DRAFT REMEDIAL INVESTIGATION - INTERIM REMEDIAL MEASURES – ALTERNATIVE ANALYSIS REPORT

BROWNFIELD CLEANUP PROGRAM
For
1550 HARLEM ROAD SITE
1550 Harlem Road, Cheektowaga, NY 14206
BCP # C915321

Prepared For:
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WGS Project Number 18-102

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1.0 INTRODUCTION

This Remedial Investigation (RI), Interim Remedial Measures (IRM) Alternative Analysis (AA) Report for the 1550 Harlem Road Site, located at 1550 Harlem Road in the Town of Cheektowaga, Erie County, New York (Site) has been prepared on behalf of American Tire, Inc. Site location is included on Figures 1 and 2.

A Brownfield Cleanup Agreement (BCA) was executed on October 5, 2017 for the Site, identified as Site No. C915321 with New York State Department of Environmental Conservation (NYSDEC), under the Brownfield Cleanup Program (BCP). Wittman GeoSciences, PLLC (WGS) and Hazard Evaluations, Inc. (HEI) completed RI activities, as well as IRM activities in accordance with an RI/IRM Work Plan, which was approved by NYSDEC on February 14, 2018. RI and IRM work was done concurrently, with additional investigation or IRM work completed, as needed.

1.1 Purpose and Scope

The purpose of the RI/IRM work was to:

- Define the nature and extent of on-Site contamination in both soil and groundwater.
- Identify on-Site source areas of contamination.
- Collect data of sufficient quantity and quality to evaluate potential threats to the public health and environment.
- Collect data of sufficient quantity and quality to evaluate remedial alternatives.
- Complete IRM activities to mitigate risks at the Site associated with the fill/soil as well as potential underground storage tanks (USTs). The completed IRM activities included UST removal, excavation and off-site disposal of impacted fill/soil in the vicinity of the UST and limited areas under existing building and parking lot areas.

1.2 Site Background

The site is addressed as 1550 Harlem Road in the Village of Sloan, Town of Cheektowaga, in Erie County, New York and consists of two parcels totaling approximately 0.43 acres of land. The site is bound to the east by Harlem Road, to the west by Gratton Street and residential properties, to the north by a commercial use (Romar Industrial Plaza) and to the south by commercial uses (H&V Sales). The property is located within an urban area, utilized for commercial and residential purposes.

The 1550 Harlem Road Site was most recently improved with one approximate 4,075 square foot one-story building located on the southern and central portion of the site. Historic features associated with a former greenhouse and outdoor nursery structures are located in the western and northern portion of the site, as well as paved parking areas in the eastern areas. The building, as well as former nursery structures and surface debris, were removed from the site in March 2018. The site is currently vacant land.

The site was originally developed as a gasoline station in the late 1950s or early 1960s and continued to be used as a gas station until the 1970s. The site then remained vacant for a period of several years before being converted into a nursery/garden center in the early to mid-1980s. The site continued to be operated as a nursery/garden center until early 2014 and has been vacant since that time.

1.3 Summary of Environmental Conditions

Prior uses that appear to have led to site contamination include the former gasoline station usage, as well as storage of various pesticide/herbicides during usage as a nursery/garden center. Prior remedial measures have not been completed at the site. Hazard Evaluations Inc. completed a limited test pit investigation in January 2015. During the test pits, one approximate 8,000-gallon underground storage tank was identified. Petroleum impacted soil was present near the tank, as well as in former pipe island locations. Non-aqueous phase liquid (NAPL) or product, was identified near the tank as well as within the pump islands. The presence of contamination resulted in NYSDEC Spill #1410324 being assigned to the site.

Hazard Evaluations completed a second limited investigation in March 2017. The work included completion of two hand augers and eight soil borings and collection of soil and groundwater samples. Based on the investigation completed in January 2015 and March 2017, the primary contaminants of concern in the soil include volatile organic compounds (VOCs) associated with gasoline contamination, including benzene and xylenes. The contamination at the site is primarily due to leakage from the current, UST on site, as well as the former pump islands. VOCs were encountered in the soil samples collected from these areas exceeding restricted residential use soil cleanup objectives (RRUSCO).

1.4 Site Conditions

Based on the soil borings and test pits completed, approximately 2 to 5 feet of granular and cohesive fill material is present throughout the site. The fill material extended to generally between 3 to 5 feet below grade. Silty clay was encountered below the fill material at each of the soil boring and test pit locations, and extended the full depth drilled. Temporary groundwater wells were installed at two locations. Groundwater was present at each well at a depth of approximately 4 to 8 feet below ground surface.

The site is generally flat, with the surface covered by buildings, and gravel surface areas in the northern portion, and limited asphalt areas to the east. The western portion is vacant land covered with grass/overgrown vegetation. Based on a review of the site topographic conditions as depicted on the USGS 7.5 minute Topographic Quadrangle Map of Buffalo NE, New York, shallow localized groundwater flow is expected to flow in a southerly direction toward Cayuga Creek located approximately 0.75 miles south; however regional groundwater flow is expected to flow westerly toward Lake Erie, located approximately 5.5 miles west of the Site..

The site does not have state or federal wetlands within property limits, nor is the site located within a flood plain. Figure 3, obtained from the Erie County GIS On-line Mapping System, depicts nearby wetlands and/or floodplains.

The site is currently serviced by municipal utilities, including potable water, sanitary and storm sewers from the Town of Cheektowaga/Erie County, natural gas and electric. There are no known groundwater supply wells on-site and the surrounding area is serviced with potable water.

1.5 Constituents of Primary Concern (COPCs)

Based on initial investigation information, the COPCs were identified as petroleum related

volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) The RI work focused on these COPCs, as well as evaluation for metals, pesticides and herbicides based on the historical use at the Site. The IRM approach focused on the USTs areas, and limited areas of concern identified during the RI work.

2.0 INVESTIGATION APPROACH

2.1 Introduction

The RI scope of work included investigation for potential Site contaminants in the soil/fill and groundwater at the Site. The RI was completed throughout the Site to identify and delineate areas that require remediation associated with the IRM. RI work included soil boring locations, installation of monitoring wells, collection of soil and groundwater samples. Field work was done in general accordance with the protocols in the approved RI-IRM Work Plan. As IRM work was done concurrently with RI work as well as Site building demolition work. Additional samples and areas of concern were identified and addressed immediately, resulting in deviations from proposed RI/IRM activities, which are described in the following sections.

2.2 Soil/Fill Investigation

Soil/fill investigation was completed throughout the subject Site. Field activities included completion of soil borings, and collection of samples from construction trenches within the building area. Sampling locations are included on Figure 3.

2.2.1 Surface Soil Investigation

Surface soil samples were collected from six unpaved locations, as shown on Figure 3. No areas of visual staining were observed during surface soil sampling. A stainless steel trowel was used to collect each surface soil sample. At each location, the top loose gravel and/or overlying topsoil was removed prior to sample collection. Samples were collected and placed into a stainless steel bowl and initially screened for total organic vapors with a calibrated organic vapor meter equipped with a photoionization detector (PID). No visual or olfactory evidence of impacts was identified. A VOC sample was immediately collected and placed into laboratory supplied jars. The surface soil was coned and quartered to collect representative samples. The soil/fill material was placed in laboratory supplied jars for laboratory analysis, as shown on Table 1.

2.2.2 Soil/Fill Investigation

A soil boring program was implemented to characterize the subsurface soil fill and groundwater at the Site. The soil boring program included completion of ten on-site soil borings, of which four were constructed into monitoring wells, as well as two soil borings on the eastern adjoining property. The soil boring and monitoring well locations are included in Figure 3. The soil boring locations were adjusted in the field as needed, based on Site conditions and accessibility.

Each soil boring was completed with a drill rig capable of advancing a borehole using direct push method via a Geoprobe drill rig. The drill rig advanced the 1.5-inch diameter, 4-foot long core sample liner to the desired depth to retrieve soil core samples at four foot intervals.

Five on-site soil boring locations were completed to a depth of approximately 12 feet below grade. Three soil borings were completed to a depth of 16 feet below grade and one location (SB103) was completed to a depth of 20 feet to assess if the native clay extends to greater depths. Two off-site locations, identified as SB106 and SB107 were completed

on the eastern adjoining property, and extended to a depth of approximately 12 feet below grade. At the request of NYSDEC, two off-site soil boring locations were completed on the eastern adjoining property or the Harlem Road right-of-way, identified as SB106 and SB107.

