greens corroborates expectations and appears to be indicative of more concentrated maintenance of these closely manicured portions of the golf course. The general lack of elevated concentrations of metals in the 'rough' areas also corroborates the hypothesis that these areas were less well maintained and therefore received fewer or no applications of pesticides, herbicides, and fungicides. As expected, the concentrations of metals in fairway samples were lower, generally falling in concentration between the 'rough' area samples and the tees and green samples.

It is important to note the findings related to the newly detected metals, the metals other than arsenic, are based on limited sampling and may require additional remedial site investigation. As such, C&S respectfully requests a meeting with the NYSDEC to review the Pilot Study results prior to implementation of the RI of the remainder of the Site. The purpose of the proposed meeting is to discuss the implications of the Pilot Study findings on the RI Work Plan, to determine what if any additional remedial site investigation would be appropriate in the Pilot Study area, and to determine the most appropriate next steps to further the implementation of the RI Work Plan.

Please feel free to contact me at (716) 847-1630 at your earliest convenience if you have any questions or comments.

Sincerely,

C&S ENGINEERS, INC.



Daniel E. Riker, P.G.
Managing Geologist

cc: Brad Packard, Ciminelli Real Estate Corporation
Andrew J. Shaevel, Mensch Capital Partners, LLC

FIGURES

TABLES

**TABLE 1: SOIL SAMPLING PROGRAM
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK**

<u>Boring ID</u>	<u>Arsenic Samples</u>	<u>Arsenic Samples to take and HOLD</u>	<u>Additional</u>
200 FOOT GRID			
G1-46	0-2; 2-6	6-12; 12-18; 18-24	
L1-51	0-2; 2-6	6-12; 12-18; 18-24	
K1-54	0-2 + MS/MSD; 2-6	6-12; 12-18; 18-24	
K1-59	0-2 + DUP-A; 2-6	6-12; 12-18; 18-24	
K1-62	0-2; 2-6	6-12; 12-18; 18-24	Complete List (0-2)
K1-67	0-2; 2-6	6-12; 12-18; 18-24	
Q1-58	0-2; 2-6	6-12; 12-18; 18-24	
Q1-62	0-2; 2-6	6-12; 12-18; 18-24	
R1-66	0-2+ MS/MSD; 2-6	6-12; 12-18; 18-24	
T1-66	0-2 + DUP-B; 2-6	6-12; 12-18; 18-24	
P1-69	0-2; 2-6	6-12; 12-18; 18-24	
U1-70	0-2; 2-6	6-12; 12-18; 18-24	
U1-75	0-2; 2-6	6-12; 12-18; 18-24	
50 FOOT GRID			
H1-47	0-2+ MS/MSD; 2-6	6-12; 12-18; 18-24	
H1-48	0-2; 2-6	6-12; 12-18; 18-24	Complete List (0-2) +MS/MSD
H1-49	0-2 + DUP-C ; 2-6	6-12; 12-18; 18-24	
K1-56	0-2; 2-6	6-12; 12-18; 18-24	
K1-57	0-2; 2-6	6-12; 12-18; 18-24	
L1-56	0-2; 2-6	6-12; 12-18; 18-24	
L1-57	0-2; 2-6	6-12; 12-18; 18-24	
L1-58	0-2+ MS/MSD; 2-6	6-12; 12-18; 18-24	
L1-59	0-2+ DUP-D; 2-6	6-12; 12-18; 18-24	
L1-60	0-2; 2-6	6-12; 12-18; 18-24	
L1-61	0-2; 2-6	6-12; 12-18; 18-24	
M1-57	0-2; 2-6	6-12; 12-18; 18-24	
M1-58	0-2; 2-6	6-12; 12-18; 18-24	
M1-59	0-2; 2-6	6-12; 12-18; 18-24	
M1-60	0-2; 2-6	6-12; 12-18; 18-24	
M1-61	0-2; 2-6	6-12; 12-18; 18-24	
M1-62	0-2; 2-6	6-12; 12-18; 18-24	
M1-63	0-2+ MS/MSD; 2-6	6-12; 12-18; 18-24	
N1-61	0-2 + DUP-E; 2-6	6-12; 12-18; 18-24	
N1-62	0-2; 2-6	6-12; 12-18; 18-24	
N1-63	0-2; 2-6	6-12; 12-18; 18-24	
N1-64	0-2; 2-6	6-12; 12-18; 18-24	
N1-65	0-2; 2-6	6-12; 12-18; 18-24	
P1-63	0-2 + MS/MSD; 2-6	6-12; 12-18; 18-24	
P1-64	0-2+ DUP-F; 2-6	6-12; 12-18; 18-24	
P1-65	0-2; 2-6	6-12; 12-18; 18-24	Complete List (0-2) + DUP-J
P1-66	0-2; 2-6	6-12; 12-18; 18-24	
P1-67	0-2; 2-6	6-12; 12-18; 18-24	
Q1-65	0-2; 2-6	6-12; 12-18; 18-24	
Q1-66	0-2; 2-6	6-12; 12-18; 18-24	
Q1-67	0-2+ MS/MSD; 2-6	6-12; 12-18; 18-24	
Q1-68	0-2 + DUP-G; 2-6	6-12; 12-18; 18-24	
Q1-69	0-2; 2-6	6-12; 12-18; 18-24	
R1-67	0-2; 2-6	6-12; 12-18; 18-24	
R1-68	0-2; 2-6	6-12; 12-18; 18-24	
R1-69	0-2; 2-6	6-12; 12-18; 18-24	
R1-70	0-2 + MS/MSD; 2-6	6-12; 12-18; 18-24	
S1-69	0-2 + DUP-H; 2-6	6-12; 12-18; 18-24	
S1-70	0-2; 2-6	6-12; 12-18; 18-24	
S1-71	0-2 + MS/MSD; 2-6	6-12; 12-18; 18-24	
S1-72	0-2 + DUP-I; 2-6	6-12; 12-18; 18-24	
T1-71	0-2; 2-6	6-12; 12-18; 18-24	Complete List (0-2)
T1-72	0-2; 2-6	6-12; 12-18; 18-24	

Rough
Tee
Fairway
Green

MS/MSD - Matrix Spike/Matrix Spike Duplicate
DUP - Field Duplicate
Complete List - Analytes from NYSDEC 6 NYCRR Part 375 Table 375-6.8(a and b)

**TABLE 2: SOIL SAMPLE RESULTS - ARSENIC
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK**

					Arsenic	
					NYSDEC Soil Cleanup Objective	
					Industrial	16.0 mg/kg
					Commercial	16.0 mg/kg
					Restricted Residential	16.0 mg/kg
					Residential	16.0 mg/kg
					Unrestricted	13.0 mg/kg
Field Sample ID	Sample Depth	Sample Matrix	Date Sampled	Units		
Green						
SO-S1-71-0-2in	0 - 2	SO	10/19/2015	mg/kg	2.3	J
SO-S1-71-2-6in	2 - 6	SO	10/19/2015	mg/kg	105	
SO-S1-71-6-12in	6 - 12	SO	10/19/2015	mg/kg	16.4	
SO-S1-71-12-18in	12 - 18	SO	10/19/2015	mg/kg	3.9	
SO-S1-72-0-2in	0 - 2	SO	10/19/2015	mg/kg	5.2	
SO-S1-72-2-6in	2 - 6	SO	10/19/2015	mg/kg	209	
SO-S1-72-6-12in	6 - 12	SO	10/19/2015	mg/kg	151	
SO-S1-72-12-18in	12 - 18	SO	10/19/2015	mg/kg	6.7	
SO-T1-71-0-2in	0 - 2	SO	10/19/2015	mg/kg	9.8	
SO-T1-71-2-6in	2 - 6	SO	10/19/2015	mg/kg	251	
SO-T1-71-6-12in	6 - 12	SO	10/19/2015	mg/kg	70.9	
SO-T1-71-12-18in	12 - 18	SO	10/19/2015	mg/kg	3.7	
SO-T1-72-0-2in	0 - 2	SO	10/19/2015	mg/kg	5.1	
SO-T1-72-2-6in	2 - 6	SO	10/19/2015	mg/kg	229	
SO-T1-72-6-12in	6 - 12	SO	10/19/2015	mg/kg	20.4	
SO-T1-72-12-18in	12 - 18	SO	10/19/2015	mg/kg	5.7	
Fairway						
SO-K1-56-0-2in	0 - 2	SO	10/20/2015	mg/kg	5	
SO-K1-56-2-6in	2 - 6	SO	10/20/2015	mg/kg	7	
SO-K1-57-0-2in	0 - 2	SO	10/20/2015	mg/kg	7.6	
SO-K1-57-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.3	
SO-L1-56-0-2in	0 - 2	SO	10/20/2015	mg/kg	5.7	
SO-L1-56-2-6in	2 - 6	SO	10/20/2015	mg/kg	3.8	
SO-L1-57-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.1	
SO-L1-57-2-6in	2 - 6	SO	10/20/2015	mg/kg	5.5	
SO-L1-58-0-2in	0 - 2	SO	10/20/2015	mg/kg	9.5	
SO-L1-58-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.4	
SO-L1-59-0-2in	0 - 2	SO	10/20/2015	mg/kg	7.3	
SO-L1-59-2-6in	2 - 6	SO	10/20/2015	mg/kg	4.8	
SO-L1-60-0-2in	0 - 2	SO	10/20/2015	mg/kg	5.3	
SO-L1-60-2-6in	2 - 6	SO	10/20/2015	mg/kg	12.7	
SO-L1-61-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.7	
SO-L1-61-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.1	
SO-M1-57-0-2in	0 - 2	SO	10/20/2015	mg/kg	11.7	
SO-M1-57-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.8	
SO-M1-58-0-2in	0 - 2	SO	10/20/2015	mg/kg	5.6	
SO-M1-58-2-6in	2 - 6	SO	10/20/2015	mg/kg	3.9	
SO-M1-59-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.6	
SO-M1-59-2-6in	2 - 6	SO	10/20/2015	mg/kg	6	
SO-M1-60-0-2in	0 - 2	SO	10/20/2015	mg/kg	4.4	J
SO-M1-60-2-6in	2 - 6	SO	10/20/2015	mg/kg	12	
SO-M1-61-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.6	
SO-M1-61-2-6in	2 - 6	SO	10/19/2015	mg/kg	6.5	
SO-M1-62-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.4	
SO-M1-62-2-6in	2 - 6	SO	10/20/2015	mg/kg	7	
SO-M1-63-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.1	
SO-M1-63-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.9	
SO-N1-61-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.4	
SO-N1-61-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.6	
SO-N1-62-0-2in	0 - 2	SO	10/20/2015	mg/kg	11.1	
SO-N1-62-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.4	
SO-N1-63-0-2in	0 - 2	SO	10/20/2015	mg/kg	9.7	
SO-N1-63-2-6in	2 - 6	SO	10/20/2015	mg/kg	5.5	
SO-N1-64-0-2in	0 - 2	SO	10/19/2015	mg/kg	9.6	
SO-N1-64-2-6in	2 - 6	SO	10/19/2015	mg/kg	6.5	
SO-N1-65-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.6	
SO-N1-65-2-6in	2 - 6	SO	10/19/2015	mg/kg	2.5	
SO-P1-63-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.4	
SO-P1-63-2-6in	2 - 6	SO	10/19/2015	mg/kg	5.4	
SO-P1-64-0-2in	0 - 2	SO	10/19/2015	mg/kg	12.6	
SO-P1-64-2-6in	2 - 6	SO	10/19/2015	mg/kg	13.1	
SO-P1-65-0-2in	0 - 2	SO	10/19/2015	mg/kg	7.8	
SO-P1-65-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.4	

**TABLE 2: SOIL SAMPLE RESULTS - ARSENIC
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK**

					Arsenic	
					NYSDEC Soil Cleanup Objective	
					Industrial	16.0 mg/kg
					Commercial	16.0 mg/kg
					Restricted Residential	16.0 mg/kg
					Residential	16.0 mg/kg
					Unrestricted	13.0 mg/kg
Field Sample ID	Sample Depth	Sample Matrix	Date Sampled	Units		
SO-P1-65-6-12in	6 - 12	SO	10/19/2015	mg/kg	3.1	J
SO-P1-66-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.9	
SO-P1-66-2-6in	2 - 6	SO	10/19/2015	mg/kg	6.4	
SO-P1-67-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.6	
SO-P1-67-2-6in	2 - 6	SO	10/19/2015	mg/kg	8	
SO-Q1-65-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.2	
SO-Q1-65-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.3	
SO-Q1-66-0-2in	0 - 2	SO	10/19/2015	mg/kg	8	
SO-Q1-66-2-6in	2 - 6	SO	10/19/2015	mg/kg	5	
SO-Q1-67-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.5	
SO-Q1-67-2-6in	2 - 6	SO	10/19/2015	mg/kg	8	
SO-Q1-68-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.8	
SO-Q1-68-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.1	
SO-Q1-69-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.5	
SO-Q1-69-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.3	
SO-R1-67-0-2in	0 - 2	SO	10/19/2015	mg/kg	6.6	
SO-R1-67-2-6in	2 - 6	SO	10/19/2015	mg/kg	8.5	
SO-R1-68-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.8	
SO-R1-68-2-6in	2 - 6	SO	10/19/2015	mg/kg	8.1	
SO-R1-69-0-2in	0 - 2	SO	10/19/2015	mg/kg	3.1	J
SO-R1-69-2-6in	2 - 6	SO	10/19/2015	mg/kg	5.9	
SO-R1-70-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.6	
SO-R1-70-2-6in	2 - 6	SO	10/19/2015	mg/kg	7.7	
SO-S1-69-0-2in	0 - 2	SO	10/19/2015	mg/kg	8.8	
SO-S1-69-2-6in	2 - 6	SO	10/19/2015	mg/kg	7	
SO-S1-70-0-2in	0 - 2	SO	10/19/2015	mg/kg	14.1	
SO-S1-70-2-6in	2 - 6	SO	10/19/2015	mg/kg	6.8	
Rough						
SO-G1-46-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.4	
SO-G1-46-2-6in	2 - 6	SO	10/20/2015	mg/kg	6	
SO-K1-54-0-2in	0 - 2	SO	10/20/2015	mg/kg	10.4	
SO-K1-54-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.4	
SO-K1-59-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.5	
SO-K1-59-2-6in	2 - 6	SO	10/20/2015	mg/kg	4.5	
SO-K1-62-0-2in	0 - 2	SO	10/20/2015	mg/kg	8.1	
SO-K1-62-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.6	
SO-K1-67-0-2in	0 - 2	SO	10/20/2015	mg/kg	8.5	
SO-K1-67-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.9	
SO-L1-51-0-2in	0 - 2	SO	10/20/2015	mg/kg	5.4	
SO-L1-51-2-6in	2 - 6	SO	10/20/2015	mg/kg	4.8	
SO-P1-69-0-2in	0 - 2	SO	10/20/2015	mg/kg	4.2	
SO-P1-69-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.1	
SO-Q1-58-0-2in	0 - 2	SO	10/20/2015	mg/kg	3.6	
SO-Q1-58-2-6in	2 - 6	SO	10/20/2015	mg/kg	2.5	J
SO-Q1-62-0-2in	0 - 2	SO	10/20/2015	mg/kg	6.3	
SO-Q1-62-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.1	
SO-R1-66-0-2in	0 - 2	SO	10/20/2015	mg/kg	7.1	
SO-R1-66-2-6in	2 - 6	SO	10/20/2015	mg/kg	8.7	
SO-T1-66-0-2in	0 - 2	SO	10/20/2015	mg/kg	7.3	
SO-T1-66-2-6in	2 - 6	SO	10/20/2015	mg/kg	6.1	
SO-U1-70-0-2in	0 - 2	SO	10/20/2015	mg/kg	7.5	
SO-U1-70-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.8	
SO-U1-75-0-2in	0 - 2	SO	10/20/2015	mg/kg	3.8	
SO-U1-75-2-6in	2 - 6	SO	10/20/2015	mg/kg	1.1	J
Tee Box						
SO-H1-47-0-2in	0 - 2	SO	10/20/2015	mg/kg	92.1	
SO-H1-47-2-6in	2 - 6	SO	10/20/2015	mg/kg	78.1	
SO-H1-47-6-12in	6 - 12	SO	10/20/2015	mg/kg	27.1	
SO-H1-47-12-18in	12 - 18	SO	10/20/2015	mg/kg	20.2	
SO-H1-47-18-24in	18 - 24	SO	10/20/2015	mg/kg	8.9	
SO-H1-48-0-2in	0 - 2	SO	10/20/2015	mg/kg	8.5	
SO-H1-48-2-6in	2 - 6	SO	10/20/2015	mg/kg	7.4	
SO-H1-49-0-2in	0 - 2	SO	10/20/2015	mg/kg	8.2	
SO-H1-49-2-6in	2 - 6	SO	10/20/2015	mg/kg	5.3	

TABLE 3: SOIL SAMPLE RESULTS - COMPLETE LIST
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

						Tee Box				Fairway			Rough Area		Green				
Field Sample ID						SO-H1-48-0-2in	SO-H1-48-2-6in	SO-H1-48-6-12in	SO-H1-48-12-18in	SO-P1-65-0-2in	SO-P1-65-2-6in	SO-P1-65-6-12in	SO-K1-62-0-2in	SO-K1-62-2-6in	SO-T1-71-0-2in	SO-T1-71-2-6in	SO-T1-71-6-12in	SO-T1-71-12-18in	SO-T1-71-18-24in
Sample Depth						0 - 2	2 - 6	6 - 12	12 - 18	0 - 2	2 - 6	6 - 12	0 - 2	2 - 6	0 - 2	2 - 6	6 - 12	12 - 18	18 - 24
Date Sampled						10/20/2015	10/20/2015	10/20/2015	10/20/2015	10/19/2015	10/19/2015	10/19/2015	10/20/2015	10/20/2015	10/19/2015	10/19/2015	10/19/2015	10/19/2015	10/19/2015
Sample Matrix						SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
Units						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NYSDEC Soil Cleanup Objective																			
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial														
Metals																			
Arsenic	13.0 mg/kg	16.0 mg/kg	16.0 mg/kg	16.0 mg/kg	16.0 mg/kg	8.5	7.4			7.8	7.4	3.1	J	8.1	6.6	9.8	251	70.9	3.7
Barium	350.0 mg/kg	350.0 mg/kg	400.0 mg/kg	400.0 mg/kg	10000.0 mg/kg	61.9				79.5		80.4		83.9		18.7		J	
Beryllium	7.2 mg/kg	14.0 mg/kg	72.0 mg/kg	590.0 mg/kg	2700.0 mg/kg	0.43	J			0.55	J	0.51		0.75		ND< 0.31	U		
Cadmium	2.5 mg/kg	2.5 mg/kg	4.3 mg/kg	9.3 mg/kg	60.0 mg/kg	9.2				16.5	0.65	J	ND< 0.53	U	ND< 0.48	U	2.5		1.5
Chromium, Hexavalent	1.0 mg/kg	22.0 mg/kg	110.0 mg/kg	400.0 mg/kg	800.0 mg/kg	ND< 1.3	U,F			ND< 1.4	U			ND< 1.1	U	ND< 1.1	U		
Chromium, Total	30.0 mg/kg	36.0 mg/kg	180.0 mg/kg	1500.0 mg/kg	6800.0 mg/kg	74.4	F1	63.2	13.4	195	38.4	21.4	32.6	27.7		27.6			
Copper	50.0 mg/kg	270.0 mg/kg	270.0 mg/kg	270.0 mg/kg	10000.0 mg/kg	23.2				27.6		3.7	J	18.9		76.4			
Cyanide	27.0 mg/kg	27.0 mg/kg	27.0 mg/kg	27.0 mg/kg	10000.0 mg/kg	0.34				0.82				0.27		0.18			
Lead	63.0 mg/kg	400.0 mg/kg	400.0 mg/kg	1000.0 mg/kg	3900.0 mg/kg	51.6				65.3	24.4	12.3		38.7		49			
Manganese	1600.0 mg/kg	2000.0 mg/kg	2000.0 mg/kg	15000.0 mg/kg	10000.0 mg/kg	406				267		284		209		671			
Mercury	0.18 mg/kg	0.81 mg/kg	0.81 mg/kg	2.8 mg/kg	5.7 mg/kg	2.3	2.1	0.36	H	0.15	H	0.48		0.18		44.9	21.9	0.22	H
Nickel	30.0 mg/kg	140.0 mg/kg	310.0 mg/kg	310.0 mg/kg	10000.0 mg/kg	16.7				19.4		11		21.3		3.4		J	
Selenium	3.9 mg/kg	36.0 mg/kg	180.0 mg/kg	1500.0 mg/kg	6800.0 mg/kg	ND< 1.7	U			2.7	J	ND< 1.8	U	ND< 1.6	U	ND< 1.3	U		
Silver	2.0 mg/kg	36.0 mg/kg	180.0 mg/kg	1500.0 mg/kg	6800.0 mg/kg	0.59	J			1.8	J	ND< 0.45	U	ND< 0.41	U	0.33		J	
Zinc	109.0 mg/kg	2200.0 mg/kg	10000.0 mg/kg	10000.0 mg/kg	10000.0 mg/kg	102				126		66.7		98.1		73.4			
PCBs / Pesticides																			
Semi-volatile Organic Compounds																			
Benzo(A)Anthracene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	5.6 mg/kg	11.0 mg/kg	0.1				0.054	J	0.046	J	ND< 0.0360	U	0.025		J	
Benzo(A)Pyrene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	1.1 mg/kg	0.11				0.059		0.046	J			0.025		J	
Benzo(B)Fluoranthene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	5.6 mg/kg	11.0 mg/kg	0.16				ND< 0.0220	U	0.067		ND< 0.0170	U				
Benzo(G,H,I)Perylene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.12	J			0.062	J	0.042	J	0.033	J				
Benzo(K)Fluoranthene	0.8 mg/kg	1.0 mg/kg	3.9 mg/kg	56.0 mg/kg	110.0 mg/kg	0.064	F1			ND< 0.0250	U	ND< 0.0210	U	ND< 0.0190	U				
Chrysene	1.0 mg/kg	1.0 mg/kg	3.9 mg/kg	56.0 mg/kg	110.0 mg/kg	0.13	J			0.076	J	0.054	J	0.03	J				
Fluoranthene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.22	J			0.1	J,*	0.076	J	0.042	J,*				
Indeno(1,2,3-C,D)Pyrene	0.5 mg/kg	0.5 mg/kg	0.5 mg/kg	5.6 mg/kg	11.0 mg/kg	0.12				ND< 0.0380	U	0.044	J	0.035	J				
Phenanthrene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.097	J			0.051	J	0.035	J	0.015	J				
Pyrene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.14	J			0.081	J	0.078	J	0.027	J				
Volatile Organic Compounds																			
Acetone	0.05 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND< 0.00700	U,F			0.027		0.015	J	ND< 0.00120	U				
Chloroform	0.37 mg/kg	10.0 mg/kg	49.0 mg/kg	350.0 mg/kg	700.0 mg/kg	ND< 0.000510	U			0.00043	J	ND< 0.000580	U	ND< 0.000240	U				
Hexachlorobenzene	0.33 mg/kg	0.41 mg/kg	1.2 mg/kg	6.0 mg/kg	12.0 mg/kg	ND< 0.0210	U,F			ND< 0.0230	U	ND< 0.0190	U	0.028	J				
Methylene Chloride	0.05 mg/kg	51.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND< 0.00380	U			ND< 0.000540	U	0.018		ND< 0.000370	U				
Tetrachloroethylene (PCE)	1.3 mg/kg	5.5 mg/kg	19.0 mg/kg	150.0 mg/kg	300.0 mg/kg	0.0027	J,B			ND< 0.000470	U	0.0039	J,B	ND< 0.000320	U				

NOTES:

Only analytes detected in at least one sample are shown.

TABLE 4: SUMMARY OF EXCEEDANCES OF UNRESTRICTED USE SOIL CLEANUP OBJECTIVES
 WESTWOOD PILOT STUDY
 772 NORTH FOREST ROAD
 AMHERST, NEW YORK

	<i>Arsenic</i>	<i>Mercury</i>	<i>Trivalent Chromium</i>	<i>Cadmium</i>	<i>Cooper</i>	<i>Lead</i>	<i>Zinc</i>
TEES	Ar	Hg	Cr	Cd	Cu	Pb	Zn
Unrestricted	x	x	x	x			
Residential	x	x	x	x			
Restricted Residential	x	x		x			
Commercial	x						
Industrial	x						
Max Depth (inches)	12-18	6-12	2-6	0-2			
GREENS	Ar	Hg	Cr	Cd	Cu	Pb	Zn
Unrestricted	x	x			x		
Residential	x	x					
Restricted Residential	x	x					
Commercial	x	x					
Industrial	x	x					
Max Depth (inches)	6-12	12-18			0-2		
FAIRWAYS	Ar	Hg	Cr	Cd	Cu	Pb	Zn
Unrestricted	x	x	x	x		x	x
Residential			x	x			
Restricted Residential			x	x			
Commercial							
Industrial							
Max Depth (inches)	2-6	0-2	2-6	0-2		0-2	0-2
ROUGH	Ar	Hg	Cr	Cd	Cu	Pb	Zn
Unrestricted			x				
Residential							
Restricted Residential							
Commercial							
Industrial							
Max Depth (inches)			0-2				

APPENDIX A BORING LOGS

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: G1-46

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:30 PM Start

Elevation: 598.58

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-G1-46-0-2in	CLAY -dark brown; moist soft	0 ppm Sample collected from 0-2" and 2-6" for Arsenic analysis only.
	SO-G1-46-2-6in		
5		CLAY -brown; moist; soft	0 ppm Samples collected for 6-12", 12-18", and 18-24" held for Arsenic only.
	SO-G1-46-6-12in		
10			
	SO-G1-46-12-18in		
15		CLAY -red brown; moist; soft	0 ppm
	SO-G1-46-18-24in		
20		CLAY -red brown; moist; small in bedded pebbles	0 ppm
25			
30			
35		CLAY -red brown; moist; small in bedded pebbles	0 ppm
40			
45			
46.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: H1-47

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:40 PM Start

Elevation: 600

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-47-0-2in	CLAY -dark brown; moist	0 ppm Sample at 0-2in, 2-6in and 6-12in intervals collected for Arsenic only.
	SO-H1-47-2-6in		
	SO-H1-47-6-12in		
5		CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-H1-47-12-18in		
10		CLAY -brown; moist to wet	0 ppm
	SO-H1-47-18-24in		
15		CLAY -light red brown	0 ppm
20			
25			
30			
35			
40.0			

BORING LOG



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 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: H1-48

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather:

Comments: 12:10 PM Start

Elevation: 600.62

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-48-0-2in	Silty LOAM	0 ppm Sample collected at 0-2in for Complete List.
5	SO-H1-48-2-6in	CLAY -dark brown	0 ppm Sample collected at 2-6in for Arsenic only.
10	SO-H1-48-6-12in	Large Rocks CLAY -brown; moist	0 ppm Sample collected at 6-12in, 12-18in, and 18-24in for Arsenic only.
15	SO-H1-48-12-18in		
20	SO-H1-48-18-24in		
25			
30			
35			
36.0			

BORING LOG



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 Buffalo, New York 14203
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 www.cscos.com

Borehole ID: H1-49

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-49-0-2in	Sandy LOAM -brown	0 ppm Samples at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicate from 0-2in interval (DUP C).
	SO-H1-49-2-6in		
5		CLAY -brown; embedded Gravel angular dark grey 1" and smaller; trace coal	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-H1-49-6-12in		
10			
	SO-H1-49-12-18in		
15			
	SO-H1-49-18-24in		
20			
25			
30			
33.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-54

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:45 AM Start

Elevation: 598.72

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-54-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-K1-54-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-K1-54-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in interval collected for Arsenic only.
15	SO-K1-54-12-18in		
20	SO-K1-54-18-24in		
25			
30			
35			
36.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-56

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:00 AM Start

Elevation: 598.865

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-56-0-2in	CLAY -dark brown; trace silt	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-K1-56-2-6in		
10	SO-K1-56-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-K1-56-12-18in		
20	SO-K1-56-18-24in		
25 30 35 40 44.0			

BORING LOG



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 Buffalo, New York 14203
 Phone: 716-847-1630
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 www.cscos.com

Borehole ID: K1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:00 AM Start

Elevation: 598.97

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-K1-57-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-K1-57-6-12in	CLAY -brown	0 ppm Sample at 6-12in, 12-18in and 18-24in interval collected for Arsenic only.
15	SO-K1-57-12-18in		
20	SO-K1-57-18-24in		
25			
30			
35			
40			
43.0			

BORING LOG



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 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.61

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-62-0-2in	CLAY -dark brown	0 ppm
5	SO-K1-62-2-6in		Sample at 0-2in collected for Complete List and 2-6in intervals collected for Arsenic only.
10	SO-K1-62-6-12in	CLAY -dark brown	0 ppm
15	SO-K1-62-12-18in		Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
20	SO-K1-62-18-24in		
25			
30			
35			
40			
45.0			

BORING LOG



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 Buffalo, New York 14203
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Borehole ID: K1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:05 PM Start

Elevation: 602

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-67-0-2in	CLAY -dark brown; moist	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-K1-67-2-6in		
10	SO-K1-67-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-K1-67-12-18in		
20	SO-K1-67-18-24in		
25			
30			
35			
40			
42.0			

BORING LOG



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Borehole ID: L1-51

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.13

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-51-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-L1-51-2-6in		
	SO-L1-51-6-12in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10	SO-L1-51-12-18in		
15	SO-L1-51-18-24in		
20			
25			
30			
35			
40			
45			
46.0			

BORING LOG



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Borehole ID: L1-56

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.742

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-56-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-L1-56-2-6in		
5		CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-L1-56-6-12in		
	SO-L1-56-12-18in		
10		CLAY -brown; wet	0 ppm
	SO-L1-56-18-24		
15		CLAY -brown; stiff	0 ppm
20			
25			
30			
35			
40			
41.0			

BORING LOG



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Borehole ID: L1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:30 AM Start

Elevation: 598.925

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-57-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-L1-57-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-57-12-18in		
20	SO-L1-57-18-24in		
25			
30			
35			
40			
41.0			

BORING LOG



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 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: L1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:05 AM Start

Elevation: 599.296

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-58-0-2in	LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-58-2-6in	CLAY -dark brown; trace Silt	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-L1-58-6-12in		
10		CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-58-12-18in		
20	SO-L1-58-18-24in		
25		Silty CLAY-light brown; dry	0 ppm
30		CLAY -brown	0 ppm
35			
40			
43.0			

BORING LOG



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Borehole ID: L1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:00 AM Start

Elevation: 599.518

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-59-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP D).
5	SO-L1-59-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-L1-59-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-59-12-18in		
20	SO-L1-59-18-24in		
25			
30			
35			
36			

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Borehole ID: L1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:00 AM Start

Elevation: 599.518

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
36 40 42.0	8-42	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.

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Borehole ID: L1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.757

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-60-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-60-2-6in	silty CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-L1-60-6-12in		
10	SO-L1-60-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-60-18-24in		
20	SO-L1-60-24-in		
25			
30			
35			
40			

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Borehole ID: L1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F Comments:

Elevation: 599.757

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
40 44.0	SO-L1-60-10-44in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

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Borehole ID: L1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 9:30 AM Start

Elevation: 600.203

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-L1-61-2-6in		
	SO-L1-61-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10		CLAY -brown; embedded Gravel angular dark grey 0.25"	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-L1-61-12-18in		
20	SO-L1-61-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: M1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:30 AM Start

Elevation: 598.914

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-M1-57-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-M1-57-6-12in		
10		CLAY -brown	0 ppm Samples at 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-M1-57-12-18in		
	SO-M1-57-18-24in		
20			
25			
30			
32.0			

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Borehole ID: M1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:25 AM Start

Elevation: 599.315

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-58-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-58-2-6in	CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-M1-58-6-12in	CLAY -brown; dry	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-M1-58-12-18in		
20	SO-M1-58-18-24in		
25			
30			
35			
40			
45			
48.0			

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Borehole ID: M1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.537

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-59-0-2in	CLAY -brown	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-59-2-6in	SILT -brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-M1-59-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-M1-59-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-59-18-24in		
25			
30			
35			
40			

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Borehole ID: M1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.877

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-60-0-2in	Silty and Sandy LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-60-2-6in	SILT -brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-M1-60-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-M1-60-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-60-18-24in		
25			
30			
35			
40			
45			
48.0			

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Borehole ID: M1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:38 PM Start

Elevation: 600.22

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-61-2-6in	CLAY -brown	0 ppm Samples at 2-6in, 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10	SO-M1-61-6-12in		
15	SO-M1-61-12-18in		
20	SO-M1-61-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: M1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.48

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-62-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-62-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-M1-62-6-12in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-M1-62-12-18in		
20	SO-M1-62-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: M1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.073

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-63-0-2in	Clayey LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-63-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-M1-63-6-12in		
15	SO-M1-63-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-63-18-24in		
40		Silty CLAY -red brown; wet	0 ppm
45.0			

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Borehole ID: N1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP E).
5	SO-N1-61-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-N1-61-6-12in		
10	SO-N1-61-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-61-18-24in		
20			
24			

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Borehole ID: N1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.936

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-62-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-N1-62-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in, 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10	SO-N1-62-6-12in	Clay -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-62-12-18in		
20	SO-N1-62-18-24in		
25			
30			
35			
40			
43.0			

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Borehole ID: N1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 9:00 AM Start

Elevation: 600.263

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-63-0-2in	Silty LOAM -brown	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-N1-63-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in intervals collected for Arsenic only.
10	SO-N1-63-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-63-12-18in		
20	SO-N1-63-18-24in		
25			
30			
35			
40			
42.0			

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Borehole ID: N1-64

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.005

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-64-0-2in	Clayey LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-N1-64-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-N1-64-6-12in		
15	SO-N1-64-12-18in	Clay -brown; wet	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-N1-64-18-24in		
25			
30			
35		CLAY -brown	0 ppm
40			
43.0			

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Borehole ID: N1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.867

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-65-0-2in	CLAY -dark brown; wet	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-N1-65-2-6in		
5		CLAY -brown; wet	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-N1-65-6-12in		
10			
	SO-N1-65-12-18in		
15		CLAY -brown; hard; dry	0 ppm
	SO-N1-65-18-24in		
20			
25			
30			
35			
40			
45			
46.0			

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Borehole ID: P1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.818

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-63-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-P1-63-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-P1-63-6-12in		
15	SO-P1-63-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-P1-63-18-24in		
25			
30			
35			
40			
45.0			

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Borehole ID: P1-64

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.57

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-64-0-2in	Silty CLAY -dark brown; wet	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP F).
5	SO-P1-64-2-6in		
10	SO-P1-64-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-P1-64-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-P1-64-18-24in		
25			
30			
35			
40			
45			
47.0			

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Borehole ID: P1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:00 PM Start

Elevation: 599.584

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-65-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Complete List. Field duplicated collected from the 0-2in interval (DUP J).
5	SO-P1-65-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-P1-65-6-12in		
15	SO-P1-65-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-P1-65-18-24in		
25			
30			
35			
36			

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Borehole ID: P1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.897

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-P1-66-2-6in		
		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-P1-66-6-12in		
15	SO-P1-66-12-18in	CLAY -brown	0 ppm Sample at 12-18in intervals collected for Arsenic only.
20	SO-P1-66-18-24in	CLAY -brown; water saturated	0 ppm Sample at 18-24in intervals collected for Arsenic only.
25			
30			
35			
36.0			

BORING LOG



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Borehole ID: P1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:00 PM Start

Elevation: 600.191

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-67-0-2in	Silty Loam	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-P1-67-2-6in		
5			
	SO-P1-67-6-12in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10			
	SO-P1-67-12-18	CLAY -brown	0 ppm
15			
	SO-P1-67-18-24		
20			
25			
30			
35			
40			
45.0			

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Borehole ID: P1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-P1-69-2-6in		
5		Root	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-P1-69-6-12in	CLAY -brown; some roots	0 ppm Sample at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-P1-69-12-18in		
15			
20	SO-P1-69-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: Q1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.33

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-58-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-Q1-58-2-6in	CLAY -dark brown	0 ppm Samples at 6-12in interval collected for Arsenic only.
10	SO-Q1-58-6-12in		
15	SO-Q1-58-12-18in	Brick Pieces CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-Q1-58-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: Q1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:45 PM Start

Elevation: 599

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-62-0-2in	SILTY LOAM -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-62-2-6in		
5		SILT -yellowish brown; trace Clay	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-Q1-62-6-12in		
	SO-Q1-62-12-18in		
15		CLAY -brown	0 ppm
	SO-Q1-62-18-24in		
20			
25			
30			
35			
40			
45.0			

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Borehole ID: Q1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.063

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-65-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-65-2-6in		
5			
	SO-Q1-65-6-12in	CLAY -brown; trace silt	0 ppm Samples at 6-12in interval collected for Arsenic only.
10			
	SO-Q1-65-12-18in	Silty CLAY -brown; saturated	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15			
	SO-Q1-65-18-24in		
20			
		CLAY -light brown	0 ppm
25			
30			
34.0			

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Borehole ID: Q1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.365

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-66-2-6in		
5		CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-66-6-12in	Coarse sand and rocks	0 ppm Samples at 12-18in interval collected for Arsenic only.
10			
	SO-Q1-66-12-18in	Silty CLAY -light brown	0 ppm Samples at 18-24in interval collected for Arsenic only.
15		CLAY -brown	0 ppm
	SO-Q1-66-18-24in		
20			
25			
30			
35			
38.0			

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Borehole ID: Q1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:20 PM Start

Elevation: 599.712

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-67-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-67-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-67-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10			
	SO-Q1-67-12-18in		
15	SO-Q1-67-18-24in		
20			
25			
30			
35			
40			

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Borehole ID: Q1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.762

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-68-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP G).
	SO-Q1-68-2-6in		
5			
	SO-Q1-68-6-12in	Silty CLAY -dark brown	0 ppm Samples at 6-12in and 12-18in intervals collected for Arsenic only.
10			
	SO-Q1-68-12-18in	CLAY -brown	0 ppm Sample at 12-18in interval collected for Arsenic only.
15			
	SO-Q1-68-18-24in	CLAY -light brown; hard	0 ppm Sample 18-24in interval collected for Arsenic only.
20			
25			
30			
35			
40			

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Borehole ID: Q1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-69-2-6in		
5		Silty CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-69-6-12in		
10		CLAY -brown	0 ppm Sample at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-Q1-69-12-18in		
	SO-Q1-69-18-24in		
15			
20			
25			
30			
35			
40			
44.0			

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Borehole ID: R1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.74

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-66-2-6in		
5		Tree Root	0 ppm
10	SO-R1-66-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-R1-66-12-18in	CLAY -brown; hard	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-R1-66-18-24in		
25			
30			
35			
40			
45			
48.0			

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Borehole ID: R1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.209

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-67-0-2in	Sandy LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-67-2-6in		
5		CLAY -brown; trace Silt	0 ppm Samples at 6-12in and 12-18in intervals collected for Arsenic only.
	SO-R1-67-6-12in		
10		CLAY -brown	0 ppm Sample at 18-24in interval collected for Arsenic only.
	SO-R1-67-12-18in		
15			
20	SO-R1-67-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: R1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.317

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-68-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-R1-68-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-R1-68-6-12in		
10	SO-R1-68-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-R1-68-18-24in		
20			
25			
30		Silt -brown; moist	0 ppm
		CLAY -brown	0 ppm
35			
40			

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Borehole ID: R1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F Comments:

Elevation: 599.317

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
40 43.0	SO-R1-68-31-43in	CLAY -brown	0 ppm

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Borehole ID: R1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:30 PM Start

Elevation: 599.664

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-69-2-6in		
5		CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-R1-69-6-12in		
10		CLAY -brown	0 ppm
	SO-R1-69-12-18in		
15			
	SO-R1-69-18-24in		
20			
25			
30			
35			
40		Silt -brown; saturated	0 ppm
44.0			

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Borehole ID: R1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.093

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-70-0-2in	Silty LOAM -dark brown; trace Clay and organic matter; moist	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-R1-70-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in interval collected for Arsenic only.
10	SO-R1-70-6-12in	CLAY -brown; some Silt; water saturated at 38-41 inch	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-R1-70-12-18in		
20	SO-R1-70-18-24in		
25			
30			
35			
40			
42.0			

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Borehole ID: S1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 599.242

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-69-0-2in	Silty LOAM CLAY -dark brown	0 ppm 0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP H).
5	SO-S1-69-2-6in		
10	SO-S1-69-6-12in		
15	SO-S1-69-12-18in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
20	SO-S1-69-18-24in		
25			
30			
35			
36			

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Borehole ID: S1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 599.579

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-70-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-S1-70-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-70-6-12in		
15	SO-S1-70-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-S1-70-18-24in		
25			
30			
35			
40			

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Borehole ID: S1-70**Site Name: Westwood****Site Location: 772 North Forest Road Amherst NY****Project No.: O76.001.001****Start/End Date: 10/20/2015**

North: NA

East: NA

Driller: TREC Environmental, Inc**Rig Type: 6620 DT Geoprobe****Borehole Diameter: 2 in****Weather: Cloudy; 50 Deg. F Comments: 12:00 PM Start****Elevation: 599.579****Datum: NAVD88****Depth to GW:**

Depth in	Sample ID	Soil Description	Comments
40	12-42	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
44.0	42-44	SILT -brown; moist	0 ppm

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Borehole ID: S1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.134

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-71-0-2in	Sandy LOAM -brown; organic matter; moist; med-fine Sand; trace Silt	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-S1-71-2-6in	CLAY -dark brown; organic matter (roots)	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-71-6-12in		
15	SO-S1-71-12-18in	Sand and Gravel -dark grey; medium to coarse Sand; sub-round gravel, 1 in CLAY -brown; soft; moist	0 ppm Samples at 12-18in interval collected for Arsenic only. 0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-S1-71-18-24in		
22			

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Borehole ID: S1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.134

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
22 25 30 35 40 43.0	SO-S1-71-18-24in	CLAY -brown; soft; moist	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

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Borehole ID: S1-72

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.66

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-72-0-2in	Sandy Loam -brown; moist; trace Silt	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP I).
5	SO-S1-72-2-6in	CLAY -dark grey; soft; moist	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-72-6-12in		
15	SO-S1-72-12-18in	GRAVEL -grey; rounded; moist	0 ppm Sample at 12-18in interval collected for Arsenic only.
20	SO-S1-72-18-24in	CLAY -dark brown; moist; dense	0 ppm Sample at 18-24 interval collected for Arsenic only.
25			
30			
35			
36.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: T1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.13

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-66-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP B).
	SO-T1-66-2-6in		
	SO-T1-66-6-12in		
5		CLAY -brown	0ppm Sample at 12-18in interval collected for Arsenic only.
	SO-T1-66-12-18in		
10		SILT -brown; moist	0ppm Sample at 18-24in interval collected for Arsenic only.
	SO-T1-66-18-24in		
15		CLAY -brown	0ppm Sample at 18-24in interval collected for Arsenic only.
20			
25			
30			
35			
40			
43.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: T1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.293

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-71-0-2in	Sandy LOAM	0 ppm Sample at 0-2in interval collected for Complete List only.
5	SO-T1-71-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-T1-71-6-12in	Sand and Gravel	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-T1-71-12-18in	CLAY -brown; water saturated 34-39 inch	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-T1-71-18-24in		
22			

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 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: T1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.293

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
22 25 30 35 40 41.0	SO-T1-71-18-24in	CLAY -brown; water saturated 34-39 inch	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

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 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: T1-72

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601.139

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-72-0-2in	Sandy LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-T1-72-2-6in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in collected for Arsenic only.
10	SO-T1-72-6-12in		
15	SO-T1-72-12-18in		
		Sand and Gravel	0 ppm
20	SO-T1-72-18-24in	Clay -brown	0 ppm Sample at 18-24in interval collected for Arsenic only.
25			
30			
35			
39.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: U1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:20 PM Start

Elevation: 598.57

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-U1-70-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-U1-70-2-6in		
5		CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-U1-70-6-12in		
10			
	SO-U1-70-12-18in		
15		SILT -saturated; trace Clay	0 ppm
	SO-U1-70-18-24in		
20		SAND -brown; fine; saturated	0 ppm
25			
30			
35			
40			
41.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: U1-75

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 602

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-U1-75-0-2in	Silty LOAM	0 ppm Sample at 0-2in intervals collected for Arsenic only.
5	SO-U1-75-2-6in	GRAVEL-dark grey; 0.25in-1in angular; moist some Silt and medium Sand	0 ppm Samples at 2-6in, 6-12in, and 12-18in intervals collected for Arsenic only.
10	SO-U1-75-6-12in		
15	SO-U1-75-12-18in		
20	SO-U1-75-18-24in	Black SILT trace Clay; moist	0 ppm Samples at 18-24in interval collected for Arsenic only.
25		Grey CLAY; moist; soft	0 ppm
30.0			



C&S Companies

141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

April 11, 2017

Michael J. Hinton, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915

*Re: Hole #6 Supplemental Pilot Study Report
Westwood Golf Course, Amherst, New York*

Dear Mike,

At the request of Mensch Capital Partners, LLC (Mensch), C&S Engineers, Inc. (C&S) conducted soil sampling on a portion of the Westwood County Club (Site) in Amherst New York. The Site was accepted into the Brownfield Cleanup Program on March 10, 2015. The Remedial Investigation (RI) Work Plan was accepted by the New York State Department of Environmental Conservation (NYSDEC) on October 5, 2015. However, prior to the full implementation of the RI Work Plan across the entire Site, a portion of the Site was selected to evaluate soil conditions and help determine if the proposed approach to the RI is the most appropriate. A Pilot Study was conducted on the green, fairway, rough and tee of Hole #6 in 2015, and the results were used to prepare an approach to a Supplemental Pilot Study to further evaluate and refine the RI approach. This letter report describes the methodology and results of the Supplemental Pilot Study.