Upon retrieval of each core, the soil/fill was initially screened for total organic vapors with a calibrated organic vapor meter equipped with a photoionization detector (PID). Organic vapor meter results and soil descriptions are recorded on the field soil boring logs presented in Appendix A, and briefly discussed below:

- SB101 – PID readings ranging from 5 to 25 part per million (ppm) from depths of 0.5 to 4 feet below grade;
- SB102, SB103, SB105, MW102, MW103, MW104 – No PID readings were identified above background level;
- SB104 – PID readings ranging from 10 to 670 ppm, from depths of approximately 2 to 4.5 feet below grade;
- MW101 – PID readings ranging from 5 to 290 ppm, from depths of approximately 6 to 10 feet below grade;

Off-site Locations:

- SB106 – PID readings ranging from 6 to 620 ppm from depths of 0.5 to 8 feet below grade;
- SB107 – PID readings ranging from 10 to 600 ppm from depths of 0.5 to 6 feet below grade.

Soil samples were selected for analytical analysis based in field screening results, as well as visual and olfactory observations. Samples were selected from the depth that displayed evidence of contamination (i.e., highest PID reading, visual/olfactory evidence of odors, staining, or product), if any. If there was no evidence of impact across the soil boring, the native soils directly below the fill/native interface were selected for analysis.

2.2.3 Soil/Fill Sample Analysis

Subsurface soil samples were collected using a 1.5-inch diameter, 4-foot core sampling with a dedicated acetate liner. All non-dedicated, downhole sampling equipment was decontaminated between soil boring locations. Selected samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4^0C in the field and collected for transportation under chain-of-custody to Alpha Laboratories, a New York State Department of Health (NYSDOH) certified analytical laboratory. A summary of samples selected for laboratory analysis as part of the RI/IRM work are included on Table 1.

For the RI work, up to eight surface or subsurface soil samples were selected for analysis for the following:

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

Additionally, four samples were selected and analyzed for polychlorinated bi-phenyls

(PCBs), and ten samples were analyzed for pesticides and herbicides.

2.3 Groundwater Investigation

The RI work included installation of four monitoring wells locations identified as MW101, MW102, MW103, and MW104, as shown on Figure 3.

2.3.1 Monitoring Well Installation

Three of the monitoring well locations were completed to a depth of approximately 16 feet below grade (MW102, MW103 and MW104), and the monitoring wells was completed to a depth of 12 feet below grade. At each of the monitoring well locations, the soil borings were advanced using a direct-push drill rig capable of advancing hollow-stem augers for installing 2-inch monitoring wells. All non-dedicated drilling tools and equipment were decontaminated between boring locations using potable tap water and alconox wash.

After completion of the soil borings, a 2-inch diameter, schedule 40 PVC monitoring well was installed at each location. An approximate 10 foot length of 0.010-inch machine slotted well screen was installed at each location attached to the riser. The well screen depth was backfilled with silica sand filter pack (estimated at size #0) from the base to approximately 2 feet above the well screen. A bentonite seal was placed above the sand and hydrated to limit potential for down-hole contamination. The top of the well riser was flush with the ground surface and completed with a locking J-plug. Each of the four monitoring wells were finished with a locking steel casing. Monitoring well completion logs are included in Appendix B.

2.3.2 Groundwater Sample Collection

After a minimum of 24-hours from installation, the monitoring wells were developed to remove residual sediments using dedicated disposable polyethylene bailers via purge methodology. Field parameters, including pH, temperature, turbidity, and specific conductance were measured periodically until they become relatively stable (approximately 10% fluctuation or less). A minimum of three well volumes were removed from each monitoring well. Well development field records are included in Appendix B.

Prior to sample collection, static groundwater levels were measured at each of the monitoring wells. Groundwater depths and relative elevations are included on Table 2. The wells were purged and field measurements of pH, specific conductivity, temperature and turbidity were recorded and monitored for stabilization prior to sampling. Purging was considered complete when pH, specific conductivity, and temperature stabilized. Groundwater samples were collected using low flow sampling techniques. Monitoring MW-5 was destroyed by construction activity and therefore was not sampled.

2.3.3 Groundwater Sample Analysis

Groundwater samples collected from on-Site monitoring wells were analyzed for the following parameters.

- Target Compound List (TCL) VOCs
- TCL semi-volatile organic compounds (SVOCs)
- Target Analyte List (TAL) metals (total)

- Polychlorinated bi-phenyls (PCBs)
- Pesticides
- Herbicides

Groundwater samples were placed in pre-cleaned laboratory-provided sample bottles, labeled and preserved in accordance with USEPA SW-846 methodology, and transported under chain-of-custody to Alpha Analytical, a NYSDOH ELAP certified analytical laboratory.

2.4 Field Specific Quality Assurance/Quality Control Sampling

Field-specific quality assurance/quality control samples were collected and analyzed, to support third-party data usability assessment effort. Site-specific QA/QC samples included duplicate, matrix spike/matrix spike duplicate, rinsate blank, and trip blank (VOCs only).

2.5 Investigation- Derived Waste Management

During the completion of soil borings and monitoring wells, the excess soil cuttings were containerized in 55-gallon drums. Based on analytical testing results, the excess soil was disposed off-site with IRM soil excavation activities. Development/purge water generated during well development and/or sampling activities were containerized in 55-gallon drums. The development water was disposed off-site by Environmental Service Group.

2.6 Site Mapping

Figure 2 shows the relative features of the Site, including property boundaries. The western site building was demolished by previous owner. Additionally, the main site building was partially demolished in February 2018, in order to complete IRM activities, and the remaining portions of the building damaged and required demolition in March 2018. Figures 3 through 7 show soil boring locations, monitoring well locations, IRM locations and limits. Various sample locations were field located based on measurements from known features. Monitoring well relative elevations were measured by HEI. An isopotential map showing the general direction of groundwater flow was prepared based on water levels measures and included as Figures 4a and 4c.

3.0 SITE PHYSICAL CHARACTERISTICS

The RI work included completion of soil and groundwater data, identifying the following physical characteristics for the Site.

3.1 Site Topography and Surface Features

The Site includes two parcels totaling approximately 0.43 acres of land. The site was formerly occupied by commercial building, greenhouse and outdoor nursery structures. The greenhouse and nursery structures were demolished prior to entrance into the BCP. The site surface features include gravel surface areas, with a small interior concrete pad. Much of the former building interior was also dirt/gravel floor. The site topography is relatively flat, with slight slope downward to east, toward Harlem Road.

3.2 Geology and Hydrogeology

Based on observations from the soil borings completed during the RI work, subsurface conditions generally included approximately 3 to 4 feet of granular and cohesive fill material overlying native silty clay which extended the full depth drilled to 20 feet.

Monitoring well locations MW-101 to 104 were installed and initially measured in February 2018 and again in July 2018. Table 2 presents the relative groundwater elevation data. Groundwater depth was generally encountered 4 to 6 feet below grade in February and 6 to 8 feet in July. Figure 4a and 4b present the estimated groundwater flow direction, which generally appeared to be a westerly to northwesterly direction.

4.0 REMEDIAL INVESTIGATION RESULTS BY MEDIA

The following section discuss the analytical results generated from the RI. Table 3 summarizes the RI surface soil sampling results and Table 4 summarized the RI subsurface soil sample results compared to Unrestricted Use Soil Cleanup Objectives (UUSCO) as well as Restricted Residential Use Soil Cleanup Objectives (RRSCO). Table 5 presents the groundwater sample results compared to Class GA Groundwater Criteria per NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1988). The analytical laboratory reports are included in Appendix D.

4.1 Surface Soil Investigation

Up to six surface soil samples were collected as part of the RI and compared to the UUSCO and RRUSCO, as shown on Table 3. The Site future usage is intended to be used for restricted residential purposes.

4.1.1 Volatile Organic Compounds

Three surface soil samples were analyzed for VOCs from representative soil borings. The VOCs were reported as non-detect or at concentrations below the unrestricted use soil cleanup objectives (UUSCO). All detected VOCs were at concentrations below their respective RRUSCO. Soil results are presented on Table 3.

4.1.2 Semi-Volatile Organic Compounds

Three surface soil samples were analyzed for SVOCs. As shown on Table 3, up to 17 SVOCs were detected above method detection limit, but below their respective UUSCO. However, SVOCs were detected at concentrations above RRUSCO at one surface soil location.

- SS-102 (4-6") identified 19 polycyclic aromatic hydrocarbon (PAHs), but below their respective UUSCO, with the exception of two compounds, benzo(b)fluoranthene and ideno(1,2,3-cd)pyrene, which were detected at concentrations above their respective RRUSCO.

Surface soil sample SS-102 was targeted during IRM activities.

4.1.3 Metals

Three surface soil samples were selected for TAL Metals analysis. As shown on Table 3, the majority of metals were at concentrations below their respective UUSCO. However, the following compounds were detected above UUSCO

- SS-102 (4-6") identified chromium and zinc exceeding their respective UUSCO, but below the RRUSCO. Additionally, manganese was detected at a concentration of 2,180 ppm which exceeds the RRUSCO of 2,000 ppm.
- SS103 (6-8") identified lead and mercury at concentrations exceeding their respective UUSCO, but below the RRUSCO.
- SS105 (6-8") identified lead and zinc at concentrations exceeding their respecived UUSCO, but below the RRUSCO.

Surface soil sample location SB102 was targeted during IRM activities.

4.1.4 PCBs

Two surface soil samples were selected for PCB analysis. Analytical results identified PCBs in the two samples at concentrations above method detection limits, but below UUSCO.

4.1.5 Pesticides/Herbicides

Five soil/fill samples were selected for pesticide and herbicide analysis. As shown on Table 3, up to ten pesticides or herbicides were detected in the five samples at concentrations above method detection limits. Three compounds, including 4,4'-DDE, 4,4'DDD and 4,4'-DDT were detected at concentrations above UUSCO, but below their respective RRUSCO.

4.2 Soil/Fill

Table 4 presents the results of soil/fill sample analysis collected as part of the RI compared to the UUSCO and RRUSCO. The Site future usage is intended to be used for restricted residential purposes.

4.2.1 Volatile Organic Compounds

Five on-site soil/fill samples were analyzed for VOCs from representative soil borings. The majority of VOCs were reported as non-detect or at concentrations below the UUSCO. However, one sample, SB104 (2-4'), identified benzene at a concentration of 5.8 ppm, which exceeds its respective RRUSCO of 4.8 ppm. SB104 area was targeted during IRM activities.

Off-Site Soil Samples - At the request of NYSDEC, an off-site soil sample was collected within the eastern Harlem Road right-of-way property, presumably owned by the State of New York, and extending 38 feet east of the site limits. Two soil borings, identified as SB106 and SB107 were completed within the right-of-way, in an area of a former pump island. A soil sample was analyzed from SB106 (1-4'). Benzene and m/p xylene were detected at concentrations above their respective RRUSCO, but below the Commercial Use Soil Cleanup Objectives (CUSCO).

4.2.2 Semi-Volatile Organic Compounds

Five soil/fill samples were analyzed for SVOCs from representative soil boring locations. As shown on Table 4, the majority of SVOCs were non-detect or at concentrations below their respective UUSCO. No on-site sample results exceeded UUSCO.

Off-Site Soil Samples - At the request of NYSDEC, an off-site soil sample was collected within the eastern Harlem Road right-of-way property, presumably owned by the State of New York, and extending 38 feet east of the site limits. Two soil borings, identified as SB106 and SB107 were completed within the right-of-way, in an area of a former pump island. One soil sample was analyzed from off-site location SB106 (1-4'). Several SVOCs were detected, but at concentrations below their respective RRUSCO.

4.2.3 Metals

Five subsurface soil/fill samples were selected for TAL Metals analysis. As shown on Table 4, the majority of metals were at concentrations below their respective UUSCO or

the RRUSCO. However, several metals were detected in soil samples, as listed below.

- SB103 (0-4') had lead present at a concentration of 528 ppm, which exceeded the RRUSCO of 400 ppm.
- SB104 (0.5-2') sample detected manganese at a concentration of 8180 ppm, which exceeded the RRUSCO of 2,000 ppm.
- SB108 (0-4') sample detected manganese at a concentration of 2410 ppm, which exceeded the RRUSCO of 2,000 ppm.

Soil boring locations SB103, SB104, and SB108 were targeted during IRM activities.

Off-Site Soil Samples - At the request of NYSDEC, an off-site soil sample was collected within the eastern Harlem Road right-of-way property, presumably owned by the State of New York, and extending 38 feet east of the site limits. Two soil borings, identified as SB106 and SB107 were completed within the right-of-way, in an area of a former pump island. One soil sample was analyzed from off-site location SB106 (1-4'). Several metals were detected above method detection limits, but at concentrations below their respective RRUSCO.

4.2.4 PCBs

Three subsurface soil/fill samples were analyzed for polychlorinated biphenyls (PCBs). As shown on Table 4, PCBs were not detected above method detection limits.

4.2.5 Pesticides/Herbicides

Four subsurface soil/fill samples were selected for pesticide and herbicide analysis. As shown on Table 4, no pesticides or herbicides were detected at concentrations exceeding their respective RRUSCO.

4.3 Groundwater

Table 5 presents the results of detected groundwater parameters to the Class GA Groundwater Criteria per NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998).

4.3.1 Volatile Organic Compounds

Four (4) groundwater samples were analyzed for VOCs. The majority of VOCs were reported as non-detect or at concentrations below their respective Class GA Criteria. However, ethylbenzene was detected at an estimated concentration of 160 ppb which exceeds its respective Class GA Criteria of 5 ppb at location MW-101, located immediately west of the former UST area.

4.3.2 Semi-Volatile Organic Compounds

No SVOCs were detected above Class GA Criteria in the groundwater samples from MW101, MW102 or MW104. However, three SVOCs were detected in the sample from MW103, including bis(2-ethylexly)phthalate, benzo(a)anthracene, and benzo(b)fluoranthene at concentrations exceeding Class GA Criteria.

4.3.3 Metals

Total metals detected at concentration exceeding Class GA Criteria included naturally occurring metals iron, magnesium, manganese and sodium. Dissolved metals analysis also identified naturally occurring metals magnesium, manganese and sodium.

4.3.4 PCBs

PCBs were non-detect above method detection limits in the groundwater samples collected for analysis.

4.3.5 Pesticide/Herbicide

No pesticides were detected at concentration exceeding Class GA Criteria.

4.3.6 Emergent Contaminant Sampling

At the request of NYSDEC, three groundwater wells were selected for analysis of emergent contaminant sampling including 1,4 dioxane and per/polyfluoroalkyl substances (PFAS). Sample locations selected for sample analysis were MW101, MW103, and MW104. Analytical testing results did not identify 1,4-dioxane above method detection limits. Several PFAS were detected above method detection limits, including 13 compounds from MW101; 11 compounds from MW103, and nine compounds from MW104. Analytical results are present on Table 6.

5.0 INTERIM REMEDIAL MEASURES

Analytical results from the initial testing results and RI work identified minor areas of concern, low level of VOCs, SVOCs and metals within three sampling locations, including two win the building. Additionally, historical records identified one 8,000-gallon UST in the northern portion of the site, and previous investigations identified petroleum impacts near the UST. The contaminants of concern were identified at concentrations greater than Site cleanup goals of RRUSCO. The IRM was completed to immediately address known environmental impacts. In general, approach for the implementation of the IRM included:

- Demolition of exiting building, necessary to trace form UST system piping and address impacted soil present at location SB104 and SB108;
- Removal of the 8,000-gallon UST and 5,000-gallon UST
- Excavation and off-site disposal of impacted soil associated with gasoline UST and former on-site former pipe island areas;
- Removal and off-site disposal of impacted soil/fill within RI areas of concern;
- Post-excavation field screening/sampling to assure impacted area has been addressed;
- Backfill/material placement as needed

5.1 Materials Removal

The interior of the building was utilized by a nursery and included storage or retail gardening supplies. The applicant removed various gardening supplies prior to start of RI/IM work. Additionally, an asbestos survey was completed within the building in November 2017. No asbestos containing materials were identified in the survey.