I. SITE DESCRIPTION

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192) on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west.

The Site is relatively flat with some minor topographic relief commonly associated with golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

II. 2015 PILOT STUDY

The initial Pilot Study was conducted on Hole #6 located north of the Grounds Maintenance Buildings. The Hole #6 Pilot Study area consists of the green, tee box, fairway and adjacent rough areas. The Pilot Study area occupies approximately 10 acres of the 170-acre Westwood Site. Figure 1 shows the location of the Pilot Study on the Westwood Site.

Pre-BCP sampling at the Site demonstrated a prevalence of arsenic at elevated concentrations in various portions of the Site. The RI Work Plan was therefore created to focus on arsenic as the primary contaminant of concern, although the RI Work Plan also included the analysis of a subset of samples for a variety of other contaminants. Sampling locations focused on areas in which the historical application of pesticides was the most common: tee boxes and greens. Fairways were assumed to have received less frequent pesticide treatments and rough areas were assumed to have

received few or no treatments. The highest arsenic concentrations were also assumed to be present at the surface with diminishing concentrations at depths due to that metal's relative immobility.

The 2015 Pilot Study was implemented to evaluate the assumptions listed above as well as confirm that the sampling approach targeted the correct analytes and the correct locations, both horizontally and vertically. The Pilot Study included the advancement of 56 borings in Hole #6 and the analysis of 138 soil samples. The findings were detailed in a March 2016 letter report and are summarized below.

Although pesticides and herbicides were not detected in soils, the Pilot Study identified the presence of a number of metals in soils at concentrations above the NYSDEC Soil Cleanup Objectives (SCOs). The detected metal concentrations above Unrestricted Use SCOs included arsenic, cadmium, copper, lead, mercury, trivalent chromium, and zinc. More specifically:

-) Arsenic and mercury were encountered at the greatest depths (12-18 inches) and in the highest concentrations (in excess of Industrial Use SCOs) in the tee and green samples, and in lower concentrations (in excess of Unrestricted Use SCOs) in the fairway samples.*
-) Trivalent chromium was encountered at depths 2-6 inches below the surface in the tee and fairway samples and at levels in excess of Restricted Residential Use SCOs, while only encountered at depths 0-2 inches and in excess of Unrestricted Use SCOs in the rough sample.*
-) Cadmium was encountered at depths 0-2 inches below the surface in the tee and fairway samples and at levels in excess of Restricted Residential Use SCOs.*
-) Copper, lead and zinc were only encountered at depths 0-2 inches below the surface and at levels in excess of Unrestricted Use SCOs. Lead and zinc were identified in the fairway samples, while copper was identified in the green sample.*

The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in pesticides, herbicides, and fungicides, these metals once formed the basis for these products. The general presence of higher concentrations in the tee boxes and greens corroborates expectations and appears to be indicative of more concentrated maintenance of these closely manicured portions of the golf course. The general lack of elevated concentrations of metals in the 'rough' areas also corroborates the hypothesis that these areas were less well maintained and therefore received fewer or no applications of pesticides, herbicides, and fungicides. As expected, the concentrations of metals in fairway samples were lower, generally falling in concentration between the 'rough' area samples and the tees and green samples.

It is important to note the findings related to the newly detected metals, the metals other than arsenic, are based on limited sampling and may require additional remedial site investigation.

The subject of this letter report, the Supplemental Pilot Study, was implemented to augment the data generated during the 2015 Pilot Study and provide additional information relative to the occurrence and distribution of various metals throughout the various portions of Hole #6.



III. SAMPLING METHODS

C&S conducted the pilot study on October 10, 2016. TREC Environmental, Inc. was contracted to drill 56 soil borings from ground surface to approximately 4 feet below ground surface (bgs). Drilling was conducted using a track mounted Geo-probe drilling unit. Each boring location was sampled to four feet using a one-inch by four-foot steel sampling tube fitted with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between drilling locations to avoid potential cross contamination of samples. Material description and physical evidence of contamination (staining or sheen) of each direct-push sample was recorded on soil boring logs provided in *Appendix A*.

The RI Work Plan included two sampling grids for the Site. For the green, fairway and tee box borings were spaced across a 50-foot by 50-foot grid. A 200-foot by 200-foot grid was used for the rough areas surrounding the green, fairway and tee box. **Figure 2 Sample Locations** shows the locations that were drilled for this pilot study.

From each sampling location, four soil samples were collected from the following depth intervals:

-) 2 to 6 inches below grade
-) 6 to 12 inches below grade
-) 12 to 18 inches below grade
-) 18 to 24 inches below grade

All four sample intervals from each grid location were submitted to the laboratory for analysis of Target Analyte List (TAL) metals. Initially, only the 2- to 6-inch and 6- to 12-inch intervals were analyzed. If the 6- to 12-inch interval contained one or more contaminants at concentrations above the Unrestricted Use SCOs, the next sample interval below that was analyzed, and the process was repeated until all concentrations were below Unrestricted Use SCOs.

Additionally, five sample locations were selected, one each from the tee, green, and rough areas, and two locations on the fairway, for testing of all analytes listed in NYSDEC 6NYCRR 375-6.8 tables (referred to as “complete list”). The complete list includes the following parameters:

<i>Analytes</i>	<i>EPA Method</i>
Target Compound List (TCL) volatile organic compounds (VOCs)	8260
TCL semi-volatile organic compounds (SVOCs)	8270
TCL pesticides	8081A
Polychlorinated biphenyls (PCBs)	8082
Target Analyte List (TAL) metals	6010
Total cyanide	9010B

Additionally, Quality Assurance/Quality Control (QA/QC) samples were collected including Matrix Spike/Matrix Spike Duplicate (MS/MSD) and blind duplicate samples.

Two monitoring wells were used to evaluate groundwater conditions adjacent to the Pilot Study Area. During the field program, a one-inch well was installed adjacent to Hole #6 green by TREC Environmental, Inc. in grid location U1-70. Monitoring well MW-U1-70 was installed to 16 feet below ground surface. The second monitoring well was installed by SJB in February 2014 to 30 feet below ground surface. This well, SJB-MW-3, was placed on the northern end of the Site near the homes on Maple Road. Samples were collected for TAL metals using low-flow sampling techniques. If turbidity levels remained high during purging, then an unpreserved sample for TAL metals was collected for the laboratory to filter and preserve.

The laboratory results for the samples were reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary Report (DUSR). The DUSR has not yet been completed for these samples.

IV. SAMPLING RESULTS

A. Surface and Subsurface Soil Conditions

Pilot Study surface soils generally consist of silty clay loam, and the upper two inches of soil in the greens also contained trace amounts of fine sand. Subsurface soils are predominately brown dense clay with organic matter. No petroleum odors or visual evidence of contamination were observed in the samples.

B. Surface and Subsurface Soil Analytical Results

A total of 258 soil samples were collected and submitted to the laboratory from the green, fairway, rough and tee box (includes surface, QA/QC and waste characterization samples). The first two intervals were analyzed by the laboratory. As described in the approved Work Plan, if metal concentrations exceeded Unrestricted Use SCOs the next sample intervals was analyzed. If metal concentrations were below Unrestricted Use SCOs, no deeper samples were analyzed. From the 258 soil samples collected from the Site, a total of 164 soil samples were analyzed by the laboratory. Tables 1 through 4 summarize the laboratory results and compares these results to NYSDEC SCOs.

Four additional soil samples were analyzed for the Complete List and the results are included in Table 5. Two groundwater samples were collected and Table 6 summarizes the results.

The sample results from each area of Hole #6 are discussed below:

Tee Box

- J Three borings were advanced in this area.
- J One surface soil sample was collected at H1-47 grid location.
- J *Table 1 – Tee Soil Sampling Results* compares the laboratory results to NYSDEC SCOs.
- J The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:

- Arsenic
 - Cadmium
 - Total Chromium
 - Cyanide
 - Lead
 - Mercury
 - Silver
 - Zinc
-) All three sampling locations contained at least one metal at concentrations above the Unrestricted Use SCOs in the uppermost sample.
-) Metal concentrations were below the Unrestricted Use SCOs in one sample at 6-12 inches and the remaining two at 12-18 inches.
-) Grid location H1-49 (2-6 inches) was selected for the complete analysis:
- VOCs, SVOCs, PCBS, and herbicides were either not detected or were detected at concentrations below the Unrestricted Use SCOs.
 - 4,4' – DDE, DDD and DDT were detected above Unrestricted Use (0.0033 mg/kg) at a concentration of 0.101 mg/kg, 0.00364 mg/kg and 0.015 mg/kg, respectively. *Table 5 – Complete List Soil Sampling Results* compares the laboratory results to NYSDEC SCOs.

Green

-) Four borings were advanced in this area.
-) Two surface soil samples were collected at grid locations S1-72 and T1-72.
-) The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
- Arsenic
 - Cadmium
 - Total Chromium
 - Copper
 - Cyanide
 - Lead
 - Mercury
 - Silver
 - Zinc
-) All four grid locations contained concentrations of metal contaminants above NYSDEC SCOs.
-) Metal concentrations were below Unrestricted Use SCOs at 12-18 inches in the two grid locations and the bottom samples analyzed for the remaining two sample locations were above the SCOs. However, the bottommost samples at these two locations were collected from 12-18 inches.
-) Grid location S1-72 was selected for the complete analysis.

- PCB (Aroclor 1254) was detected above Unrestricted Use (0.1 mg/kg) at 0.292 mg/kg in the 2- 6-inch sample interval. *Table 5 – Complete List Soil Sampling Results* compares the laboratory results to NYSDEC SCOs.

Fairway

-) A total of 36 soil borings were advanced in this area.
-) Ten surface soil samples were collected at grid locations K1-56, L1-59, M1-59, M1-61, M1-63, P1-64, P1-66, Q1-68, R1-67, R1-70.
-) *Table 2 – Fairway Soil Sampling Results* compares the laboratory results to NYSDEC SCOs.
-) The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - Arsenic
 - Cadmium
 - Total Chromium
 - Cyanide
 - Lead
 - Manganese
 - Mercury
 - Nickel
 - Silver
 - Zinc
-) All but five sampling locations contained at least one metal at concentrations above the Unrestricted Use SCOs in the uppermost sample.
-) Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - A total of 23 grid locations contained metals concentrations below the Unrestricted Use at the 6-12-inch interval.
 - A total of 11 grid locations contained concentrations below Unrestricted Use SCOs in the 12-18-inch interval.
 - One grid location contained concentrations below Unrestricted Use SCOs in the 18-24-inch interval.
 - The bottom sample analyzed in one sample locations were above the SCOs. However, the bottommost sample at this location was collected from 12-18 inches.
-) Grid location P1-65 was selected for the complete analysis.
 - P-P' DDT was detected above Unrestricted Use (0.0033 mg/kg) at a concentration of 0.0243 mg/kg and PCB was detected above Unrestricted Use (0.1 mg/kg) at a concentration of 0.122 mg/kg. *Table 5 – Complete List Soil Sampling Results* compares the laboratory results to NYSDEC SCOs.

Rough

-) A total of 13 soil borings were advanced in this area.
-) Two surface soil samples were collected at grid locations K1-54 and Q1-62.



- J The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - o Arsenic
 - o Cadmium
 - o Total Chromium
 - o Cyanide
 - o Lead
 - o Mercury
 - o Silver
 - o Zinc
- J Out of the 12 grid locations, nine grid locations contained concentrations of metal contaminants above NYSDEC SCOs.
- J Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - o Four grid locations contained metals concentrations below the Unrestricted Use at the 2-6-inch interval.
 - o Six grid locations contained metals concentrations below the Unrestricted Use at the 6-12-inch interval.
 - o One grid locations contained concentrations below Unrestricted Use SCOs in the 12-18-inch interval.
 - o The bottom sample (18-24 inches) analyzed in one sample location contained concentrations above the SCOs.
- J Grid location K1-62 was selected for the complete analysis. No analytes were detected above SCOs. Table 5 – Complete List Soil Sampling Results compares the laboratory results to NYSDEC SCOs.

C. Waste Characterization

One composite soil sample was collected from the grid locations with the highest metal concentrations from the green and tee. Soil samples were collected from ground surface to 24 inches deep in grid locations H1-47 and T1-71. Samples were analyzed for waste characterization using the Toxicity Characteristic Leaching Procedure (TCLP). Results indicate that, although soils from this Site are contaminated with heavy metals, the concentrations do not exceed hazardous levels.

Table 8 – Waste Characterization Sample Results compares the laboratory results to EPA standards.

D. Groundwater

The main contaminants of concern for this Site are heavy metals such as arsenic, cadmium, cyanide and mercury found in the surface and subsurface soils. None of the contaminants found in the soils were detected in the groundwater samples. The groundwater samples did contain concentrations of magnesium and iron above NYSDEC groundwater standards; however, it is common for groundwater in this region to contain high concentrations of metals such as calcium, iron and

magnesium. *Table 6 – Groundwater Sampling Results* compares the laboratory results to NYSDEC standards.

V. 2015 AND 2016 PILOT STUDY CONCLUSIONS

Two pilot studies, conducted in 2015 and 2016, were implemented on a 10-acre portion of the Site. Soil samples were collected from the study area to evaluate the type, concentration and depth of contaminants of soil contamination that may be encountered across the Site. Results from the 2015 Pilot Study indicated that metals other than arsenic would be present in the soils of Hole #6. To confirm this finding additional soil samples were collected from the same study area.

The results from this supplemental pilot study has expanded the list of heavy metal contaminants in the greens, fairway, rough and tee boxes. Except for the tee boxes, arsenic was not detected in surface soils (0-2 inches) over soil cleanup standards. The 2016 surface sample results show concentrations of heavy metals such as cadmium, cyanide, mercury and zinc exceeding Commercial and Industrial Use. The first pilot study indicated that no arsenic contamination was in the fairways or the rough area; however, this round of soil sampling shows some fairway locations contain cadmium, chromium and mercury in the 2-6-inch interval exceeding Residential and Restricted Residential Use. Some locations in the rough area have concentrations of chromium, manganese and mercury above Unrestricted and Residential Use.

The findings from both the pilot studies confirm tee boxes and greens are significantly impacted by heavy metal contamination – this contamination includes concentrations of arsenic and mercury above Industrial Use. Even though metal concentrations in these areas are high, soils in the tee box and green do not qualify as hazardous waste.

The data collected from these pilot studies will be used to refine the upcoming Site-wide remedial investigation.

VI. FINDINGS AND CONCLUSIONS

The Supplemental Pilot Study identified the presence of a number of metals in soils at concentrations above the NYSDEC SCOs. The detected metal concentrations above Unrestricted SCOs included arsenic, cadmium, copper, lead, mercury, trivalent chromium, silver and zinc. *Table 7 – Summary Results* presents each metal contaminant by depth. More specifically:

-) Arsenic, chromium, cadmium, lead and mercury were encountered at the greatest depths (12-18 inches) and in the highest concentrations (in excess of Industrial SCOs) in the green samples. These concentrations were encountered at depths of 6-12 inches in the tee samples.
-) Surface soil sample results in the fairway show concentrations of arsenic, cadmium, and cyanide above Commercial Use SCOs and concentrations of mercury in excess of Industrial Use SCOs. Cadmium and trivalent chromium were encountered at depths 2-6 inches below the surface in the fairway samples and at levels in excess of Restricted Residential and Commercial Use SCOs. Most of the soils in the fairway are below Unrestricted Use at the 6-12-inch interval. Eleven grid locations encountered contaminants at the 6-12-inch interval. Two locations contained contaminants in the 12-18-inch interval.



- J Mercury and zinc concentrations exceeded Industrial Use SCOs in the surface soil in the rough areas. Cadmium, chromium and lead were detected in the surface and the 2-6-inch interval. Metal concentrations are below Unrestricted Use in the rough area at six inches below ground surface. The only exception is one location within the grounds department maintenance yard; mercury concentrations in this grid location exceed Restricted Residential Use SCOs in the 18-24-inch interval.
- J Four soil samples were collected for VOCs, SVOCs, pesticides, herbicides and PCBs. Concentrations of PCBs above Unrestricted Use were encountered in the 2-6-inch interval in the fairway and green samples. Pesticides such as DDD and DDT were detected above Unrestricted Use in the 2-6-inch interval in the tee and fairway samples.
- J None of the contaminants found in the soils were detected in the groundwater samples collected from two groundwater monitoring wells.
- J Two soil samples were collected from the highest concentrations of heavy metal contaminants and analyzed for waste characterization using the Toxicity Characteristic Leaching Procedure (TCLP). Sample results indicate that soils are considered to be non-hazardous.

The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in pesticides, herbicides, and fungicides, these metals once formed the basis for these products. The general presence of higher concentrations in the tee boxes and greens corroborates expectations and appears to be indicative of more concentrated maintenance of these closely manicured portions of the golf course. The general lack of elevated concentrations of metals in the 'rough' areas also corroborates the hypothesis that these areas were less well maintained and therefore received fewer or no applications of pesticides, herbicides, and fungicides. As expected, the concentrations of metals in fairway samples were lower, generally falling in concentration between the 'rough' area samples and the tees and green samples.

C&S recommends the following modifications to the RI Work Plan:

1. Based on the findings of the Pilot Studies, the sampling program requirements should be modified. The bulk of the approved sampling program included the analysis of soil samples for only arsenic analysis, and the new program would include increase the requirements and include the analysis of Part 375 List metals for those sample locations.
2. Both Pilot Studies have clearly indicated the highest concentrations of metals will be in the tee boxes, greens, and fairways. Since the type of golf course management used on the tee box, green, and fairway for Hole #6 will be the same for the other golf course holes, it can be assumed the rest of the tee boxes, greens, and fairways on the Site will have similar concentrations of metals. The anticipated remedy for these areas is excavation to clean soils.
3. The Pilot Studies have indicated that surface soils (0-2 inches) and the underlying materials at 2-6 and 6-12 inches below grade contain several metal contaminants in the tees, greens, and fairways at elevated concentrations. The high concentration of metals in the tees and greens is consistent with the intensive maintenance of these areas with pesticides, herbicides, and fungicides. Based on these findings, it can be assumed that the top six



inches of material in the tees, greens, and fairways across the Site are similarly impacted. As such, we propose that the future remediation will include the removal of a minimum of the top six inches of material from the tees, greens, and fairways.

4. Understanding that the top six inches of material from the tees, greens, and fairways will be removed, as discussed in bullet #3 above, we propose to modify the sampling program for these areas. We propose to complete sampling in these areas at one location in each of the greens and up to two locations in each of the tee boxes. The samples will be collected starting at six inches below grade, then collected every six inches within the 4-foot geo-probe core. The uppermost samples will be analyzed for Part 375 List metals, and any metals with contraventions of SCOs would be analyzed in the immediately underlying sample interval. The process will be repeated until the SCOs are met.
5. Understanding that the top six inches of material from the fairways will be removed, as discussed in bullet #3 above, we propose to modify the sampling program for the fairways. We propose to complete sampling in these areas using a 100-foot by 100-foot grid. The samples will be collected starting at six inches below grade, then collected every six inches within the 4-foot geo-probe core. The uppermost samples will be analyzed for Part 375 List metals, and any metals with contraventions of SCOs would be analyzed in the immediately underlying sample interval. The process will be repeated until the SCOs are met. This will reduce the number of samples to be collected in the fairway by $\frac{3}{4}$ while retaining a sample frequency to accurately characterize soil conditions in these areas.
6. The analytical results for the rough areas were inconclusive, in that some areas contained metals at concentrations above the SCOs while other areas did not. These Supplemental Pilot Study samples were collected from the area assumed to be most impacted based on Hole #6's proximity to the maintenance shop area (where chemicals and the associated distribution equipment were assumed to be stored). Due to the significant extent of the rough areas across the Site (estimated at more than $\frac{2}{3}$ of the Site), C&S proposes to conduct limited soil sampling in the rough areas across the Site prior to finalization of the RI approach for the rough areas. The intent of the work is to help evaluate if areas farther from the maintenance shop demonstrate similar impacts. Therefore, we would propose the collection of ten samples from locations in the rough areas on other portions of the Site. The samples will be collected from the surface (0-2 inches) then collected every six inches within the 4-foot geo-probe core. The uppermost samples will be analyzed for Part 375 List metals and any metals with contraventions of SCOs would be analyzed in the immediately underlying sample interval. The process will be repeated until the SCOs are met.
7. Prior to the implementation of the full RI, C&S proposes to collect soil from greens, fairway and tee boxes located away from the maintenance shop area. Soils will be evaluated to identify if metal concentrations observed in Hole #6, located near the maintenance shop, can be expected in other areas that were highly managed during golf course operation. Two former greens and their associated fairway and tee boxes will be selected from the northern and southern ends of the Site. The soil boring program will consist of the following: one boring will be advanced on each green; two soil borings on each tee box; and four soil borings on each fairway. The samples will be collected from the near-surface (0-6 inches) then collected every six inches within the 4-foot geo-probe core. The uppermost samples will be analyzed for Part 375 List metals and any metals with contraventions of SCOs



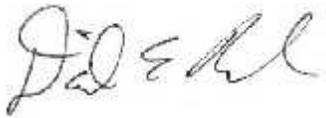
Michael J. Hinton, P.E.
April 11, 2017
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would be analyzed in the immediately underlying sample interval. The process will be repeated until the SCOs are met.

Please feel free to contact me at (716) 847-1630 at your earliest convenience if you have any questions or comments.

Sincerely,

C&S ENGINEERS, INC.

A handwritten signature in black ink, appearing to read "D. E. Riker".

Daniel E. Riker, P.G.
Department Manager – Environmental Services

cc: Matt Roland, Hamister Group, LLC
Andrew Shaevel, Mensch Capital Partners

FIGURES

TABLES

<u>200 Ft GRID</u>	<u>Samples to take and</u> SEND	<u>Samples to take and</u> HOLD	<u>Parameters Sampled</u>					<u>Additional</u>
			METALS	VOC	SVOC	PCB	PESTICIDES	
G1-46	2-6; 6-12	12-18; 18-24	X					
L1-51	2-6; 6-12	12-18; 18-24	X					
K1-54	2-6; 6-12	12-18; 18-24	X					
K1-59	2-6; 6-12	12-18; 18-24	X					
K1-62	2-6; 6-12	12-18; 18-24	X	X	X	X	X	Complete List (2-6) +MS/MSD
K1-67	2-6 + MS/MSD; 6-12	12-18; 18-24	X					
Q1-58	2-6 + DUP-K; 6-12	12-18; 18-24	X					
Q1-62	2-6; 6-12	12-18; 18-24	X					
R1-66	2-6; 6-12	12-18; 18-24	X					
T1-66	2-6; 6-12	12-18; 18-24	X					
P1-69	2-6; 6-12	12-18; 18-24	X					
U1-70	2-6; 6-12	12-18; 18-24	X					
U1-75	2-6; 6-12	12-18; 18-24	X					
50 Ft GRID								
H1-47	2-6 + DUP-L; 6-12	12-18; 18-24	X					
H1-48	2-6 + MS/MSD; 6-12	12-18; 18-24	X					
H1-49	2-6; 6-12	12-18; 18-24	X	X	X	X	X	Complete List (2-6)
K1-56	2-6;6-12	12-18; 18-24	X					
K1-57	2-6;6-12	12-18; 18-24	X					
L1-56	2-6;6-12	12-18; 18-24	X					
L1-57	2-6;6-12	12-18; 18-24	X					
L1-58	2-6;6-12	12-18; 18-24	X					
L1-59	2-6;6-12	12-18; 18-24	X					
L1-60	2-6;6-12	12-18; 18-24	X					
L1-61	2-6;6-12	12-18; 18-24	X					
M1-57	2-6;6-12	12-18; 18-24	X					
M1-58	2-6 + MS/MSD; 6-12	12-18; 18-24	X					
M1-59	2-6 + DUP-M; 6-12	12-18; 18-24	X					
M1-60	2-6;6-12	12-18; 18-24	X	X	X	X	X	Complete List (2-6) + DUP-N
M1-61	2-6;6-12	12-18; 18-24	X					
M1-62	2-6;6-12	12-18; 18-24	X					
M1-63	2-6;6-12	12-18; 18-24	X					
N1-61	2-6;6-12	12-18; 18-24	X					
N1-62	2-6 + MS/MSD; 6-12	12-18; 18-24	X					
N1-63	2-6 + DUP-O; 6-12	12-18; 18-24	X					
N1-64	2-6;6-12	12-18; 18-24	X					
N1-65	2-6;6-12	12-18; 18-24	X					
P1-63	2-6;6-12	12-18; 18-24	X					
P1-64	2-6;6-12	12-18; 18-24	X					
P1-65	2-6;6-12	12-18; 18-24	X	X	X	X	X	Complete List (2-6)
P1-66	2-6;6-12	12-18; 18-24	X					
P1-67	2-6;6-12	12-18; 18-24	X					
Q1-65	2-6;6-12	12-18; 18-24	X					
Q1-66	2-6;6-12	12-18; 18-24	X					
Q1-67	2-6;6-12	12-18; 18-24	X					
Q1-68	2-6;6-12	12-18; 18-24	X					
Q1-69	2-6 + MS/MSD; 6-12	12-18; 18-24	X					
R1-67	2-6 + DUP-P; 6-12	12-18; 18-24	X					
R1-68	2-6;6-12	12-18; 18-24	X					
R1-69	2-6;6-12	12-18; 18-24	X					
R1-70	2-6;6-12	12-18; 18-24	X					
S1-69	2-6;6-12	12-18; 18-24	X					
S1-70	2-6;6-12	12-18; 18-24	X					
S1-71	2-6; 6-12	2-18; 18-24	X					
S1-72	2-6; 6-12	2-18; 18-24	X	X	X	X	X	Complete List (2-6)
T1-71	2-6 + MS/MSD; 6-12	2-18; 18-24	X					
T1-72	2-6 + DUP-Q; 6-12	2-18; 18-24	X					

Rough
Tee
Fairway
Green

TABLE 1
TEE BOX SOIL SAMPLE RESULTS



Sample Location						H1-47				H1-48		H1-49		
Field Sample ID						H1-47-0-2IN	H1-47-2-6IN	H1-47-6-12IN	H1-47-12-18IN	H1-48-2-6IN	H1-48-6-12IN	H1-49-2-6IN	H1-49-6-12IN	H1-49-12-18IN
Sample Depth						0 - 2	2 - 6	6 - 12	12 - 18	2 - 6	6 - 12	2 - 6	6 - 12	12 - 18
Date Sampled						09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	56	51	71	8.8	100	3.8	9.6	4.6	5.4
Barium	350	350	400	400	10000	56	51	64	74	190	55	45	50	76
Beryllium	7.2	14	72	590	2700	0.27 J	0.31 J	0.44 J	0.58	0.36 J	0.27 J	0.28	0.18 J	0.35 J
Cadmium	2.5	2.5	4.3	9.3	60	11	11	3.4	0.35 J	15	0.35 J	2.3	0.70 J	0.36 J
Chromium, Total	30	36	180	1500	6800	140	130	85	22	60	26	19	16	17
Copper	50	270	270	270	10000	29	26	20	11	26	16	21	18	21
Cyanide	27	27	27	27	10000	190						ND		
Lead	63	400	400	1000	3900	330	170	180	23	54	16	21	25	21
Manganese	1600	2000	2000	10000	10000	3.1	300	400	430	4600	520	460	320	670
Mercury	0.18	0.81	0.81	2.8	5.7	12	3.3	4.9	0.15	2.2	0.12	0.97	0.21	0.10
Nickel	30	140	310	310	10000	ND	12	15	14	17	11	10	9.2	12
Selenium	3.9	36	180	1500	6800	0.97 J	0.61 J	0.54 J	ND	ND	ND	ND	0.30 J	ND
Silver	2	36	180	1500	6800	82	0.89 J	0.48 J	ND	0.27 J	ND	ND	ND	ND
Zinc	109	2200	10000	10000	10000	7100	84	80	50	96	70	51	56	59
Metals with No SCOs														
Aluminum						ND	7500	11000	12000	9800	8700		7400	9100
Antimony						5.1	ND	ND	ND	ND	ND		ND	ND
Cobalt						14000	5.1	7.3	11	41	4.8		3.8	6.2
Iron						3700	14000	19000	21000	20000	14000		11000	14000
Calcium						1800	3800	3300	2600	30000	40000		93000	31000
Magnesium						570	1900	2400	2800	16000	15000		4400	7800
Potassium						32 J	530	660	620	700	820		500	560
Sodium						ND	41 J	58 J	65 J	100 J	94 J		84 J	79 J
Thallium						16	ND	ND	ND	ND	ND		ND	ND
Vanadium							16	23	29	20	16		14	19

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

TABLE 2
GREEN SOIL SAMPLE RESULTS



Sample Location						S1-71				S1-72				
Field Sample ID						S1-71-2-6IN	S1-71-6-12IN	S1-71-12-18IN	S1-71-18-24IN	S1-72-0-2IN	S1-72-2-6IN	S1-72-6-12IN	S1-72-12-18IN	S1-72-18-24IN
Sample Depth						2 - 6	6 - 12	12 - 18	18 - 24	0 - 2	2 - 6	6 - 12	12 - 18	18 - 24
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	9/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	300	16	5.7		68	160	210	7.2	
Barium	350	350	400	400	10000	87	77	92		48	60	94	110	
Beryllium	7.2	14	72	590	2700	0.60	0.61	0.38	J	0.23	J	0.35	J	0.70
Cadmium	2.5	2.5	4.3	9.3	60	13	0.21	J	ND	32	20	1.1	ND	
Chromium, Total	30	36	180	1500	6800	66	16	14		540	420	26	19	
Copper	50	270	270	270	10000	31	9.6	15		69	70	17	24	
Cyanide	27	27	27	27	10000					750	0.36	J		
Lead	63	400	400	1000	3900	690	37	9.9		120	860	180	12	
Manganese	1600	2000	2000	10000	10000	360	620	270		19	280	700	380	
Mercury	0.18	0.81	0.81	2.8	5.7	77	4.8	1.1	0.04	J	14	120	47	0.10
Nickel	30	140	310	310	10000	14	11	14		0.72	J	15	12	24
Selenium	3.9	36	180	1500	6800	0.44	J	0.28	J	ND	4.3	0.77	J	ND
Silver	2	36	180	1500	6800	ND	ND	ND		170	3.4	ND	ND	
Zinc	109	2200	10000	10000	10000	86	52	52		4800	150	67	68	
Metals with No SCOs														
Aluminum						12000	12000	12000		ND	5800	13000	13000	
Antimony						1.0	J	ND	ND	2.8	ND	0.90	J	ND
Cobalt						5.0		8.0	4.9	8300	3.6	7.4	9.3	
Iron						15000	19000	15000		5200	12000	22000	22000	
Calcium						10000	3900	45000		1200	6000	7800	3400	
Magnesium						5000	2600	25000		420	2000	3900	5000	
Potassium						800	590	750		37	J	650	970	970
Sodium						70	J	78	J	120	J	ND	35	J
Thallium						ND	ND	ND		9.8	ND	ND	ND	
Vanadium						18	22	19			11	22	24	

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 2
GREEN SOIL SAMPLE RESULTS**



Sample Location						T1-71			T1-72				
Field Sample ID						T1-71-2-6IN	T1-71-6-12IN	T1-71-12-18IN	T1-72-0-2IN	T1-72-2-6IN	T1-72-6-12IN	T1-72-12-18IN	T1-72-18-24IN
Sample Depth						2 - 6	6 - 12	12 - 18	0 - 2	2 - 6	6 - 12	12 - 18	18 - 24
Date Sampled						10/10/2016	10/10/2016	10/10/2016	9/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective													
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial								
Metals With SCOs													
Arsenic	13	16	16	16	16	280	56	6.0	110	230	180	5.6	
Barium	350	350	400	400	10000	83	77	100	50	81	85	70	
Beryllium	7.2	14	72	590	2700	0.61	0.56	0.53	0.17 J	0.51	0.60	0.47	
Cadmium	2.5	2.5	4.3	9.3	60	13	0.30 J	0.14 J	24	22	1.6	0.19 J	
Chromium, Total	30	36	180	1500	6800	120	16	17	290	240	45	13	
Copper	50	270	270	270	10000	48	13	19	57	80	20	9.6	
Cyanide	27	27	27	27	10000				460				
Lead	63	400	400	1000	3900	870	40	11	180	970	320	16	
Manganese	1600	2000	2000	10000	10000	280	840	410	180	400	400	520	
Mercury	0.18	0.81	0.81	2.8	5.7	110	4.8	0.05 J	13	160	78	2.8	0.07 J
Nickel	30	140	310	310	10000	14	16	20	0.51 J	19	12	10	
Selenium	3.9	36	180	1500	6800	0.38 J	ND U	ND	2.5	0.62 J	ND	ND	
Silver	2	36	180	1500	6800	0.65 J	ND U	ND	140	1.5	ND	ND	
Zinc	109	2200	10000	10000	10000	89	52	62	4300	150	70	48	
Metals with No SCOs													
Aluminum						9800	11000	13000	ND	9300	12000	11000	
Antimony						1.0 J	0.78 J	ND	3.4	ND	ND	ND	
Cobalt						4.6	8.1	7.7	10000	5.1	5.5	6.0	
Iron						14000	19000	20000	4000	15000	16000	17000	
Calcium						9700	3000	3000	1300	10000	7300	9300	
Magnesium						4900	2800	3800	280	4700	4000	5200	
Potassium						650	530	730	27 J	580	660	430	
Sodium						70 J	56 J	75 J	ND	54 J	66 J	79 J	
Thallium						ND U	ND U	ND	9.3	ND	ND	ND	
Vanadium						18	21	23		16	19	22	

Notes:

All concentrations in mg/kg.

Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						K1-56			K1-57			L1-56		
Field Sample ID						K1-56-0-2IN	K1-56-2-6IN	K1-56-6-12IN	K1-57-2-6IN	K1-57-6-12IN	K1-57-12-18IN	L1-56-2-6IN	L1-56-6-12IN	L1-56-12-18IN
Sample Depth						0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	12 - 18	2 - 6	6 - 12	12 - 18
Date Sampled						09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	17	9.7	3.7	8.2	4.1	7.9	5.2	4.4	6.8
Barium	350	350	400	400	10000	74	78	150	62	110	110	76	160	120
Beryllium	7.2	14	72	590	2700	0.39 J	0.51 J	0.48 J	0.56	0.86	0.53	0.39 J	0.62	0.54
Cadmium	2.5	2.5	4.3	9.3	60	20	4.8	ND	3.7	0.12 J	0.20 J	5.4	1.2	0.42 J
Chromium, Total	30	36	180	1500	6800	230	92	23	44	22	16	66	17	19
Copper	50	270	270	270	10000	33	20	6.3	15	20	22	16	14	21
Cyanide	27	27	27	27	10000	78								
Lead	63	400	400	1000	3900	130	41	11	31	15	17	27	12	13
Manganese	1600	2000	2000	10000	10000	2.2	240	74	590	1100	1100	160	1600	570
Mercury	0.18	0.81	0.81	2.8	5.7	16	0.36	0.06 J	0.16	0.04 J	0.04 J	0.13	0.03 J	0.03 J
Nickel	30	140	310	310	10000	0.88 J	14	9.5	12	21	28	12	28	26
Selenium	3.9	36	180	1500	6800	1.8	0.60 J	ND	ND	ND	ND	0.27 J	ND	ND
Silver	2	36	180	1500	6800	120	0.63 J	ND	ND	ND	ND	0.36 J	ND	ND
Zinc	109	2200	10000	10000	10000	9500	90	49	62	62	52	69	50	59
Metals with No SCOs														
Aluminum						ND	14000	19000	14000	19000	11000	11000	12000	13000
Antimony						4.1	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt						17000	4.7	3.2	8.8	55	14	3.8	14	12
Iron						5500	22000	24000	36000	25000	21000	15000	20000	21000
Calcium						2000	5000	3200	3800	2500	2500	3700	2100	3500
Magnesium						660	2400	2300	2700	3500	3400	2100	2400	4600
Potassium						77 J	820	990	570	1000	640	760	720	750
Sodium						ND	120 J	170 J	82 J	100 J	73 J	58 J	54 J	76 J
Thallium						20	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium							28	30	38	29	26	19	23	26

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						L1-57	L1-58		L1-59			L1-60		L1-61	
Field Sample ID						L1-57-2-6IN	L1-58-2-6IN	L1-58-6-12IN	L1-59-0-2IN	L1-59-2-6IN	L1-59-6-12IN	L1-60-2-6IN	L1-60-6-12IN	L1-61-2-6IN	L1-61-6-12IN
Sample Depth						2 - 6	2 - 6	6 - 12	0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective															
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial										
Metals With SCOs															
Arsenic	13	16	16	16	16	3.6	8.1	6.2	11	7.1	5.2	9.5	6.9	6.8	4.0
Barium	350	350	400	400	10000	99	68	93	69	65	130	78	79	66	86
Beryllium	7.2	14	72	590	2700	0.52	0.57	1.1	0.46 J	0.53	0.76	0.64	0.66	0.51	0.38 J
Cadmium	2.5	2.5	4.3	9.3	60	0.29 J	12	0.33 J	7.2	4.2	0.17 J	3.8	1.9	1.6	0.31 J
Chromium, Total	30	36	180	1500	6800	19	100	23	91	55	21	85	33	43	20
Copper	50	270	270	270	10000	5.8	22	18	18	16	19	20	14	18	17
Cyanide	27	27	27	27	10000				53						
Lead	63	400	400	1000	3900	11	39	14	200	31	12	46	27	36	19
Manganese	1600	2000	2000	10000	10000	430	250	380	0.30	240	400	340	640	300	380
Mercury	0.18	0.81	0.81	2.8	5.7	0.04 J	0.44	0.05 J	16	0.09 J	0.03 J	0.33	0.13	0.19	0.04 J
Nickel	30	140	310	310	10000	10	18	22	0.41 J	13	25	18	17	12	14
Selenium	3.9	36	180	1500	6800	0.37 J	ND	ND	0.61 J	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800	ND	0.54 J	ND	83	ND	ND	0.39 J	ND	ND	ND
Zinc	109	2200	10000	10000	10000	50	86	61	10000	64	61	86	66	75	74
Metals with No SCOs															
Aluminum						15000	11000	15000	ND	10000	15000	12000	12000	11000	13000
Antimony						ND	ND	ND	6.3	ND	ND	ND	ND	ND	ND
Cobalt						8.8	6.3	11	18000	5.5	9.0	7.8	19	7.7	6.2
Iron						25000	19000	24000	3600	18000	23000	21000	22000	17000	17000
Calcium						2300	3300	2400	2500	3500	3400	3300	2600	4400	3300
Magnesium						2600	2900	3500	650	2400	5300	3200	3000	3200	3300
Potassium						640	760	800	46 J	520	920	800	740	600	740
Sodium						100 J	50 J	63 J	ND	66 J	100 J	58 J	61 J	73 J	100 J
Thallium						ND	ND	ND	23	ND	ND	ND	ND	ND	ND
Vanadium						30	24	32		24	28	26	28	24	20

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						M1-57		M1-58				M1-59		
Field Sample ID						M1-57-2-6IN	M1-57-6-12IN	M1-58-2-6IN	M1-58-6-12IN	M1-58-12-18IN	M1-58-18-24IN	M1-59-0-2IN	M1-59-2-6IN	M1-59-6-12IN
Sample Depth						2 - 6	6 - 12	2 - 6	6 - 12	12 - 18	18 - 24	0 - 2	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	10	6.3	7.7	4.7	9.1		8.6	7.3	6.2
Barium	350	350	400	400	10000	83	84	67	98	100		57	69	110
Beryllium	7.2	14	72	590	2700	0.58	0.73	0.42 J	0.33 J	0.74		0.38 J	0.54	0.72
Cadmium	2.5	2.5	4.3	9.3	60	2.1	0.69 J	4.2	1.4	0.42 J		7.6	9.4	0.67 J
Chromium, Total	30	36	180	1500	6800	64	23	45	33	20		79	90	23
Copper	50	270	270	270	10000	17	11	18	11	25		17	20	19
Cyanide	27	27	27	27	10000							40		
Lead	63	400	400	1000	3900	39	16	30	16	19		220	37	14
Manganese	1600	2000	2000	10000	10000	610	770	760	170	1100		0.31	230	780
Mercury	0.18	0.81	0.81	2.8	5.7	0.16	0.04 J	2.7	0.27	0.32	0.03 J	13	0.23	0.05 J
Nickel	30	140	310	310	10000	16	16	17	9.6	24		0.37 J	16	28
Selenium	3.9	36	180	1500	6800	0.63 J	0.36 J	0.27 J	ND	ND		0.47 J	ND	ND
Silver	2	36	180	1500	6800	0.36 J	ND	ND	ND	ND		72	0.47 J	ND
Zinc	109	2200	10000	10000	10000	70	54	58	52	62		9700	76	60
Metals with No SCOs														
Aluminum						14000	14000	12000	12000	14000		ND	11000	14000
Antimony						ND	ND	ND	ND	ND		5.6	ND	ND
Cobalt						9.0	12	13	4.2	17		18000	5.9	12
Iron						24000	26000	19000	17000	24000		2700	19000	22000
Calcium						3600	2300	4800	2900	2600		2000	3200	2900
Magnesium						2800	3300	3700	2300	3800		490	2500	3900
Potassium						700	800	610	480	710		38 J	610	820
Sodium						91 J	95 J	95 J	70 J	50 J		ND	46 J	75 J
Thallium						ND	ND	ND	ND	ND		23	ND	ND
Vanadium						27	30	24	24	29			25	27

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						M1-60		M1-61		M1-62			
Field Sample ID						M1-60-2-6IN	M1-60-6-12IN	M1-61-0-2IN	M1-61-12-18IN	M1-62-2-6IN	M1-62-6-12IN	M1-62-12-18IN	M1-62-18-24IN
Sample Depth						2 - 6	6 - 12	0 - 2	12 - 18	2 - 6	6 - 12	12 - 18	18 - 24
Date Sampled						10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective													
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial								
Metals With SCOs													
Arsenic	13	16	16	16	16	5.3	5.5	7.3	6.4	7.6	4.1	6.3	5.3
Barium	350	350	400	400	10000	78	140	58	100	60	51	100	45
Beryllium	7.2	14	72	590	2700	0.63	0.93	0.35 J	0.53	0.39 J	0.38 J	0.51	0.20 J
Cadmium	2.5	2.5	4.3	9.3	60	0.56 J	ND	9.6	0.52 J	11	0.57 J	ND	ND
Chromium, Total	30	36	180	1500	6800	25	25	97	20	100	14	20	10
Copper	50	270	270	270	10000	13	22	20	23	20	7.8	22	18
Cyanide	27	27	27	27	10000			40					
Lead	63	400	400	1000	3900	19	12	220	14	43	13	14	9.9
Manganese	1600	2000	2000	10000	10000	240	260	0.34	450	160	130	440	420
Mercury	0.18	0.81	0.81	2.8	5.7	0.05 J	0.04 J	14	0.05 J	0.42	0.06 J	0.06 J	0.03 J
Nickel	30	140	310	310	10000	16	27	ND	24	17	11	25	15
Selenium	3.9	36	180	1500	6800	ND	ND	0.64 J	ND	0.34 J	ND	ND	ND
Silver	2	36	180	1500	6800	ND	ND	82	ND	0.56 J	ND	ND	ND
Zinc	109	2200	10000	10000	10000	60	59	9500	59	82	46	68	42
Metals with No SCOs													
Aluminum						13000	17000	ND	13000	10000	10000	14000	7200
Antimony						ND	ND	5.8	ND	ND	ND	ND	ND
Cobalt						7.0	10	16000	11	5.3	6.1	10	7.4
Iron						21000	27000	3200	21000	16000	16000	23000	15000
Calcium						2800	3500	2200	31000	3500	1800	3000	50000
Magnesium						3100	6800	700	10000	2300	2200	5100	19000
Potassium						710	1300	38 J	1100	600	410	960	620
Sodium						76 J	100 J	ND	100 J	52 J	70 J	88 J	110 J
Thallium						ND	ND	20	ND	ND	ND	ND	ND
Vanadium						28	34		26	21	20	25	16

Notes:

All concentrations in mg/kg.

Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						M1-63					NI-62			
Field Sample ID						M1-63-0-2IN	M1-63-2-6IN	M1-63-6-12IN	M1-63-12-18IN	M1-63-18-24IN	NI-62-12-18IN	NI-62-2-6IN	NI-62-6-12IN	NI-62-18-24IN
Sample Depth						0 - 2	2 - 6	6 - 12	12 - 18	18 - 24	12 - 18	2 - 6	6 - 12	18 - 24
Date Sampled						09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	6.9	9.7	3.1	2.8	8.0	4.3	5.8	4.6	4.6
Barium	350	350	400	400	10000	70	67	98	110	140	120	62	52	35
Beryllium	7.2	14	72	590	2700	0.40 J	0.38 J	0.43 J	0.60	0.76	0.40 J	0.38 J	0.47 J	0.15 J
Cadmium	2.5	2.5	4.3	9.3	60	15	17	0.84 J	ND	ND	ND	0.52 J	ND	0.09 J
Chromium, Total	30	36	180	1500	6800	110	140	18	14	18	16	16	13	9.2
Copper	50	270	270	270	10000	22	25	8.6	10	24	15	11	10	14
Cyanide	27	27	27	27	10000	50								
Lead	63	400	400	1000	3900	130	69	18	9.3	12	9.0	21	14	8.9
Manganese	1600	2000	2000	10000	10000	0.48	120	970	91	200	190	250	130	560
Mercury	0.18	0.81	0.81	2.8	5.7	14	0.63	0.10	0.04 J	0.02 J	0.05 J	0.078 J	0.04 J	0.02 J
Nickel	30	140	310	310	10000	0.35 J	12	9.9	14	24	16	12	12	14
Selenium	3.9	36	180	1500	6800	0.74 J	1.0 J	0.33 J	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800	89	1.0 J	ND	ND	ND	ND	ND	ND	ND
Zinc	109	2200	10000	10000	10000	8800	90	42	42	50	50	54	46	41
Metals with No SCOs														
Aluminum						ND	7900	10000	11000	14000	13000	10000	12000	6000
Antimony						4.3	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt						14000	3.3	7.9	5.8	11	6.0	5.9	4.8	6.3
Iron						4200	11000	11000	15000	31000	17000	17000	18000	13000
Calcium						1800	5200	3400	2500	3500	2800	3000	2400	34000
Magnesium						660	1600	1800	2600	5000	3200	2200	2400	17000
Potassium						43 J	560	530	540	840	670	520	520	500
Sodium						ND	56 J	100 J	96 J	110 J	110 J	85 J	110 J	110 J
Thallium						18	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium							14	14	22	31	20	21	22	14

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						N1-63				N1-64				N1-65	
Field Sample ID						N1-63-2-6IN	N1-63-6-12IN	N1-63-12-18IN	N1-63-18-24IN	N1-64-2-6IN	N1-64-6-12IN	N1-64-12-18IN	N1-64-18-24IN	N1-65-2-6IN	N1-65-6-12IN
Sample Depth						2 - 6	6 - 12	12 - 18	18 - 24	2 - 6	6 - 12	12 - 18	18 - 24	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective															
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial										
Metals With SCOs															
Arsenic	13	16	16	16	16	7.8	5.2	5.1	4.6	7.1	6.2	6.1	4.3	8.3	5.1
Barium	350	350	400	400	10000	68	100	140	120	81	130	100	83	72	88
Beryllium	7.2	14	72	590	2700	0.50 J	0.88	0.85	0.60	0.62	0.69	0.51	0.43 J	0.54	0.61
Cadmium	2.5	2.5	4.3	9.3	60	3.0	0.16 J	ND	ND	0.24 J	0.13 J	ND	ND	5.4	0.66 J
Chromium, Total	30	36	180	1500	6800	47	21	26	20	24	23	17	16	63	22
Copper	50	270	270	270	10000	15	20	28	21	10	12	17	16	17	10
Cyanide	27	27	27	27	10000										
Lead	63	400	400	1000	3900	30	12	11	9.0	24	18	13	8.8	34	15
Manganese	1600	2000	2000	10000	10000	370	430	1000	530	920	3100	180	180	450	900
Mercury	0.18	0.81	0.81	2.8	5.7	0.34	0.07 J	0.02 J	0.02 J	0.12	0.06 J	0.04 J	0.04 J	0.33	0.08
Nickel	30	140	310	310	10000	15	23	37	26	12	20	20	18	13	13
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	ND	0.23 J	ND
Zinc	109	2200	10000	10000	10000	64	64	59	49	59	77	64	54	67	49
Metals with No SCOs															
Aluminum						11000	16000	19000	15000	12000	16000	13000	12000	9400	11000
Antimony						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt						11	12	18	12	9.5	42	8.4	6.5	6.2	9.1
Iron						22000	24000	30000	24000	34000	37000	19000	21000	18000	22000
Calcium						5900	2600	7400	36000	4400	2700	2400	2600	3200	2400
Magnesium						2800	4300	11000	11000	2400	4000	3700	4200	2200	2400
Potassium						670	990	1500	1300	740	1000	830	810	550	530
Sodium						73 J	100 J	180 J	180 J	120 J	130 J	110 J	110 J	50 J	57 J
Thallium						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium						26	28	33	27	37	32	24	21	23	25

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						P1-64			P1-65		P1-66			P1-67	
Field Sample ID						P1-64-0-2IN	P1-64-2-6IN	P1-64-6-12IN	P1-65-2-6IN	P1-65-6-12IN	P1-66-0-2IN	P1-66-2-6IN	P1-66-6-12IN	P1-67-2-6IN	P1-67-6-12IN
Sample Depth						0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	0 - 2	2 - 6	6 - 12	2 - 6	6 - 12
Date Sampled						09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective															
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial										
Metals With SCOs															
Arsenic	13	16	16	16	16	9.5	7.4	5.6	5.8	6.4	7.3	6.0	4.8	7.8	5.9
Barium	350	350	400	400	10000	84	80	76	67	100	59	76	74	82	100
Beryllium	7.2	14	72	590	2700	0.56 J	0.60	0.64	0.67	0.72	0.39 J	0.45 J	0.43 J	0.42 J	0.48
Cadmium	2.5	2.5	4.3	9.3	60	26	4.0	0.27 J	0.24 J	0.29 J	12	2.0	0.54 J	4.5	1.4
Chromium, Total	30	36	180	1500	6800	220	46	21	19	15	120	38	36	80	28
Copper	50	270	270	270	10000	36	17	9.2	8.8	15	21	14	14	18	15
Cyanide	27	27	27	27	10000	84			0.55 J		46				
Lead	63	400	400	1000	3900	180	32	21	21	13	240	22	15	38	20
Manganese	1600	2000	2000	10000	10000	0.56	610	890	1300	880	0.49	640	310	520	770
Mercury	0.18	0.81	0.81	2.8	5.7	20	0.19	0.09	0.07 J	0.04 J	15	0.20	0.10	0.29	0.12
Nickel	30	140	310	310	10000	0.84 J	14	11	11	23	0.46 J	13	16	14	15
Selenium	3.9	36	180	1500	6800	1.5	ND	ND	ND	ND	0.83 J	ND	ND	0.37 J	ND
Silver	2	36	180	1500	6800	130	ND	ND	ND	ND	90	ND	ND	0.40 J	ND
Zinc	109	2200	10000	10000	10000	11000	74	51	49	48	8600	58	52	72	56
Metals with No SCOs															
Aluminum						ND	11000	12000	11000	10000	ND	10000	12000	9800	11000
Antimony						6.8	ND	ND	ND	ND	5.2	ND	ND	ND	ND
Cobalt						17000	7.3	10	15	14	15000	8.4	6.2	7.5	8.8
Iron						4600	23000	29000	33000	20000	4300	18000	18000	18000	20000
Calcium						2600	3800	3200	3400	2200	2200	3900	3500	2600	2500
Magnesium						840	2100	2200	2600	2800	680	3000	3500	2200	2600
Potassium						68 J	690	690	480	550	47 J	580	680	630	670
Sodium						ND	48 J	69 J	65 J	64 J	ND	60 J	78 J	34 J	39 J
Thallium						27	ND	ND	ND	ND	19	ND	ND	ND	ND
Vanadium							29	33	27	25		21	21	22	26

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						Q1-65		Q1-66		Q1-67			Q1-68		
Field Sample ID						Q1-65-2-6IN	Q1-65-6-12IN	Q1-66-2-6IN	Q1-66-6-12IN	Q1-67-2-6IN	Q1-67-6-12IN	Q1-67-12-18IN	Q1-68-0-2IN	Q1-68-2-6IN	Q1-68-6-12IN
Sample Depth						2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12	12 - 18	0 - 2	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective															
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial										
Metals With SCOs															
Arsenic	13	16	16	16	16	5.2	5.2	4.9	4.5	8.7	8.4	7.7	8.5	5.7	3.3
Barium	350	350	400	400	10000	59	81	69	70	82	89	100	68	66	63
Beryllium	7.2	14	72	590	2700	0.51	0.68	0.39 J	0.40 J	0.56	0.62	0.50	0.40 J	0.33 J	0.36 J
Cadmium	2.5	2.5	4.3	9.3	60	1.4	ND	1.6	0.70 J	6.2	3.0	0.41 J	12	3.3	0.18 J
Chromium, Total	30	36	180	1500	6800	24	17	22	18	91	59	19	130	45	14
Copper	50	270	270	270	10000	9.2	18	13	12	21	16	26	24	14	7.8
Cyanide	27	27	27	27	10000								51		
Lead	63	400	400	1000	3900	18	10	16	12	39	31	15	290	26	11
Manganese	1600	2000	2000	10000	10000	500	210	450	330	460	700	540	0.50	500	320
Mercury	0.18	0.81	0.81	2.8	5.7	0.11	0.05 J	0.21	0.07 J	0.27	0.20	0.04 J	15	0.18	0.04 J
Nickel	30	140	310	310	10000	10	19	14	14	16	15	27	0.58 J	12	11
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	0.73 J	0.44 J	ND	0.86 J	ND	ND
Silver	2	36	180	1500	6800	ND	ND	ND	ND	0.59 J	0.41 J	ND	97	0.22 J	ND
Zinc	109	2200	10000	10000	10000	47	56	51	44	87	77	70	9000	59	40
Metals with No SCOs															
Aluminum						9600	11000	9700	9800	11000	12000	13000	ND	8500	9600
Antimony						ND	ND	ND	ND	ND	ND	ND	5.3	ND	ND
Cobalt						6.9	7.1	7.6	6.1	6.3	8.1	11	16000	6.2	5.5
Iron						21000	20000	16000	16000	19000	21000	21000	3900	14000	15000
Calcium						2400	2200	2100	1900	3700	3900	20000	2200	7600	2000
Magnesium						2000	3400	2400	2400	2500	2600	14000	590	3600	2300
Potassium						440	670	610	580	650	650	870	52 J	440	420
Sodium						64 J	75 J	35 J	42 J	56 J	68 J	98 J	ND	84 J	58 J
Thallium						ND	ND	ND	ND	ND	ND	ND	19	ND	ND
Vanadium						24	23	21	21	22	24	24		19	20

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						Q1-69			R1-67			R1-68		R1-69	
Field Sample ID						Q1-69-2-6IN	Q1-69-6-12IN	Q1-69-12-18IN	R1-67-0-2IN	R1-67-2-6IN	R1-67-6-12IN	R1-68-2-6IN	R1-68-6-12IN	R1-69-2-6IN	R1-69-6-12IN
Sample Depth						2 - 6	6 - 12	12 - 18	0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective															
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial										
Metals With SCOs															
Arsenic	13	16	16	16	16	8.2	7.3	7.0	7.3	5.2	4.9	8.4	5.5	6.3	4.9
Barium	350	350	400	400	10000	62	70	83	59	74	84	75	78	79	89
Beryllium	7.2	14	72	590	2700	0.46 J	0.56	0.46	0.35 J	0.55	0.79	0.39 J	0.44 J	0.52	0.60
Cadmium	2.5	2.5	4.3	9.3	60	11	3.2	0.30 J	10	2.6	0.94	7.4	0.15 J	4.1	ND
Chromium, Total	30	36	180	1500	6800	87	38	15	88	47	29	66	19	60	16
Copper	50	270	270	270	10000	17	13	20	16	13	18	18	16	16	8.5
Cyanide	27	27	27	27	10000				41						
Lead	63	400	400	1000	3900	39	26	15	330	22	14	33	13	27	13
Manganese	1600	2000	2000	10000	10000	390	880	850	0.34	480	570	450	200	820	740
Mercury	0.18	0.81	0.81	2.8	5.7	0.41	0.16	0.03 J	13	0.14	0.09	0.55	0.07 J	0.33	0.12
Nickel	30	140	310	310	10000	12	12	24	0.44 J	14	19	14	16	14	13
Selenium	3.9	36	180	1500	6800	0.68 J	0.44 J	ND	0.57 J	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800	0.47 J	0.24 J	ND	77	ND	ND	0.34 J	ND	ND	ND
Zinc	109	2200	10000	10000	10000	78	61	54	8600	62	71	72	52	66	50
Metals with No SCOs															
Aluminum						9200	10000	10000	ND	11000	14000	9000	11000	9500	12000
Antimony						ND	ND	ND	5.1	ND	ND	ND	ND	ND	ND
Cobalt						5.0	13	15	15000	6.3	9.8	6.1	6.5	8.1	8.3
Iron						15000	18000	19000	2800	20000	22000	16000	18000	18000	21000
Calcium						3000	2700	3600	1800	2600	2400	3600	2100	3000	2400
Magnesium						2000	2200	4000	560	2400	3500	2200	3000	2200	2700
Potassium						490	460	650	35 J	530	750	470	650	620	580
Sodium						42 J	50 J	63 J	ND	58 J	84 J	51 J	58 J	42 J	60 J
Thallium						ND	ND	ND	19	ND	ND	ND	ND	ND	ND
Vanadium						19	21	22		25	26	21	23	19	23

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

**TABLE 3
FAIRWAY SOIL SAMPLE RESULTS**



Sample Location						R1-70			S1-69		S1-70	
Field Sample ID						R1-70-0-2IN	R1-70-2-6IN	R1-70-6-12IN	S1-69-2-6IN	S1-69-6-12IN	S1-70-2-6IN	S1-70-6-12IN
Sample Depth						0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12
Date Sampled						09/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective												
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial							
Metals With SCOs												
Arsenic	13	16	16	16	16	7.8	9.4	6.4	6.5	7.6	34	5.4
Barium	350	350	400	400	10000	62	74	90	80	93	74	110
Beryllium	7.2	14	72	590	2700	0.34 J	0.54	0.63	0.58	0.62	0.52	0.55
Cadmium	2.5	2.5	4.3	9.3	60	15	12	0.78 J	2.8	0.99	2.2	0.20 J
Chromium, Total	30	36	180	1500	6800	100	97	24	39	18	42	21
Copper	50	270	270	270	10000	20	21	16	13	20	17	18
Cyanide	27	27	27	27	10000	44						
Lead	63	400	400	1000	3900	280	44	17	23	12	45	12
Manganese	1600	2000	2000	10000	10000	0.60	320	580	780	830	470	440
Mercury	0.18	0.81	0.81	2.8	5.7	13	0.76	0.12	0.30	0.05 J	2.7	0.07 J
Nickel	30	140	310	310	10000	0.46 J	16	18	13	27	14	17
Selenium	3.9	36	180	1500	6800	0.73 J	0.69 J	ND	0.54 J	ND	0.26 J	ND
Silver	2	36	180	1500	6800	82	0.66 J	ND	0.24 J	ND	ND	ND
Zinc	109	2200	10000	10000	10000	7800	92	65	62	65	76	59
Metals with No SCOs												
Aluminum						ND	10000	12000	10000	12000	10000	13000
Antimony						4.7	ND	ND	ND	ND	ND	ND
Cobalt						13000	5.8	8.6	9.7	12	6.4	9.2
Iron						3900	17000	20000	19000	22000	18000	25000
Calcium						1900	3600	7600	2700	2600	3200	2300
Magnesium						410	2600	5700	2300	3600	2300	3100
Potassium						55 J	710	850	580	760	720	810
Sodium						ND	59 J	71 J	44 J	53 J	44 J	73 J
Thallium						16	ND	ND	ND	ND	ND	ND
Vanadium							20	23	21	24	22	28

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

TABLE 4
ROUGH SOIL SAMPLE RESULTS



Sample Location						G1-46		K1-54			K1-59		K1-62	
Field Sample ID						G1-46-2-6IN	G1-46-6-12IN	K1-54-0-2IN	K1-54-2-6IN	K1-54-6-12IN	K1-59-2-6IN	K1-59-6-12IN	K1-62-2-6IN	K1-62-6-12IN
Sample Depth						2 - 6	6 - 12	0 - 2	2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	9/28/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	7.3	5.0	7.4	8.9	3.8	6.4	4.6	15	8.5
Barium	350	350	400	400	10000	64	140	95	88	86	100	120	57	64
Beryllium	7.2	14	72	590	2700	0.46 J	0.84	0.54	0.51	0.48 J	0.68	0.80	0.42 J	0.51
Cadmium	2.5	2.5	4.3	9.3	60	0.67 J	ND	8.6	8.0	0.19 J	0.76 J	0.32 J	0.21 J	ND
Chromium, Total	30	36	180	1500	6800	33	22	63	94	21	46	24	21	17
Copper	50	270	270	270	10000	14	18	23	20	6.5	15	12	13	14
Cyanide	27	27	27	27	10000			26					ND	
Lead	63	400	400	1000	3900	34	10	410	44	15	32	15	22	16
Manganese	1600	2000	2000	10000	10000	230	360	0.46	290	130	780	1100	180	230
Mercury	0.18	0.81	0.81	2.8	5.7	0.58	0.03 J	22	0.46	0.06 J	0.19	0.04 J	0.20	0.08
Nickel	30	140	310	310	10000	14	25	ND	16	9.2	15	20	14	15
Selenium	3.9	36	180	1500	6800	0.40 J	ND	0.26 J	0.51 J	0.45 J	ND	ND	ND	ND
Silver	2	36	180	1500	6800	ND	ND	72	0.55 J	ND	ND	ND	ND	ND
Zinc	109	2200	10000	10000	10000	66	51	13000	79	39	75	60	59	53
Metals with No SCOs														
Aluminum						11000	18000	ND	14000	18000	14000	16000	12000	13000
Antimony						ND	ND	9.6	ND	ND	ND	ND	ND	ND
Cobalt						5.6	14	22000	5.6	3.3	18	12	6.0	7.1
Iron						18000	30000	5300	22000	33000	26000	24000	17000	20000
Calcium						3900	2900	4100	4700	2500	4600	3400	2400	2200
Magnesium						2600	5700	1000	2300	2100	2900	3900	2700	3100
Potassium						730	1100	75 J	830	1000	890	1000	590	630
Sodium						48	78 J	ND	99	100 J	100	140 J	34	41 J
Thallium						ND	ND	26	ND	ND	ND	ND	ND	ND
Vanadium						23	31		26	24	27	29	23	25

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

TABLE 4
ROUGH SOIL SAMPLE RESULTS



Sample Location						L1-51		P1-69		Q1-58		Q1-62		
Field Sample ID						L1-51-2-6IN	L1-51-6-12IN	P1-69-2-6IN	P1-69-6-12IN	Q1-58-2-6IN	Q1-58-6-12IN	Q1-62-0-2IN	Q1-62-2-6IN	Q1-62-6-12IN
Sample Depth						2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12	0 - 2	2 - 6	6 - 12
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	9/28/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective														
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial									
Metals With SCOs														
Arsenic	13	16	16	16	16	4.1	5.1	11	6.4	3.8	4.9	6.4	7.4	4.8
Barium	350	350	400	400	10000	61	84	150	140	91	74	45	47	88
Beryllium	7.2	14	72	590	2700	0.44 J	0.68	0.77	0.78	0.67	0.51	0.34 J	0.39 J	0.74
Cadmium	2.5	2.5	4.3	9.3	60	0.06 J	ND	1.7	0.94	0.18 J	ND	0.60 J	0.94	0.32 J
Chromium, Total	30	36	180	1500	6800	13	21	26	17	18	15	18	18	16
Copper	50	270	270	270	10000	6.6	13	13	15	15	14	12	12	13
Cyanide	27	27	27	27	10000							39		
Lead	63	400	400	1000	3900	16	8.5	40	11	14	44	99	35	12
Manganese	1600	2000	2000	10000	10000	150	130	3700	880	460	160	0.16	180	680
Mercury	0.18	0.81	0.81	2.8	5.7	0.06 J	0.04 J	0.29	0.065 J	0.08	0.12	12	0.10	0.04 J
Nickel	30	140	310	310	10000	7.5	14	13	20	22	14	0.48 J	11	18
Selenium	3.9	36	180	1500	6800	0.31 J	ND	0.38 J	ND	ND	0.34 J	ND	0.42 J	ND
Silver	2	36	180	1500	6800	ND	ND	0.45 J	ND	ND	ND	71	ND	ND
Zinc	109	2200	10000	10000	10000	38	47	67	62	50	53	9200	66	57
Metals with No SCOs														
Aluminum						11000	17000	11000	14000	13000	12000	ND	10000	13000
Antimony						ND	ND	ND	ND	ND	ND	4.6	ND	ND
Cobalt						3.2	5.1	26	9.2	9.0	4.3	15000	4.9	9.8
Iron						19000	28000	28000	21000	20000	16000	1800	17000	21000
Calcium						1200	1000	2700	2300	2200	2400	1700	2100	1400
Magnesium						1700	3000	2300	3300	3400	2100	460	1800	2900
Potassium						460	680	440	700	960	730	42 J	510	740
Sodium						44	62 J	57	64 J	41	48 J	ND	48	57 J
Thallium						ND	ND	ND	ND	ND	ND	20	ND	ND
Vanadium						23	36	24	23	23	23		21	24

Notes:
All concentrations in mg/kg.
Concentrations above the SCOs shown in the respective color

TABLE 4
ROUGH SOIL SAMPLE RESULTS



Sample Location						R1-66		TI-66		U1-75			
Field Sample ID						R1-66-2-6IN	R1-66-6-12IN	TI-66-2-6IN	TI-66-6-12IN	U1-75-2-6IN	U1-75-6-12IN	U1-75-12-18IN	U1-75-18-24IN
Sample Depth						2 - 6	6 - 12	2 - 6	6 - 12	2 - 6	6 - 12	12 - 18	18 - 24
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective													
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial								
Metals With SCOs													
Arsenic	13	16	16	16	16	6.0	4.1	6.5	3.8	4.6	6.0	5.5	
Barium	350	350	400	400	10000	89	76	76	66	19	30	19	
Beryllium	7.2	14	72	590	2700	0.72	0.59	0.43 J	0.44 J	ND U	ND	0.05 J	
Cadmium	2.5	2.5	4.3	9.3	60	0.47 J	ND	0.86 J	ND	3.0	66	8.3	ND
Chromium, Total	30	36	180	1500	6800	19	18	24	14	18	31	7.5	
Copper	50	270	270	270	10000	18	18	13	8.9	16	24	14	
Cyanide	27	27	27	27	10000								
Lead	63	400	400	1000	3900	15	9.2	22	10	36	210	18	
Manganese	1600	2000	2000	10000	10000	760	220	690	370	230	140	240	
Mercury	0.18	0.81	0.81	2.8	5.7	0.04 J	0.04 J	0.20	0.03 J	0.39	2.0	0.82	1.4
Nickel	30	140	310	310	10000	22	20	13	12	5.7	8.1	11	
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	0.26 J	0.32 J	ND	
Silver	2	36	180	1500	6800	ND	ND	ND	ND	ND	ND	ND	
Zinc	109	2200	10000	10000	10000	61	62	60	45	55	99	48	
Metals with No SCOs													
Aluminum						12000	12000	10000	11000	2400	3100	3300	
Antimony						ND	ND	ND	ND	ND	ND	ND	
Cobalt						11	6.7	10	6.2	2.2	2.3	2.9	
Iron						22000	20000	20000	19000	6500	7600	6200	
Calcium						2200	5800	8000	2700	170000	140000	240000	
Magnesium						3300	5400	5000	2800	12000	6000	8000	
Potassium						740	750	670	610	330	330	440	
Sodium						63	94 J	80	94 J	85	63	85	
Thallium						ND	ND	ND	ND	ND	ND	ND	
Vanadium						26	22	23	23	5.8	6.9	7.3	

Notes:

All concentrations in mg/kg.

Concentrations above the SCOs shown in the respective color

TABLE 4
ROUGH SOIL SAMPLE RESULTS



Sample Location						U1-70		
Field Sample ID						U1-70-2-6IN	U1-70-6-12IN	U1-70-12-18IN
Sample Depth						2 - 6	6 - 12	12 - 18
Date Sampled						10/10/2016	10/10/2016	10/10/2016
NYSDEC Soil Cleanup Objective								
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial			
Metals With SCOs								
Arsenic	13	16	16	16	16	8.0	6.0	5.5
Barium	350	350	400	400	10000	71	120	84
Beryllium	7.2	14	72	590	2700	0.39 J	0.47	0.43 J
Cadmium	2.5	2.5	4.3	9.3	60	1.8	0.38 J	ND
Chromium, Total	30	36	180	1500	6800	66	18	17
Copper	50	270	270	270	10000	19	24	19
Cyanide	27	27	27	27	10000			
Lead	63	400	400	1000	3900	34	13	11
Manganese	1600	2000	2000	10000	10000	480	1600	240
Mercury	0.18	0.81	0.81	2.8	5.7	0.61	0.04 J	0.03 J
Nickel	30	140	310	310	10000	15	30	20
Selenium	3.9	36	180	1500	6800	ND	ND	ND
Silver	2	36	180	1500	6800	0.35 J	ND	ND
Zinc	109	2200	10000	10000	10000	82	58	63
Metals with No SCOs								
Aluminum						9700	11000	12000
Antimony						ND	ND	ND
Cobalt						5.9	12	7.5
Iron						17000	22000	17000
Calcium						3300	2000	9900
Magnesium						2200	3600	8600
Potassium						900	1100	870
Sodium						57	54	74 J
Thallium						ND	ND	ND
Vanadium						20	23	20

Notes:

All concentrations in mg/kg.