5.2 UST Removal Activities

Historical records identified one 8,000-gallon UST in the northern portion of the site. Additionally, previous studies uncovered the UST as well as petroleum impacted soil in the immediate area. The UST was initially exposed, and a second 5,000-gallon UST was identified immediately adjacent to the east, and bordering the eastern property limit. Upon removal of soil, the excavation was filled with perched water, present within the tank backfill material. Both USTs, as well as the present groundwater, were pumped of all liquids. The two tanks were removed from the ground and cleaned by Trec Environmental, Inc. (TREC). Approximately 14,245 gallons of non-hazardous petroleum impacted water was generated from pumping from the tank, excavation, and cleaning water generated during UST cleaning done on February 26 and 27, 2018. The petroleum impacted water was transported by Sun Environmental to Industrial Oil Tank Services in Oriskany Falls, New York. Trec issued a tank certification, and the two tanks were transported to Metalico Scrap in Buffalo, New York for recycling.

Impacted soil was present in the vicinity of the USTs, which was excavated and transported for disposal off-site at Town of Tonawanda Landfill located in Tonawanda, New York. The excavation was expanded in each direction in order to remove accessible impacted soil, identified as Excavation B in the northern portion of the site as shown on Figure 5. The excavation extended to depths of approximately 12 feet below grade in the northern portion and under the former UST areas, and to depths of approximately five feet below grade in the southern portion of the excavation. Excavation limits were determined using PID readings, olfactory and visual observations.

Following excavation efforts, one bottom sample was collected under each UST area and a third collected from the southern portion of the excavation. Additionally, seven sidewalls samples were collected for confirmatory analysis. Each sample was analyzed for VOCs and SVOCs. Additionally, three soil samples were selected for metals, PCBs and pesticide/herbicide analysis. Sample results are included on Table 5 and locations included on Figure 5. No compounds were detected at concentrations exceeding their respective RRUSCO.

Initial investigations also identified impacted soil in former pump island areas. A second excavation, identified as Excavation C, was completed to remove impacted soil near former pump island areas. The excavation was extended to depth ranging from approximately four to five feet below grade. During excavation work, two pipes were encountered in the excavation. The pipes extended under the northern portion of the building. In order to remove the pipes, a portion of the building was demolished. The pipes were chased and ended on the west side of the building. No visual or olfactory evidence of impacts were identified under the pipe area.

Following completion of Excavation C, one bottom and six sidewall samples were collected for confirmatory analysis. Each sample was analyzed for VOCs and SVOCs. Additionally, three soil samples were selected for metals, PCBs and pesticide/herbicide analysis. Sample results are included on Table 7 and locations included on Figure 5. No compounds were detected at concentrations exceeding their respective RRUSCO

A total of approximately 415 cubic yard (cy) or 621 tons of soil was removed from the two excavations. The non-hazardous petroleum impacted soil was transported Waste Management facility in Chaffee, NY, associated with the UST removal. The excavations were backfilled with approximately 633 tons of pre-approved crushed concrete from Swift River facility. Upon completion of the UST and soil excavation activities, the debris from the partial building demolition was removed and disposed by owner's contractor. Additionally, the remaining portion of the building, along with additional surface debris present on-site were removed and disposed off-site.

5.3 Additional IRM Activities

During RI work, one surface soil sample (SS102) identified SVOCs and metals at concentrations exceeding RRUSCO. Additionally, three soil boring locations including SB103, SB104 and SB108 which identified VOCs or metals exceeding their respective RRUSCO. Additional IRM activities were completed to remove the limited areas with soils exceeding RRUSCO.

- SS-102 – Benzo(a)fluoranthene and indeno(1,2,3-cd)pyrene were detected at concentrations of 1 ppm and 0.53 ppm, respectively, which exceeded their respective RRUSCO. Additionally, manganese was detected at a concentration of 2,180 ppm, which exceeded its RRUSCO of 2,000 ppm. The top 1 to 1.2 foot of an approximate 10 foot by 10 foot area was removed from the area around SS-102, as shown as SS102 Excavation on Figure 5. Two confirmatory soil samples were identified as SS102A and SS102B. Analytical testing results did not identify SVOCs or metals above RRUSCO, as shown on Table 7.

- SB103 – Lead was detected at a concentration of 528 ppm, which exceeded the RRUSCO of 400 ppm. An approximate 10 foot by 10 foot by 3 feet deep excavation was completed around SB-103. Four sidewall and one bottom samples were collected, identified as SB103A, SB103B, SB103C, SB104D, and SB103 Bottom, and shown on Figure 5 as SB103 Excavation. The sidewall and bottom samples were analyzed for metals. Analytical results did not identify metals at concentrations exceeding RRUSCO, as shown on Table 7.

- SB-104 and SB-108 – Benzene was detected at a concentration of 5.8 ppm in the sample from SB104 (2-4'), which exceeded the RRUSCO of 4.8 ppm. Manganese was detected in both SB104 (0-2') and SB108 (0-4') at concentration of 8,180 ppm and 2,410 ppm, exceeding the RRUSCO of 2,000 ppm. Excavation SB104 & SB108 included both soil boring areas and was approximately 12 feet by 28 feet by 3 feet deep, as shown on Figure 5. Four sidewall and one bottom samples were collected, identified as SB104A, SB104B, SB104C, SB104D, and SB104 Bottom. The sidewall and bottom samples were analyzed for VOCs and metals. Analytical results did not identify SVOCs or metals at concentrations exceeding RRUSCO, as presented on Table 7.

A total of approximately 63 cy or 94 tons of soil was removed from the three small excavation areas, identified as SS102 Excavation, SB103 Excavation, and SB104 & SB108 Excavation, as shown on Figure 5. The non-hazardous petroleum impacted soil was transported Waste Management facility in Chaffee, NY, associated with the UST removal. The excavations were backfilled with approximately 87 tons of pre-approved crushed concrete from Swift River facility.

5.4 Data Usability Summary

The analytical data from the investigation soil and groundwater samples as well as IRM activities were submitted for independent review. Data Validation Services, Inc., located in North Creek, New York, completed the data usability summary report (DUSR).

The DUSR is included in Appendix E and prepared using guidance from the USEPA Region 2 Validation Standard Operating Procedures, USEPA National Functional Guidelines for Data Review, and professional judgement. Several rounds of samples were collected as part of RI as well as IRM work, as discussed in following sections.

Ten soil samples, two soil field duplicates, four aqueous sample and one aqueous field duplicate were processed for analytical testing. In general, the samples were noted to be either usable or with minor qualifications. However, the following items were noted.

- 1,4-dioxane results are rejected in the soil samples.
- The d-BHC result is rejected in one sample due to an apparent matrix effect.
- Accuracy, precision, data completeness, representativeness, reproducibility, sensitivity and comparability are acceptable.
- Duplicate correlations fall within validation guidelines, with the exception of aluminum and bis(2-ethylhexyl)phthalate in MW-103, which have been qualified as estimated.

A second validation report included 12 soil samples, three aqueous samples and field duplicates processed for analytical testing. In general, the samples were noted to be either usable or with minor qualifications. However, the following items were noted.

- 1,4-dioxane results are rejected in the soil samples due to limitations of the methodology.
- 2,4-dinitrophenol result in one sample is rejected due to an apparent matrix effect
- Accuracy, precision, data completeness, representativeness, reproducibility, sensitivity and comparability are acceptable
- Duplicate correlations fall within validation guidelines, with the exception of acetone in SB104A, the results for which are qualified as estimated in the parent sample and duplicate.

5.5 Summary of IRM Activities

Various IRM activities were completed during the work at the Site, to achieve RRUSCO for remaining on-Site materials. Work generally included UST removal and excavation surrounding USTs, as well as within former pump island area. Limited excavation were also completed in areas identified during RI work. A total of 715 tons of non-hazardous petroleum impacted soil was disposed at Town of Tonawanda Landfill in Tonawanda, New York.

6.0 CONTAMINANT OF CONCERN FATE AND TRANSPORT

Various contaminants of concern (COC) were identified during the RI Work. IRM work included removal of two USTs and petroleum impacted soil around the USTs, former pump island area, and limited areas identified during RI work. Confirmatory soil sample analysis confirmed that sample analysis did not identify compounds at concentrations exceeding RRUSCO. The section provides an evaluation of the fate and transport of remaining COCs on the Site, including potential routes for migration, contaminant persistence and contaminant migration patterns.