Concentrations above the SCOs shown in the respective color

TABLE 5
COMPLETE LIST SOIL SAMPLE RESULTS



Sample Location						TEE	FAIRWAY	ROUGH	GREEN
Field Sample ID						H1-49-2-6IN	P1-65-2-6IN	K1-62-2-6IN	S1-72-2-6IN
Sample Depth						2 - 6	2 - 6	2 - 6	2 - 6
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016
Sample Matrix						SO	SO	SO	SO
Units						mg/kg	mg/kg	mg/kg	mg/kg
NYSDEC Soil Cleanup Objective									
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial				
Pesticides									
Silvex (2,4,5-TP)	3.8 mg/kg	58.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
P,P'-DDE	0.0033 mg/kg	1.8 mg/kg	8.9 mg/kg	62.0 mg/kg	120.0 mg/kg	0.101	0.00313	ND	ND
P,P'-DDT	0.0033 mg/kg	1.7 mg/kg	7.9 mg/kg	47.0 mg/kg	94.0 mg/kg	0.0150 P	0.0243 P	ND	ND
P,P'-DDD	0.0033 mg/kg	2.6 mg/kg	13.0 mg/kg	92.0 mg/kg	180.0 mg/kg	0.00364	ND	ND	ND
Aldrin	0.005 mg/kg	0.019 mg/kg	0.097 mg/kg	0.68 mg/kg	1.4 mg/kg	ND	ND	ND	ND
Alpha Bhc (Alpha Hexachlorocyclohexane)	0.02 mg/kg	0.097 mg/kg	0.48 mg/kg	3.4 mg/kg	6.8 mg/kg	ND	ND	ND	ND
Beta Bhc (Beta Hexachlorocyclohexane)	0.036 mg/kg	0.072 mg/kg	0.36 mg/kg	3.0 mg/kg	14.0 mg/kg	ND	ND	ND	ND
cis-Chlordane	0.094 mg/kg	0.91 mg/kg	4.2 mg/kg	24.0 mg/kg	47.0 mg/kg	ND	0.00130 JPI	ND	ND
Delta BHC (Delta Hexachlorocyclohexane)	0.04 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	0.0138	ND
Dibenzofuran	7.0 mg/kg	14.0 mg/kg	59.0 mg/kg	350.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
Dieldrin	0.005 mg/kg	0.039 mg/kg	0.2 mg/kg	1.4 mg/kg	2.8 mg/kg	ND	ND	ND	ND
Alpha Endosulfan	2.4 mg/kg	4.8 mg/kg	24.0 mg/kg	200.0 mg/kg	920.0 mg/kg	ND	ND	ND	ND
Beta Endosulfan	2.4 mg/kg	4.8 mg/kg	24.0 mg/kg	200.0 mg/kg	920.0 mg/kg	ND	ND	ND	ND
Endosulfan Sulfate	2.4 mg/kg	4.8 mg/kg	24.0 mg/kg	200.0 mg/kg	920.0 mg/kg	ND	ND	ND	ND
Endrin	0.014 mg/kg	2.2 mg/kg	11.0 mg/kg	89.0 mg/kg	410.0 mg/kg	ND	ND	ND	ND
Heptachlor	0.042 mg/kg	0.42 mg/kg	2.1 mg/kg	15.0 mg/kg	29.0 mg/kg	ND	ND	ND	ND
Gamma Bhc (Lindane)	0.1 mg/kg	0.28 mg/kg	1.3 mg/kg	9.2 mg/kg	23.0 mg/kg	ND	ND	ND	ND
PCB									
PCB-1016 (Aroclor 1016)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1221 (Aroclor 1221)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1232 (Aroclor 1232)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1242 (Aroclor 1242)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1248 (Aroclor 1248)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1254 (Aroclor 1254)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	0.122	ND	0.292 P
PCB-1260 (Aroclor 1260)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	0.0534	ND	0.0597
PCB-1262 (Aroclor 1262)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
PCB-1268 (Aroclor 1268)	0.1 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	25.0 mg/kg	ND	ND	ND	ND
Semi-volatile Organic Compounds									
Acenaphthene	20.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
Acenaphthylene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
Anthracene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
Benzo(A)Anthracene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	5.6 mg/kg	11.0 mg/kg	0.11 J	0.053 J	0.032 J	0.081 J
Benzo(A)Pyrene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	1.1 mg/kg	0.13 J	0.056 J	ND	0.088 J
Benzo(B)Fluoranthene	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	5.6 mg/kg	11.0 mg/kg	0.18	0.077 J	0.059 J	0.13

TABLE 5
COMPLETE LIST SOIL SAMPLE RESULTS



Sample Location						TEE	FAIRWAY	ROUGH	GREEN				
Field Sample ID						H1-49-2-6IN	P1-65-2-6IN	K1-62-2-6IN	S1-72-2-6IN				
Sample Depth						2 - 6	2 - 6	2 - 6	2 - 6				
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016				
Sample Matrix						SO	SO	SO	SO				
Units						mg/kg	mg/kg	mg/kg	mg/kg				
NYSDEC Soil Cleanup Objective													
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial								
Benzo(G,H,I)Perylene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.081	J	0.041	J	0.03	J	0.072	J
Benzo(K)Fluoranthene	0.8 mg/kg	1.0 mg/kg	3.9 mg/kg	56.0 mg/kg	110.0 mg/kg	0.067	J	ND		ND		0.046	J
Chrysene	1.0 mg/kg	1.0 mg/kg	3.9 mg/kg	56.0 mg/kg	110.0 mg/kg	0.13		0.059	J	0.042	J	0.1	J
Dibenz(A,H)Anthracene	0.33 mg/kg	0.33 mg/kg	0.33 mg/kg	0.56 mg/kg	1.1 mg/kg	ND		ND		ND		ND	
Fluoranthene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.3		0.13		0.079	J	0.18	
Fluorene	30.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Indeno(1,2,3-C,D)Pyrene	0.5 mg/kg	0.5 mg/kg	0.5 mg/kg	5.6 mg/kg	11.0 mg/kg	0.09	J	0.042	J	0.03	J	0.071	J
Naphthalene	12.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
2-Methylphenol (O-Cresol)	0.33 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Pentachlorophenol	0.8 mg/kg	2.4 mg/kg	6.7 mg/kg	6.7 mg/kg	55.0 mg/kg	ND		ND		ND		ND	
Phenanthrene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.14		0.053	J	0.031	J	0.094	J
Phenol	0.33 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Pyrene	100.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	0.24		0.1	J	0.065	J	0.15	
1,1,1-Trichloroethane	0.68 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
1,1-Dichloroethane	0.27 mg/kg	19.0 mg/kg	26.0 mg/kg	240.0 mg/kg	480.0 mg/kg	ND		ND		ND		ND	
1,1-Dichloroethene	0.33 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
1,2-Dichlorobenzene	1.1 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
1,2-Dichloroethane	0.02 mg/kg	2.3 mg/kg	3.1 mg/kg	30.0 mg/kg	60.0 mg/kg	ND		ND		ND		ND	
Cis-1,2-Dichloroethylene	0.25 mg/kg	59.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Trans-1,2-Dichloroethene	0.19 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
1,3-Dichlorobenzene	2.4 mg/kg	17.0 mg/kg	49.0 mg/kg	280.0 mg/kg	560.0 mg/kg	ND		ND		ND		ND	
1,4-Dichlorobenzene	1.8 mg/kg	9.8 mg/kg	13.0 mg/kg	130.0 mg/kg	250.0 mg/kg	ND		ND		ND		ND	
1,4-Dioxane (P-Dioxane)	0.1 mg/kg	9.8 mg/kg	13.0 mg/kg	130.0 mg/kg	250.0 mg/kg	ND		ND		ND		ND	
Volatile Organic Compounds													
Acetone	0.05 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Benzene	0.06 mg/kg	2.9 mg/kg	4.8 mg/kg	44.0 mg/kg	89.0 mg/kg	ND		ND		ND		ND	
N-Butylbenzene	12.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Carbon Tetrachloride	0.76 mg/kg	1.4 mg/kg	2.4 mg/kg	22.0 mg/kg	44.0 mg/kg	ND		ND		ND		ND	
Chlorobenzene	1.1 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Chloroform	0.37 mg/kg	10.0 mg/kg	49.0 mg/kg	350.0 mg/kg	700.0 mg/kg	ND		ND		ND		ND	
Ethylbenzene	1.0 mg/kg	30.0 mg/kg	41.0 mg/kg	390.0 mg/kg	780.0 mg/kg	ND		ND		ND		ND	
Hexachlorobenzene	0.33 mg/kg	0.41 mg/kg	1.2 mg/kg	6.0 mg/kg	12.0 mg/kg	ND		ND		ND		ND	
Tert-Butyl Methyl Ether	0.93 mg/kg	62.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Methylene Chloride	0.05 mg/kg	51.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
N-Propylbenzene	3.9 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	
Sec-Butylbenzene	11.0 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND		ND		ND		ND	

TABLE 5
COMPLETE LIST SOIL SAMPLE RESULTS



Sample Location						TEE	FAIRWAY	ROUGH	GREEN
Field Sample ID						H1-49-2-6IN	P1-65-2-6IN	K1-62-2-6IN	S1-72-2-6IN
Sample Depth						2 - 6	2 - 6	2 - 6	2 - 6
Date Sampled						10/10/2016	10/10/2016	10/10/2016	10/10/2016
Sample Matrix						SO	SO	SO	SO
Units						mg/kg	mg/kg	mg/kg	mg/kg
NYSDEC Soil Cleanup Objective									
Parameter	Unrestricted	Residential	Restricted Residential	Commercial	Industrial				
Tetrachloroethylene (PCE)	1.3 mg/kg	5.5 mg/kg	19.0 mg/kg	150.0 mg/kg	300.0 mg/kg	ND	ND	ND	ND
Toluene	0.7 mg/kg	100.0 mg/kg	100.0 mg/kg	500.0 mg/kg	1000.0 mg/kg	ND	ND	ND	ND
Trichloroethylene (TCE)	0.47 mg/kg	10.0 mg/kg	21.0 mg/kg	200.0 mg/kg	400.0 mg/kg	ND	ND	ND	ND
1,3,5-Trimethylbenzene (Mesitylene)	8.4 mg/kg	47.0 mg/kg	52.0 mg/kg	190.0 mg/kg	380.0 mg/kg	ND	ND	ND	ND
Vinyl Chloride	0.02 mg/kg	0.21 mg/kg	0.9 mg/kg	13.0 mg/kg	27.0 mg/kg	ND	ND	ND	ND
Xylenes, Total	0.02 mg/kg	0.21 mg/kg	0.9 mg/kg	13.0 mg/kg	27.0 mg/kg	ND	ND	ND	ND

TABLE 6
GROUNDWATER SAMPLE RESULTS



Field Sample ID	SJB-MW-3-102716	U1-70-112116
Date Sampled	10/27/2016	11/21/2016
Sample Matrix	WG	WG
Units	ug/L	ug/L
NYSDEC T.O.G.S GROUNDWATER STANDARDS		
Dissolved Metals		
Aluminum, Dissolved	2000	7 J
Antimony, Dissolved	6	0.8 J
Arsenic, Dissolved	50	3.3
Barium, Dissolved	2000	47.5
Beryllium, Dissolved	3	0.5 U
Cadmium, Dissolved	10	0.2 U
Calcium, Dissolved	NS	315000
Chromium, Dissolved	100	1.5
Cobalt, Dissolved	NS	0.6
Copper, Dissolved	1000	1.7
Iron, Dissolved	600	26 J
Lead, Dissolved	50	1 U
Magnesium, Dissolved	35000	227000
Manganese, Dissolved	600	101.8
Mercury, Dissolved	1.4	0.2 U
Nickel, Dissolved	200	3
Potassium, Dissolved	NS	7310
Selenium, Dissolved	20	5 U
Silver, Dissolved	100	0.4 U
Sodium, Dissolved	NS	51000
Thallium, Dissolved	0.5	0.5 U
Vanadium, Dissolved	NS	5 U
Zinc, Dissolved	5000	10 U
Total Metals		
Aluminum, Total	2000	1830
Antimony, Total	6	4 U
Arsenic, Total	50	7.2
Barium, Total	2000	67.8
Beryllium, Total	3	0.5 U
Cadmium, Total	10	0.2 U
Calcium, Total	NS	309000
Chromium, Total	100	3.3
Cobalt, Total	NS	2
Copper, Total	1000	4.7
Iron, Total	600	3260
Lead, Total	50	3
Magnesium, Total	35000	222000
Manganese, Total	600	204.4
Mercury, Total	1.4	0.2 U
Nickel, Total	200	5.4
Potassium, Total	NS	7140
Selenium, Total	20	5 U
Silver, Total	100	0.4 U
Sodium, Total	NS	52800
Thallium, Total	0.5	0.5 U
Vanadium, Total	NS	3.8 J
Zinc, Total	5000	12.8

TABLE 8
WASTE CHARACTERIZATION
SAMPLE RESULTS



Sample Location		GREEN	TEE
Field Sample ID		T1-71-WC	H1-47-WC
Sample Depth (inches)		0 - 24	0 - 24
Date Sampled		10/10/2016	10/10/2016
Sample Matrix		SO	SO
EPA Toxicity Characteristic Leaching Procedure			
Parameter	Standards	Units	
General Chemistry			
Solids, Total		%	86.3
pH (H)		SU	7.5
Cyanide, Reactive		mg/kg	ND
Sulfide, Reactive		mg/kg	ND
Ignitability of Solids			
Ignitability		NI	NI
Polychlorinated Biphenyls			
Aroclor 1016		ug/kg	ND
Aroclor 1221		ug/kg	ND
Aroclor 1232		ug/kg	ND
Aroclor 1242		ug/kg	ND
Aroclor 1248		ug/kg	ND
Aroclor 1254		ug/kg	ND
Aroclor 1260		ug/kg	14.1 J
Aroclor 1262		ug/kg	ND
Aroclor 1268		ug/kg	ND
PCBs, Total		ug/kg	14.1 J
TCLP Metals			
Arsenic, TCLP	5	mg/l	0.05 J
Barium, TCLP	100	mg/l	0.28 J
Cadmium, TCLP	1	mg/l	ND
Chromium, TCLP	5	mg/l	ND
Lead, TCLP	5	mg/l	ND
Mercury, TCLP	0.2	mg/l	ND
Selenium, TCLP	1	mg/l	ND
Silver, TCLP	5	mg/l	ND
TCLP Semi-volatile Organic Compounds			
Hexachlorobenzene	130	ug/l	ND
2,4-Dinitrotoluene	130	ug/l	ND
Hexachlorobutadiene	500	ug/l	ND
Hexachloroethane	3,000	ug/l	ND
Nitrobenzene	2,000	ug/l	ND
2,4,6-Trichlorophenol	2,000	ug/l	ND
Pentachlorophenol	100,000	ug/l	ND
2-Methylphenol	200,000	ug/l	ND
3-Methylphenol/4-Methylphenol	200,000	ug/l	ND
2,4,5-Trichlorophenol	400,000	ug/l	ND
Pyridine	5,000	ug/l	ND
TCLP Volatile Organic Compound			
Chloroform	6,000	ug/l	ND
Carbon tetrachloride	500	ug/l	ND
Tetrachloroethene	700	ug/l	ND
Chlorobenzene	100,000	ug/l	ND
1,2-Dichloroethane	500	ug/l	ND
Benzene	500	ug/l	ND
Vinyl chloride	200	ug/l	ND
1,1-Dichloroethene	700	ug/l	ND
Trichloroethene	500	ug/l	ND
1,4-Dichlorobenzene	7,500	ug/l	ND
2-Butanone	200,000	ug/l	ND

Notes:

ND = Not Detected

TABLE NOTES

ND - Not Detected

SO - Soil

WG - Groundwater

mg/kg - milligrams per kilogram

ug/kg - micrograms per kilogram

ug/L - micrograms per liter

S.U. - Standard Unit

Qualifier Key

J - Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit and the concentration is an approximate value.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensation Product".

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

F - Denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is required, such as personal exposure assessment.

RE - Analytical results are from sample re-extraction.

R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Not detected at the reported detection limit for the sample.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

S - Analytical results are from modified screening analysis.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

* - Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.

< - Analyzed for but not detected at or above the quantitation limit

1 - Indicates data from primary column used for QC calculation.

TABLE 7
 SUMMARY RESULTS



Sample #	Location	Metal Contamination by Depth				
		0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	As	As	As		
Tee- 2	H1-48		As			
Tee- 3	H1-49		Hg			

Sample #	Location	Metal Contamination by Depth				
		0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71		As	As	Hg	
Green- 2	S1-72	As	As	As		
Green- 3	T1-71		As	As		
Green- 4	T1-72	As	As	As	Hg	

Sample #	Location	Metal Contamination by Depth				
		0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46		Hg			
Rough- 2	K1-54	Hg, Zn	Cd, Cr			
Rough- 3	K1-59		Cr			
Rough- 4	K1-62		As, Hg			
Rough- 6	L1-51					
Rough- 7	P1-69		Hg, Mn			
Rough- 8	Q1-58					
Rough- 9	Q1-62	Hg				
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70		Cr	Mn		
Rough- 13	U1-75		Cd	Cd	Cd	Hg

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

Sample #	Location	Metal Contamination by Depth				
		0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56	As	Cd, Cr			
Fairway- 2	K1-57		Cd, Cr			
Fairway- 3	L1-56		Cd, Cr			
Fairway- 4	L1-57					
Fairway- 5	L1-58		Cd, Cr			
Fairway- 6	L1-59	Hg	Cd, Cr			
Fairway- 7	L1-60		Cd, Cr			
Fairway- 8	L1-61		Cr			
Fairway- 9	M1-57		Cr			
Fairway- 10	M1-58		Cd, Cr	Cd, Cr	Hg	
Fairway- 11	M1-59	Hg	Cd, Cr			
Fairway- 12	M1-60					
Fairway- 13	M1-61	Hg				
Fairway- 14	M1-62		Cd, Cr			
Fairway- 15	M1-63	Hg	Cd, Cr			
Fairway- 17	N1-62					
Fairway- 18	N1-63		Cd, Cr			
Fairway- 19	N1-64			Mn		
Fairway- 20	N1-65		Cr			
Fairway- 22	P1-64	Hg, Zn	Cd, Cr			
Fairway- 23	P1-65					
Fairway- 24	P1-66	Hg	Cr			
Fairway- 25	P1-67		Cd, Cr			
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67		Cd, Cr	Cd, Cr		
Fairway- 29	Q1-68	Hg	Cd, Cr			
Fairway- 30	Q1-69		Cd, Cr	Cd, Cr		
Fairway- 31	R1-67	Hg	Cd, Cr			
Fairway- 32	R1-68		Cd, Cr			
Fairway- 33	R1-69		Cd, Cr			
Fairway- 34	R1-70	Hg	Cd, Cr			
Fairway- 35	S1-69					
Fairway- 36	S1-70	As	Cr			

TABLE 7
 ARSENIC RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	Red	Red	Red	Red	White
Tee- 2	H1-48	White	Red	Green	Green	White
Tee- 3	H1-49	White	Green	Green	Green	White

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71	White	Red	Red	Green	White
Green- 2	S1-72	Red	Red	Red	Green	White
Green- 3	T1-71	White	Red	Red	Green	White
Green- 4	T1-72	Red	Red	Red	Green	White

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46	White	Green	Green	Green	White
Rough- 2	K1-54	Green	Green	Green	Green	White
Rough- 3	K1-59	White	Green	Green	Green	White
Rough- 4	K1-62	White	Yellow	Green	Green	White
Rough- 6	L1-51	White	Green	Green	Green	White
Rough- 7	P1-69	White	Green	Green	Green	White
Rough- 8	Q1-58	White	Green	Green	Green	White
Rough- 9	Q1-62	Green	Green	Green	Green	White
Rough- 10	R1-66	White	Green	Green	Green	White
Rough- 11	T1-66	White	Green	Green	Green	White
Rough- 12	U1-70	White	Green	Green	Green	White
Rough- 13	U1-75	White	Green	Green	Green	White

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56	Red	Green	Green	Green	White
Fairway- 2	K1-57	White	Green	Green	Green	White
Fairway- 3	L1-56	White	Green	Green	Green	White
Fairway- 4	L1-57	White	Green	Green	Green	White
Fairway- 5	L1-58	White	Green	Green	Green	White
Fairway- 6	L1-59	Green	Green	Green	Green	White
Fairway- 7	L1-60	White	Green	Green	Green	White
Fairway- 8	L1-61	White	Green	Green	Green	White
Fairway- 9	M1-57	White	Green	Green	Green	White
Fairway- 10	M1-58	White	Green	Green	Green	White
Fairway- 11	M1-59	Green	Green	Green	Green	White
Fairway- 12	M1-60	White	Green	Green	Green	White
Fairway- 13	M1-61	Green	Green	Green	Green	White
Fairway- 14	M1-62	White	Green	Green	Green	White
Fairway- 15	M1-63	Green	Green	Green	Green	White
Fairway- 17	N1-62	White	Green	Green	Green	White
Fairway- 18	N1-63	White	Green	Green	Green	White
Fairway- 19	N1-64	White	Green	Green	Green	White
Fairway- 20	N1-65	White	Green	Green	Green	White
Fairway- 22	P1-64	Green	Green	Green	Green	White
Fairway- 23	P1-65	White	Green	Green	Green	White
Fairway- 24	P1-66	Green	Green	Green	Green	White
Fairway- 25	P1-67	White	Green	Green	Green	White
Fairway- 26	Q1-65	White	Green	Green	Green	White
Fairway- 27	Q1-66	White	Green	Green	Green	White
Fairway- 28	Q1-67	White	Green	Green	Green	White
Fairway- 29	Q1-68	Green	Green	Green	Green	White
Fairway- 30	Q1-69	White	Green	Green	Green	White
Fairway- 31	R1-67	Green	Green	Green	Green	White
Fairway- 32	R1-68	White	Green	Green	Green	White
Fairway- 33	R1-69	White	Green	Green	Green	White
Fairway- 34	R1-70	Green	Green	Green	Green	White
Fairway- 35	S1-69	White	Green	Green	Green	White
Fairway- 36	S1-70	White	Red	Green	Green	White

Notes:

- ND The compound was not detected at the indicated concentration.
- Green Values at or below Unrestricted Use standards
- Yellow Values above Unrestricted Use standards and at or below Residential Use standards
- Orange Values above Residential Use and at or below Industrial Use standards
- Red Values in excess of Industrial use standards = "Brownfield"

TABLE 7
 BARIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

TABLE 7
 BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75		ND	ND		

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

TABLE 7
 BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71				ND	
Green- 2	S1-72				ND	
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46			ND		
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62			ND		
Rough- 6	L1-51			ND		
Rough- 7	P1-69					
Rough- 8	Q1-58			ND		
Rough- 9	Q1-62					
Rough- 10	R1-66			ND		
Rough- 11	T1-66			ND		
Rough- 12	U1-70				ND	
Rough- 13	U1-75					ND

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56			ND		
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60			ND		
Fairway- 13	M1-61					
Fairway- 14	M1-62				ND	ND
Fairway- 15	M1-63				ND	ND
Fairway- 17	N1-62			ND	ND	
Fairway- 18	N1-63				ND	ND
Fairway- 19	N1-64				ND	ND
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65			ND		
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69			ND		
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

TABLE 7
BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

Notes:

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- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

TABLE 7
 BERYLLIUM RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

Notes:

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TABLE 7
 BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

Notes:

- ND The compound was not detected at the indicated concentration.
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TABLE 7
 BERYLLIUM RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47					
Tee- 2	H1-48					
Tee- 3	H1-49		ND			

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54					
Rough- 3	K1-59					
Rough- 4	K1-62		ND			
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61					
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

TABLE 7
 BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	Green	Green	Green	Green	Green
Tee- 2	H1-48	Green	Yellow	Green	Green	Green
Tee- 3	H1-49	Green	Green	Green	Green	Green

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71	Green	Green	Green	Green	Green
Green- 2	S1-72	Green	Green	Green	Green	Green
Green- 3	T1-71	Green	Green	Green	Green	Green
Green- 4	T1-72	Green	Green	Green	Green	Green

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46	Green	Green	Green	Green	Green
Rough- 2	K1-54	Green	Green	Green	Green	Green
Rough- 3	K1-59	Green	Green	Green	Green	Green
Rough- 4	K1-62	Green	Green	Green	Green	Green
Rough- 6	L1-51	Green	Green	Green	Green	Green
Rough- 7	P1-69	Green	Yellow	Green	Green	Green
Rough- 8	Q1-58	Green	Green	Green	Green	Green
Rough- 9	Q1-62	Green	Green	Green	Green	Green
Rough- 10	R1-66	Green	Green	Green	Green	Green
Rough- 11	T1-66	Green	Green	Green	Green	Green
Rough- 12	U1-70	Green	Green	Yellow	Green	Green
Rough- 13	U1-75	Green	Green	Green	Green	Green

Notes:

- ND The compound was not detected at the indicated concentration.
- Green Values at or below Unrestricted Use standards
- Yellow Values above Unrestricted Use standards and at or below Residential Use standards
- Orange Values above Residential Use and at or below Industrial Use standards
- Red Values in excess of Industrial use standards = "Brownfield"

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56	Green	Green	Green	Green	Green
Fairway- 2	K1-57	Green	Green	Green	Green	Green
Fairway- 3	L1-56	Green	Green	Green	Green	Green
Fairway- 4	L1-57	Green	Green	Green	Green	Green
Fairway- 5	L1-58	Green	Green	Green	Green	Green
Fairway- 6	L1-59	Green	Green	Green	Green	Green
Fairway- 7	L1-60	Green	Green	Green	Green	Green
Fairway- 8	L1-61	Green	Green	Green	Green	Green
Fairway- 9	M1-57	Green	Green	Green	Green	Green
Fairway- 10	M1-58	Green	Green	Green	Green	Green
Fairway- 11	M1-59	Green	Green	Green	Green	Green
Fairway- 12	M1-60	Green	Green	Green	Green	Green
Fairway- 13	M1-61	Green	Green	Green	Green	Green
Fairway- 14	M1-62	Green	Green	Green	Green	Green
Fairway- 15	M1-63	Green	Green	Green	Green	Green
Fairway- 17	N1-62	Green	Green	Green	Green	Green
Fairway- 18	N1-63	Green	Green	Green	Green	Green
Fairway- 19	N1-64	Green	Green	Yellow	Green	Green
Fairway- 20	N1-65	Green	Green	Green	Green	Green
Fairway- 22	P1-64	Green	Green	Green	Green	Green
Fairway- 23	P1-65	Green	Green	Green	Green	Green
Fairway- 24	P1-66	Green	Green	Green	Green	Green
Fairway- 25	P1-67	Green	Green	Green	Green	Green
Fairway- 26	Q1-65	Green	Green	Green	Green	Green
Fairway- 27	Q1-66	Green	Green	Green	Green	Green
Fairway- 28	Q1-67	Green	Green	Green	Green	Green
Fairway- 29	Q1-68	Green	Green	Green	Green	Green
Fairway- 30	Q1-69	Green	Green	Green	Green	Green
Fairway- 31	R1-67	Green	Green	Green	Green	Green
Fairway- 32	R1-68	Green	Green	Green	Green	Green
Fairway- 33	R1-69	Green	Green	Green	Green	Green
Fairway- 34	R1-70	Green	Green	Green	Green	Green
Fairway- 35	S1-69	Green	Green	Green	Green	Green
Fairway- 36	S1-70	Green	Green	Green	Green	Green

TABLE 7
 BERYLLIUM RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	Red	Yellow	Green	Green	White
Tee- 2	H1-48	White	Yellow	Green	Green	White
Tee- 3	H1-49	White	Yellow	Green	Green	White

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71	White	Red	Yellow	Green	Green
Green- 2	S1-72	Red	Red	Red	Green	White
Green- 3	T1-71	White	Red	Yellow	Green	White
Green- 4	T1-72	Red	Red	Red	Yellow	Green

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46	White	Yellow	Green	Green	White
Rough- 2	K1-54	Red	Yellow	Green	Green	White
Rough- 3	K1-59	White	Yellow	Green	Green	White
Rough- 4	K1-62	White	Yellow	Green	Green	White
Rough- 6	L1-51	White	Green	Green	Green	White
Rough- 7	P1-69	White	Yellow	Green	Green	White
Rough- 8	Q1-58	White	Green	Green	Green	White
Rough- 9	Q1-62	Red	Green	Green	Green	White
Rough- 10	R1-66	White	Green	Green	Green	White
Rough- 11	T1-66	White	Green	Green	Green	White
Rough- 12	U1-70	White	Green	Green	Green	White
Rough- 13	U1-75	White	Yellow	Green	Green	White

Notes:

- ND The compound was not detected at the indicated concentration.
- Green Values at or below Unrestricted Use standards
- Yellow Values above Unrestricted Use standards and at or below Residential Use standards
- Orange Values above Residential Use and at or below Industrial Use standards
- Red Values in excess of Industrial use standards = "Brownfield"

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56	Red	Yellow	Green	Green	White
Fairway- 2	K1-57	White	Green	Green	Green	White
Fairway- 3	L1-56	White	Green	Green	Green	White
Fairway- 4	L1-57	White	Green	Green	Green	White
Fairway- 5	L1-58	White	Yellow	Green	Green	White
Fairway- 6	L1-59	Red	Green	Green	Green	White
Fairway- 7	L1-60	White	Yellow	Green	Green	White
Fairway- 8	L1-61	White	Green	Green	Green	White
Fairway- 9	M1-57	White	Green	Green	Green	White
Fairway- 10	M1-58	White	Yellow	Yellow	Yellow	Green
Fairway- 11	M1-59	Red	Green	Green	Green	White
Fairway- 12	M1-60	White	Green	Green	Green	White
Fairway- 13	M1-61	Red	White	Green	Green	White
Fairway- 14	M1-62	White	Yellow	Green	Green	White
Fairway- 15	M1-63	Red	Yellow	Green	Green	White
Fairway- 17	N1-62	White	Green	Green	Green	White
Fairway- 18	N1-63	White	Yellow	Green	Green	White
Fairway- 19	N1-64	White	Green	Green	Green	White
Fairway- 20	N1-65	White	Yellow	Green	Green	White
Fairway- 22	P1-64	Red	Yellow	Green	Green	White
Fairway- 23	P1-65	White	Green	Green	Green	White
Fairway- 24	P1-66	Red	Yellow	Green	Green	White
Fairway- 25	P1-67	White	Yellow	Green	Green	White
Fairway- 26	Q1-65	White	Green	Green	Green	White
Fairway- 27	Q1-66	White	Green	Green	Green	White
Fairway- 28	Q1-67	White	Green	Green	Green	White
Fairway- 29	Q1-68	Red	Green	Green	Green	White
Fairway- 30	Q1-69	White	Yellow	Green	Green	White
Fairway- 31	R1-67	Red	Green	Green	Green	White
Fairway- 32	R1-68	White	Yellow	Green	Green	White
Fairway- 33	R1-69	White	Yellow	Green	Green	White
Fairway- 34	R1-70	Red	Yellow	Green	Green	White
Fairway- 35	S1-69	White	Green	Green	Green	White
Fairway- 36	S1-70	White	Yellow	Green	Green	White

TABLE 7
BERYLLIUM RESULTS



Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	ND				
Tee- 2	H1-48					
Tee- 3	H1-49					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71					
Green- 2	S1-72					
Green- 3	T1-71					
Green- 4	T1-72					

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46					
Rough- 2	K1-54	ND				
Rough- 3	K1-59					
Rough- 4	K1-62					
Rough- 6	L1-51					
Rough- 7	P1-69					
Rough- 8	Q1-58					
Rough- 9	Q1-62					
Rough- 10	R1-66					
Rough- 11	T1-66					
Rough- 12	U1-70					
Rough- 13	U1-75					

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

Metal Contamination by Depth						
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56					
Fairway- 2	K1-57					
Fairway- 3	L1-56					
Fairway- 4	L1-57					
Fairway- 5	L1-58					
Fairway- 6	L1-59					
Fairway- 7	L1-60					
Fairway- 8	L1-61					
Fairway- 9	M1-57					
Fairway- 10	M1-58					
Fairway- 11	M1-59					
Fairway- 12	M1-60					
Fairway- 13	M1-61	ND				
Fairway- 14	M1-62					
Fairway- 15	M1-63					
Fairway- 17	N1-62					
Fairway- 18	N1-63					
Fairway- 19	N1-64					
Fairway- 20	N1-65					
Fairway- 22	P1-64					
Fairway- 23	P1-65					
Fairway- 24	P1-66					
Fairway- 25	P1-67					
Fairway- 26	Q1-65					
Fairway- 27	Q1-66					
Fairway- 28	Q1-67					
Fairway- 29	Q1-68					
Fairway- 30	Q1-69					
Fairway- 31	R1-67					
Fairway- 32	R1-68					
Fairway- 33	R1-69					
Fairway- 34	R1-70					
Fairway- 35	S1-69					
Fairway- 36	S1-70					

**TABLE 7
 BERYLLIUM RESULTS**



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47				ND	
Tee- 2	H1-48		ND	ND		
Tee- 3	H1-49		ND		ND	

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71				ND	
Green- 2	S1-72			ND	ND	
Green- 3	T1-71			ND	ND	
Green- 4	T1-72			ND	ND	

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46			ND		
Rough- 2	K1-54					
Rough- 3	K1-59		ND	ND		
Rough- 4	K1-62		ND	ND		
Rough- 6	L1-51			ND		
Rough- 7	P1-69			ND		
Rough- 8	Q1-58		ND			
Rough- 9	Q1-62	ND		ND		
Rough- 10	R1-66		ND	ND		
Rough- 11	T1-66		ND	ND		
Rough- 12	U1-70		ND	ND	ND	
Rough- 13	U1-75				ND	

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56			ND		
Fairway- 2	K1-57		ND	ND	ND	
Fairway- 3	L1-56			ND	ND	
Fairway- 4	L1-57					
Fairway- 5	L1-58		ND	ND		
Fairway- 6	L1-59		ND	ND		
Fairway- 7	L1-60		ND	ND		
Fairway- 8	L1-61		ND	ND		
Fairway- 9	M1-57					
Fairway- 10	M1-58			ND	ND	
Fairway- 11	M1-59		ND	ND		
Fairway- 12	M1-60		ND	ND		
Fairway- 13	M1-61				ND	
Fairway- 14	M1-62			ND	ND	ND
Fairway- 15	M1-63				ND	ND
Fairway- 17	N1-62		ND	ND	ND	ND
Fairway- 18	N1-63		ND	ND	ND	ND
Fairway- 19	N1-64		ND	ND	ND	ND
Fairway- 20	N1-65		ND	ND		
Fairway- 22	P1-64		ND	ND		
Fairway- 23	P1-65		ND	ND		
Fairway- 24	P1-66		ND	ND		
Fairway- 25	P1-67			ND		
Fairway- 26	Q1-65		ND	ND		
Fairway- 27	Q1-66		ND	ND		
Fairway- 28	Q1-67				ND	
Fairway- 29	Q1-68		ND	ND		
Fairway- 30	Q1-69				ND	
Fairway- 31	R1-67		ND	ND		
Fairway- 32	R1-68		ND	ND		
Fairway- 33	R1-69		ND	ND		
Fairway- 34	R1-70			ND		
Fairway- 35	S1-69			ND		
Fairway- 36	S1-70			ND		

TABLE 7
BERYLLIUM RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47				ND	
Tee- 2	H1-48			ND		
Tee- 3	H1-49		ND	ND	ND	

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71		ND	ND	ND	
Green- 2	S1-72			ND	ND	
Green- 3	T1-71			ND	ND	
Green- 4	T1-72			ND	ND	

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46		ND	ND		
Rough- 2	K1-54			ND		
Rough- 3	K1-59		ND	ND		
Rough- 4	K1-62		ND	ND		
Rough- 6	L1-51		ND	ND		
Rough- 7	P1-69			ND		
Rough- 8	Q1-58		ND	ND		
Rough- 9	Q1-62		ND	ND		
Rough- 10	R1-66		ND	ND		
Rough- 11	T1-66		ND	ND		
Rough- 12	U1-70			ND	ND	
Rough- 13	U1-75		ND	ND	ND	

Notes:

- ND The compound was not detected at the indicated concentration.
- Values at or below Unrestricted Use standards
- Values above Unrestricted Use standards and at or below Residential Use standards
- Values above Residential Use and at or below Industrial Use standards
- Values in excess of Industrial use standards = "Brownfield"

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56			ND		
Fairway- 2	K1-57		ND	ND	ND	
Fairway- 3	L1-56			ND	ND	
Fairway- 4	L1-57		ND			
Fairway- 5	L1-58			ND		
Fairway- 6	L1-59		ND	ND		
Fairway- 7	L1-60			ND		
Fairway- 8	L1-61		ND	ND		
Fairway- 9	M1-57			ND		
Fairway- 10	M1-58		ND	ND	ND	
Fairway- 11	M1-59			ND		
Fairway- 12	M1-60		ND	ND		
Fairway- 13	M1-61				ND	
Fairway- 14	M1-62			ND	ND	ND
Fairway- 15	M1-63			ND	ND	ND
Fairway- 17	N1-62		ND	ND	ND	ND
Fairway- 18	N1-63		ND	ND	ND	ND
Fairway- 19	N1-64		ND	ND	ND	ND
Fairway- 20	N1-65			ND		
Fairway- 22	P1-64		ND	ND		
Fairway- 23	P1-65		ND	ND		
Fairway- 24	P1-66		ND	ND		
Fairway- 25	P1-67			ND		
Fairway- 26	Q1-65		ND	ND		
Fairway- 27	Q1-66		ND	ND		
Fairway- 28	Q1-67				ND	
Fairway- 29	Q1-68			ND		
Fairway- 30	Q1-69				ND	
Fairway- 31	R1-67		ND	ND		
Fairway- 32	R1-68			ND		
Fairway- 33	R1-69		ND	ND		
Fairway- 34	R1-70			ND		
Fairway- 35	S1-69			ND		
Fairway- 36	S1-70		ND	ND		

TABLE 7
 BERYLLIUM RESULTS



		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Tee- 1	H1-47	Yellow	Green	Green	Green	Green
Tee- 2	H1-48	Green	Green	Green	Green	Green
Tee- 3	H1-49	Green	Green	Green	Green	Green

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Green- 1	S1-71	Green	Green	Green	Green	Green
Green- 2	S1-72	Yellow	Yellow	Green	Green	Green
Green- 3	T1-71	Green	Green	Green	Green	Green
Green- 4	T1-72	Yellow	Yellow	Green	Green	Green

Sample #	Location	0-2	2-6	6-12	12-18	18-24
Rough- 1	G1-46	Green	Green	Green	Green	Green
Rough- 2	K1-54	Red	Green	Green	Green	Green
Rough- 3	K1-59	Green	Green	Green	Green	Green
Rough- 4	K1-62	Green	Green	Green	Green	Green
Rough- 6	L1-51	Green	Green	Green	Green	Green
Rough- 7	P1-69	Green	Green	Green	Green	Green
Rough- 8	Q1-58	Green	Green	Green	Green	Green
Rough- 9	Q1-62	Yellow	Green	Green	Green	Green
Rough- 10	R1-66	Green	Green	Green	Green	Green
Rough- 11	T1-66	Green	Green	Green	Green	Green
Rough- 12	U1-70	Green	Green	Green	Green	Green
Rough- 13	U1-75	Green	Green	Green	Green	Green

Notes:

- ND The compound was not detected at the indicated concentration.
- Green Values at or below Unrestricted Use standards
- Yellow Values above Unrestricted Use standards and at or below Residential Use standards
- Orange Values above Residential Use and at or below Industrial Use standards
- Red Values in excess of Industrial use standards = "Brownfield"

		Metal Contamination by Depth				
Sample #	Location	0-2	2-6	6-12	12-18	18-24
Fairway- 1	K1-56	Yellow	Green	Green	Green	Green
Fairway- 2	K1-57	Green	Green	Green	Green	Green
Fairway- 3	L1-56	Green	Green	Green	Green	Green
Fairway- 4	L1-57	Green	Green	Green	Green	Green
Fairway- 5	L1-58	Green	Green	Green	Green	Green
Fairway- 6	L1-59	Yellow	Green	Green	Green	Green
Fairway- 7	L1-60	Green	Green	Green	Green	Green
Fairway- 8	L1-61	Green	Green	Green	Green	Green
Fairway- 9	M1-57	Green	Green	Green	Green	Green
Fairway- 10	M1-58	Green	Green	Green	Green	Green
Fairway- 11	M1-59	Yellow	Green	Green	Green	Green
Fairway- 12	M1-60	Green	Green	Green	Green	Green
Fairway- 13	M1-61	Yellow	Green	Green	Green	Green
Fairway- 14	M1-62	Green	Green	Green	Green	Green
Fairway- 15	M1-63	Yellow	Green	Green	Green	Green
Fairway- 17	N1-62	Green	Green	Green	Green	Green
Fairway- 18	N1-63	Green	Green	Green	Green	Green
Fairway- 19	N1-64	Green	Green	Green	Green	Green
Fairway- 20	N1-65	Green	Green	Green	Green	Green
Fairway- 22	P1-64	Red	Green	Green	Green	Green
Fairway- 23	P1-65	Green	Green	Green	Green	Green
Fairway- 24	P1-66	Yellow	Green	Green	Green	Green
Fairway- 25	P1-67	Green	Green	Green	Green	Green
Fairway- 26	Q1-65	Green	Green	Green	Green	Green
Fairway- 27	Q1-66	Green	Green	Green	Green	Green
Fairway- 28	Q1-67	Green	Green	Green	Green	Green
Fairway- 29	Q1-68	Yellow	Green	Green	Green	Green
Fairway- 30	Q1-69	Green	Green	Green	Green	Green
Fairway- 31	R1-67	Yellow	Green	Green	Green	Green
Fairway- 32	R1-68	Green	Green	Green	Green	Green
Fairway- 33	R1-69	Green	Green	Green	Green	Green
Fairway- 34	R1-70	Yellow	Green	Green	Green	Green
Fairway- 35	S1-69	Green	Green	Green	Green	Green
Fairway- 36	S1-70	Green	Green	Green	Green	Green

APPENDIX A BORING LOGS

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: G1-46

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:30 PM Start

Elevation: 598.58

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-G1-46-0-2in	CLAY -dark brown; moist soft	0 ppm Sample collected from 0-2" and 2-6" for Arsenic analysis only.
	SO-G1-46-2-6in		
5		CLAY -brown; moist; soft	0 ppm Samples collected for 6-12", 12-18", and 18-24" held for Arsenic only.
	SO-G1-46-6-12in		
10			
	SO-G1-46-12-18in		
15		CLAY -red brown; moist; soft	0 ppm
	SO-G1-46-18-24in		
20		CLAY -red brown; moist; small in bedded pebbles	0 ppm
25			
30			
35		CLAY -red brown; moist; small in bedded pebbles	0 ppm
40			
45			
46.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: H1-47

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:40 PM Start

Elevation: 600

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-47-0-2in	CLAY -dark brown; moist	0 ppm Sample at 0-2in, 2-6in and 6-12in intervals collected for Arsenic only.
	SO-H1-47-2-6in		
	SO-H1-47-6-12in		
5		CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-H1-47-12-18in		
10		CLAY -brown; moist to wet	0 ppm
	SO-H1-47-18-24in		
15		CLAY -light red brown	0 ppm
20			
25			
30			
35			
40.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: H1-48

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather:

Comments: 12:10 PM Start

Elevation: 600.62

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-48-0-2in	Silty LOAM	0 ppm Sample collected at 0-2in for Complete List.
5	SO-H1-48-2-6in	CLAY -dark brown	0 ppm Sample collected at 2-6in for Arsenic only.
10	SO-H1-48-6-12in	Large Rocks CLAY -brown; moist	0 ppm Sample collected at 6-12in, 12-18in, and 18-24in for Arsenic only.
15	SO-H1-48-12-18in		
20	SO-H1-48-18-24in		
25			
30			
35			
36.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: H1-49

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-H1-49-0-2in	Sandy LOAM -brown	0 ppm Samples at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicate from 0-2in interval (DUP C).
5	SO-H1-49-2-6in		
10	SO-H1-49-6-12in	CLAY -brown; embedded Gravel angular dark grey 1" and smaller; trace coal	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-H1-49-12-18in		
20	SO-H1-49-18-24in		
25			
30			
33.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-54

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:45 AM Start

Elevation: 598.72

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-54-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-K1-54-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-K1-54-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in interval collected for Arsenic only.
15	SO-K1-54-12-18in		
20	SO-K1-54-18-24in		
25			
30			
35			
36.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-56

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:00 AM Start

Elevation: 598.865

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-56-0-2in	CLAY -dark brown; trace silt	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-K1-56-2-6in		
10	SO-K1-56-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-K1-56-12-18in		
20	SO-K1-56-18-24in		
25 30 35 40 44.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:00 AM Start

Elevation: 598.97

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-K1-57-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-K1-57-6-12in	CLAY -brown	0 ppm Sample at 6-12in, 12-18in and 18-24in interval collected for Arsenic only.
15	SO-K1-57-12-18in		
20	SO-K1-57-18-24in		
25			
30			
35			
40			
43.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:30 PM Start

Elevation: 599.25

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-59-0-2in	CLAY -dark brown	0 ppm Samples at 0-2in, 2-6in and 6-12in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP A).
	SO-K1-59-2-6in		
	SO-K1-59-6-12in		
	SO-K1-59-12-18in		
15	SO-K1-59-12-18in	Silty SAND -brown; fine; dry	0 ppm Sample at 12-18in interval collected for Arsenic only.
20	SO-K1-59-18-24in	CLAY with red angular rocks, grey rounded rocks	0 ppm Sample at 18-24in interval collected for Arsenic only.
25			
30			
35			
40			
44.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.61

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-62-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in collected for Complete List and 2-6in intervals collected for Arsenic only.
5	SO-K1-62-2-6in		
10	SO-K1-62-6-12in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-K1-62-12-18in		
20	SO-K1-62-18-24in		
25			
30			
35			
40			
45.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: K1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:05 PM Start

Elevation: 602

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-K1-67-0-2in	CLAY -dark brown; moist	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-K1-67-2-6in		
10	SO-K1-67-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-K1-67-12-18in		
20	SO-K1-67-18-24in		
25			
30			
35			
40			
42.0			

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: L1-51

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.13

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-51-0-2in	CLAY -dark brown	0 ppm
5	SO-L1-51-2-6in		Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-L1-51-6-12in	CLAY -dark brown	0 ppm
10	SO-L1-51-12-18in		Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-L1-51-18-24in		
20			
25			
30			
35			
40			
45			
46.0			

BORING LOG



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Borehole ID: L1-56

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.742

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-56-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-L1-56-2-6in		
5			
	SO-L1-56-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10			
	SO-L1-56-12-18in		
15			
	SO-L1-56-18-24	CLAY -brown; wet	0 ppm
20			
25			
		CLAY -brown; stiff	0 ppm
30			
35			
40			
41.0			

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Borehole ID: L1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 11:30 AM Start

Elevation: 598.925

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-57-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-L1-57-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-57-12-18in		
20	SO-L1-57-18-24in		
25			
30			
35			
40			
41.0			

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Borehole ID: L1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:05 AM Start

Elevation: 599.296

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-58-0-2in	LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-58-2-6in	CLAY -dark brown; trace Silt	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-L1-58-6-12in		
15	SO-L1-58-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-L1-58-18-24in		
25			
30		Silty CLAY-light brown; dry	0 ppm
35		CLAY -brown	0 ppm
40			
43.0			

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Borehole ID: L1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:00 AM Start

Elevation: 599.518

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-59-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP D).
5	SO-L1-59-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-L1-59-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-59-12-18in		
20	SO-L1-59-18-24in		
25			
30			
35			
36			

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Borehole ID: L1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:00 AM Start

Elevation: 599.518

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
36 40 42.0	8-42	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.