6.1 Potential Pathways of Migration

Potential pathways of migration for the COC identified for the Site include:

- Fugitive dust generation
- Volatilization
- Surface water runoff
- Leaching from the soil into the groundwater
- Groundwater migration

The Site consists of two parcels. During IRM activities, the site building and various surface debris was removed, leaving the site vacant land. The former UST and pump island areas on the site have been undergone extensive IRM activities, which included removal of USTs and petroleum impacted soils, leaving the native silty clay materials. Additionally, confirmatory soil sample testing results after the IRM work did not identify contaminants at concentrations above RRUSCO. In most cases, the remaining contaminants, if any, were below the unrestricted use soil cleanup objectives (UUSCO).

Fill materials and soils surrounding the USTs, as well as the former pump island areas and limited areas identified during the RI work, were removed during IRM activities. During IRM activities, the removed soil was disposed off-site at Town of Tonawanda Landfill in Tonawanda, New York. Fugitive dust generation during intrusive activities associated with future redevelopment such as building foundation, site grading and utility line installation is considered a relevant potential short term migration pathway. Dust migration measures will be employed during future redevelopment activities. Additionally upon completion of proposed Site construction activities, the Site would be covered by new building concrete floor/foundation and paved parking areas, which prevent human exposure or contact to materials remaining in place.

VOCs, SVOCs, metals, PCBs and pesticides/herbicides were not identified in the soil samples at the Site at concentrations above RRUSCO. The Site post-construction work will include foundation, building, and parking lot, which will be constructed in areas of soil impacts below RRSCO.

Groundwater appeared to be a limited perched condition within the fill material, as native silty clays were present throughout the site. One compound, ethylbenzene, was detected in MW101 at a concentration exceeding Class GA Criteria. MW101 was located on the west side of the former UST area. The source of the ethylbenzene was likely the former USTs and petroleum impacted soil, which have since been removed. Additionally, limited SVOCs and metals was present in the groundwater samples. The Site and surrounding area are serviced by municipal

water systems and potable supply wells are not present in proximity of the Site. As such, groundwater does not present a pathway for receptors.

6.2 Exposure Pathways

The most likely exposure pathways through which COCs at the Site could result in exposure include fugitive dust emissions from when fill soil with impacts above UUSCO, but below RUSCO is disturbed. To a lesser extent, leaching of limited petroleum related VOCs and migration via groundwater transport.

An Environmental Easement will likely be implemented to restrict groundwater use as a potable source, and the development and implementation of a SMP that will outline procedures for handling material that is impacted with COCs at concentrations above UUSCO, but below RRUSCO, or unanticipated contaminants that may be encountered during future construction activities.

7.0 QUALITATIVE RISK ASSESSMENT

Various contaminants of concern (COC) were identified during the RI Work. IRM work included removal of USTs and excavation of petroleum impacted soil in areas around the USTs, former pump islands, and limited areas identified during RI work. Confirmatory soil sample analysis did not identify compounds at concentrations exceeding RRUSCO. The section provides an evaluation of the fate and transport of remaining COCs on the Site, including potential routes for migration, contaminant persistence and contaminant migration patterns.

7.1 Qualitative Human Health Exposure Assessment

A human health exposure assessment was completed for current and reasonably anticipated future use of the Site in accordance with Appendix 3B in NYSDEC DER-10. The assessment includes five elements associated with exposure pathways including contaminant source, contaminant release and transport mechanism, potential exposure points, routes of exposure, and receptor populations.

7.1.2 Contaminant Source

Contaminant source is defined as any waste disposal area or point of discharge, or contaminated environmental medium, such as soil, indoor or outdoor air, or water. Due to completed IRM activities, petroleum impacted soils have been removed and disposed off-site at a designated landfill facility. COCs remaining at the Site are below the RRUSCO; however, concentrations of limited VOCs and metals are present at concentrations above the UUSCO.

Groundwater sample from MW101s identified elevated concentration of ethylbenzene. Low level SVOCs (specifically PAHs) and metals were also present in the groundwater samples. However, due to the IRM activities and removal of fill material from the Site, these concentrations are expected to decrease over time.

Soil vapor under the building slab was identified to have VOC impacts in limited areas. VOCs were not identified in soil or groundwater samples at concentrations exceeding NYSDEC guidance values.

7.1.2 Contaminant Release and Transport Mechanism

Due to extensive IRM activities, only limited soil impacts remain on-Site, which include limited VOCs, SVOCs (specifically PAHs), PCBs and metals that are above UUSCO concentrations, but below RRUSCO. Contaminant release and transport mechanisms are specific to the type of contaminant as well as Site use.

Remaining COCs release mechanisms are generally limited to fugitive dust migration associated with site development, including new building construction, site grading, and utility construction activities.

Groundwater sample from MW101s identified elevated concentration of ethylbenzene. Low level SVOCs (specifically PAHs) and metals were also present in the groundwater samples. The Site area, Town of Cheektowaga and Village of Sloan are serviced by

municipal water. Use of groundwater at the Site is not permitted by the Environmental Easement. The proposed development plan includes construction of a new building and parking lot area. The proposed design for building construction, parking lots with the stormwater collection system will not introduce stormwater runoff to impacted soils. Given the low level of remaining COCs within on-site soils, direct stormwater exposure pathways for on-site receptors is considered a minimal risk.

7.1.3 Potential Exposure Points

Potential exposure points is a location where actual or potential human contact with contaminated material may occur. Based on IRM work completed at the Site, no points of exposure have been identified associated with the soil remaining on-site. Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater.

7.1.4 Routes of Exposure

The route of exposure is potential entry into the body such as ingestion, inhalation, dermal absorption, etc. The route of exposure for residual soil is limited as concentrations of COCs within the Site soils are below RRUSCO due to IRM activities. Potential based on current use for construction or Site work to be exposed in the short term associated with building construction, grading, and utility construction via skin contact or inhalation (fugitive dust). The Site development will include completion of the site with building/foundation and parking lot with finished surfaces, further eliminating potential for dermal contact.

7.1.5 Receptor Populations

Potential receptors for current Site conditions include construction workers, visitors, and trespassers. However, trespassers would be limited as the Site is now a secure building, with locking gates for both the courtyard and parking lot. Construction workers and visitors for current use would likely be adults; trespassers might be adolescents or adults.

The anticipated future use of the Site is for incubator space for various uses, including residential apartments, office space, commercial usage, and manufacturing. Potential future receptors include indoor workers, Site visitors and customers.

7.1.6 Exposure Assessment Summary

The human health exposure assessment identified potential exposure scenarios for the Site.

- Construction work is planned for Spring 2019. Future construction workers could be exposed to COC present at concentrations above UUSCO, but below RRUSCO in the soil/fill under the Site building associated with building construction, site grading and utility construction activities.

- Upon completion of future construction activities, the Site will be covered by buildings and paved parking lot. These structures/features will prevent direct human exposure to any materials that may be left in-place.

- Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater.

7.2 Fish and Wildlife Resources Impact Analysis

The Site is located in a highly developed, commercial and residential area the Village of Sloan and town of Cheektowaga, with a history of commercial usage since the 1950s. The site has been occupied by buildings and greenhouses since the mid 1980s, providing minimal wildlife value or food value. As such, no unacceptable ecological risks are anticipated under the current or reasonably anticipated future use scenario.

Appendix 3C of DER-10 includes a decision key to evaluate whether a performance of a Fish and Wildlife Resources Impact is needed. The findings of the Site investigation and IRM were used in completing the decision key. Based on the decision key, a Fish and Wildlife Resources Impact Analysis is not needed, based on our interpretation of NYSDEC guidance.

8.0 REMEDIAL ALTERNATIVES ANALYSIS

1550 Harlem Street Site has already undergone significant interim remedial measures that included UST removal, petroleum impacted soil/fill excavation, and soil removal from limited areas.

This section will evaluate remedial alternatives and recommended remedial approach, to address Site impact, based on cleanup tracks as defined by NYSDEC.

- Track 1 – Unrestricted Use: Cleanup level would allow the Site to be used for any purposes without restrictions on the use of the Site. The soil cleanup must achieve the UUSCO at any depth above bedrock.