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Borehole ID: L1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.757

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-60-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-L1-60-2-6in	silty CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-L1-60-6-12in		
10		CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-L1-60-12-18in		
20	SO-L1-60-18-24in		
25			
30			
35			
40			

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Borehole ID: L1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F Comments:

Elevation: 599.757

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
40 44.0	SO-L1-60-10-44in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

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Borehole ID: L1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 9:30 AM Start

Elevation: 600.203

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-L1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-L1-61-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-L1-61-6-12in	CLAY -brown; embedded Gravel angular dark grey 0.25"	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-L1-61-12-18in		
	SO-L1-61-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: M1-57

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:30 AM Start

Elevation: 598.914

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-57-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-M1-57-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-M1-57-6-12in		
10		CLAY -brown	0 ppm Samples at 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-M1-57-12-18in		
	SO-M1-57-18-24in		
20			
25			
30			
32.0			

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Borehole ID: M1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 10:25 AM Start

Elevation: 599.315

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-58-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-58-2-6in	CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-M1-58-6-12in		
15	SO-M1-58-12-18in	CLAY -brown; dry	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-58-18-24in		
25			
30			
35			
40			
45			
48.0			

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Borehole ID: M1-59

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.537

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-59-0-2in	CLAY -brown	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-59-2-6in	SILT -brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-M1-59-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-M1-59-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-59-18-24in		
25			
30			
35			
40			

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Borehole ID: M1-60

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.877

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-60-0-2in	Silty and Sandy LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-60-2-6in	SILT -brown	0 ppm Sample at 2-6in interval collected for Arsenic only.
10	SO-M1-60-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-M1-60-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-60-18-24in		
25			
30			
35			
40			
45			
48.0			

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Borehole ID: M1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:38 PM Start

Elevation: 600.22

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-61-2-6in	CLAY -brown	0 ppm Samples at 2-6in, 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10	SO-M1-61-6-12in		
15	SO-M1-61-12-18in		
20	SO-M1-61-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: M1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.48

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-62-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-M1-62-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-M1-62-6-12in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-M1-62-12-18in		
20	SO-M1-62-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: M1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.073

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-M1-63-0-2in	Clayey LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-M1-63-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-M1-63-6-12in		
15	SO-M1-63-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-M1-63-18-24in		
40		Silty CLAY -red brown; wet	0 ppm
45.0			

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Borehole ID: N1-61

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-61-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP E).
5	SO-N1-61-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
	SO-N1-61-6-12in		
10	SO-N1-61-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-61-18-24in		
20			
24			

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Borehole ID: N1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.936

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-62-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-N1-62-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in, 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10	SO-N1-62-6-12in	Clay -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-62-12-18in		
20	SO-N1-62-18-24in		
25			
30			
35			
40			
43.0			

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Borehole ID: N1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.:

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 9:00 AM Start

Elevation: 600.263

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-63-0-2in	Silty LOAM -brown	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-N1-63-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in intervals collected for Arsenic only.
10	SO-N1-63-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in and 18-24in intervals collected for Arsenic only.
15	SO-N1-63-12-18in		
20	SO-N1-63-18-24in		
25			
30			
35			
40			
42.0			

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Borehole ID: N1-64

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.005

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-64-0-2in	Clayey LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-N1-64-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-N1-64-6-12in		
15	SO-N1-64-12-18in	Clay -brown; wet	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-N1-64-18-24in		
25			
30			
35		CLAY -brown	0 ppm
40			
43.0			

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Borehole ID: N1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.867

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-N1-65-0-2in	CLAY -dark brown; wet	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-N1-65-2-6in		
5		CLAY -brown; wet	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-N1-65-6-12in		
10			
	SO-N1-65-12-18in		
15		CLAY -brown; hard; dry	0 ppm
	SO-N1-65-18-24in		
20			
25			
30			
35			
40			
45			
46.0			

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Borehole ID: P1-63

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.818

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-63-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-P1-63-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-P1-63-6-12in		
15	SO-P1-63-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-P1-63-18-24in		
25			
30			
35			
40			
45.0			

BORING LOG



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Borehole ID: P1-64

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.57

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-64-0-2in	Silty CLAY -dark brown; wet	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP F).
	SO-P1-64-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-P1-64-6-12in		
10		CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-P1-64-12-18in		
	SO-P1-64-18-24in		
15			
20			
25			
30			
35			
40			
45			
47.0			

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Borehole ID: P1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:00 PM Start

Elevation: 599.584

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-65-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Complete List. Field duplicated collected from the 0-2in interval (DUP J).
5	SO-P1-65-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-P1-65-6-12in		
15	SO-P1-65-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-P1-65-18-24in		
25			
30			
35			
36			

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Borehole ID: P1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.897

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-P1-66-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-P1-66-6-12in		
15	SO-P1-66-12-18in	CLAY -brown	0 ppm Sample at 12-18in intervals collected for Arsenic only.
20	SO-P1-66-18-24in	CLAY -brown; water saturated	0 ppm Sample at 18-24in intervals collected for Arsenic only.
25			
30			
35			
36.0			

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Borehole ID: P1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:00 PM Start

Elevation: 600.191

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-67-0-2in	Silty Loam	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-P1-67-2-6in		
5			
	SO-P1-67-6-12in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10			
	SO-P1-67-12-18	CLAY -brown	0 ppm
15			
	SO-P1-67-18-24		
20			
25			
30			
35			
40			
45.0			

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Borehole ID: P1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-P1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-P1-69-2-6in		
5		Root	0 ppm Sample at 6-12in interval collected for Arsenic only.
10	SO-P1-69-6-12in	CLAY -brown; some roots	0 ppm Sample at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-P1-69-12-18in		
	SO-P1-69-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: Q1-58

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.33

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-58-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-Q1-58-2-6in	CLAY -dark brown	0 ppm Samples at 6-12in interval collected for Arsenic only.
10	SO-Q1-58-6-12in		
15	SO-Q1-58-12-18in	Brick Pieces CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-Q1-58-18-24in		
25			
30			
35			
40			
44.0			

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Borehole ID: Q1-62

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:45 PM Start

Elevation: 599

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-62-0-2in	SILTY LOAM -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-62-2-6in		
5		SILT -yellowish brown; trace Clay	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-Q1-62-6-12in		
	SO-Q1-62-12-18in		
15		CLAY -brown	0 ppm
	SO-Q1-62-18-24in		
20			
25			
30			
35			
40			
45.0			

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Borehole ID: Q1-65

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.063

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-65-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-65-2-6in		
5			
	SO-Q1-65-6-12in	CLAY -brown; trace silt	0 ppm Samples at 6-12in interval collected for Arsenic only.
10			
	SO-Q1-65-12-18in	Silty CLAY -brown; saturated	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
15			
	SO-Q1-65-18-24in		
20			
		CLAY -light brown	0 ppm
25			
30			
34.0			

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Borehole ID: Q1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.365

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-66-2-6in		
5		CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-66-6-12in	Coarse sand and rocks	0 ppm Samples at 12-18in interval collected for Arsenic only.
10			
	SO-Q1-66-12-18in	Silty CLAY -light brown	0 ppm Samples at 18-24in interval collected for Arsenic only.
15		CLAY -brown	0 ppm
	SO-Q1-66-18-24in		
20			
25			
30			
35			
38.0			

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Borehole ID: Q1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 1:20 PM Start

Elevation: 599.712

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-67-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-67-2-6in		
5		CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-67-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
10			
	SO-Q1-67-12-18in		
15			
	SO-Q1-67-18-24in		
20			
25			
30			
35			
40			

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Borehole ID: Q1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.762

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-68-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP G).
	SO-Q1-68-2-6in		
5			
	SO-Q1-68-6-12in	Silty CLAY -dark brown	0 ppm Samples at 6-12in and 12-18in intervals collected for Arsenic only.
10			
	SO-Q1-68-12-18in	CLAY -brown	0 ppm Sample at 12-18in interval collected for Arsenic only.
15			
	SO-Q1-68-18-24in	CLAY -light brown; hard	0 ppm Sample 18-24in interval collected for Arsenic only.
20			
25			
30			
35			
40			

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Borehole ID: Q1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-Q1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-Q1-69-2-6in		
5		Silty CLAY -brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
	SO-Q1-69-6-12in		
10		CLAY -brown	0 ppm Sample at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-Q1-69-12-18in		
	SO-Q1-69-18-24in		
15			
20			
25			
30			
35			
40			
44.0			

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Borehole ID: R1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.74

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-66-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-66-2-6in		
5		Tree Root	0 ppm
	SO-R1-66-6-12in	CLAY -dark brown	0 ppm Sample at 6-12in interval collected for Arsenic only.
10		CLAY -brown; hard	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
	SO-R1-66-12-18in		
15	SO-R1-66-18-24in		
20			
25			
30			
35			
40			
45			
48.0			

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Borehole ID: R1-67

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/19/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.209

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-67-0-2in	Sandy LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-67-2-6in		
5		CLAY -brown; trace Silt	0 ppm Samples at 6-12in and 12-18in intervals collected for Arsenic only.
	SO-R1-67-6-12in		
10		CLAY -brown	0 ppm Sample at 18-24in interval collected for Arsenic only.
	SO-R1-67-12-18in		
15			
20	SO-R1-67-18-24in		
25			
30			
35			
40			
45			
46.0			

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Borehole ID: R1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 599.317

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-68-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-R1-68-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-R1-68-6-12in		
15	SO-R1-68-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-R1-68-18-24in		
30		Silt -brown; moist	0 ppm
35		CLAY -brown	0 ppm
40			

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Borehole ID: R1-68

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F Comments:

Elevation: 599.317

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
40 43.0	SO-R1-68-31-43in	CLAY -brown	0 ppm

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Borehole ID: R1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:30 PM Start

Elevation: 599.664

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-69-0-2in	Silty LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
	SO-R1-69-2-6in		
5		CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
	SO-R1-69-6-12in		
10		CLAY -brown	0 ppm
	SO-R1-69-12-18in		
	SO-R1-69-18-24in		
25			
30			
35			
40		Silt -brown; saturated	0 ppm
44.0			

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Borehole ID: R1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.093

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-R1-70-0-2in	Silty LOAM -dark brown; trace Clay and organic matter; moist	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-R1-70-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in interval collected for Arsenic only.
10	SO-R1-70-6-12in	CLAY -brown; some Silt; water saturated at 38-41 inch	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-R1-70-12-18in		
20	SO-R1-70-18-24in		
25			
30			
35			
40			
42.0			

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Borehole ID: S1-69

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 599.242

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-69-0-2in	Silty LOAM CLAY -dark brown	0 ppm
5	SO-S1-69-2-6in		0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP H).
10	SO-S1-69-6-12in		
15	SO-S1-69-12-18in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
20	SO-S1-69-18-24in		
25			
30			
35			
36			

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Borehole ID: S1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 599.579

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-70-0-2in	Silty LOAM	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-S1-70-2-6in	CLAY -dark brown	0 ppm Sample at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-70-6-12in		
15	SO-S1-70-12-18in	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-S1-70-18-24in		
25			
30			
35			
40			

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Borehole ID: S1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 12:00 PM Start

Elevation: 599.579

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
40	12-42	CLAY -brown	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
44.0	42-44	SILT -brown; moist	0 ppm

BORING LOG



C&S Engineers, Inc.
 141 Elm Street
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

Borehole ID: S1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.134

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-71-0-2in	Sandy LOAM -brown; organic matter; moist; med-fine Sand; trace Silt	0 ppm Sample at 0-2in interval collected for Arsenic only.
5	SO-S1-71-2-6in	CLAY -dark brown; organic matter (roots)	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-71-6-12in		
15	SO-S1-71-12-18in	Sand and Gravel -dark grey; medium to coarse Sand; sub-round gravel, 1 in CLAY -brown; soft; moist	0 ppm Samples at 12-18in interval collected for Arsenic only. 0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-S1-71-18-24in		
22			

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Borehole ID: S1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.134

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
22 25 30 35 40 43.0	SO-S1-71-18-24in	CLAY -brown; soft; moist	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

BORING LOG



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Borehole ID: S1-72

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.66

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-S1-72-0-2in	Sandy Loam -brown; moist; trace Silt	0 ppm Sample at 0-2in interval collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP I).
5	SO-S1-72-2-6in	CLAY -dark grey; soft; moist	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-S1-72-6-12in		
15	SO-S1-72-12-18in	GRAVEL -grey; rounded; moist	0 ppm Sample at 12-18in interval collected for Arsenic only.
20	SO-S1-72-18-24in	CLAY -dark brown; moist; dense	0 ppm Sample at 18-24 interval collected for Arsenic only.
25			
30			
35			
36.0			

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 Fax: 716-847-1454
 www.cscos.com

Borehole ID: T1-66

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 598.13

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-66-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only. Field duplicated collected from the 0-2in interval (DUP B).
	SO-T1-66-2-6in		
	SO-T1-66-6-12in		
5			
10			
		CLAY -brown	0ppm Sample at 12-18in interval collected for Arsenic only.
	SO-T1-66-12-18in		
15			
		SILT -brown; moist	0ppm Sample at 18-24in interval collected for Arsenic only.
	SO-T1-66-18-24in		
20		CLAY -brown	0ppm Sample at 18-24in interval collected for Arsenic only.
25			
30			
35			
40			
43.0			

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Borehole ID: T1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.293

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-71-0-2in	Sandy LOAM	0 ppm Sample at 0-2in interval collected for Complete List only.
5	SO-T1-71-2-6in	CLAY -dark brown	0 ppm Samples at 2-6in and 6-12in intervals collected for Arsenic only.
10	SO-T1-71-6-12in	Sand and Gravel	0 ppm Sample at 6-12in interval collected for Arsenic only.
15	SO-T1-71-12-18in	CLAY -brown; water saturated 34-39 inch	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.
20	SO-T1-71-18-24in		
22			

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Borehole ID: T1-71

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 600.293

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
22 25 30 35 40 41.0	SO-T1-71-18-24in	CLAY -brown; water saturated 34-39 inch	0 ppm Samples at 12-18in and 18-24in intervals collected for Arsenic only.

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 Fax: 716-847-1454
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Borehole ID: T1-72

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 601.139

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-T1-72-0-2in	Sandy LOAM	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-T1-72-2-6in	CLAY -dark brown	0 ppm Samples at 6-12in, 12-18in collected for Arsenic only.
10	SO-T1-72-6-12in		
15	SO-T1-72-12-18in		
		Sand and Gravel	0 ppm
20	SO-T1-72-18-24in	Clay -brown	0 ppm Sample at 18-24in interval collected for Arsenic only.
25			
30			
35			
39.0			

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 Fax: 716-847-1454
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Borehole ID: U1-70

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments: 2:20 PM Start

Elevation: 598.57

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-U1-70-0-2in	CLAY -dark brown	0 ppm Sample at 0-2in and 2-6in intervals collected for Arsenic only.
5	SO-U1-70-2-6in		
10	SO-U1-70-6-12in	CLAY -brown	0 ppm Samples at 6-12in, 12-18in, and 18-24in intervals collected for Arsenic only.
15	SO-U1-70-12-18in		
20	SO-U1-70-18-24in		
25		SILT -saturated; trace Clay	0 ppm
30			
35		SAND -brown; fine; saturated	0 ppm
40			
41.0			

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 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
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Borehole ID: U1-75

Site Name: Westwood

Site Location: 772 North Forest Road Amherst NY

Project No.: O76.001.001

Start/End Date: 10/20/2015

North: NA

East: NA

Driller: TREC Environmental, Inc

Rig Type: 6620 DT Geoprobe

Borehole Diameter: 2 in

Weather: Cloudy; 50 Deg. F

Comments:

Elevation: 602

Datum: NAVD88

Depth to GW:

Depth in	Sample ID	Soil Description	Comments
0	SO-U1-75-0-2in	Silty LOAM	0 ppm Sample at 0-2in intervals collected for Arsenic only.
5	SO-U1-75-2-6in	GRAVEL-dark grey; 0.25in-1in angular; moist some Silt and medium Sand	0 ppm Samples at 2-6in, 6-12in, and 12-18in intervals collected for Arsenic only.
	SO-U1-75-6-12in		
15	SO-U1-75-12-18in		
20	SO-U1-75-18-24in	Black SILT trace Clay; moist	0 ppm Samples at 18-24in interval collected for Arsenic only.
		Grey CLAY; moist; soft	0 ppm
25			
30.0			



C&S Companies

141 Elm Street
Suite 100
Buffalo, NY 14203
p: (716) 847-1630
f: (716) 847-1454
www.cscos.com

October 2, 2017

Michael J. Hinton, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915

*Re: Pre-Remedial Investigation Sampling Report
Westwood Golf Course, Amherst, New York*

Dear Mike,

At the request of Mensch Capital Partners, LLC (Mensch), C&S Engineers, Inc. (C&S) conducted additional soil sampling on the Westwood County Club (Site) in Amherst New York. In response to the identification of elevated concentrations of metals in the surface soils, the Site was entered into the Brownfield Cleanup Program on March 10, 2015. As part of the BCP, a Remedial Investigation (RI) Work Plan submitted to the New York State Department of Environmental Conservation (NYSDEC) and accepted on October 5, 2015. However, prior to the implementation of the full RI Work Plan across the entire Site, portions of the Site were selected to further evaluate soil conditions and help determine if the proposed approach to the RI is the most appropriate.

In 2015 and 2016, two pilot studies were conducted on a 10-acre portion of the Site. The results of these Pilot Studies were discussed with the NYSDEC, Mensch and C&S on March 22, 2017. It was agreed during that meeting that further assessment of the entire golf course would be necessary to determine if metal contaminants observed in the area of the initial Pilot Studies will also be encountered throughout other portions of the Site. As such, C&S conducted limited soil sampling in areas away from the maintenance garage area. This document summarizes the approach and findings of that additional work.

I. SITE DESCRIPTION

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192) on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west.

The Site is relatively flat with some minor topographic relief commonly associated with golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

II. BACKGROUND

Pre-BCP sampling at the Site demonstrated a prevalence of arsenic at elevated concentrations in various portions of the Site. The RI Work Plan was therefore created to focus on arsenic as the primary contaminant of concern, although the RI Work Plan also included the analysis of a subset of samples for a variety of other contaminants. Sampling locations focused on areas in which the historical application of chemicals was the most common: tee boxes and greens. Fairways were assumed to have received less frequent chemical treatments and rough areas were assumed to have

received few or no treatments. The highest arsenic concentrations were also assumed to be present at the surface with diminishing concentrations at depths due to that metal's relative immobility.

The RI Work Plan includes the collection of a very large number of samples (more than 2,000). In order to most effectively implement the RI, C&S discussed with Mensch Capital Partners and the NYSDEC the potential to perform the NYSDEC approved RI Work Plan on a subset of the entire Site, essentially conducting Pilot Studies for the RI. The intent of the Pilot Studies was to determine if the RI Work Plan was appropriately designed to characterize the concerns at the Site, or if modifications to the sampling program were warranted.

Two pilot studies were conducted in 2015 and 2016 on a 10-acre portion of the Site, in the area of Hole #6. This area was selected due to its proximity to the maintenance garage, presumably where the most intense applications of golf course maintenance chemicals were applied. Soil samples were collected from the area of Hole #6 to evaluate the type, concentration and depth of contaminants of soil contamination that may be encountered across the Site. Results from the 2015 Pilot Study indicated that metals other than arsenic would be present in the soils of Hole #6. To confirm this finding additional soil samples were collected from the area of Hole #6 in 2016.

The following summarizes the findings of the 2015 and 2016 Pilot Studies:

-) The findings from the 2015 and 2016 Pilot Studies confirmed that the tee boxes and greens are significantly impacted by heavy metal contamination, and this contamination includes concentrations of arsenic and mercury above Industrial Use Soil Cleanup Objectives (SCOs). The remaining areas of the Site were also shown to contain elevated concentrations of metals.
-) The metals at concentrations above the SCOs in at least one sample included:
 - o Arsenic
 - o Cadmium
 - o Chromium
 - o Copper
 - o Cyanide
 - o Lead
 - o Manganese
 - o Mercury
 - o Selenium
 - o Silver
 - o Zinc
-) Although elevated, the concentrations of metals in the soils do not suggest the presence of hazardous waste levels of contamination.

The 2017 sampling described in the sections below was conducted to augment the data generated during the 2016 Pilot Study and provide additional information relative to the occurrence and distribution of various metals throughout the various portions of the Site.

III. SAMPLING METHODS

C&S conducted the pilot study on June 15, 2017. TREC Environmental, Inc. was contracted to drill 24 soil borings from ground surface to approximately 4 feet below ground surface (bgs). Drilling was conducted using a track mounted Geo-probe drilling unit. Each boring location was sampled to four feet using a one-inch by four-foot steel sampling tube fitted with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between drilling locations to avoid potential cross contamination of samples. Material description and physical evidence of contamination (staining or sheen) of each direct-push sample was recorded on soil boring logs provided in *Appendix A*.

The RI Work Plan included two sampling grids for the Site. For the green, fairway and tee box borings were spaced across a 50-foot by 50-foot grid. A 100-foot by 100-foot grid was used for the rough areas surrounding the green, fairway and tee box. **Figure 1 Sample Locations** shows the locations that were drilled for this pilot study.

) Greens, Fairways and Tee Boxes

- One location was sampled in each of the greens at Hole 15, on the northern end of the Site, and Hole 9, on the southern end of the Site.
- Two locations were sampled in each of the tee boxes on Hole 15 and Hole 9.
- Four locations were sampled in each of the fairways on Hole 15 and Hole 9, based on the 100-foot by 100-foot sampling grid.
- The samples from the greens, fairway and tees were collected from the following intervals:
 - 0-6 inches
 - 6-12 inches
 - 12-18 inches
 - 18-24 inches
 - 24-30 inches
 - 30-36 inches
 - 36-42 inches
 - 42-48 inches
- The upper two samples (0-6 and 6-12 inches) were analyzed for Part 375 List metals, and:
 - The remaining samples were held in case the bottom-most sample contains metals above the SCOs.
 - Where the 6-12-inch sample contained one or more analytes at concentrations above the SCOs, the immediately underlying sample was analyzed for only the analyte(s) that exceeds the SCOs.

- This process was repeated for additional underlying samples if the SCOs are contravened until all concentrations meet the SCOs.

) Rough Areas

- Ten locations were sampled in the former golf course rough. These locations were dispersed across the Site and were based on the 100-foot by 100-foot sampling grid used for the rough.
 - Two locations targeted the two clusters of trees that are planned to remain during the development.
 - Grid location U1-75 (within the maintenance garage area) contained metal concentrations above Restricted Residential Use in the deepest sample interval (18-24 inches). This location was re-sampled every six inches starting at 24 inches below ground surface down to 48 inches below ground surface.
- Samples were collected from the rough areas from the following intervals:
 - 0-2 inches
 - 2-4 inches
 - 4-6 inches
 - 6-8 inches
 - 8-10 inches
 - 10-12 inches
 - 12-18 inches
 - 18-24 inches
 - 24-30 inches
 - 30-36 inches
 - 36-42 inches
 - 42-48 inches
- The upper two samples (0-2 and 2-4 inches) were analyzed for Part 375 List metals, and:
 - The remaining samples were held in case the bottom-most sample contains metals above the SCOs.
 - Where the 2-4-inch sample contained one or more analytes at concentrations above the SCOs, the immediately underlying sample was analyzed for only the analyte(s) that exceeds the SCOs.
 - This process was repeated for additional underlying samples if the SCOs are contravened until all concentrations meet the SCOs.

Additionally, Quality Assurance/Quality Control (QA/QC) samples were collected including Matrix Spike/Matrix Spike Duplicate (MS/MSD) and blind duplicate samples.

The laboratory results for the samples were reported in a Category B deliverables package to facilitate validation of the data, and a third party validator will review the laboratory data and prepare a Data Usability Summary Report (DUSR). The DUSR has not yet been completed for these samples.

IV. SAMPLING RESULTS

A. Surface and Subsurface Soil Conditions

Pilot Study surface soils generally consist of silty clay loam, and the upper two inches of soil in the greens also contained trace amounts of fine sand. Subsurface soils are predominately brown dense clay with organic matter. No petroleum odors or visual evidence of contamination were observed in the samples.

B. Surface and Subsurface Soil Analytical Results

A total of 143 soil samples were collected and submitted to the laboratory from the green, fairway, rough and tee box. The two uppermost intervals from each boring were analyzed by the laboratory. As described in the approved Work Plan, if metal concentrations exceeded Unrestricted Use SCOs the next sample intervals was analyzed. If metal concentrations were below Unrestricted Use SCOs, no deeper samples were analyzed. From the 143 soil samples collected from the Site, a total of 63 soil samples were analyzed by the laboratory.

Soil results are discussed below in comparison to the NYSDEC's Soil Cleanup Objectives ("SCOs") outlined in 6NYRR Part 375-6.8(b). The Remediation Program Soil Cleanup Objectives, effective December 14, 2006, includes SCOs that are based on protection of human health, groundwater, and ecological resources. The SCOs are based on the following site uses:

Unrestricted Use: This land use category is intended to be representative of pre-disposal conditions and requires no restrictions on the use of the site. The unrestricted use soil cleanup objectives represent the concentration of a contaminant in soil which will require no use restrictions on the site for the protection of public health, groundwater and ecological resources due to the presence of contaminants in the soil.

Residential Use: This land use category is intended for single family housing and requires the fewest restrictions on the use of the site. It allows only two restrictions: a groundwater use restriction and / or a prohibition against producing animal products for human consumption.

Restricted-Residential Use: This land use category is intended for apartments, condominium, co-operative or other multi-family / common property control residential development. In addition to the restrictions for residential use, this use prohibits vegetable gardens, unless planted in gardens where the soil achieves the residential use soil cleanup objectives; and a prohibition of single-family housing. Restricted-Residential use is the appropriate use category for the following:



-) Day care or other child care facilities;
-) Elementary or secondary schools; or
-) College or boarding school residential buildings; and

This use allows for active recreational uses, which includes recreational activities with a reasonable potential for soil contact, such as:

-) Designated picnic areas;
-) Playgrounds; or
-) Natural grass sports playing fields, including surrounding unpaved spectator areas.

Commercial Use: This land use category anticipates use by businesses with the primary purpose of buying, selling or trading of merchandise or services. It is the appropriate use category for:

-) Health care facilities, including hospitals, clinics etc.; or
-) College academic and administrative facilities.

This use allows for passive recreational purposes, which includes recreational uses with limited potential for soil contact, such as:

-) Artificial surface fields;
-) Outdoor tennis or basketball courts;
-) Other paved recreational facilities used for roller hockey, roller skating, shuffle board, etc.;
-) Outdoor pools;
-) Indoor sports or recreational facilities;
-) Golf courses; and
-) Paved (raised) bike or walking paths.

Industrial Use: The industrial use category anticipates use for the primary purpose of manufacturing, production, fabrication or assembly processes and ancillary services. The industrial use category allows the use of the site only for industrial purposes with access to the site limited to workers or occasional visitors;

Table 1 summarizes the laboratory results and compares these results to the various NYSDEC SCOs. The sample results from each area are discussed below:

Hole 15

Green

-) One soil sample was collected at N1-4 grid location.

-) The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - o Arsenic
 - o Cadmium
 - o Total Chromium
 - o Lead
 - o Mercury

-) Metal concentrations were below the Unrestricted Use SCOs at 12 - 18 inches.

Fairway

-) Four borings were advanced in this area.
-) The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - o Arsenic
 - o Cadmium
 - o Total Chromium
 - o Mercury
 - o Zinc

-) Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

-) A total of two soil borings were advanced in this area.
-) Only one metal, mercury, was detected above Unrestricted Use in the 0-6-inch interval from L1-13; all other samples were below Unrestricted Use.

Hole 9

Green

-) One soil sample was collected at N1-46 grid location.
-) Metal concentrations were below the Unrestricted Use SCOs in the samples at 0 – 6 and 6 – 12 inches.

Fairway

-) Four borings were advanced in this area.
-) The subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - o Cadmium
 - o Total Chromium
 - o Mercury

-) Metal concentrations were below Unrestricted Use SCOs at 6 – 12 inches in all four samples.

Tee Box

-) A total of two soil borings were advanced in this area.
-) Metal contaminants were detected in one grid location, B1-47, at levels that exceed Residential and Restricted Residential Uses. Concentrations appear to be below Unrestricted Use at the 18-24-inch interval.

Rough Areas

-) A total of nine soil borings were advanced in the rough.
-) The surface and subsurface soil contained concentrations of metals above NYSDEC SCOs for the following parameters:
 - o Cadmium
 - o Total Chromium
 - o Lead
 - o Mercury
 - o Silver
 - o Zinc
-) Metal concentrations were below Unrestricted Use SCOs at the following depths:
 - o One grid location, B1-28, contained metals concentrations below the Unrestricted Use at the 0-2-inch interval.
 - o Three grid locations contained metals concentrations below the Unrestricted Use at the 4-6-inch interval.
 - o Four grid locations contained concentrations below Unrestricted Use SCOs in the 6-8-inch interval.
-) Two rough sample locations were located within wooded areas that are expected to remain intact during and after site redevelopment. The sample results show metal concentrations were below Unrestricted Use SCOs at the 6 – 8-inch interval.
-) One location, U1-75, (within the maintenance garage area) was sampled during the 2016 Pilot Study and contained metal concentrations above Restricted Residential Use in the deepest sample interval (18-24 inches). Based on a change in the sampling grid spacing and, consequently, nomenclature, this location is now referred to as K1-38. Metals concentrations were below Unrestricted Use at 30-36-inches.

V. DISCUSSION AND CONCLUSIONS

The Pre-RI soil sampling identified the presence of a number of metals in soils at concentrations above the NYSDEC SCOs throughout the Site. The following summarizes and discusses the data generated during the 2015, 2016, and 2017 Pilot Studies:

-) The presence of these metals is consistent with the historic use of pesticides, herbicides, and fungicides at the Site. Although these metals are no longer commonly used in



- pesticides, herbicides, and fungicides, these metals once formed the basis for these products.
- J Areas from the northern and southern portions of the Site contained lower metal contaminants in the greens, fairways and tee boxes that the concentrations observed in Hole 6 Pilot Studies. As an example, Hole 9 green sample contained no concentrations above NYSDEC standards. This finding may be related to the close proximity of Hole 6 to the maintenance area and the distal locations of Holes 9 and 15.
 - J Pilot Studies from Hole 6 indicates metal contaminations are present generally six inches below ground surface in the rough areas. Results from this 2017 sample collection event confirm that metal contaminants can be expected up to six inches below ground surface throughout the Site.
 - J Samples collected from wooded portions of the Site that are planned to remain as green space contained metal concentrations above Unrestricted Use SCOs up to 6-8-inches below ground surface.
 - J Tables 2 through 5 were prepared to provide a summary of the data from the 2015, 2016, and 2017 results. The following conclusions are drawn from the Pilot Study results. However, because the volume of data for the Site is limited, additional sampling may modify or negate these conclusions.
 - o The upper two inches of soil generally show the greatest degree of impacts, and the immediately underlying soil (two to six inches) show lower, but still significant, impacts.
 - o Generally, the depths of elevated metals concentrations (above Unrestricted Use SCOs) are:
 - Greens: within the top 12 to 18 inches
 - Fairways: within the top six inches
 - Tee boxes: within the top six to 12 to 18 inches
 - Rough: within the top two to six inches
 - o Contaminant concentrations are generally highest in the greens, followed by the tees and fairways. Although the concentrations in the rough are lower than in other areas, concentrations above the least strict guidelines, Industrial Use SCOs, are present in the rough in limited locations.
 - o In accordance with NYSDEC guidance, redevelopment for any type of use will require some level of remediation.

VI. RECOMMENATIONS

Based on the findings of the 2015, 2016, and 2017 Pilot Studies, the approach to the Remedial Investigation for the remainder of the Site should include:

- J Greens, tee boxes, and fairways:
 - o Frequency:

- One sample from each green
- Two samples from each tee box
- Sampling in the fairways using a 100-foot by 100-foot grid
- Depths:
 - Assuming that the top six inches of soil will be removed from the greens, tee boxes, and fairways, the collection of samples in six-inch intervals starting at six inches below grade down to three feet below grade
 - The analysis of the uppermost sample for NYSDEC Part 375 metals
 - The analysis of the immediately underlying sample for any metal that contravenes the Unrestricted Use SCOs
 - Repetition of the process until all concentrations meet the SCOs
-) Rough:
 - Frequency:
 - Sampling in the rough using a 200-foot by 200-foot grid
 - Depths:
 - The collection of samples in two-inch intervals starting at grade down to two to three below grade
 - The analysis of the uppermost sample for NYSDEC Part 375 metals
 - The analysis of the immediately underlying sample for any metal that contravenes the SCOs
 - Repetition of the process until all concentrations meet the SCOs

No other changes to the Remedial Investigation are recommended.

Please feel free to contact me at (716) 847-1630 at your earliest convenience if you have any questions or comments.

Sincerely,

C&S ENGINEERS, INC.

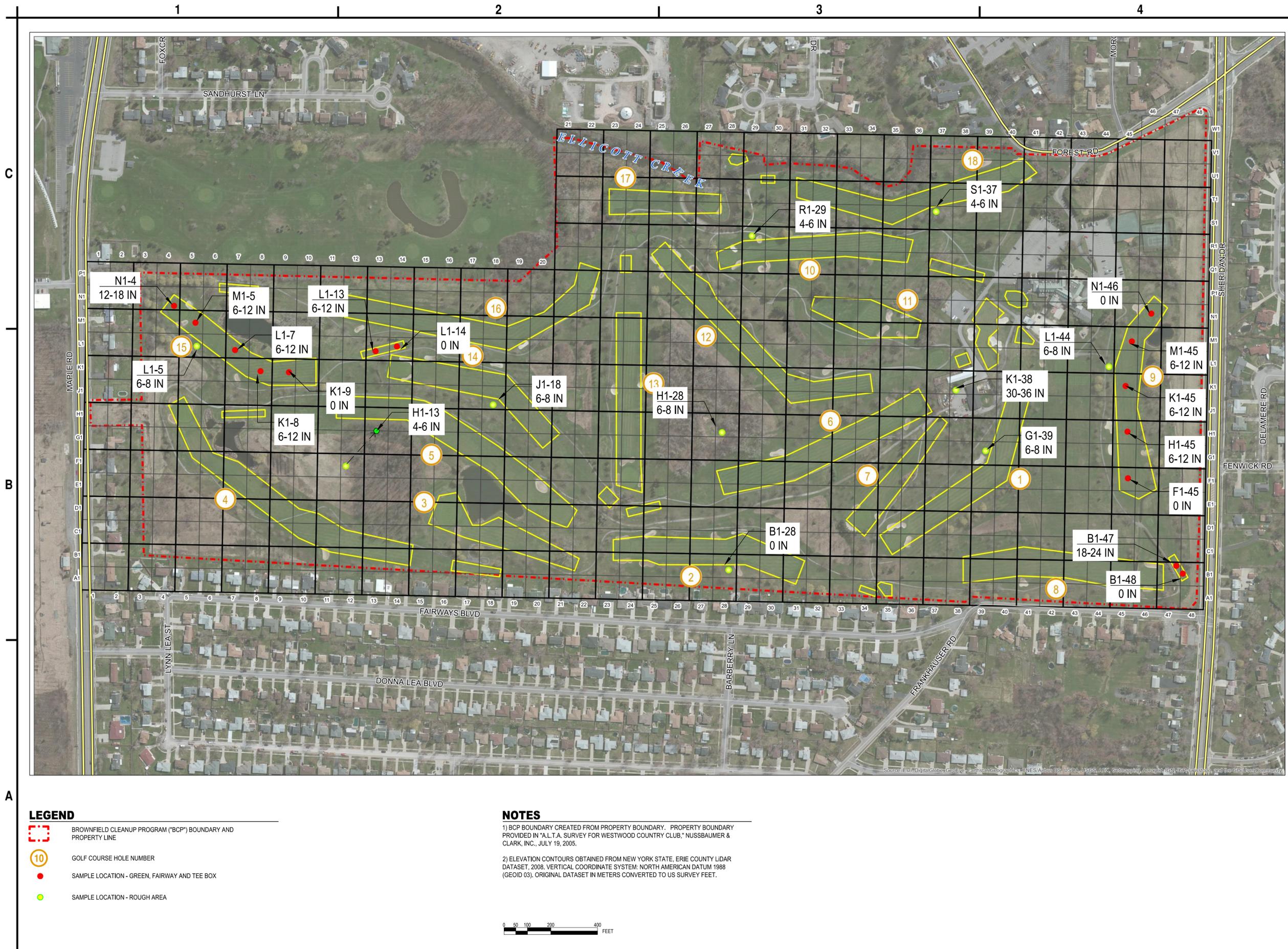


Daniel E. Riker, P.G.
Department Manager – Environmental Services

cc: Matt Roland, Hamister Group, LLC
Andrew Shaevel, Mensch Capital Partners

FIGURES

F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling\Planning\Study\CADD\Sheet Files\FIGURE 1 - SAMPLE RESULTS.dwg



C&S Engineers, Inc.
141 Elm Street
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com

MENSCH Capital Partners, LLC
5477 Main Street
Williamsville NY 14221



**WESTWOOD COUNTRY CLUB
BROWNFIELD CLEANUP PROGRAM
PRE-RI SOIL SAMPLING
AMHERST, NEW YORK**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 076.001.001		
DATE: AUGUST 1, 2017		
DRAWN BY: C. MARTIN		
DESIGNED BY: C. MARTIN		
CHECKED BY: D. RIKER		
NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW		

**SAMPLE LOCATION &
DEPTH TO
UNRESTRICTED USE
SCO**

FIGURE 1

LEGEND

- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
- 10 GOLF COURSE HOLE NUMBER
- SAMPLE LOCATION - GREEN, FAIRWAY AND TEE BOX
- SAMPLE LOCATION - ROUGH AREA

NOTES

- 1) BCP BOUNDARY CREATED FROM PROPERTY BOUNDARY. PROPERTY BOUNDARY PROVIDED IN "A.L.T.A. SURVEY FOR WESTWOOD COUNTRY CLUB," NUSSBAUMER & CLARK, INC., JULY 19, 2005.
- 2) ELEVATION CONTOURS OBTAINED FROM NEW YORK STATE, ERIE COUNTY LIDAR DATASET, 2008. VERTICAL COORDINATE SYSTEM: NORTH AMERICAN DATUM 1988 (GEOID 03). ORIGINAL DATASET IN METERS CONVERTED TO US SURVEY FEET.



TABLES

TABLE 1 - SUMMARY OF SOIL SAMPLING RESULTS

Location ID Sample Depth (inch) Date Sampled Sample Matrix Units	Hole 15 - Green			Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Fairway		Hole 15 - Tee Box		Hole 15 - Tee Box		Hole 9 - Green		Hole 9 - Fairway		Hole 9 - Fairway																		
	N1-4	N1-4	N1-4	M1-5	M1-5	L1-7	L1-7	K1-8	K1-8	K1-9	K1-9	L1-13	L1-13	L1-14	L1-14	N1-46	N1-46	M1-45	M1-45	K1-45	K1-45																	
	0 - 6	6 - 12	12 - 18	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12																	
Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	SO	SO	SO	SO	SO	SO	SO	SO	SO																									
Arsenic	13	16	16	16	16	41.8	17.5	0.827	17.2	6.32	8.20	6.20	6.94	3.39	6.05	5.84	6.77	5.35	6.14	5.56	0.583	0.527	3.11	2.49	4.52	3.24												
Barium	350	350	400	400	10000	66.2	71.0		154	79.6	94.6	101	60.5	88.0	67.8	91.9	90.8	103	95.8	70.8	13.5	22.7	32.2	21.8	46.2	37.9												
Beryllium	7.2	14	72	590	2700	0.458	0.568		1.13	0.570	0.616	0.659	0.417	0.580	0.524	0.630	0.550	0.549	0.487	0.412	0.073	J	0.056	J	0.225	0.208	0.329	0.414										
Cadmium	2.5	2.5	4.3	9.3	60	4.8	1.91		1.37	0.066	J	4.41	0.307	J	0.484	ND	2.44	ND	1.66	0.208	J	0.759	0.055	J	1.58	0.081	J	6.73	0.250	J	3.31	1.23						
Chromium, Total	30	36	180	1500	6800	87.9	38.4	6.22	39.9	18.9	21.6	23.9	33.8	19.3	20.4	24.4	26.8	19.9	29.6	14.7	2.64	2.78	19.1	7.59	24.7	8.52												
Copper	50	270	270	270	10000	22.4	14.7		29.9	12.3	15.3	15.2	13.4	14.5	12.5	19.9	23.2	21.4	17.8	18.7	13.6	6.65	18.2	8.36	11.2	6.70												
Cyanide	27	27	27	27	10000	ND	ND		1.3	J	ND	0.34	J	0.24	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND									
Lead	63	400	400	1000	3900	125	49.3		53.0	11.7	22.4	12.5	16.1	10.8	21.4	9.12	14.5	11.7	15.8	9.93	0.921	J	0.829	J	14.9	7.75	18.7	10.3										
Manganese	1600	2000	2000	10000	10000	419	743		827	309	584	690	167	130	241	120	968	408	695	400	103	46.9	214	302	86.4	114												
Mercury	0.18	0.81	0.81	2.8	5.7	21	10	0.02	J	0.16	J	0.04	J	0.11	0.06	J	0.07	J	0.04	J	0.082	J	0.06	J	0.18	0.04	J	0.05	J	0.04	J	ND	ND	1.2	0.10	0.10	0.05	J
Nickel	30	140	310	310	10000	12.4	13.2		29.9	15.2	14.6	19.0	12.6	17.0	13.1	16.2	21.9	21.3	19.4	19.0	3.47	2.12	7.67	5.63	7.74	5.87												
Selenium	3.9	36	180	1500	6800	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.203	J	ND	ND	ND	ND	ND	ND	ND	ND				
Silver	2	36	180	1500	6800	0.634	0.209	J	ND	ND	ND	ND	0.153	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.181	J	ND	ND	ND	ND	ND	ND	ND				
Zinc	109	2200	10000	10000	10000	73.0	67.3		135	50.8	89.0	58.4	47.1	45.0	66.5	55.4	50.7	88.9	55.9	47.5	18.8	9.75	42.8	36.8	45.7	28.5												

Location ID Sample Depth (inch) Date Sampled Sample Matrix Units	Hole 9 - Fairway		Hole 9 - Fairway		Hole 9 - Tee Box				Hole 9 Tee Box		Former U1-75		Rough Areas				Rough Areas			Rough Areas											
	H1-45	H1-45	F1-45	F1-45	B1-47	B1-47	B1-47	B1-47	B1-48	B1-48	K1-38	K1-38	L1-5	L1-5	L1-5	L1-5	H1-13	H1-13	H1-13	B1-28	B1-28										
	0 - 6	6 - 12	0 - 6	6 - 12	0 - 6	6 - 12	12 - 18	18 - 24	0 - 6	6 - 12	24 - 30	30 - 36	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4										
Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO										
Arsenic	13	16	16	16	16	6.44	3.13	4.26	3.42	4.55	4.73	4.31	6.36	5.73	3.49	5.23	4.40	6.24	7.90	4.33	4.31										
Barium	350	350	400	400	10000	76.6	163	71.0	69.3	63.2	54.3	19.4	40.3	60.0	72.4	52.8	51.1	45.4	56.8	66.1	67.4										
Beryllium	7.2	14	72	590	2700	0.540	0.750	0.554	0.594	0.221	0.274	0.133	J	0.295	0.344	0.461	0.411	0.293	0.255	0.329	0.451	0.473									
Cadmium	2.5	2.5	4.3	9.3	60	3.92	0.063	J	0.200	J	ND	6.81	3.71	0.570	0.666	1.05	0.275	J	0.226	J	0.510	0.789	1.74	1.91	0.182	J	0.203	J			
Chromium, Total	30	36	180	1500	6800	53.9	21.8	16.1	16.0	106	88.5	44.2	24.6	4.63	15.3	9.48	10.0	26.9	18.4	32.7	36.4	8.89	13.8	14.2							
Copper	50	270	270	270	10000	17.6	22.1	16.3	16.5	20.8	23.2	7.17	12.6	14.0	6.94	13.0	17.4	14.5	16.2	10.9	11.5										
Cyanide	27	27	27	27	10000	ND	ND	ND	ND	ND	ND	0.27	J	0.27	J	ND	ND	ND	ND	ND	ND										
Lead	63	400	400	1000	3900	25.1	8.46	13.9	9.84	35.4	43.3	6.59	26.5	46.2	36.9	29.7	29.5	58.4	69.1	27.6	21.7	21.8									
Manganese	1600	2000	2000	10000	10000	421	542	281	270	310	243	161	196	203	1300	325	271	144	126	242	238										
Mercury	0.18	0.81	0.81	2.8	5.7	0.17	0.05	J	0.05	J	0.03	J	0.53	0.17	0.04	J	0.10	0.34	0.10	0.18	0.21	0.18	0.06	J	1.8	2.2	0.14	0.07	J	0.07	J
Nickel	30	140	310	310	10000	12.8	27.8	16.4	18.6	8.75	10.6	4.62	9.67	10.6	8.23	10.5	13.6	10.2	12.0	11.0	11.3										
Selenium	3.9	36	180	1500	6800	ND	ND	ND	ND	0.145	J	0.209	J	0.138	J	0.182	J	ND	ND	0.476	J	0.380	J	ND	ND	ND	ND				
Silver	2	36	180	1500	6800	0.272	J	ND	ND	0.822	0.701	ND	ND	ND	ND	ND	ND	0.231	J	0.255	J	ND	ND	ND	ND						
Zinc	109	2200	10000	10000	10000	59.5	54.0	50.4	47.1	82.9	86.1	18.3	50.1	63.7	38.6	56.0	78.5	59.5	70.2	54.7	55.6										

Location ID Sample Depth (inch) Date Sampled Sample Matrix Units	Rough Areas				Rough Areas				Rough Areas			Rough Areas			Rough Areas									
	J1-18	J1-18	J1-18	J1-18	H1-28	H1-28	H1-28	H1-28	K1-29	K1-29	K1-29	S1-37	S1-37	S1-37	G1-39	G1-39	G1-39	L1-44	L1-44	L1-44	L1-44			
	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4	4 - 6	0 - 2	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8			
Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO			
Arsenic	13	16	16	16	16	4.17	6.15	3.01	3.26	6.20	3.97	7.19	6.93	5.54	5.36	8.00	10.8							
Barium	350	350	400	400	10000	42.6	90.7	30.4	36.0	58.0	51.4	73.4	72.8	60.4	58.6	68.0	74.4							
Beryllium	7.2	14	72	590	2700	0.377	0.744	0.198	J	0.214	J	0.400	0.351	0.621	0.622	0.412	0.427	0.328	J	0.428				
Cadmium	2.5	2.5	4.3	9.3	60	1.07	0.787	1.67	2.06	1.07	0.776	1.18	1.22	1.40	1.03	19.9	16.3	4.58	1.42					
Chromium, Total	30	36	180	1500	6800	44.1	56.4	32.1	24.5	18.0	22.1	81.6	18.0	33.2	32.1	21.2	39.1	26.3	325	230	85.6	17.2		
Copper	50	270	270	270	10000	15.6	18.3	14.7	14.5	14.2	19.7	16.5	17.6	14.9	10.9	33.1	30.8							
Cyanide	27	27	27	27	10000	0.22	J	ND	0.23	J	ND	0.70	J	0.28	J	ND	ND	0.68	J	0.99	J			
Lead	63	400	400	1000	3900	33.7	30.9	18.7	20.5	49.4	28.6	29.1	28.1	29.6	21.2	84.8	83	34.3						
Manganese	1600	2000	2000	10000	10000	261	612	203	179	411	274	258	240	131	132	58.2	53.6							
Mercury	0.18	0.81	0.81	2.8	5.7	0.24	0.19	0.17	0.57	0.68	0.47	0.12	1.1	0.74	0.15	0.16	0.17	0.26	0.23	0.14	0.76	0.66	0.07	J
Nickel	30	140	310	310	10000	10.8	17.9	6.83	8.00	12.2	13.5	18.6	18.3	10.9	10.4	11.0	12.4							
Selenium	3.9	36	180	1500	6800	0.599	J	ND	0.599	J	0.272	J	0.978	J	0.504	J	ND	ND	0.588	J	0.479	J		
Silver	2	36	180	1500	6800	0.275	J	0.242	J	ND	ND	0.572	J	ND	ND	0.214	J	ND	2.11	1.61				
Zinc	109	2200	10000	10000	10000	62.5	80.6	162	76.6	71.7	79.8	73.2	69.3	60.7	50.1	83.3	92.2							

TABLE 2
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - UNRESTRICTED USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18			6-8				
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44							

 denotes at least one analyte concentration above Unrestricted Use SCOs
 denotes no concentration above Unrestricted Use SCOs
blank space denotes no sample collected

Only samples submitted for analysis for complete metals list are included in this table.

TABLE 3
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - RESTRICTED RESIDENTIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44							

 denotes at least one analyte concentration above Restricted Residential Use SCOs
 denotes no concentration above Restricted Residential Use SCOs
blank space denotes no sample collected

Only samples submitted for analysis for complete metals list are included in this table.

TABLE 4
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - COMMERCIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44			4-6				

denotes at least one analyte concentration above Commercial Use SCOs
denotes no concentration above Commercial Use SCOs
blank space denotes no sample collected

Only samples submitted for analysis for complete metals list are included in this table.

TABLE 5
SUMMARY OF SOIL CLEANUP OBJECTIVES CONTRAVENTIONS - INDUSTRIAL USE
WESTWOOD PILOT STUDY
772 NORTH FOREST ROAD
AMHERST, NEW YORK

GREENS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	T1-71							
6	2016	S1-71							
6	2016	S1-72							
6	2016	T1-71							
6	2016	T1-72							
15	2017	N1-4							
9	2017	N1-46							
TEES	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	H1-48							
6	2016	H1-47							
6	2016	H1-48							
6	2016	H1-49							
15	2017	L1-13							
15	2017	L1-14							
9	2017	B1-47							
9	2017	B1-48							
FAIRWAYS	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	P1-65							
6	2016	K1-56							
6	2016	K1-57							
6	2016	L1-56							
6	2016	L1-57							
6	2016	L1-58							
6	2016	L1-59							
6	2016	L1-60							
6	2016	L1-61							
6	2016	M1-57							
6	2016	M1-58							
6	2016	M1-59							
6	2016	M1-60							
6	2016	M1-61							
6	2016	M1-62							
6	2016	M1-63							
6	2016	N1-62							
6	2016	N1-63							
6	2016	N1-64							
6	2016	N1-65							
6	2016	P1-64							
6	2016	P1-65 (Metals)							
6	2016	P1-65 (Pest/PCBs)							
6	2016	P1-66							
6	2016	P1-67							
6	2016	Q1-65							
6	2016	Q1-66							
6	2016	Q1-67							
6	2016	Q1-68							
6	2016	Q1-69							
6	2016	R1-67							
6	2016	R1-68							
6	2016	R1-69							
6	2016	R1-70							
6	2016	S1-69							
6	2016	S1-70							
15	2017	M1-5							
15	2017	L1-7							
15	2017	K1-8							
15	2017	K1-9							
9	2017	M1-45							
9	2017	K1-45							
9	2017	H1-45							
9	2017	F1-45							
ROUGH	PILOT STUDY	SAMPLE	0-2	2-6	6-12	12-18	18-24	24-30	30-36
6	2015	K1-62							
6	2016	G1-46							
6	2016	K1-54							
6	2016	K1-59							
6	2016	K1-62							
6	2016	L1-51							
6	2016	P1-69							
6	2016	Q1-58							
6	2016	Q1-62							
6	2016	R1-66							
6	2016	T1-66							
6	2016	U1-70							
6	2016	U1-75							
6	2017	Former U1-75 (K1-38)							
15	2017	L1-5							
5	2017	H1-13			4-6				
14	2017	J1-18							
6	2017	H1-28							
10	2017	K1-29			4-6				
18	2017	S1-37			4-6				
2	2017	B1-28							
1	2017	G1-39							
9	2017	L1-44			4-6				

 denotes at least one analyte concentration above Industrial Use SCOs
 denotes no concentration above Industrial Use SCOs
blank space denotes no sample collected

Only samples submitted for analysis for complete metals list are included in this table.

APPENDIX B

HEALTH AND SAFETY PLAN

Health and Safety Plan for Brownfield Site Investigation

**Westwood Country Club
772 North Forest Road
Amherst, Erie County, New York**

Site ID # C915291

Prepared by



C&S Engineers, Inc.
141 Elm Street, Suite 100
Buffalo, New York 14203

May 2021

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- Attachment A – Map and Directions to Hospital

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- Appendix A – Excavation/Trenching Guideline
- Appendix B – Guidance on Incident Investigation and Reporting



SECTION 1 – GENERAL INFORMATION

The Health and Safety Plan (HASP) described in this document will address health and safety considerations for all those activities that personnel employed by C&S Engineers, Inc., may be engaged in during site investigation and remediation work at the Westwood Country Club Site located at 772 North Forest Road in Amherst, Erie County, New York (Site). Figure 1 shows the approximate location of the Site. This HASP will be implemented by the Health and Safety Officer (HSO) during site work.

Compliance with this HASP is required of all C&S personnel who enter this Site. The content of the HASP may change or undergo revision based upon additional information made available to the health, safety, and training (H&S) committee, monitoring results or changes in the technical scope of work. Any changes proposed must be reviewed by the H&S committee.

Responsibilities

Project Manager.....	Daniel Riker Phone: (716) 847-1630 Cell: (716) 572-5312
Site Health and Safety Officer.....	Cody Martin Phone: (716) 847-1630 Cell: (716) 864-3752
Emergency Coordinator.....	TBD
Health and Safety Manager.....	TBD

Emergency Phone Numbers

Emergency Medical Service.....	911
<u>Police</u> : Buffalo Police Department (NYPD).....	911
<u>Hospital</u> : Buffalo General Hospital.....	(716) 859-5600
<u>Fire</u> : Buffalo Fire Department.....	911
National Response Center	(800) 424-8802
Poison Control Center	(800) 222-1222
Center for Disease Control.....	(800) 311-3435
NYSDEC Region 9 (Buffalo, New York)	(716) 851-7220
C&S Engineers.....	(716) 847-1630

SECTION 2 - HEALTH AND SAFETY PERSONNEL

2.0 Health and Safety Personnel Designations

The following information briefly describes the health and safety designations and general responsibilities for this Site.

2.1 Project Manager (PM)

The PM is responsible for the overall project including the implementation of the HASP. Specifically, this includes allocating adequate manpower, equipment, and time resources to conduct Site activities safely.

2.2 Health and Safety Manager

- ◆ Has the overall responsibility for coordinating and reporting all health and safety activities and the health and safety of Site Workers.
- ◆ Must have completed, at a minimum, the OSHA 30-Hour Construction Safety Training, and either the 24-Hour training course for the Occasional Hazardous Waste Site Worker or the 40-Hour training course for the Hazardous Waste Operations Worker that meets OSHA 29 CFR 1910.
- ◆ Must have completed the 8-Hour Site supervisor/manager's course for supervisors and managers having responsibilities for hazardous waste Site operations and management.
- ◆ Directs and coordinates health and safety monitoring activities.
- ◆ Ensures that field teams utilize proper personal protective equipment (PPE).
- ◆ Conducts initial on-site specific training prior to Site Workers commencing work.
- ◆ Conducts and documents daily and periodic safety briefings.
- ◆ Ensures that field team members comply with this HASP.
- ◆ Immediately notifies the Construction Manager (CM) Project Manager and Superintendent of all accident/incidents.

- ◆ Determines upgrading or downgrading of PPE based on Site conditions and/or real time monitoring results.
- ◆ Ensures that monitoring instruments are calibrated daily or as the manufacturer's instructions determine.
- ◆ Reports to the CM Project Manager and Superintendent to provide summaries of field operations and progress.
- ◆ Submits and maintains all documentation required in this HASP and any other pertinent health and safety documentation.

2.3 Health and Safety Officer (HSO)

- ◆ Must be designated to the Health and Safety Manager by each Subcontractor as a Competent Person having, at a minimum, the OSHA 30-Hour Construction Safety Training
- ◆ Must schedule and attend a Pre-Construction Safety Meeting with the Health and Safety Manager to discuss the Subcontractor Safety Requirements and must attend the Weekly Subcontractor Coordination Meeting.
- ◆ Responsible for ensuring that their lower tier contractors comply with project safety requirements.
- ◆ Must make frequent and regular inspections of their work areas and activities and ensure hazards that are under their control are corrected immediately and all other hazards are reported to the Construction Manager's Project Manager and Health and Safety Manager.
- ◆ Must report all work related injuries, regardless of severity, to the Construction Manager's Project Manager and the Health and Safety Manager within 24 hours after they occur.

2.4 Emergency Coordinator

- ◆ The Emergency Coordinator or his on-site designee will, in concert with Mensch Capital Partners, will implement the emergency response procedures whenever conditions at the Site warrant such action.
- ◆ The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

2.5 Site Workers

- ◆ Report any unsafe or potentially hazardous conditions to the Health and Safety Manager.
- ◆ Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.
- ◆ Comply with rules, regulations, and procedures as set forth in this HASP, including any revisions that are instituted.
- ◆ Prevent unauthorized personnel from entering work Site.

SECTION 3 - PERTINENT SITE INFORMATION

3.1 Site Location and General History

The 170-acre Site is located at 772 North Forest Road, 385 Maple Road and 391 Maple Road in the south-central portion of the Town of Amherst, Erie County, New York. The Site is bounded by Sheridan Drive (State Route 324) on the south; Maple Road (County Road 192) on the north; North Forest Road (County Road 294), Ellicott Creek, and the Audubon Par 3 Golf Course on the east; and Frankhauser Road and Fairways Boulevard on the west. Further information concerning the Site is presented below.

Site Description

The Site is relatively flat with some minor topographic relief commonly associated golf courses. The Site's fairways, greens, and rough remain visible although the Site has not been maintained as a golf course since 2014.

The Site contains areas developed with a number of structures consisting of the clubhouse and associated buildings in one area and maintenance buildings in another. An area in the center of the Site is undeveloped but appears to contain piles of soil and other materials likely generated during routine maintenance operations. Figure 3 shows the locations of the structures and the stockpile area.

Five ponds exist on-site. Rather than receiving rainwater run-off, water was often pumped into the ponds to create and maintain water features for the golf course. Each pond contains an overflow drain for heavy rain events which are connected via a network of underground pipes that discharge into Ellicott Creek. Figure 4 shows the locations of the ponds and the piping network.

Site History and Suspect Recognized Environmental Conditions

The Site was first developed as a golf course, including a clubhouse and golf course maintenance areas, in 1921 and has remained as such until 2014, when the course closed due to changes in market forces. Prior to 1921, land use was agricultural and residential.

As part of redevelopment efforts, 15 surface soil and 12 sediment samples were collected from the Site in 2014. The soil samples were analyzed for pesticides, herbicides, and arsenic, while the sediment samples were analyzed only for arsenic.

Known contaminants include arsenic associated with pesticide use at the Site during routine golf course maintenance operations across the BCP Site. NYSDEC Industrial Use SCOs were exceeded in 5 of the 15 surface soil sampling locations, and one sediment sample fell within the Class B category. However, further evaluation of the surface soil is needed.

Exposure pathway concerns with these contaminants are generally through skin absorption, ingestion and inhalation of airborne dust particles. Following guidelines described in this HASP will reduce exposure.

SECTION 4 - HAZARD ASSESSMENT AND HAZARD COMMUNICATION

Hazards to workers during a site work include typical construction-related hazards such as slip-trip-fall, equipment malfunction, faulty electrical grounding, and heat/cold/excessive noise exposure. In addition to those typical construction-related hazards, there is also the potential for chemical exposures associated with environmental conditions. The most likely routes of chemical exposure during site work tasks include skin adsorption and inhalation of airborne dust particles.

It is difficult to draw a correlation between the concentrations of contaminants found in one media and the potential for exposure to these contaminants to site workers. However, their potential presence indicates that the potential for exposure to these compounds exist, and the requirements for protective measures and monitoring of exposure is based on this potential.

SECTION 5 - TRAINING

5.1 Site-specific Training

Training will be provided that specifically addresses the activities, procedures, monitoring, and equipment for the Site operations prior to going on site. Training will include familiarization with Site and facility layout, known and potential hazards, and emergency services at the Site, and details all provisions contained within this HASP. This training will also allow Site Workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

5.2 Safety Briefings

C&S project personnel will be given briefings by the HSO on a daily or as needed basis to further assist Site Workers in conducting their activities safely. Pertinent information will be provided when new operations are to be conducted. Changes in work practices must be implemented due to new information made available, or if Site or environmental conditions

change. Briefings will also be given to facilitate conformance with prescribed safety practices. When conformance with these practices is not occurring or if deficiencies are identified during safety audits, the project manager will be notified.

SECTION 6 - ZONES

Four types of Site activity zones are identified for the Brownfield investigation activities, including the Exclusion Zone, Contamination Reduction Zone, Remediation Zone and the Support Zone. Prior to commencement of field work a further definition of where these zones will be set up will be established.

6.1 Exclusion Zone

The area where the unexpected condition is discovered would be considered the Exclusion Zone (EZ). All excavation and handling of contaminated materials generated as a result of the discovery of an unexpected condition would take place within the EZ. This zone will be clearly delineated by hay bales, jersey barriers, and/or similar methods. Safety tape may be used as secondary delineation within the EZ. The zone delineation markings may be opened in areas for varying lengths of time to accommodate equipment operation or specific construction activities. The Site Safety Manager/Director may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Site Workers will not be allowed in the EZ without:

- ◆ A buddy (co-worker);
- ◆ Appropriate PPE in accordance with OSHA regulations;
- ◆ Medical authorization; and
- ◆ Training certification in accordance with 29 CFR 1910.120.

6.2 Contamination Reduction Zone

A Contamination Reduction Zone (CRZ) will be established between the EZ and the property limits. The CRZ contains the Contamination Reduction Corridor (CRC) and provides an area for decontamination of Site equipment. The CRZ will be used for general Site entry and egress, in

addition to access for heavy equipment and emergency support services. Site Workers will not be allowed in the CRZ without:

- ◆ A buddy (co-worker);
- ◆ Appropriate PPE in accordance with OSHA regulations;
- ◆ Medical authorization; and
- ◆ Training certification in accordance with 29 CFR 1910.120.

In addition, the CRZ will include a Site Worker Cleaning Area that will include a field wash station for Site Workers, equipment, and PPE to allow Site Workers to wash their hands, arms, neck, and face after exiting areas of grossly contaminated soil or hazardous materials. All Site Workers will be required to pass through the Site Worker Cleaning Area and wash their hands and remove any loose fill and soils from their clothing and boots prior to exiting the CRZ.

6.3 Remediation Zone

A Remediated Zone (RZ) will be established in portions of the Site where the remediation has been completed and only general construction work will be performed. Setup of the RZ will consist of implementing several measures designed to reduce the risk of workers' exposure and prevent non-trained workers from entering the non-remediated zone. Non-trained workers will work only in areas where the potential for exposure has been minimized by removal of all hazardous materials. The remediated zone will then be separated from the non-remediated zone by installing and maintaining temporary plywood or other construction fences along the boundary between the two zones. If potentially impacted material is uncovered in the RZ, all non-trained workers will be removed and the Site Safety Manager/Director will assess the potential risks. If, at any other time, the risk of exposure increases while non-trained workers are present in the RZ, the non-trained workers will be removed. At all times, when non-trained workers are present in the RZ, air monitoring for the presence of VOCs will be conducted in the RZ, as well as at the fence line of the non-remediated zone.

6.4 Support Zone

The Support Zone (SZ) will be an uncontaminated area that will be the field support area for the Site operations. The SZ will contain the temporary project trailers and provide for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated equipment or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples. Meteorological conditions will be observed and noted from this zone, as well as those factors pertinent to heat and cold.

SECTION 7 - PERSONAL PROTECTIVE EQUIPMENT

7.1 General

The level of protection to be worn by field personnel will be defined and controlled by the HSO. Depending upon the type and levels of material present or anticipated at the site, varying degrees of protective equipment will be needed. If the possible hazards are unknown, a reasonable level of protection will be taken until sampling and monitoring results can ascertain potential risks. The levels of protection listed below are based on USEPA Guidelines. A list of the appropriate clothing for each level is also provided.

Level A protection must be worn when a reasonable determination has been made that the highest available level of respiratory, skin, eye, and mucous membrane protection is needed. It should be noted that while Level A provides maximum available protection, it does not protect against all possible hazards. Consideration of the heat stress that can arise from wearing Level A protection should also enter into the decision making process. Level A protection includes:

- ◆ Open circuit, pressure-demand self-contained breathing apparatus (SCBA)
- ◆ Totally encapsulated chemical resistant suit
- ◆ Gloves, inner (surgical type)
- ◆ Gloves, outer, chemical protective
- ◆ Boots, chemical protective

Level B protection must be used when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level B protection includes:

- ◆ Open circuit, pressure-demand SCBA or pressure airline with escape air bottle
- ◆ Chemical protective clothing: Overalls and long sleeved jacket; disposal chemical resistant coveralls; coveralls; one or two piece chemical splash suit with hood
- ◆ Gloves, inner (surgical type)
- ◆ Gloves, outer, chemical protective
- ◆ Boots, chemical protective

Level C must be used when the required level of respiratory protection is known, or reasonably assumed to be, not greater than the level of protection afforded by air purifying respirators; and hazardous materials exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level C protection includes:

- ◆ Full or half face air-purifying respirator
- ◆ Chemical protective clothing: Overalls and long-sleeve jacket; disposable chemical resistant coveralls; coveralls; one or two piece chemical splash suit
- ◆ Gloves, inner (surgical type)
- ◆ Gloves, outer, chemical protective
- ◆ Boots, chemical protective

Level D is the basic work uniform. It cannot be worn on any site where respiratory or skin hazards exist. Level D protection includes:

- ◆ Safety boots/shoes
- ◆ Safety glasses
- ◆ Hard hat with optional face shield

Note that the use of SCBA and airline equipment is contingent upon the user receiving special training in the proper use and maintenance of such equipment.

7.2 Personal Protective Equipment – Site Specific

Level D with some modification will be required when working in the work zone on this Site. In addition to the basic work uniform specified by Level D protection, Nitrile gloves will be required when contact with soil or ground water is likely. Hearing protection will be worn when power equipment is used to perform subsurface investigation work. An upgrade to a higher level (Level C) of protection may occur if determined necessary by the HSO.

SECTION 8 - MONITORING PROCEDURES

8.1 Monitoring During Site Operations

All Site environmental monitoring should be accompanied by periodic meteorological monitoring of appropriate climatic conditions.

8.1.1 Drilling Operations (Monitoring Well Installation and Subsurface Borings) and Test Pit Excavations

Monitoring will be performed by the HSO or drilling observer during the conduct of work. A photoionization detector (PID) equipped with a 10.0 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the borehole, and subsurface samples upon their retrieval. Drill cuttings and excavation spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day). If subsurface conditions warrant, a combustible gas indicator (CGI) with oxygen alarm may also be used to monitor the borehole for the presence of combustible gases. Similar monitoring of fluids produced during well development will also be conducted.

8.1.2 Interim Remedial Measures

If future Interim Remedial Measures (IRM) occurs, monitoring will be performed during excavation and sampling operations when C&S personnel are within the work zone. Although historical information previously obtained at the Site indicates low level of volatile organic vapors and compounds, a photoionization detector (PID) will be used during subsurface activities. If an IRM is performed, the, the remedial contractor will be required to employ dust control practices during work.

8.2 Action Levels

If readings on the PID exceed 10 ppm for more than fifteen minutes consecutively, then personal protective equipment should be upgraded to Level C. The air purifying respirator used with Level C protective equipment must be equipped with organic vapor cartridges. If readings on the explosive gas meter are within a range of 10%-25% of the LEL then continuous monitoring will be implemented. Readings above 25% of the LEL indicate the potential for an explosive condition. Sources of ignition should be removed and the Site should be evacuated.

8.3 Personal Monitoring Procedures

Personal monitoring shall be performed as a contingency measure in the event that VOC concentrations are consistently above the 10 ppm action level as detected by the PID. If the concentration of VOCs is above this action level, then amendments to the HASP must be made before work can continue at the Site.

SECTION 9 - COMMUNICATIONS

A phone will be located on Site to be utilized by personnel conducting investigation and IRM efforts. Cell phones will be the primary means of communicating with emergency support services/facilities.

SECTION 10 - SAFETY CONSIDERATIONS FOR SITE OPERATIONS

10.1 General

Standard safe work practices that will be followed include:

- ◆ Do not climb over/under drums, or other obstacles.
- ◆ Do not enter the work zone alone.
- ◆ Practice contamination avoidance, on and off-site.
- ◆ Plan activities ahead of time, use caution when conducting concurrently running activities.
- ◆ No eating, drinking, chewing or smoking is permitted in work zones.
- ◆ Due to the unknown nature of waste placement at the Site, extreme caution should be practiced during excavation activities.
- ◆ Apply immediate first aid to any and all cuts, scratches, abrasions, etc.
- ◆ Be alert to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.
- ◆ A work/rest regimen will be initiated when ambient temperatures and protective clothing create a potential heat stress situation.
- ◆ No work will be conducted without adequate natural light or without appropriate supervision.
- ◆ Task safety briefings will be held prior to onset of task work.

- ◆ Ignition of flammable liquids within or through improvised heating devices (barrels, etc.) or space heaters is forbidden.
- ◆ Entry into areas of spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment is prohibited.
- ◆ Any injury or unusual health effect must be reported to the Site health and safety officer.
- ◆ Prevent splashing or spilling of potentially contaminated materials.
- ◆ Use of contact lenses is prohibited while on site.
- ◆ Beards and other facial hair that would impair the effectiveness of respiratory protection are prohibited if respiratory protection is necessary.
- ◆ Field crew members should be familiar with the physical characteristics of investigations, including:
 - ◆ Wind direction in relation to potential sources
 - ◆ Accessibility to co-workers, equipment, and vehicles
 - ◆ Communication
 - ◆ Hot zones (areas of known or suspected contamination)
 - ◆ Site access
 - ◆ Nearest water sources
- ◆ The number of personnel and equipment in potentially contaminated areas should be minimized consistent with site operations.

10.2 Field Operations

10.2.1 Intrusive Operations

The HSO or designee will be present on-site during all intrusive work, e.g., drilling operations, excavations, trenching, and will provide monitoring to oversee that appropriate levels of protection and safety procedures are utilized by C&S Engineers, Inc., personnel. The use of salamanders or other equipment with an open flame is prohibited and the use of protective clothing, especially hard hats and boots, will be required during drilling or other heavy equipment operations.

10.2.2 Excavations and Excavation Trenching

Guidance relating to safe work practices for C&S employees regarding excavations and excavating/trenching operation is presented in Appendix A of this HASP.

SECTION 11 - DECONTAMINATION PROCEDURES

Decontamination involves physically removing contaminants and/or converting them chemically into innocuous substances. Only general guidance can be given on methods and techniques for decontamination. Decontamination procedures are designed to:

- ◆ Remove contaminant(s).
- ◆ Avoid spreading the contamination from the work zone.
- ◆ Avoid exposing unprotected personnel outside of the work zone to contaminants.

Contamination avoidance is the first and best method for preventing spread of contamination from a hazardous site. Each person involved in site operations must practice the basic methods of contamination avoidance listed below. Additional precautions may be required in the HASP.

- ◆ Know the limitations of all protective equipment being used.
- ◆ Do not enter a contaminated area unless it is necessary to carry out a specific objective.
- ◆ When in a contaminated area, avoid touching anything unnecessarily.
- ◆ Walk around pools of liquids, discolored areas, or any area that shows evidence of possible contamination.
- ◆ Walk upwind of contamination, if possible.
- ◆ Do not sit or lean against anything in a contaminated area. If you must kneel (e.g., to take samples), use a plastic ground sheet.
- ◆ If at all possible, do not set sampling equipment directly on contaminated areas. Place equipment on a protective cover such as a ground cloth.
- ◆ Use the proper tools necessary to safely conduct the work.

Specific methods that may reduce the chance of contamination are:

- ◆ Use of remote sampling techniques.
- ◆ Opening containers by non-manual means.
- ◆ Bagging monitoring instruments.
- ◆ Use of drum grapplers.
- ◆ Watering down dusty areas.

Equipment which will need to be decontaminated includes tools, monitoring equipment, and personal protective equipment. Items to be decontaminated will be brushed off, rinsed, and

dropped into a plastic container supplied for that purpose. They will then be washed with a detergent solution and rinsed with clean water. Monitoring instruments may be wrapped in plastic bags prior to entering the field in order to reduce the potential for contamination. Instrumentation that is contaminated during field operations will be carefully wiped down. Heavy equipment, if utilized for operations where it may be contaminated, will have prescribed decontamination procedures to prevent contaminant materials from potentially leaving the Site. On-site contractors, such as drillers or backhoe operators, will be responsible for decontaminating all construction equipment prior to demobilization.

SECTION 12 – DISPOSAL PROCEDURES

All discarded materials, waste materials, or other objects shall be handled in such a way as to reduce or eliminate the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary and segregated for proper disposal. All contaminated waste materials shall be disposed of as required by the provisions included in the contract and consistent with regulatory provisions. All non-contaminated materials shall be collected and bagged for appropriate disposal. Investigation derived waste will be managed consistent with the work plan for this Site and DER-10 Technical Guidance for Site Investigation and Remediation dated May 2010.

SECTION 13 - EMERGENCY RESPONSE PROCEDURES

As a result of the hazards at the Site, and the conditions under which operations are conducted, there is the possibility of emergency situations. This section establishes procedures for the implementation of an emergency plan.

13.1 Emergency Coordinator

Emergency Coordinator:TBD.....Work Phone: TBD

The Emergency Coordinator or his on-site designee will, in concert with Mensch Capital Partners will implement the emergency response procedures whenever conditions at the Site warrant such action. The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as

necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

13.2 Evacuation

In the event of an emergency situation, such as fire, explosion, significant release of toxic gases, etc., all personnel will evacuate and assemble in a designated assembly area. The Emergency Coordinator or his on-site designee will have authority to contact outside services as required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The Emergency Coordinator or his on-site designee must see that access for emergency equipment is provided and that all ignition sources have been shut down once the emergency situation is established. Once the safety of all personnel is established, the Fire Department and other emergency response groups will be notified by telephone of the emergency.

13.3 Potential or Actual Fire or Explosion

Immediately evacuate the Site and notify local fire and police departments, and other appropriate emergency response groups, if LEL values are above 25% in the work zone or if an actual fire or explosion has taken place.

13.4 Environmental Incident (spread or release of contamination)

Control or stop the spread of contamination if possible. Notify the Emergency Coordinator and the Project Manager. Other appropriate response groups will be notified as appropriate.

13.5 Personnel Injury

Emergency first aid shall be applied on-site as necessary. Then, decontaminate (en route if necessary) and transport the individual to nearest medical facility if needed. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. The directions to the hospital are shown in Section 1 of this HASP and a map is shown in Attachment A.

13.6 Personnel Exposure

- ◆ *Skin Contact:* Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water for at least 15 minutes.
- ◆ *Inhalation:* Move to fresh air and/or, if necessary, decontaminate and transport to emergency medical facility.
- ◆ *Ingestion:* Decontaminate and transport to emergency medical facility.
- ◆ *Puncture Wound/Laceration:* Decontaminate, if possible, and transport to emergency medical facility.

13.7 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work can continue without sacrificing the health and safety of field workers.

13.8 Incident Investigation and Reporting

In the event of an incident, procedures discussed in the Medical Emergency/Incident Response Protocol, presented in Appendix B of this HASP, shall be followed.

SECTION 14 - COMMUNITY RELATIONS

14.1 Community Health and Safety Plan

14.1.1 Community Health and Safety Monitoring

As part of the site work, three general types of efforts are scheduled, including, non-intrusive reconnaissance tasks, sampling or monitoring tasks (monitoring point sampling), and intrusive tasks (test trenching, subsurface borings, monitoring well installation). During completion of general reconnaissance and sampling or monitoring tasks, potential for health and safety risks to off-site landowners or the local community are not anticipated.

During completion of intrusive efforts at or adjacent to the Site, health and safety monitoring efforts will be concentrated on the area or areas in which intrusive efforts are being completed. Since the air pathway is the most available and likely avenue for the release of potential contaminants to the atmosphere at or near the Site, in addition to limiting public or community

access to the areas in which intrusive efforts are completed, health and safety measures will primarily consist of monitoring the air pathway for worker exposure.

14.1.2 Community Air Monitoring Plan

Efforts will be taken to complete field work in a manner which will minimize the creation of airborne dust or particulates. Under dry conditions, work areas may be wetted to control dust. During periods of extreme wind, intrusive field work may be halted until such time as the potential for creating airborne dust or particulate matter as a result of investigation activities is limited. Periodic monitoring following the guidelines of the site's Community Air Monitoring Plan (attached) will be implemented during all non-intrusive Site investigation activities, including surface soil and sediment sampling, and collection of groundwater samples from groundwater monitoring wells.

During completion of Site investigation, a community air monitoring plan meeting the requirements of the site's Community Air Monitoring Plan (attached) will be implemented for the duration of intrusive activities. These additional air monitoring activities will include establishment of background conditions, continuous monitoring for volatile organic compounds and/or particulates at the downwind work area (exclusion zone) perimeter, recording of monitoring data, and institution and documentation of Response Levels and appropriate actions in accordance with NYSDOH guidance.

SECTION 15 - AUTHORIZATIONS

Personnel authorized to enter the Site while operations are being conducted must be approved by the HSO. Authorization will involve completion of appropriate training courses, medical examination requirements, and review and sign-off of this HASP. No C&S personnel should enter the work zone alone. Each site visitor should check in with the HSO or Project Manager prior to entering the work zones.

FIGURE 1

SITE LOCATION MAP



FIGURE 2

SITE AERIAL PHOTO



F:\Project\076 - Mensch Capital Partners\076001001 - Westwood Sampling Planning Study\CADD\Sheet Files\FIGURE 2 SITE MAP.dwg



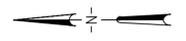
- LEGEND**
- BROWNFIELD CLEANUP PROGRAM ("BCP") BOUNDARY AND PROPERTY LINE
 - 10 GOLF COURSE HOLE NUMBER
 - ELEVATION CONTOUR (FEET)

- NOTES**
- 1) BCP BOUNDARY CREATED FROM PROPERTY BOUNDARY. PROPERTY BOUNDARY PROVIDED IN "A.L.T.A. SURVEY FOR WESTWOOD COUNTRY CLUB," NUSSBAUMER & CLARK, INC., JULY 19, 2005.
 - 2) ELEVATION CONTOURS OBTAINED FROM NEW YORK STATE, ERIE COUNTY LIDAR DATASET, 2008, VERTICAL COORDINATE SYSTEM: NORTH AMERICAN DATUM 1988 (GEOID 03). ORIGINAL DATASET IN METERS CONVERTED TO US SURVEY FEET.