- Track 2 – Restricted Residential Use: Under this scenario, the cleanup allows for the use of the generic soil criteria. The remedy must address contaminants of concern in soil to meet the appropriate restricted use criteria. Land and groundwater restrictions are allowed, but institutional controls/engineering controls (IC/EC) cannot be relied on to prevent exposures and obtain remedial action objectives.

8.1 Remedial Action Objectives

The final remedial measures for the Site must satisfy the Remedial Action Objectives (RAOs) for the Site. The Site specific RAOs assume the Site will be used for mixed use residential/commercial and manufacturing purposes associated with incubator space. The Remedial Action Objectives (RAOs) for the Site are as follows.

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

In addition to achieving RAOs, the remedy will be evaluated against the following criteria in general accordance with DER-10.

- **Overall Protection of Human Health and the Environment** – An evaluation of the remedial action to protect public health and the environment, and assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled.

- **Compliance with Standards, Criteria and Guidance (SCGs)** – compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards and guidance.

- **Long-term Effectiveness and permanence** – evaluates the long-term effectiveness of the remedy after implementation. If residual COC impact remains on-Site after implementation, the Site was assessed for the following:
  - The magnitude of remaining risks (i.e., will there be significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals);
  - The adequacy of the engineering and institutional controls intended to limit the risk;
  - The reliability of these controls; and
  - The ability of the remedy to continue to meet RAOs in the future.

- **Reduction of toxicity, mobility or volume of continuation through treatment** – evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of wastes at the Site.

- **Short-term impacts and effectiveness** - evaluates potential short-term adverse impacts and risks of the proposed remedial action upon the community, Site workers, and environment during construction and/or implementation, including identification of adverse impacts and health risks to the community or workers at the Site, controls and effectiveness of controls.

- **Implementability** – evaluates the technical and administrative feasibility of implanting the proposed remedy. Technical feasibility includes the differences associated with the construction and the ability to monitor the effectiveness of the remedy. Administrative feasibly includes the availability of the necessary personnel and material, as well as potential differences in obtaining specific approvals, access for construction, etc.

- **Cost-effectiveness** – the overall cost effectiveness of the proposed remedial actions to include capital, operation, maintenance, and monitoring costs.

- **Community acceptance** – evaluates if selected remedial actions are acceptable to the community.

8.2 Future Use Evaluation

In evaluation of remedial alternatives, reasonableness of the anticipated future land use should be factored in. The Site proposed usage includes construction of an automotive sales and service facility with 2nd floor residential/apartments. The remedial alternatives assume the future use of the Site will be restricted residential use.

8.3 Alternatives Evaluation

The IRM completed at the Site achieved removal of impacted soil/fill to levels below Part 375 Restricted Residential SCO, and in most locations, below unrestricted use SCO levels. The IRM successfully achieved the Site RAO. The "no further action" alternative, along with the Unrestricted Use Alternative were evaluated.

8.3.1 No Further Action

Under the "No further action" alternative, the Site would remain in its current state with no additional cleanup activities completed.

- **Overall Protection of Human Health and the Environment** – Since the IRM achieved removal of on-Site impacted soil/fill to restricted residential SCO, the no further action is protective of human health and the environment, and successfully achieves the RAOs for the Site.

- **Compliance with Standards, Criteria and Guidance (SCGs)** – The IRM included UST removal and significant fill/soil removal. Remaining Site concentrations are below the restricted residential SCO. The IRM was completed in accordance with applicate and appropriate SCG. The "no further action" alternative satisfies this criteria.

- **Long-term Effectiveness and permanence** – The IRM completed removal of all source material, including excavation of soil/fill and removal of USTs. As such, "no further action" alternative is expected to provide long-term effectiveness and permanence.

- **Reduction of toxicity, mobility or volume of continuation through treatment** – Due to removal of USTs and impacted soil/fill, the IRM permanently and significantly reduced the toxicity, mobility, and volume of Site contamination. The "no further action" alternative satisfies this criteria.

- **Short-term impacts and effectiveness** – The short-term adverse impacts and risks to the community, workers and environment during implementation of the IRM

were effectively controlled. Temporary silt fencing was installed around the perimeter of the excavation and former building area to accomplish erosion and sediment runoff control. During soil/fill excavation and loading activities, dust monitoring was performed to assure conformance with community air monitoring action levels. The trucks were driven onto eastern adjoining right of way and loaded, which prevented the need for truck wash. The potential for chemical exposures and physical injuries were reduced through safe work practices, proper protection, environmental monitoring, and appropriate decontamination procedures. The IRM achieved the RAOs for the Site in approximately 1 week.

- **Implementability** – No technical or action-specific administrative implementability issues were associated with implementation of the IRM.

- **Cost-effectiveness** – The capital cost for the Site evaluation and IRM work $100,000. No capital or operational costs are further associated with "no further action" alternative.

- **Community acceptance** – The RI/IRM Work Plan was made available for public comment, and no comments were received opposing the IRM work.

8.3.2 Unrestricted Use Alternative

The unrestricted use alternative would require remediation of all soil/fill where concentrations continue to exceed unrestricted use SCO. The IRM completed removal of the USTs and petroleum impacted soil to the RRUSCO criteria. However, for the unrestricted use alternative scenario, additional materials removal would be required based on IRM confirmatory sample results, as summarized below:

- Approximately 70 percent of the samples from UST and pump island excavation areas exhibited compounds at concentrations above UUSCO, but below RRUSCO, resulting in approximately 300 cubic yards of soil for further removal.
- Approximately 60 percent of the surface soil samples from the site exhibited compounds at concentrations above UUSCO, but below RRUSCO, resulting in approximately 650 cubic yards of surface soil for further removal.
- Approximately 30 percent of the samples collected under the RI and limited IRM at concentrations below RRUSCO, but above UUSCO, resulting in approximately 50 cubic yards of soil for further removal.

- **Overall Protection of Human Health and the Environment** – Excavation of remaining on-Site materials would achieve the UUSCO, which are designed to be protective of human health under unrestricted use scenario.

- **Compliance with Standards, Criteria and Guidance (SCGs)** – Unrestricted Use remedy would be fully compliant with applicable SCGs, including UUSCO.

- **Long-term Effectiveness and permanence** – The Unrestricted use remedy would result in removal of all impacted soil/fill being permanently removed from the Site.

Unrestrictive use alternative would provide long-term effectiveness and permanence.

- **Reduction of toxicity, mobility or volume of continuation through treatment** – Removing impacted soil and fill from the Site to UUSCO would result in complete and permanent reduction in the volume of contaminants in the Site soils.

- **Short-term impacts and effectiveness** – Short term adverse impacts and risks to the community, workers and environment include disturbance of contaminated soil and fill, creating risks of potential exposure to workers and area residents during removal. Additionally, the duration of time that the community, workers and environmental is exposed to fugitive dust emissions is increased. However, these risks are controllable.

- **Implementability** – The Site is currently undeveloped, with future development plans scheduled for Spring 2019. Implementability could be managed with completion of additional remedial activities during site construction.

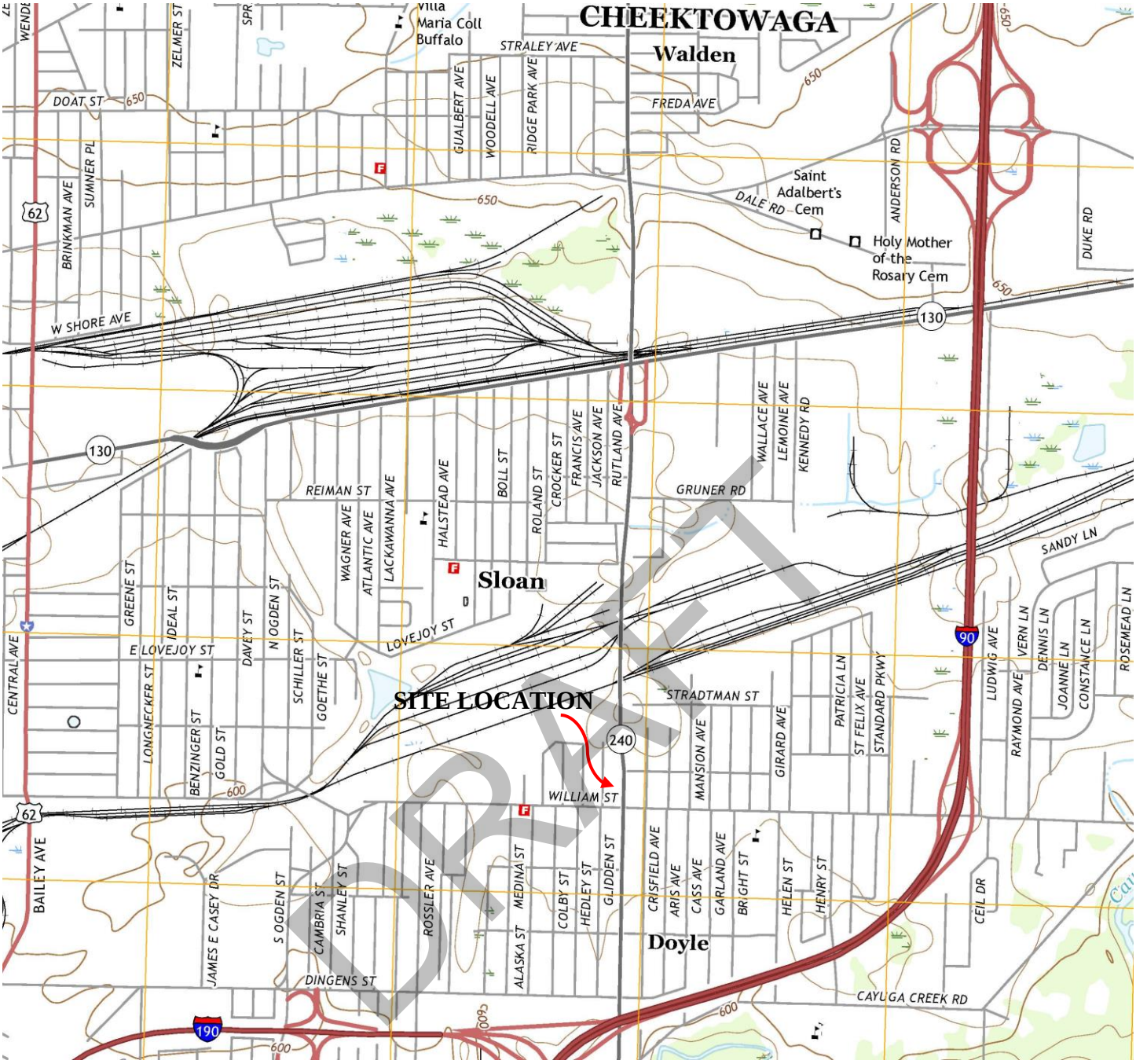
- **Cost-effectiveness** – The capital cost of implementing the Unrestricted use alternatives is estimated at over $150,000, which would be cost prohibited for the applicant. Table 8 provides a breakdown of these costs.

- **Community acceptance** – Community acceptance will be evaluated based on comments received during planned Citizens Participation activities.

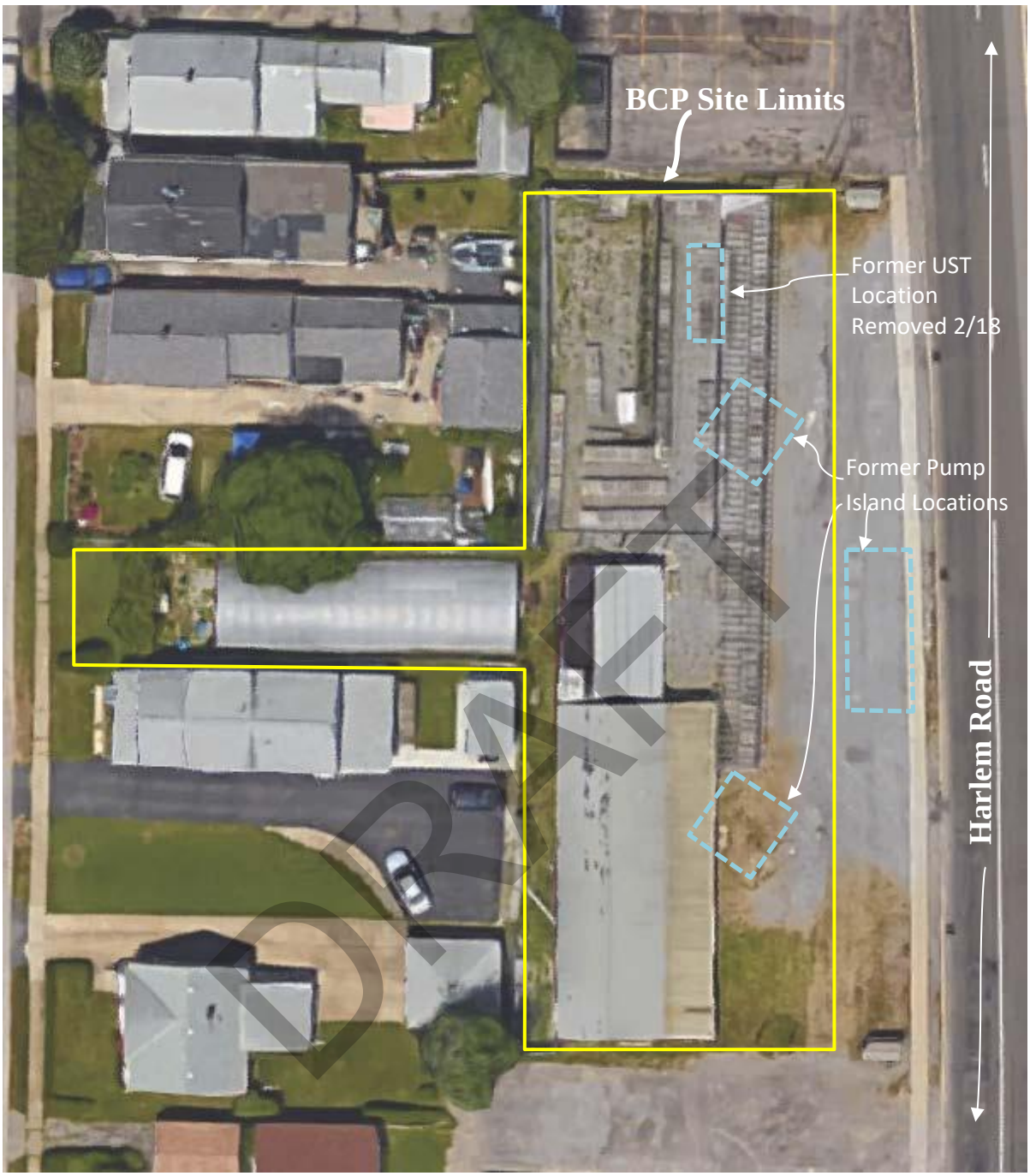
8.4 Recommended Remedial Measure

The completed IRM work achieved removal USTs and petroleum impacted soil/fill to levels below RRUSCO, and in many locations, below Unrestricted use SCO. Based on the Alternatives Evaluation, the IRM satisfied the RAO and is protective of human health and the environment. Accordingly, "No Further Action" is the recommended final remedial approach for the 1550 Harlem Road site. The minimal residual impacts present on-Site, which are above UUSCO, but below RRUSCO will be managed with a Site management plan encompassing institutional controls including environmental easement and groundwater use restrictions.