C&S Engineers, Inc.
 141 Elm Street.
 Buffalo, New York 14203
 Phone: 716-847-1630
 Fax: 716-847-1454
 www.cscos.com

MENSCH Capital Partners, LLC
 5477 Main Street
 Williamsville NY 14221



**WESTWOOD COUNTRY CLUB
 BROWNFIELD CLEANUP PROGRAM
 REMEDIAL INVESTIGATION
 AMHERST, NEW YORK**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO:	076.001.001	
DATE:	FEBRUARY 3, 2015	
DRAWN BY:	C. MARTIN	
DESIGNED BY:	C. MARTIN	
CHECKED BY:	M. COLMERAUER	
NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW		

SITE MAP

FIGURE 2

ATTACHMENT A

MAP TO HOSPITAL





Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

MASH Urgent Care
Dent Tower
3980 Sheridan Drive
Amherst, NY 14226

- Head toward Morgan Parkway on N. Forest Road (CR-294) 374 ft
- Turn Right onto Sheridan Drive (RT-324) 0.9 mi
- Destination is on the right on Sheridan Drive - MASH urgent care in Dent Tower

Total Distance: 1.0 mile
Total Time: 2 minutes



C&S Engineers, Inc.
141 Elm Street
Buffalo, New York 14203
Phone: 716-847-1630
Fax: 716-847-1454
www.cscos.com



**DRIVING DIRECTIONS TO
MASH URGENT CARE IN
DENT TOWER
AMHERST, NEW YORK**

MARK	DATE	DESCRIPTION
REVISIONS		
PROJECT NO: 076.001.001		
DATE: 2/9/2015		
DRAWN BY: A. DEMARCHI		
DESIGNED BY: A. DEMARCHI		
CHECKED BY: DAN RIKER		

NO ALTERATION PERMITTED HEREON
EXCEPT AS PROVIDED UNDER SECTION
7209 SUBDIVISION 2 OF THE NEW YORK
EDUCATION LAW



Appendix A

EXCAVATION/TRENCHING GUIDELINE



**C&S ENGINEERS, INC. HEALTH & SAFETY GUIDELINE #14
EXCAVATION/TRENCHING OPERATIONS**

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C&S ENGINEERS, INC.
EXCAVATION/TRENCHING OPERATIONS

1.0 PURPOSE

To establish safe operating procedures for excavation/trenching operations at C&S work sites.

2.0 SCOPE

Applies to all C&S activity where excavation or trenching operations take place.

3.0 DEFINITIONS

Excavation — Any manmade cavity or depression in the earth's surface, including its sides, walls, or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation.

Trench — A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.

4.0 RESPONSIBILITY EMPLOYEES

Employees — All employees must understand and follow the procedures outlined in this guideline during all excavation and trenching operations.

Health and Safety Coordinator/Officer (HSC/HSO) - The HSC/HSO is responsible for ensuring that these procedures are implemented at each work site.

5.0 GUIDELINES

5.1 Hazards Associated With Excavation/Trenching

The principal hazards associated with excavation/trenching are:

- Suffocation, crushing, or other injury from falling material.
- Damage/failure of installed underground services and consequent hazards.
- Tripping, slipping, or falling.
- Possibility of explosive, flammable, toxic, or oxygen-deficient atmosphere in excavation.

5.2 Procedures Prior to Excavation

1. Underground Utilities

- Determine the presence and location of any underground chemical or utility pipes, electrical, telephone, or instrument wire or cables.
- If the local DigSafely NY is unable to locate private/domestic or plant utilities, then an independent utility locating service must be contacted and mobilized to the site.
- Identify the location of underground services by stakes, markers or paint.
- Arrange to de-energize or isolate underground services during excavation. If not possible, or if location is not definite, method of excavation shall be established to minimize hazards by such means as:
 - a) Use of hand tools in area of underground services.
 - b) Insulating personnel and equipment from possible electrical contact.
 - c) Use of tools or equipment that will reduce possibility of damage to underground services and hazard to worker.

2. Identify Excavation Area — Areas to be excavated shall be identified and segregated by means of barricades, ropes, and/or signs to prevent access of unauthorized personnel and equipment. Suitable means shall be provided to make barriers visible at all times.
3. Surface Water Provide means of diverting surface water from excavation.
4. Shoring/Bracing — Shoring or bracing that may be required for installed equipment adjacent to the excavation shall be designed by a competent person.
5. Structural Ramps — Structural ramps that are used solely by employees as a means of access to or egress from the excavation shall be designed by a competent person.

5.3 Procedures For Doing The Excavation

1. **Determine the need for shoring/sloping** — the type of soil will establish the need for shoring, slope of the excavation, support systems, and equipment to be used. The soil condition may change as the excavation proceeds. Appendices A, B, C, D, E, and F of the OSHA Excavation Regulation, 29 CFR 1926 Subpart P, are to be used in defining shoring and sloping requirements.
2. **Mobile equipment** — For safe use of mobile industrial equipment in or near the excavation, the load carrying capacity of soil shall be established and suitable protection against collapse of soil provided by the use of mats, barricades, restricting the location of equipment, or shoring.
3. Excavated material (spoil) shall be stored at least two (2) feet from the edge of the excavation.
4. All trench (vertical sides) excavations greater than five (5) feet deep shall be shored.

5. The excavation shall be inspected daily for changes in conditions, including the presence of ground water, change in soil condition, or effects of weather such as rain or freeze. A safe means of continuing the work shall be established based on changes in condition. Typically test trench excavations made as part of an environmental subsurface investigation are made and backfilled the same day.
6. Appropriate monitoring for gas, toxic, or flammable materials will be conducted to establish the need for respiratory equipment, ventilation, or other measures required to continue the excavation safely.
7. Adequate means of dewatering the excavation shall be provided by the contractor as required.
8. A signal person shall be provided to direct powered equipment if working in the excavation with other personnel.
9. A signal person shall be provided when backfilling excavations to direct powered equipment working in the excavation with other personnel.
10. Warning vests will be worn when employees are exposed to public vehicular traffic.
11. Employees shall stand away from vehicles being loaded or unloaded, and shall not be permitted underneath loads handled by lifting or dragging equipment.
12. Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available if hazardous atmospheric conditions exist or may be expected to develop. The specifics will be determined by the HSC/HSM.
13. Walkways or bridges with standard guardrail shall be provided where employees or equipment are required or permitted to cross over excavations.

5.4 Entering the Excavation

No C&S Engineers, Inc., employee shall enter an excavation which fails to meet the requirements of Section 5.3 of this guideline.

6.0 REFERENCES

29 CFR 1926, Subpart P - Excavations

7.0 ATTACHMENTS

29 CFR 1926 Subpart P - Appendices A, B, F



[Regulations \(Standards - 29 CFR\) - Table of Contents](#)

● Part Number:	1926
● Part Title:	Safety and Health Regulations for Construction
● Subpart:	P
● Subpart Title:	Excavations
● Standard Number:	1926 Subpart P App A
● Title:	Soil Classification

(a) Scope and application - (1) Scope. This appendix describes a method of classifying soil and rock deposits based on site and environmental conditions, and on the structure and composition of the earth deposits. The appendix contains definitions, sets for requirements, and describes acceptable visual and manual tests for use in classifying soils.

(2) Application. This appendix applies when a sloping or benching system is designed in accordance with the requirements set for 1926.652(b)(2) as a method of protection for employees from cave-ins. This appendix also applies when timber shoring for excavations designed as a method of protection from cave-ins in accordance with appendix C to subpart P of part 1926, and when aluminum shoring is designed in accordance with appendix D. This Appendix also applies if other protective systems are designed and selected from data prepared in accordance with the requirements set forth in 1926.652(c), and the use of the data is predicated on the soil classification system set forth in this appendix.

(b) Definitions. The definitions and examples given below are based on, in whole or in part, the following; American Society for Testing and Materials (ASTM) Standards D653-85 and D2488; The Unified Soils Classification System; The U.S. Department of Agriculture (USDA) Textural Classification Scheme; and The National Bureau of Standards Report BSS-121.

"Cemented soil" means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.

"Cohesive soil" means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.

"Dry soil" means soil that does not exhibit visible signs of moisture content.

"Fissured" means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.

"Granular soil" means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.

"Layered system" means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

"Moist soil" means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.

"Plastic" means a property of a soil which allows the soil to be

deformed or molded without cracking, or appreciable volume change.

"Saturated soil" means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or shear vane.

"Soil classification system" means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.

"Stable rock" means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

"Submerged soil" means soil which is underwater or is free seeping.

"Type A" means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

- (i) The soil is fissured; or
- (ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
- (iii) The soil has been previously disturbed; or
- (iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
- (v) The material is subject to other factors that would require it to be classified as a less stable material.

"Type B" means:

- (i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or
- (ii) Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
- (iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.
- (iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or
- (v) Dry rock that is not stable; or
- (vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

"Type C" means:

- (i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or
- (ii) Granular soils including gravel, sand, and loamy sand; or
- (iii) Submerged soil or soil from which water is freely seeping; or
- (iv) Submerged rock that is not stable, or
- (v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

"Unconfined compressive strength" means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.

"Wet soil" means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

(c) Requirements - (1) Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent person as Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.

(2) Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least one laboratory analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

(3) Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properties, factors, and conditions affecting the classification of the deposits.

(4) Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer shall be classified individually where a more stable layer lies under a less stable layer.

(5) Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the deposit shall be reclassified as necessary to reflect the changed circumstances.

(d) Acceptable visual and manual tests. - (1) Visual tests. Visual analysis is conducted to determine qualitative information regarding an excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed of coarse-grained sand or gravel is granular material.

(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not form clumps is granular.

(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tensile cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moisture in the ground and are indications of potentially hazardous situations.

(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures and to identify previously disturbed soil.

(v) Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope away from the excavation. Estimate the degree of slope of the layers.

(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seepage, or the location of the level of the water table.

(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the excavation face.

(2) Manual tests. Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

(i) Plasticity. Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch diameter thread can be held on one end without tearing, the soil is cohesive.

(ii) Dry strength. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (a combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil is considered unfissured.

(iii) Thumb penetration. The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soil. This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure)." Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type B soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practical after excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (e.g., flooding), the classification of the soil must be changed accordingly.

(iv) Other strength tests. Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer using a hand-operated shearvane.

(v) Drying test. The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.5 to six inches (15.24 cm) in diameter until it is thoroughly dry:

(A) If the sample develops cracks as it dries, significant fissures are indicated.

(B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has a high cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength determined.

(C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive. If they pulverize easily into very small fragments, the material is granular.

 [Next Standard \(1926 Subpart P App B\)](#)

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Telephone: 800-321-OSHA (6742) | TTY: 877-889-5627

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● Part Number:	1926
● Part Title:	Safety and Health Regulations for Construction
● Subpart:	P
● Subpart Title:	Excavations
● Standard Number:	1926 Subpart P App B
● Title:	Sloping and Benching

(a) **Scope and application.** This appendix contains specifications for sloping and benching when used as methods of protecting working in excavations from cave-ins. The requirements of this appendix apply when the design of sloping and benching protective is to be performed in accordance with the requirements set forth in § 1926.652(b)(2).

(b) **Definitions.**

Actual slope means the slope to which an excavation face is excavated.

Distress means that the soil is in a condition where a cave-in is imminent or is likely to occur. Distress is evidenced by such phenomena as the development of fissures in the face of or adjacent to an open excavation; the subsidence of the edge of an excavation; the slumping of material from the face or the bulging or heaving of material from the bottom of an excavation; the spalling of material from the face of an excavation; and raveling, i.e., small amounts of material such as pebbles or little clumps of material suddenly separating from the excavation and trickling or rolling down into the excavation.

Maximum allowable slope means the steepest incline of an excavation face that is acceptable for the most favorable site conditions for protection against cave-ins, and is expressed as the ratio of horizontal distance to vertical rise (H:V).

Short term exposure means a period of time less than or equal to 24 hours that an excavation is open.

(c) **Requirements -- (1) Soil classification.** Soil and rock deposits shall be classified in accordance with appendix A to subpart I of 1926.

(2) **Maximum allowable slope.** The maximum allowable slope for a soil or rock deposit shall be determined from Table B-1 of this appendix.

(3) **Actual slope.** (i) The actual slope shall not be steeper than the maximum allowable slope.

(ii) The actual slope shall be less steep than the maximum allowable slope, when there are signs of distress. If that situation occurs, the actual slope shall be cut back to an actual slope which is at least 1/2 horizontal to one vertical (1/2H:1V) less steep than the maximum allowable slope.

(iii) When surcharge loads from stored material or equipment, operating equipment, or traffic are present, a competent person shall determine the degree to which the actual slope must be reduced below the maximum allowable slope, and shall assure that such reduction is achieved. Surcharge loads from adjacent structures shall be evaluated in accordance with § 1926.651(i).

(4) **Configurations.** Configurations of sloping and benching systems shall be in accordance with Figure B-1.

**TABLE B-1
MAXIMUM ALLOWABLE SLOPES**

SOIL OR ROCK TYPE	MAXIMUM ALLOWABLE SLOPES (H:V)(1) FOR EXCAVATIONS LESS THAN 20 FEET DEEP(3)
STABLE ROCK	VERTICAL (90°)
TYPE A (2)	3/4:1 (53°)
TYPE B	1:1 (45°)
TYPE C	1 1/2:1 (34°)

Footnote(1) Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angle rounded off.

Footnote(2) A short-term maximum allowable slope of 1/2H:1V (63°) is allowed in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53°).

Footnote(3) Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

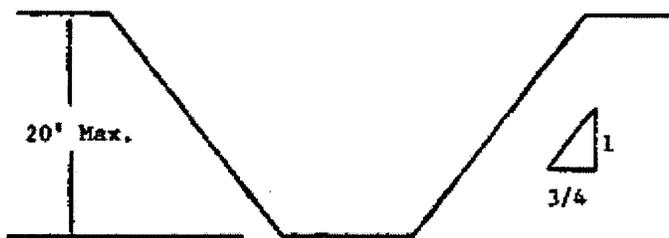
Figure B-1

Slope Configurations

(All slopes stated below are in the horizontal to vertical ratio)

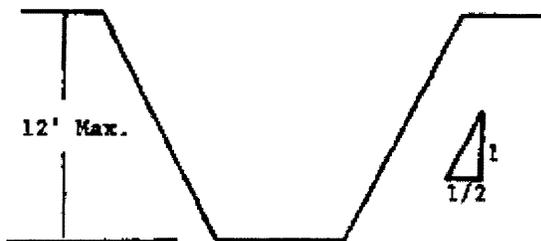
B-1.1 Excavations made in Type A soil.

1. All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of 3/4:1.



SIMPLE SLOPE -- GENERAL

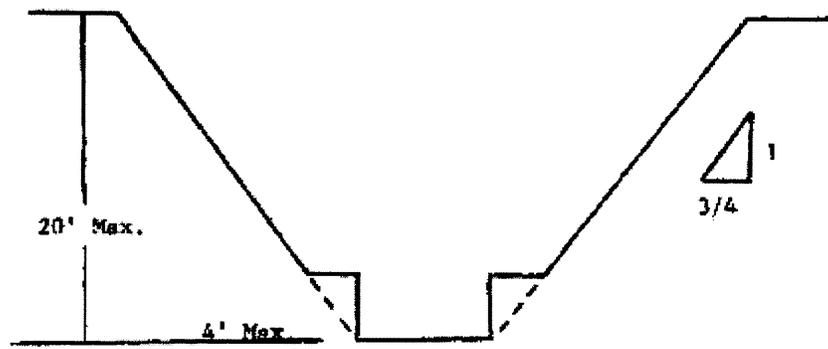
Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have maximum allowable slope of 1/2:1.



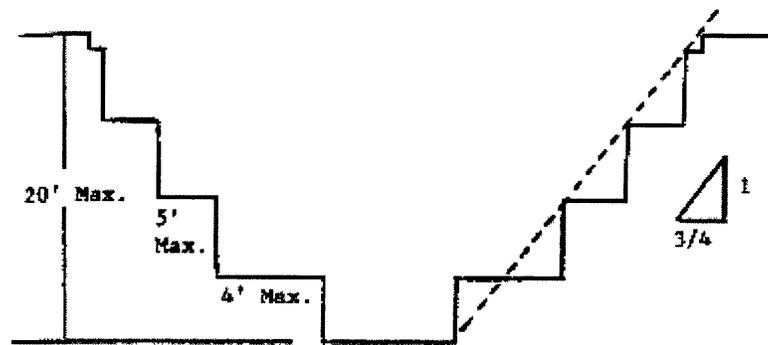
SIMPLE SLOPE -- SHORT TERM

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 3/4 to 1 and maximum bench dimensions

follows:

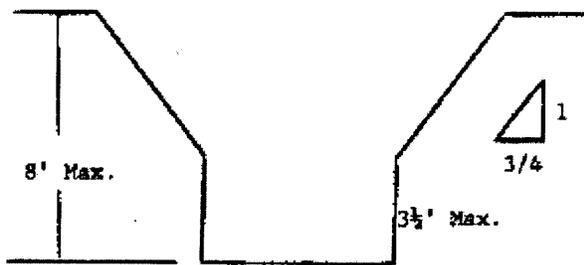


SIMPLE BENCH



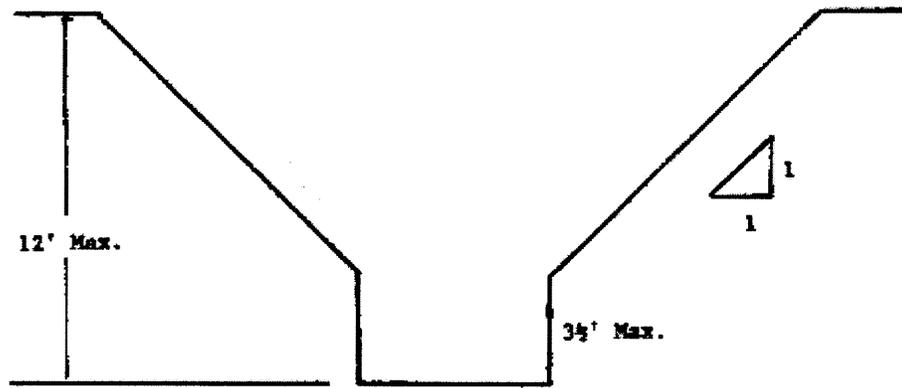
MULTIPLE BENCH

3. All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side feet.



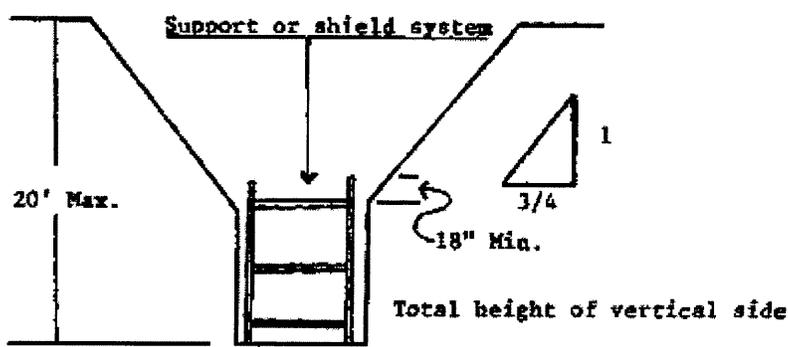
UNSUPPORTED VERTICALLY SIDED LOWER PORTION -- MAXIMUM 8 FEET IN DEPTH)

All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a allowable slope of 1:1 and a maximum vertical side of 3 1/2 feet.



UNSUPPORTED VERTICALLY SIDED LOWER PORTION -- MAXIMUM 12 FEET IN DEPTH)

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 3/4:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

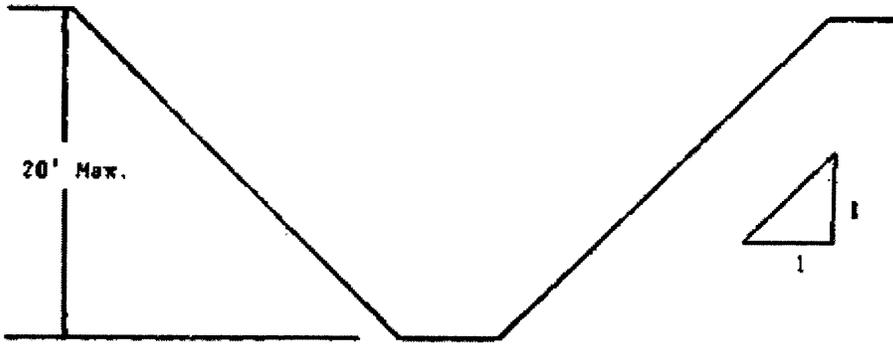


SUPPORTED OR SHIELDED VERTICALLY SIDED LOWER PORTION

4. All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under § 1926.652(b).

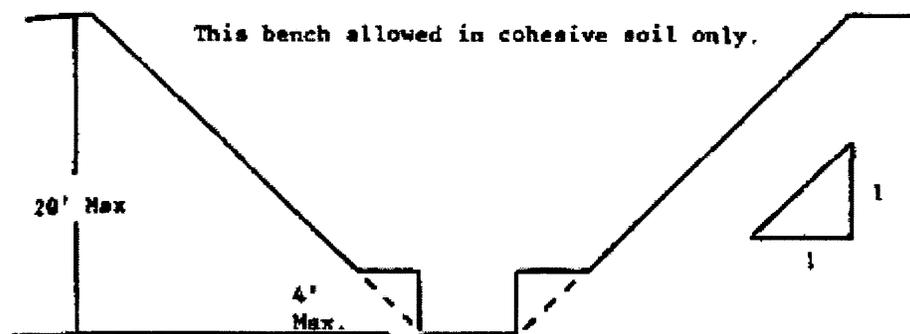
B-1.2 Excavations Made in Type B Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

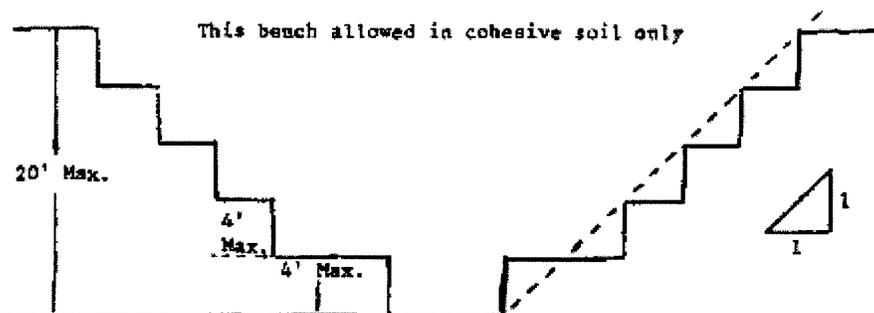


SIMPLE SLOPE

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions

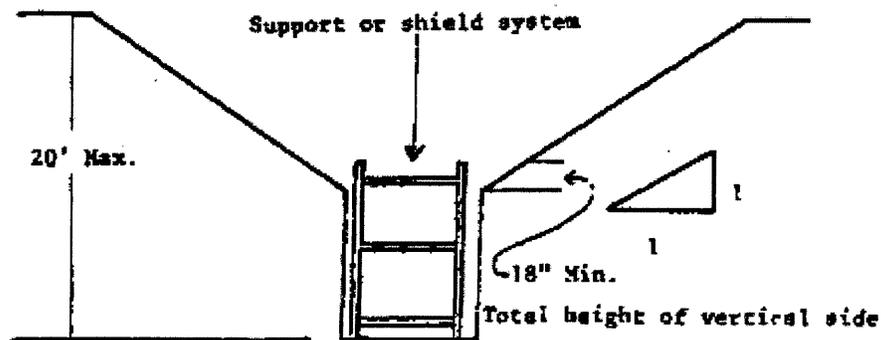


SINGLE BENCH



MULTIPLE BENCH

3. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.

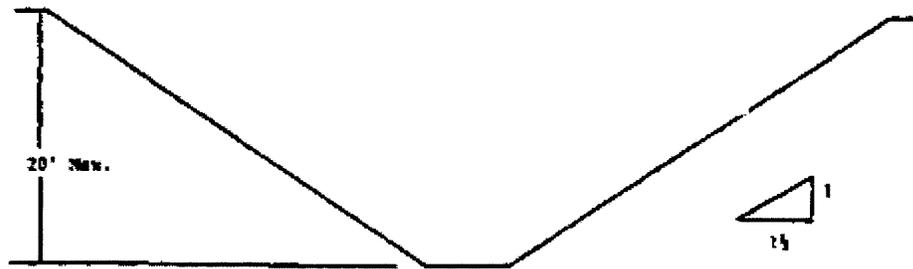


VERTICALLY SIDED LOWER PORTION

4. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

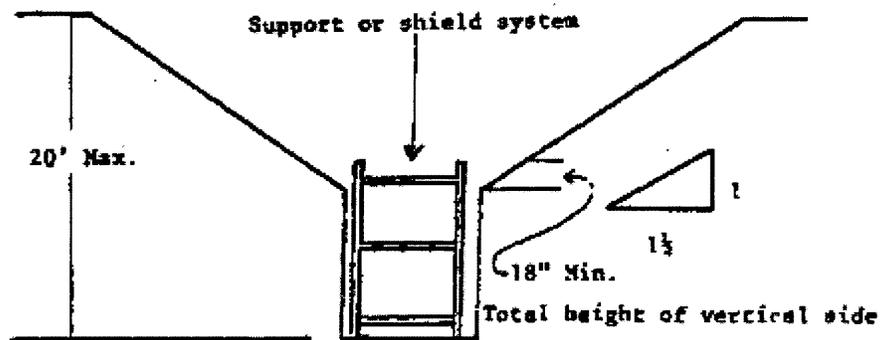
B-1.3 Excavations Made in Type C Soil

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

2. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1 1/2:1.

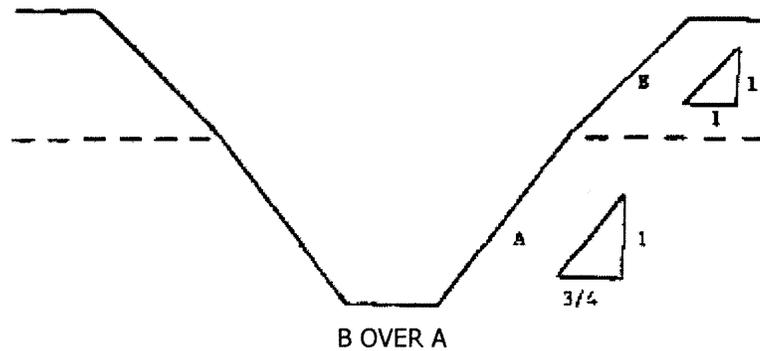


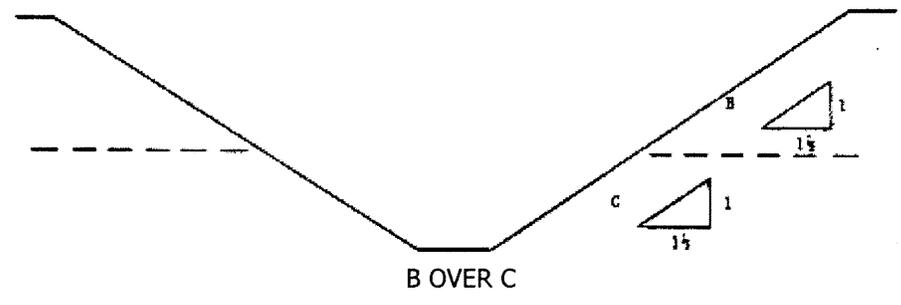
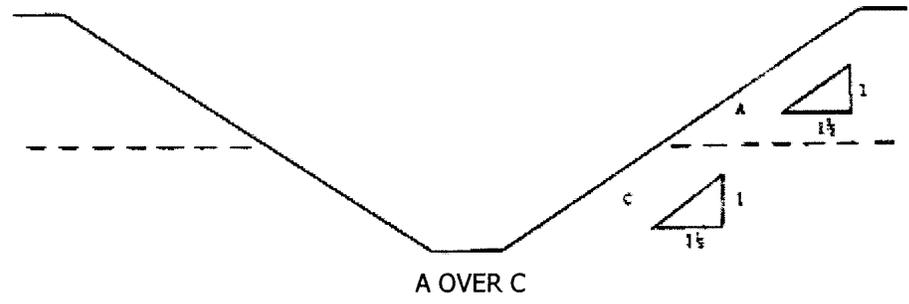
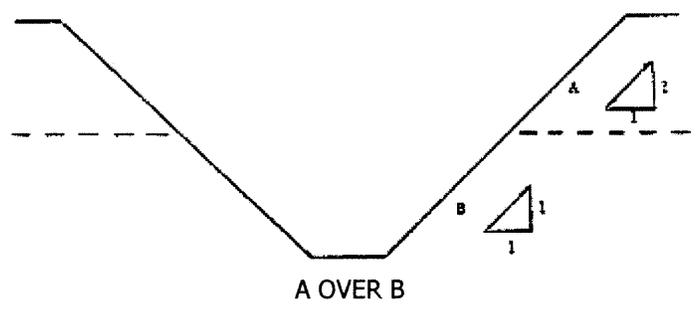
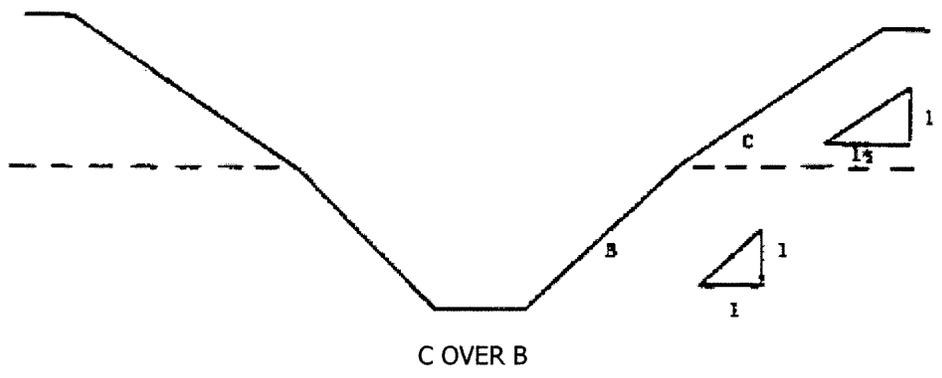
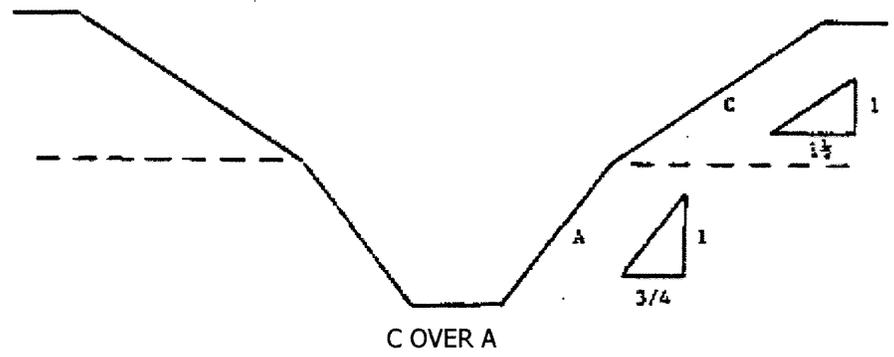
VERTICAL SIDED LOWER PORTION

3. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

B-1.4 Excavations Made in Layered Soils

1. All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth b





2. All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

◀ [Next Standard \(1926 Subpart P App C\)](#)

◀ [Regulations \(Standards - 29 CFR\) - Table of Contents](#)

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Regulations (Standards - 29 CFR) - Table of Contents

- **Part Number:** 1926
- **Part Title:** Safety and Health Regulations for Construction
- **Subpart:** P
- **Subpart Title:** Excavations
- **Standard Number:** 1926 Subpart P App F
- **Title:** Selection of Protective Systems

The following figures are a graphic summary of the requirements contained in subpart P for excavations 20 feet or less in depth. Protective systems for use in excavations more than 20 feet in depth must be designed by a registered professional engineer in accordance with 1926.652(b) and (c).

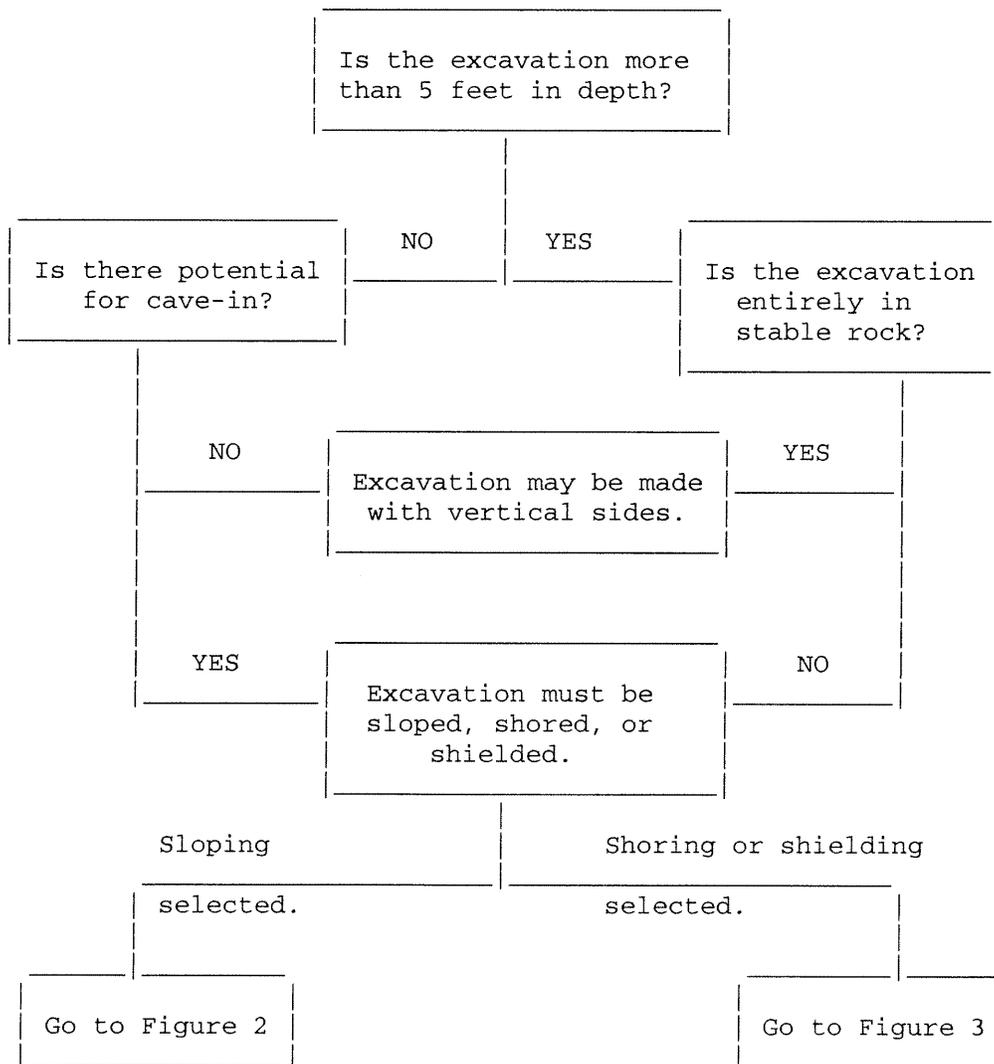


FIGURE 1 - PRELIMINARY DECISIONS

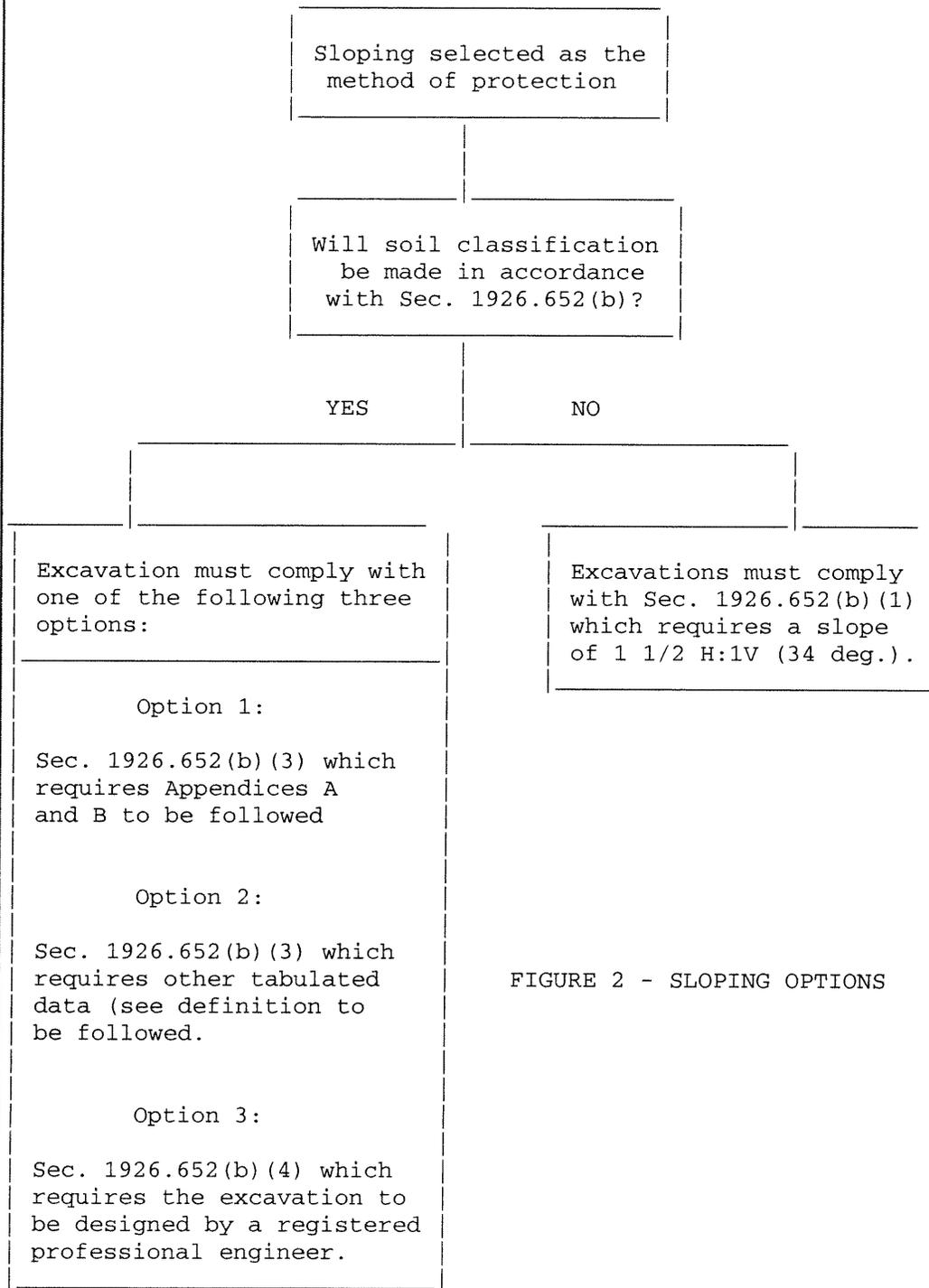


FIGURE 2 - SLOPING OPTIONS

Shoring or shielding selected as the method of protection.

Soil Classification is required when shoring or shielding is used. The excavation must comply with one of the following four options:

Option 1

Sec. 1926.652(c)(1) which requires Appendices A and C to be followed (e.g. timber shoring).

Option 2

Sec. 1926.652(c)(2) which requires manufacturers data to be followed (e.g. hydraulic shoring, trench jacks, air shores, shields).

Option 3

Sec. 1926.652(c)(3) which requires tabulated data (see definition) to be followed (e.g. any system as per the tabulated data).

Option 4

Sec. 1926.652(c)(4) which requires the excavation to be designed by a registered professional engineer (e.g. any designed system).

FIGURE 3 - SHORING AND SHIELDING OPTIONS

[◀ Next Standard \(1926 Subpart Q\)](#)

[◀ Regulations \(Standards - 29 CFR\) - Table of Contents](#)

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Appendix B

GUIDANCE ON INCIDENT INVESTIGATION

AND REPORTING



MEDICAL EMERGENCY/INCIDENT RESPONSE PROTOCOL

1.0 PURPOSE

From time to time employees of C & S Engineers, Inc. will sustain an injury while working on the job. While every effort is being made to prevent this, in the event of an injury or illness on the job, the following procedures will be implemented. This format may also be utilized in the event of a property damage incident.

2.0 SCOPE

This guideline applies to all C & S Engineers, Inc. job sites and employees.

3.0 GUIDELINES

Upon notification or awareness of an incident/accident with injuries or illness the Emergency Coordinator or his On-Site Designee will:

1. Ensure that the injured employee is receiving immediate first aid and medical care.
2. Notify Emergency Services (911) if injuries are severe.
3. Stabilize the work area; ensure that no one else can be injured.
4. Notify the Project Manager at the earliest possible convenience.
5. Notify the Owner/Client at the earliest possible convenience.

To assist the Health and Safety Manager in the root cause analysis, the Emergency Coordinator or his On-Site Designee will also make an attempt to:

1. Obtain the names and phone numbers of witnesses.
2. Preserve the accident scene if possible for analysis.

Injury Management

1. If the patient is stable with non-life threatening injuries, the foreman will ensure the employee is transported to Mount St. Mary's Hospital of Niagara Falls.

At no time will an injured employee drive themselves to medical care.

2. If the patient has serious or life threatening injuries, the emergency coordinator or his on-site designee will notify the emergency services for the area for treatment and transport to a hospital or emergency room. Serious injuries can be considered but not limited to head injuries, loss of consciousness, severe laceration or amputation, fractured bones, burns and eye injuries.

3. Following the treatment and care of the injured employee, the emergency coordinator or his on-site designee and the project manager will initiate the completion of the first injury report. The Health & Safety Manager will assist.

Project Manager

1. Upon notification of a personal injury or illness on the job site, will notify C & S Engineers, Inc, President and Corporate Legal and C&S Companies Health and Safety Manager.
2. Will report to the worksite to initiate the first injury report.
3. Will report to the treatment facility to check on the well being of the injured employee. The project manager will ensure that the treatment facility is aware that this is a workers compensation case.
4. Will assist the Health and Safety Manager in the analysis of the incident.

Health & Safety Manager

1. Upon notification of the personal injury will determined if it is necessary to report to the treatment facility or the accident site, depending on the nature of the injuries and the circumstances of the accident.
2. Will report to the worksite to begin a root cause analysis investigation of the accident. The investigation may include interview of witnesses, field crew , and project manager, the photographing of the scene, reconstruction of the accident scene, using test instruments and taking measurements. The Health and Safety Manager may draw diagrams from the information learned.
3. The Health and Safety Manager will work with the owner/client as necessary to investigate the accident.
4. The Health & Safety manager will ensure that the site is safe to resume work.
5. The Health & Safety Manager shall initiate the New York State Compensation form requirements (C-2) and forward a copy of the C-2 to the C & S Engineers, Inc. controller for transmittal to the Compensation Carrier within 8 hrs of notification of the incident or by the end of the next business day.
6. The Health and Safety manager, upon completion of the investigation, will provide the Project Manager with a written investigative report (copy to the President)
7. The accident will be reviewed at the next Project Managers meeting with the intent to prevent further or similar events on other projects.
8. The Health & Safety Manager will assess the incident to determine OSHA record ability and make record if necessary on the OSHA 300 form, within five working days.

Incident Response

1.0 PURPOSE

To prevent the occurrence of accidents on C&S Engineers, Inc., work sites and to establish a procedure for investigation and reporting of incidents occurring in, or related to C&S work activities.

2.0 SCOPE

Applies to all incidents related to C&S Engineers, Inc. work activities.

3.0 DEFINITIONS

Accident - An undesired event resulting in personal injury and/or property damage, and/or equipment failure.

Fatality - An injury or illness resulting in death of the individual.

Incident - Any occurrence which results in, or could potentially result in, the need for medical care or property damage. Such incidents shall include lost time accidents or illness, medical treatment cases, unplanned exposure to toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Incidence Rate - the number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The rate is calculated as:

$$N/EH \times 200,000$$

N = number of injuries and illnesses or lost workday cases; EH = total hours worked by all associates during calendar year. 200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Injury - An injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from a single instantaneous event in the work environment.

Lost Workday Case - A lost workday case occurs when an injured or ill employee experiences days away from work beginning with the next scheduled work day. Lost workday cases do not occur unless the employee is effected beyond the day of injury or onset of illness.

Recordable Illness - An illness that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These illnesses require medical treatment and evaluation of work related injury. For example, dermatitis, bronchitis, irritation of eyes, nose, and throat can result from work and non-work related incidents.

Recordable Injury - An injury that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These injuries require medical treatment; may involve loss of consciousness; may result in restriction of work or motion or transfer to another job; or result in a fatality.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an incident.

4.0 RESPONSIBILITIES

Employees - It shall be the responsibility of all C&S Engineers, Inc. employees to report all incidents as soon as possible to the HSC, regardless of the severity.

Human Resources - has overall responsibility for maintaining accident/ incident reporting and investigations according to current regulations and recording injuries/ illness on the OSHA 300 log, and posting the OSHA 300 log.

Emergency Coordinator - It is the responsibility of the Emergency Coordinator to investigate and prepare an appropriate report of all accidents, illnesses, and incidents occurring on or related to C&S Engineers, Inc. work. The Emergency Coordinator shall complete Attachment A within 24 hours of the incident occurrence.

Health and Safety Manager (HSM) - It is the responsibility of the HSM to investigate and prepare an appropriate report of all lost time injuries and illnesses and significant incidents occurring on or related to C&S Companies. The HSM shall maintain the OSHA 300 form.

Project Managers (PM) - It shall be the PM's responsibility to promptly correct any deficiencies in personnel, training, actions, or any site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

5.0 GUIDELINES

5.1 Incident Investigation

The Project Manager will immediately investigate the circumstances surrounding the incident and will make recommendations to prevent recurrence. The HSM shall be immediately notified by telephone if a serious accident/ incident occurs. The incident shall be evaluated to determine whether it is OSHA recordable. If the incident is determined to be OSHA 300 recordable, it shall be entered on the OSHA 300 form.

The Project Manager with assistance from the HSM must submit to the office an incident report form pertaining to any incident resulting in injury or property damage.

5.2 Incident Report

The completed incident report must be completed by the Project Manager within 12 hours of the incident and distributed to the HSM, and Human Resources. This form shall be maintained by Human Resources for at least five years for all OSHA recordable cases. This form serves as an equivalent to the OSHA 101 form.

5.3 Incident Follow-up Report

The Incident Follow-Up Report (Attachment B) shall be distributed with the Incident Report within one week of the incident. Delay in filing this report shall be explained in a brief memorandum.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

Fatalities or accidents resulting in the hospitalization of three or more employees must be reported to OSHA verbally or in writing within 8 hours. The report must contain 1) circumstances surrounding the accident(s), 2) the number of fatalities, and 3) the extent of any injuries.

5.5 OSHA 300A Summary Form

Recordable cases must be entered on the log within six workdays of receipt of the information that a recordable case has occurred. The OSHA log must be kept updated to within 45 calendar days.

OSHA 300 forms must be updated during the 5 year retention period, if there is a change in the extent or outcome of an injury or illness which affects an entry on a log. If a change is necessary, the original entry should be lined out and a corrected entry made on that log. New entries should be made for previously unrecorded cases that are discovered or for cases that initially weren't recorded but were found to be recordable after the end of the year. Log totals should also be modified to reflect these changes.

5.5.1 Posting

The log must be summarized at the end of the calendar year and the summary must be posted from February 1 through May 31.

5.6 OSHA 300A

Facilities selected by the Bureau of Labor Statistics (BLS) to participate in surveys of occupational injuries and illnesses will receive the OSHA 300A. The data from the annual summary on the OSHA 300 log should be transferred to the OSHA 300A, other requested information provided and the form returned as instructed by the BLS.

5.7 Access to OSHA Records

All OSHA records (accident reporting forms and OSHA 300 logs) should be available for inspection and copying by authorized Federal and State government officials.

Employees, former employees, and their representatives must be given access for inspection and copying to only the log, OSHA No. 300, for the establishment in which the employee currently works or formerly worked.

6.0 REFERENCES

29 CFR Part 1904

7.0 ATTACHMENTS

Attachment A - Incident Investigation Form

Attachment B - Incident Follow-Up Report

Attachment C - Establishing Recordability

ATTACHMENT A
INCIDENT INVESTIGATION FORM

Accident investigation should include:

Location: _____

Time of Day: _____

Accident Type: _____

Victim: _____

Nature of Injury: _____

Released Injury: _____

Hazardous Material: _____

Unsafe Acts: _____

Unsafe Conditions: _____

Policies, Decisions: _____

Personal Factors: _____

Environmental Factors: _____

ATTACHMENT B

Date _____

Foreman: _____

INCIDENT FOLLOW-UP REPORT

Date of Incident: _____

Site: _____

Brief description of incident: _____

Outcome of incident: _____

Physician's recommendations: _____

Date the injured returned to work: _____

Project Manager Signature: _____

Date: _____

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

ESTABLISHING RECORDABILITY

1. Deciding whether to record a case and how to classify the case.

Determine whether a fatality, injury or illness is recordable.

A fatality is recordable if:

- Results from employment

An injury is recordable if:

- Results from employment and
- It requires medical treatment beyond first aid or
- Results in restricted work activity or job transfer, or
- Results in lost work day or
- Results in loss of consciousness

An illness is recordable if:

- It results from employment

2. Definition of "Resulting from Employment"

Resulting from employment is when the injury or illness results from an event or exposure in the work environment. The work environment is primarily composed of: 1) The employer's premises, and 2) other locations where associates are engaged in work-related activities or are present as a condition of their employment.

The employer's premises include company rest rooms, hallways, cafeterias, sidewalks and parking lots. Injuries occurring in these places are generally considered work related.

The employer's premises EXCLUDES employer controlled ball fields, tennis courts, golf courses, parks, swimming pools, gyms, and other similar recreational facilities, used by associates on a voluntary basis for their own benefit, primarily during off work hours.

Ordinary and customary commute, is not generally considered work related.

Employees injured or taken ill while engaged in consuming food, as part of a normal break or activity is not considered work related. Employees injured or taken ill as the result of smoking, consuming illegal drugs, alcohol or applying make up are generally not considered work related. Employee injured by an authorized horseplay is generally not considered work related, however, an employee injured as a result of a fight or other workplace violence act, may be considered work related.

Associates who travel on company business are considered to be engaged in work related activities all the time they spend in the interest of the company. This includes travel to and from customer contacts, and entertaining or being entertained for purpose of promoting or discussing business. Incidents occurring during normal living activities (eating, sleeping, recreation) or if the associate deviates from a reasonably direct route of travel are not considered OSHA recordable.

3. Distinction between Medical Treatment and First Aid.

First aid is defined as any one-time treatment, and any follow up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care. Such one time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

Medical Treatment (recordable)

- a) They must be treated only by a physician or licensed medical personnel.
- b) They impair bodily function (i.e. normal use of senses, limbs, etc.).
- c) They result in damage to physical structure of a non superficial nature (fractures).
- d) They involve complications requiring follow up medical treatment.

APPENDIX C

COMMUNITY AIR MONITORING PLAN

Community Air Monitoring Plan

for

**Westwood Country Club
772 North Forest Road
Amherst, Erie County, New York**

Site No. C915291

May 2021

Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Based on over 10 years of monitoring and investigation, this site contamination is known to be limited to petroleum VOCs.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment

should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate, such as isobutylene. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m³) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m³ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m³ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m³ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

- (a) Objects to be measured: Dust, mists or aerosols;
- (b) Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 :ug/m³);
- (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m³ for one second averaging; and +/- 1.5 g/m³ for sixty second averaging;
- (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
- (e) Resolution: 0.1% of reading or 1g/m³, whichever is larger;
- (f) Particle Size Range of Maximum Response: 0.1-10;
- (g) Total Number of Data Points in Memory: 10,000;
- (h) Logged Data: Each data point with average concentration, time/date and data point number;
- (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;

- (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
- (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
- (l) Operating Temperature: -10 to 50°C (14 to 122°F); and
- (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record-keeping plan.

5. The action level will be established at 150 ug/m³ (15 minutes average). While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m³, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m³ above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m³ continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM-10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m³ action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX D
CITIZEN PARTICIPATION PLAN



New York State Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan

for

Westwood Country Club

772 North Forest Road (SBL #68.01-1-1)

Amherst, Erie County, New York

Site No. C915291

Prepared on Behalf of:

MENSCH CAPITAL PARTNERS, LLC

5477 MAIN STREET

WILLIAMSVILLE, NY 14221

May 2021

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* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site’s investigation and cleanup process.

Applicant: **Mensch Capital Partners, LLC**
Site Name: **Westwood Country Club (Site)**
Site Address: **772 North Forest Road**
Site County: **Erie**
Site Number: **C915291**

1. What is New York’s Brownfield Cleanup Program?

New York’s Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as “brownfields” so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants that conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: <http://www.dec.ny.gov/chemical/8450.html> .

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interest in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process
- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process
- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community
- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate. In addition, electronic copies of all reports are available at www.westwoodamherst.com.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.

The site contact list includes, at a minimum:

- chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- residents, owners, and occupants of the site and properties adjacent to the site;
- the public water supplier which services the area in which the site is located;
- any person who has requested to be placed on the site contact list;
- the administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility; and
- location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through a CP website, fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **CP Website, notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site. The project volunteer will issue letter to the adjacent residents prior to erecting a fence at the site to inform residents of the project status and the pending remedial investigation work. In addition, the project website- www.westwoodamherst.com, posts electronic copies of the documents pertaining to the BCP activities.
- **Comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

For more information about TAGs, go online at <http://www.dec.ny.gov/regulations/2590.html>

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
Application Process:	
<ul style="list-style-type: none"> • Prepare site contact list • Establish document repositories 	At time of preparation of application to participate in the BCP.
<ul style="list-style-type: none"> • Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period 	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement:	
<ul style="list-style-type: none"> • Prepare Citizen Participation (CP) Plan 	Before start of Remedial Investigation
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
<ul style="list-style-type: none"> • Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period 	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 30-day public comment period
After Applicant Completes Remedial Investigation:	
<ul style="list-style-type: none"> • Distribute fact sheet to site contact list that describes RI results 	Before NYSDEC approves RI Report.
Before NYSDEC Approves Remedial Work Plan (RWP):	
<ul style="list-style-type: none"> • Distribute fact sheet to site contact list about proposed RWP and announcing 30-day public comment period • Public meeting by NYSDEC about proposed RWP • Conduct 30-day public comment period 	Before NYSDEC approves RWP. Thirty day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 30-day public comment period.
Before Applicant Starts Cleanup Action:	
<ul style="list-style-type: none"> • Distribute fact sheet to site contact list that describes upcoming cleanup action 	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
<ul style="list-style-type: none"> • Distribute fact sheet to site contact list that announces that cleanup action has been 	At the time NYSDEC approves Final Engineering Report. These two fact sheets are combined if possible if there is not a delay in issuing the COC.

Citizen Participation Requirements (Activities)	Timing of CP Activity(ies)
<p>completed and that summarizes the Final Engineering Report</p> <ul style="list-style-type: none"> • Distribute fact sheet to site contact list announcing issuance of Certificate of Completion (COC) 	

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

Site surface soils consist of 0-6 inches containing arsenic ranging in concentration from below NYSDEC Unrestricted Use Soil Cleanup Objectives to soils exceeding Industrial Use Soil Cleanup Objectives. Contamination at depth has not yet been assessed. The arsenic is likely sourced from the historic use of arsenic containing herbicides and pesticides on the property. The site was used as a golf course from the 1920s to 2014. To date only high use (i.e. fairways and greens) areas were assessed for arsenic and pesticide concentrations.

Groundwater was not investigated during the recent evaluation of the Site.

The presence of the contamination is limiting the future use and re-investment opportunities on the parcel. Stakeholders in the remediation of the Site include the Town of Amherst and local residents. See Appendix B for a contact list of stakeholders.

4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

Location: Former Westwood Country Club, Amherst, Erie County, New York

Setting: suburban

Site size: 170 acres

Adjacent properties:

- **East** (town golf course, Ellicott Creek and private residences)
- **South** (Sheridan Drive, Residential Neighborhood)
- **West** (Residential Neighborhood)
- **North** (Residences)

History of Site Use, Investigation, and Cleanup

The BCP Site was reportedly first developed in 1921, and the use of the Site since that time has included golf course, country club, and associated operations. Prior to 1921, land use was agricultural or residential. However, due to the historical usage of the Site as a golf course, concerns associated with pesticides applied during routine golf course maintenance operations at the Site exist. This concern was investigated with a preliminary site investigation in 2014.

A total of 15 surface soil and 12 sediment samples were collected from the Site in 2014. The soil samples were analyzed for pesticides, herbicides, and arsenic, while the sediment samples were analyzed only for arsenic.

The surface soil samples did not contain detectable concentrations of pesticides and herbicides. However, concentrations of arsenic ranged from 2.2 to 66.3 mg/kg. The detected arsenic concentrations in five of the surface soil samples were above the NYSDEC's least stringent Soil Cleanup Objective (SCO) for Industrial Use, suggesting that some level of cleanup and/or management of impacted soils will be required prior to redevelopment of the Site. The samples with concentrations contravening the SCOs were located in various portions of the Site, rather than in a limited number of discrete locations.

The sediment sampling results ranged from 1.3 to 11.3 mg/kg. These concentrations are below the NYSDEC Unrestricted Use SCO. Using the NYSDEC's June 24, 2014 "Screening and Assessment of Contaminated Sediments Guidance," eleven of the concentrations are characterized as Class A, which is defined as sediments that present little to no potential for risk to aquatic life. One sample, collected from the pond on Hole 15, contained arsenic concentrations falling within the Class B classification, indicating that the additional information is needed to determine the potential risk to aquatic life.

Known contaminants include arsenic associated with pesticide use at the Site during routine golf course maintenance operations across the BCP Site. *NYSDEC Industrial Use SCOs were exceeded in 5 of the 15 surface soil sampling locations, and one sediment sample fell within the Class B category.*

Groundwater was not investigated during the recent evaluation of the Site. However, saturated conditions were present at approximately seven feet below grade. Based on a review of NYSDEC data, the Site is not underlain by any mapped principal or primary aquifers. Groundwater at and in the vicinity of the Site is not used for public drinking water supply.

No active or passive remediation has taken place on-site.

5. Investigation and Cleanup Process

Application

The Applicants have applied for and been accepted into New York's Brownfield Cleanup Program as a Volunteer. This means that the Applicants were not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination onsite, and must conduct a qualitative exposure assessment, a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the

site and to contamination that has migrated from the site.

The Applicants in its Application proposes that the site will be used for commercial and residential purposes.

To achieve this goal, the Applicants will conduct cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicants set forth the responsibilities of each party in conducting these activities at the site.

Remedy Selection

When the investigation of the Site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicants may recommend in its investigation report that no action is necessary at the Site. In this case, NYSDEC would make the investigation report available for public comment for 30 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a Certificate of Completion (described below) to the Applicants.

or

2. The Applicants may recommend in its investigation report that action needs to be taken to address Site contamination. After NYSDEC approves the investigation report, the Applicants may then develop a cleanup plan, officially called a Remedial Work Plan. The Remedial Work Plan describes the Applicants' proposed remedy for addressing contamination related to the Site.

When the Applicants submit a proposed Remedial Work Plan for approval, NYSDEC would announce the availability of the proposed plan for public review during a 30-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy.

The Applicants may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicants complete cleanup activities, they will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the Site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the Site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicants from future liability for Site-related contamination, subject to certain conditions. The Applicants would be eligible to redevelop the Site after it receives a COC.

Site Management

Site management is the last phase of the Site cleanup program. This phase begins when the COC is issued. Site management may be conducted by the Applicants under NYSDEC oversight, if contamination will remain in place. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An institutional control is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the Site suitable for some, but not all uses.

An engineering control is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that is pumping and treating groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A

Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Andrew Zwack
Assistant Engineer
NYSDEC Region 9
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, NY 14203-2999
716.851.7220

Kristen Davidson
Citizen Participation Specialist
NYSDEC Region 9
270 Michigan Avenue
Buffalo, NY 14203-2915
716.851.7220

New York State Department of Health (NYSDOH):

Matthew Forcucci
Project Manager
NYSDOH
584 Delaware Avenue
Buffalo, NY 14202
(716) 847-4501

Locations of Reports and Information

In addition, the project website- www.westwoodamherst.com, posts electronic copies of the documents pertaining to the BCP activities.

The facilities identified below are being used to provide the public with convenient access to important project documents:

Buffalo & Erie County Public
Library; Williamsville Branch
5571 Main St.
Williamsville, NY 14221
716-632-6176
Fri. & Sun.: Closed
Mon. & Wed.: 10:00AM - 02:00PM
Tue.: 04:00 PM - 08:00 PM
Thu.: 01:00 PM - 08:00 PM
Sat.: 10:00 AM - 02:00 PM

NYSDEC 9
270 Michigan Avenue
Buffalo, NY 14203
Attn: David Locey
Phone: 716.851.7220
Hours: Monday to Friday 9 am to 5 pm
(call for appointment)

Appendix B Site Contact List

1. Local Government – Town of Amherst

Erie County Executive:

Mark Poloncarz

Edward A. Rath County Office Building

95 Franklin Street, 6th Floor

Buffalo, NY 14202

(716) 858-6000

<http://www2.erie.gov/exec/index.php?q=email-mark>

Chief Executive Officer – Town of Amherst Supervisor:

Dr. Barry A. Weinstein

Amherst Municipal Building

5583 Main Street

Williamsville, New York 14221

(716) 631-7032

bweinstein@amherst.ny.us

Planning Board Chairman:

Jonathan O'Rourke, Chairman

Town of Amherst Planning Board

Amherst Municipal Building

5583 Main Street

Williamsville, New York 14221

(716) 631-7051

Zoning Board of Appeals:

J. Matthew Plunkett, Chairman

Town of Amherst Zoning Board of Appeals

Amherst Municipal Building

5583 Main Street

Williamsville, New York 14221

(716) 631-7080

2. Local Media:

Local Newspaper:

Buffalo News
1 News Plaza
Buffalo NY 14240
(716) 849-3434

<http://www.buffalonews.com/classifieds/>

Amherst Bee

5564 Main Street
Williamsville, NY 14221
(716) 632-4700

<http://www.amherstbee.com/>

Local Television:

WGRZ – TV Channel 2
259 Delaware Avenue
Buffalo, NY 14202
(716) 849-2200

<http://www.wgrz.com/news/default.aspx>

WIVB – TV Channel 4
2077 Elmwood Avenue
Buffalo, NY 14207
(716) 874-4410

<http://www.wivb.com/subindex/news>

WKBW – TV Channel 7
7 Broadcast Plaza
Buffalo, NY 14202
(716) 840-7777

<http://www.wkbw.com/>

Radio:

WBEN 930 AM Radio
500 Corporate Parkway
Amherst, NY 14226
(716) 843-0600

<http://www.wben.com>

WBFO 88.7 FM Radio
3435 Main Street
Buffalo, NY 14214
(716) 829-6000
<http://www.wbfo.org/>

Websites:

Town of Amherst website:
<http://www.amherst.ny.us/default.asp>

3. Local Water Supplier:

Erie County Water Authority
295 Main Street
Room 350
Buffalo, NY 14203
(716) 849-8444

4. Persons Requesting to be Placed on Contact List:

To Be Completed as Necessary

5. School and Day Care Facilities:

There are no schools or day care facilities located on the Brownfield cleanup site. Schools and daycare facilities in the vicinity of the Brownfield cleanup site include:

Schools:

Mrs. Ann Laudisio, Principal
Maplemere School
236 E. Maplemere Road (approximately 0.25 miles to the west)
Amherst, NY 14221
Phone: (716) 250-1550

Dr. Charles Galluzzo, Principal
Maple West Elementary School
851 Maple Road (approximately 0.7 miles to the east)
Williamsville, NY 14221
(716) 626-8840

Mr. Keith Wing, Principal
Forest Elementary School
250 N. Forest Road (approximately 0.9 miles to the southeast)
Williamsville, NY 14221
Phone: (716) 626-9800

Daniel R. Lewis, Principal
Smallwood Drive Elementary
300 Smallwood Drive (approximately 0.6 miles to the south)
Amherst, NY 14226
Phone: 716-362-2100

Chris Lauricella, Head of School
The Park School of Buffalo
4625 Harlem Road (approximately 0.6 miles to the southwest)
Buffalo, NY 14226
Phone: 716-839-1242

Satish K. Tripathi, President
State University at Buffalo, North Campus
Augsburger Road (approximately 0.7 miles to the northwest)
(716) 645-2000

Christine Ellington-Rowe, Executive Director
SUNY University at Buffalo Child Care Center
100 St Rita's Lane (approximately 0.8 miles to the northwest)
Buffalo, NY 14260
(716) 645-6509

6. Residents, Owners and Occupants of Property and Property Adjacent to Site:

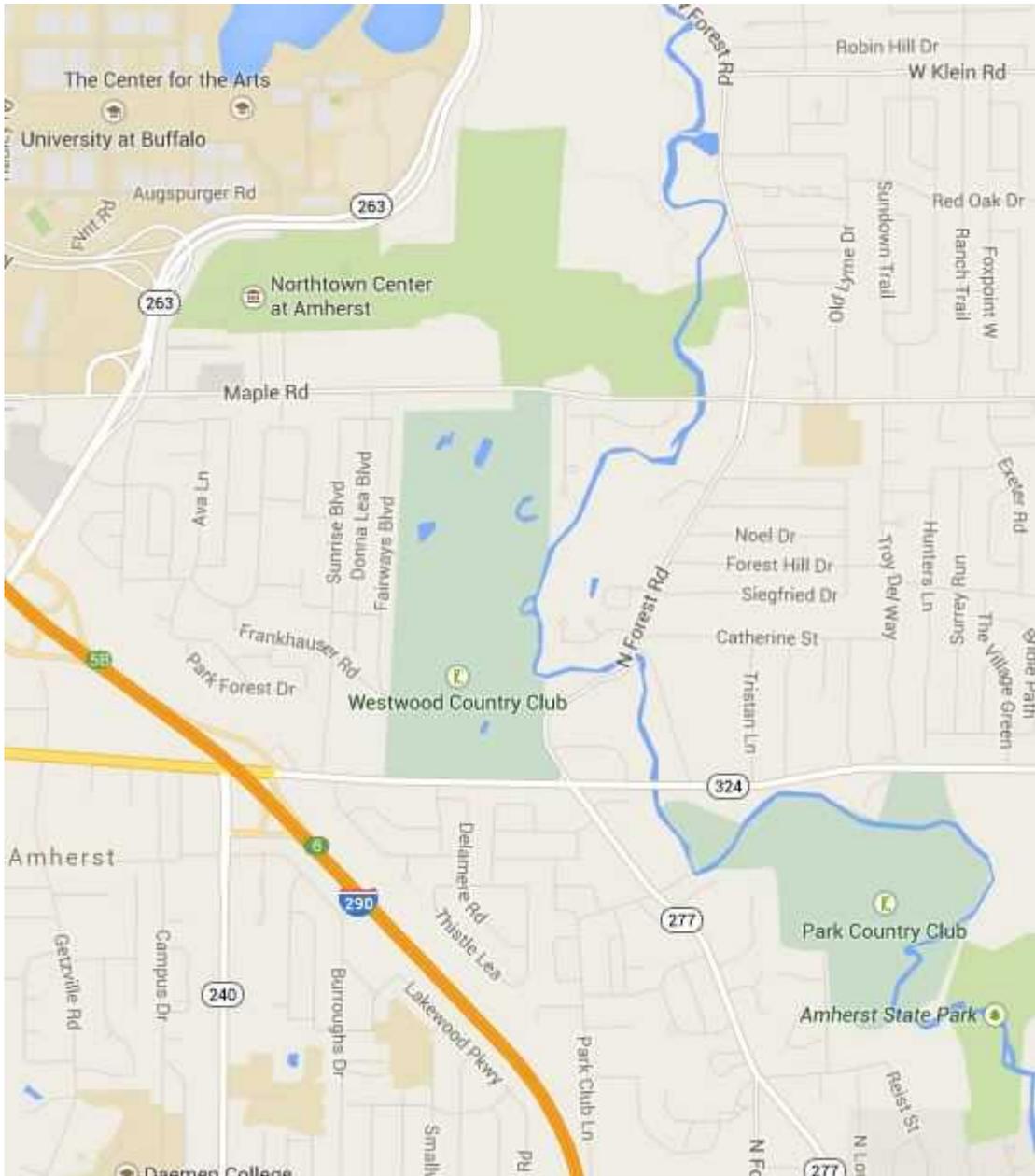
Adjacent land owners are presented in the following table:

Adjacent Property Owners

Property ID	SBL No.	Land Owners	Owner Address	City / State	Zip Code
1	68.10-2-17.1	Leemit's Petroleum Inc.	1500 Hempstead Tpke	East Meadow, NY	11554
2	68.10-2-20	Sandra M Koerber	54 Frankhauser Rd	Williamsville, NY	14221
3	68.10-2-21	Eleanor Maholsic	60 Frankhauser Rd	Williamsville, NY	14221
4	68.10-2-22.1	John R Subjeck	66 Frankhauser Rd	Williamsville, NY	14221
5	68.10-2-23.1	Phyllis V Amoia	72 Frankhauser Rd	Williamsville, NY	14221
6	68.10-2-24	Erika Macpeek	76 Frankhauser Rd	Williamsville, NY	14221
7	68.06-6-15	National Fuel Gas	6363 Main St	Williamsville, NY	14221
8	68.06-6-14	Vincenzo Battaglia & Calogera Battaglia	80 Frankhauser Rd	Williamsville, NY	14221
9	68.06-6-13	Carmela Falsone	PO Box 1162	Buffalo, NY	14231
10	68.06-6-12	Salvatore Milone	88 Frankhauser Rd	Williamsville, NY	14221
11	68.06-6-11	Leon A Teuscher & Sune Teuscher	94 Frankhauser Rd	Williamsville, NY	14221
12	68.06-6-10	Robert J Yunkes	100 Frankhauser Rd	Williamsville, NY	14221
13	68.06-4-20	William A Vaughan & Stephanie D Vaughan	11 Fairways Blvd	Williamsville, NY	14221
14	68.06-4-19	Michael J Mineo & Louise D Mineo Lifeestate	21 Fairways Blvd	Williamsville, NY	14221
15	68.06-4-18	William G Duquin & Susan J Duquin	31 Fairways Blvd	Williamsville, NY	14221
16	68.06-4-17	Keith Kaiser	41 Fairways Blvd	Williamsville, NY	14221
17	68.06-4-16	Harold Mark Becker	47 Fairways Blvd	Williamsville, NY	14221
18	68.06-4-15	Christopher P Ryan	55 Fairways Blvd	Williamsville, NY	14221
19	68.06-4-14	Donald Barish & Helene R Barish	63 Fairways Blvd	Williamsville, NY	14221
20	68.06-4-13	Vincent Pascoe & Cheri Pascoe	71 Fairways Blvd	Williamsville, NY	14221
21	68.06-4-12	Harlan G Vowinkel	79 Fairways Blvd	Williamsville, NY	14221
22	68.06-4-11	Alfred C Caci & Ann Gee Caci	81 Fairways Blvd	Williamsville, NY	14221
23	68.06-4-10	Richard J Perry Jr & Amy E Leach	95 Fairways Blvd	Williamsville, NY	14221
24	68.06-4-9	Scott M Eberhardt & Amy Jo Eberhardt	103 Fairways Blvd	Williamsville, NY	14221
25	68.06-4-8	John A Cefaratti	111 Fairways Blvd	Williamsville, NY	14221
26	68.06-4-7	Stephen Lacher & Heidi Lacher	119 Fairways Blvd	Williamsville, NY	14221
27	68.06-4-6	Charles D Elardo & Marilyn Elardo	127 Fairways Blvd	Williamsville, NY	14221
28	68.06-4-5	Dianne H Weinert	135 Fairways Blvd	Williamsville, NY	14221
29	68.06-4-4	William F Wopperer & Margaret Wopperer	143 Fairways Blvd	Williamsville, NY	14221
30	68.06-4-3	David K Hopper & Patricia A Hopper	151 Fairways Blvd	Williamsville, NY	14221
31	68.06-4-2	Michael A Bozarth & Valarie Bozarth	159 Fairways Blvd	Williamsville, NY	14221
32	68.06-4-1	Rosario V Triolo & Marion Triolo Life Est	165 Fairways Blvd	Williamsville, NY	14221
33	55.18-5-26	Carmelo A Scaccia & Lynn L Scaccia Trustee	175 Fairways Blvd	Williamsville, NY	14221
34	55.18-5-25	Dean R Haas & Jennifer J Snyder	185 Fairways Blvd	Williamsville, NY	14221
35	55.18-5-24	Raymond F Boehm & Mary K Boehm	191 Fairways Blvd	Williamsville, NY	14221
36	55.18-5-23	Jeffrey J Cutler & Linda A Cutler	199 Fairways Blvd	Williamsville, NY	14221
37	55.18-5-22	Louise M Kowalski	207 Fairways Blvd	Williamsville, NY	14221
38	55.18-5-21	Dennis W Johnson	215 Fairways Blvd	Williamsville, NY	14221
39	55.18-5-20	Gareth A Wylegala	223 Fairways Blvd	Williamsville, NY	14221
40	55.18-5-19	Mark J Dimino	231 Fairways Blvd	Williamsville, NY	14221
41	55.18-5-18	William E Fleming & Christine D Fleming	239 Fairways Blvd	Williamsville, NY	14221
42	55.18-5-17	Jack R Prybylski	247 Fairways Blvd	Williamsville, NY	14221
43	55.18-5-16	Christopher D Canestaro & Leah N Canestaro	255 Fairways Blvd	Williamsville, NY	14221
44	55.18-5-15	Joseph J Migliore Jr	263 Fairways Blvd	Williamsville, NY	14221
45	55.18-5-14	Richard W Nusbaum & Juanita N Nusbaum	271 Fairways Blvd	Williamsville, NY	14221
46	55.18-5-13	Sharon Visciano Fineberg	279 Fairways Blvd	Williamsville, NY	14221
47	55.18-5-12	Margaret A Laciura	287 Fairways Blvd	Williamsville, NY	14221
48	55.18-5-11	Frank J & W Boccio	295 Fairways Blvd	Williamsville, NY	14221
49	55.18-5-10	Samuel A Ministero & Susan C Ministero	303 Fairways Blvd	Williamsville, NY	14221
50	55.18-5-9	Tillman Moore & Linda D Moore	311 Fairways Blvd	Williamsville, NY	14221
51	55.18-5-8	Anatoliy I Gutsu & Alla Gutsu	319 Fairways Blvd	Williamsville, NY	14221
52	55.18-5-7	Katherine L Jablonski	327 Fairways Blvd	Williamsville, NY	14221
53	55.18-5-6	Michael W Dole & Lisa M Dole	325 Fairways Blvd	Williamsville, NY	14221

54	55.18-5-5	Robert H & W Schintzius	70 Lynn Lea St	Williamsville, NY	14221
55	55.18-5-4	Jeanne A Lima & Salvatore Lima	68 Lynn Lea	Williamsville, NY	14221
56	55.18-4-4	Robert A Baiocco & Sharon Baiocco	335 Maple Rd	Williamsville, NY	14221
57	55.18-4-5	James V Sharkey & Madeleine Sharkey	345 Maple Rd	Williamsville, NY	14221
58	55.18-4-6	Edwin Figueroa Jr	355 Maple Rd	Williamsville, NY	14221
59	55.18-4-7	Cheryl Patterson	365 Maple Rd	Williamsville, NY	14221
60	55.18-4-8	Judith M Hyatt	375 Maple Rd	Williamsville, NY	14221
61	55.18-4-11	John P Lane Jr	5820 Main St	Williamsville, NY	14221
62	55.18-4-12	Carol A Duermeyer	405 Maple Rd	Williamsville, NY	14221
63	55.18-4-13	Norman M Durnell III	415 Maple Rd	Williamsville, NY	14221
64	55.18-4-14	Eric H Maier & Hope A Maier	435 Maple Rd	Williamsville, NY	14221
65	55.18-4-15	Robert C Simmons	445 Maple Rd	Williamsville, NY	14221
66	55.18-4-16	Michael J Savio	455 Maple Rd	Williamsville, NY	14221
67	55.04-1-6.1	Town of Amherst	5583 Main St	Williamsville, NY	14221
68	68.07-1-3	Town of Amherst	5583 Main St	Williamsville, NY	14221
69	68.07-1-28	Michael Badach & Sharon Badach	136 Brookedge Dr	Williamsville, NY	14221
70	68.07-1-29	Richard S Tomasello Jr & Kelly C Tomasello	130 Brookedge Dr	Williamsville, NY	14221
71	68.07-1-30	Grace E Jordan	124 Brookedge Dr	Williamsville, NY	14221
72	68.07-1-31	Thomas Donahue & Stacey Donahue	116 Brookedge Dr	Williamsville, NY	14221
73	68.07-1-32	Donald C & W Nuwer	108 Brookedge Dr	Williamsville, NY	14221
74	68.07-6-1	Joanne M Bauer	102 Brookedge Dr	Williamsville, NY	14221
75	68.07-6-2	Sandra A Nasca	96 Brookedge Dr	Williamsville, NY	14221
76	68.07-6-18.1	Maureen T Schmitt	866 N Forest Rd	Williamsville, NY	14221
77	68.07-5-2	Marjorie H Rosteing Trust	817 N Forest Rd	Williamsville, NY	14221
78	68.07-5-1	Independent Housing Opportunity Inc.	2356 North Forest Rd	Getzville, NY	14068
79	68.11-2-1	Patricia I Fillipponi	805 N Forest Rd	Williamsville, NY	14221
80	68.11-1-1	Arcangelo Ligotti	106 Morgan Pkwy	Williamsville, NY	14221
81	68.11-1-16	Larry G Davis & Diana H Davis	761 N Forest Rd	Williamsville, NY	14221
82	68.11-1-15	Joseph W Kausner	11122 Clarence Center Rd	Akron, NY	14001
83	68.11-8-1	Sheridan Forest Associates LLC	9421 Hunting Valley Rd S	Clarence, NY	14031
84	68.10-7-40.1	Robert F Danni & Kathleen A Danni	156 Morningstar Ct	Williamsville, NY	14221
85	68.10-7-39.1	Emmanuel G Skaros & Barbara Skaros	150 Morningstar Ct	Williamsville, NY	14221
86	68.10-7-38.11	Joanne Intorre	144 Morningstar Ct	Williamsville, NY	14221
87	68.10-7-36.1	Paul S Brozyna & Joanne Brozyna	138 Morningstar Ct	Amherst, NY	14221
88	68.10-7-35.1	Russell J Barone & Deborah A Barone	126 Morningstar Ct	Williamsville, NY	14221
89	68.10-7-34	Lena Galletti	114 Morningstar Ct	Williamsville, NY	14221
90	68.10-7-32.1	Salvatore Jtten Baio & Joan Jtten Baio	108 Morningstar Ct	Williamsville, NY	14221
91	68.10-7-31	Amil K Mathur	102 Morningstar Ct	Williamsville, NY	14221
92	68.10-7-5	Diane J Maranto	37 Delamere Rd	Williamsville, NY	14221
93	68.10-7-4	Joanne Sadler	31 Delamere Rd	Williamsville, NY	14221
94	68.10-7-3	Kelly M German	23 Delamere Rd	Williamsville, NY	14221
95	68.10-7-2	Michael T Ernst	15 Delamere Rd	Williamsville, NY	14221
96	68.10-7-1	Patricia Hoss	5 Fenwick Rd	Williamsville, NY	14221
97	68.10-3-15	Stephen Striegel	6 Fenwick Rd	Williamsville, NY	14221
98	68.10-3-14	Warren Fruehauf	4283 Sheridan Dr	Williamsville, NY	14221
99	68.10-3-13	Douglas A & Jttenw/Ros Noll & Debra A Jttenw/Ros Gordon	4281 Sheridan Dr	Williamsville, NY	14221
100	68.10-3-12	Salvatrice Pace	4251 Sheridan Dr	Williamsville, NY	14221
101	68.10-3-11	Michael Debany & Merri Lee H/W Debany	4243 Sheridan Dr	Williamsville, NY	14221
102	68.10-3-10	James A Depew	4237 Sheridan Dr	Williamsville, NY	14221
103	68.10-3-9	Joseph F Griffiths & Sharon Griffiths	4233 Sheridan Dr	Williamsville, NY	14221
104	68.10-3-8	Sheri Lynn Leiser	4225 Sheridan Dr	Williamsville, NY	14221

Appendix C- Site Location Map



Source: <https://www.google.com/maps/@42.9852812,-78.7919199,14z>

Appendix D– Brownfield Cleanup Program Process