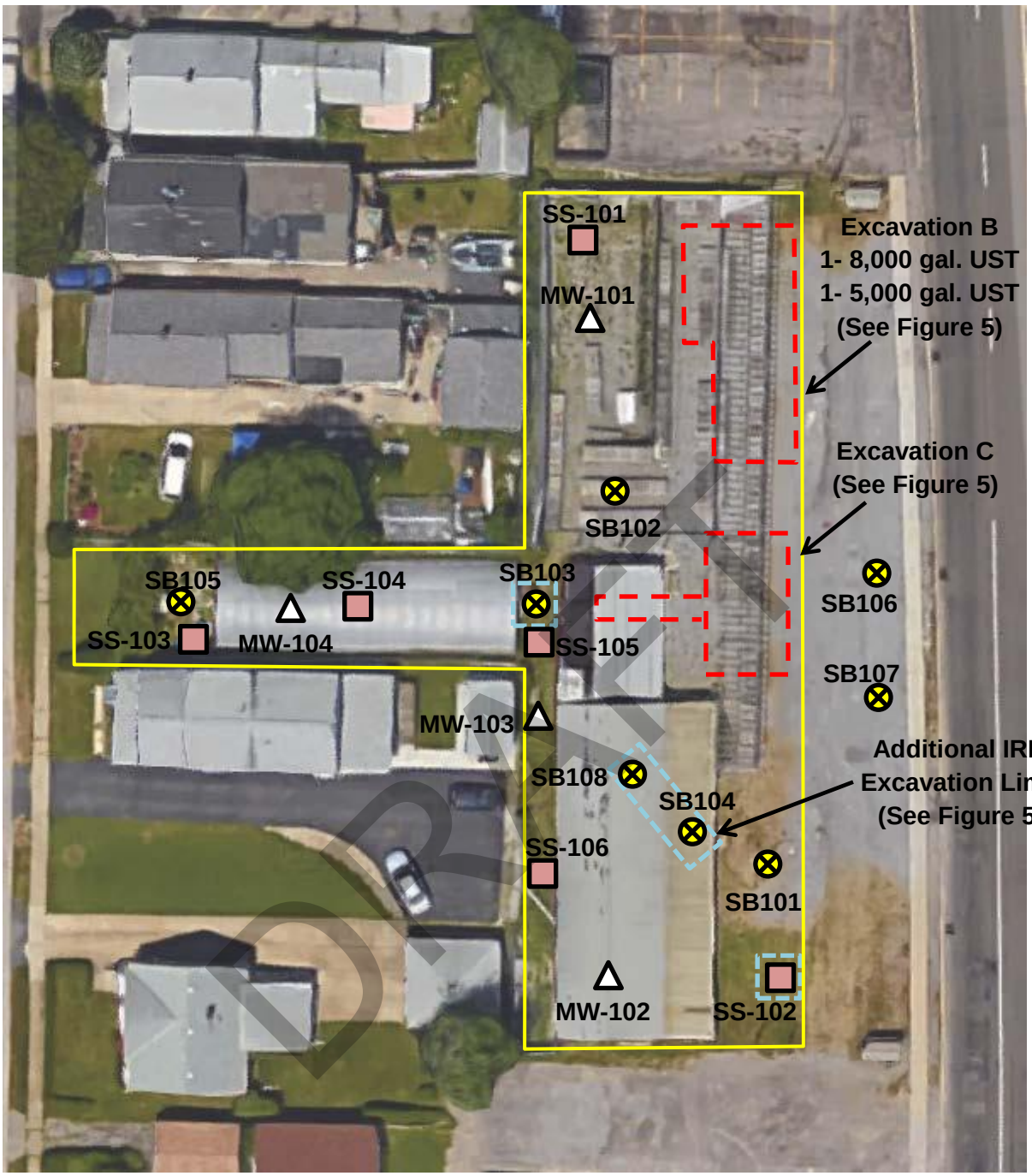
FIGURES



WITTMAN GEOSCIENCES, PLLC	Date: 10/2018	**Site Location Map**	Project: 18-102
	Scale: not to scale	1550 Harlem, Cheektowaga, NY	Figure: 1



WITTMAN GEOSCIENCES, PLLC	Date: 10/20/2018	**Site Limit Plan**	Project: 18-102
	Scale: 1’ = 40’	1550 Harlem Road, Cheektowaga, NY	Figure: 2



KEY

= Soil Boring Location

= Monitoring Well Location

= Surface Soil Location

= IRM Excavation limits (2/2018)

= Additional IRM Excavation limits (8/2018)

WITTMAN GEOSCIENCES, PLLC	Date: 10/2018	**Remedial Investigation Locations**	Project: 18-102
	Scale: 1' = 40'	1550 Harlem Road, Cheektowaga, NY	Figure: 3

KEY

= Soil Boring Location

= Monitoring Well Location

= Estimated Relative Groundwater Elevation (2/2018)

= Estimated Groundwater Contour (2/2018)

WITTMAN GEOSCIENCES, PLLC	Date: 10/2018	**Groundwater Isopotential Map – Feb 2018**	Project: 18-102
	Scale: 1' = 40'	1550 Harlem Road, Cheektowaga, NY	Figure: 4a

KEY

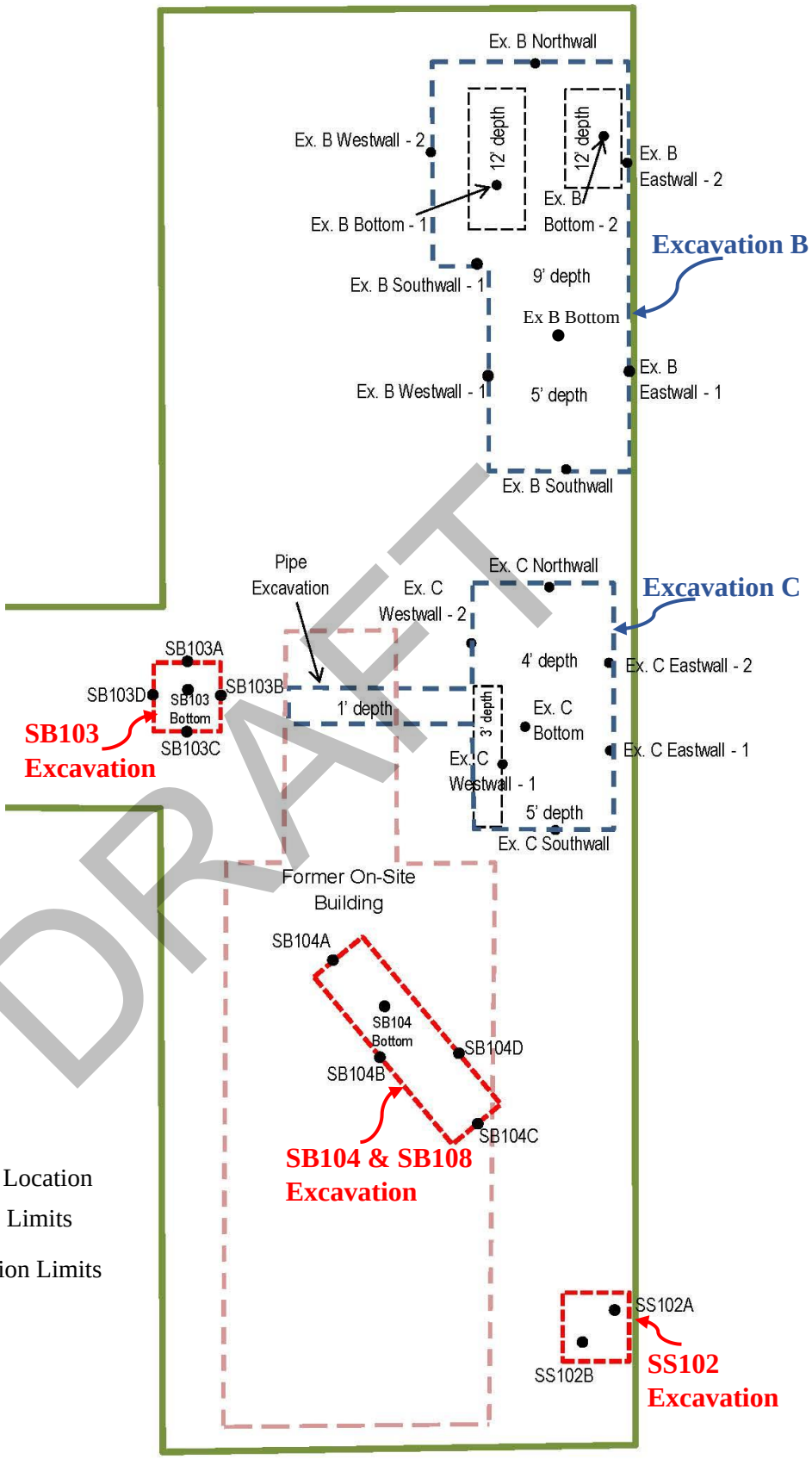
= Soil Boring Location

= Monitoring Well Location

= Estimated Relative Groundwater Elevation (7/2018)

= Estimated Groundwater Contour (7/2018)

WITTMAN GEOSCIENCES, PLLC	Date: 10/2018	**Groundwater Isopotential Map – July 2018**	Project: 18-102
	Scale: 1’ = 40’	1550 Harlem Road, Cheektowaga, NY	Figure: 4b



KEY

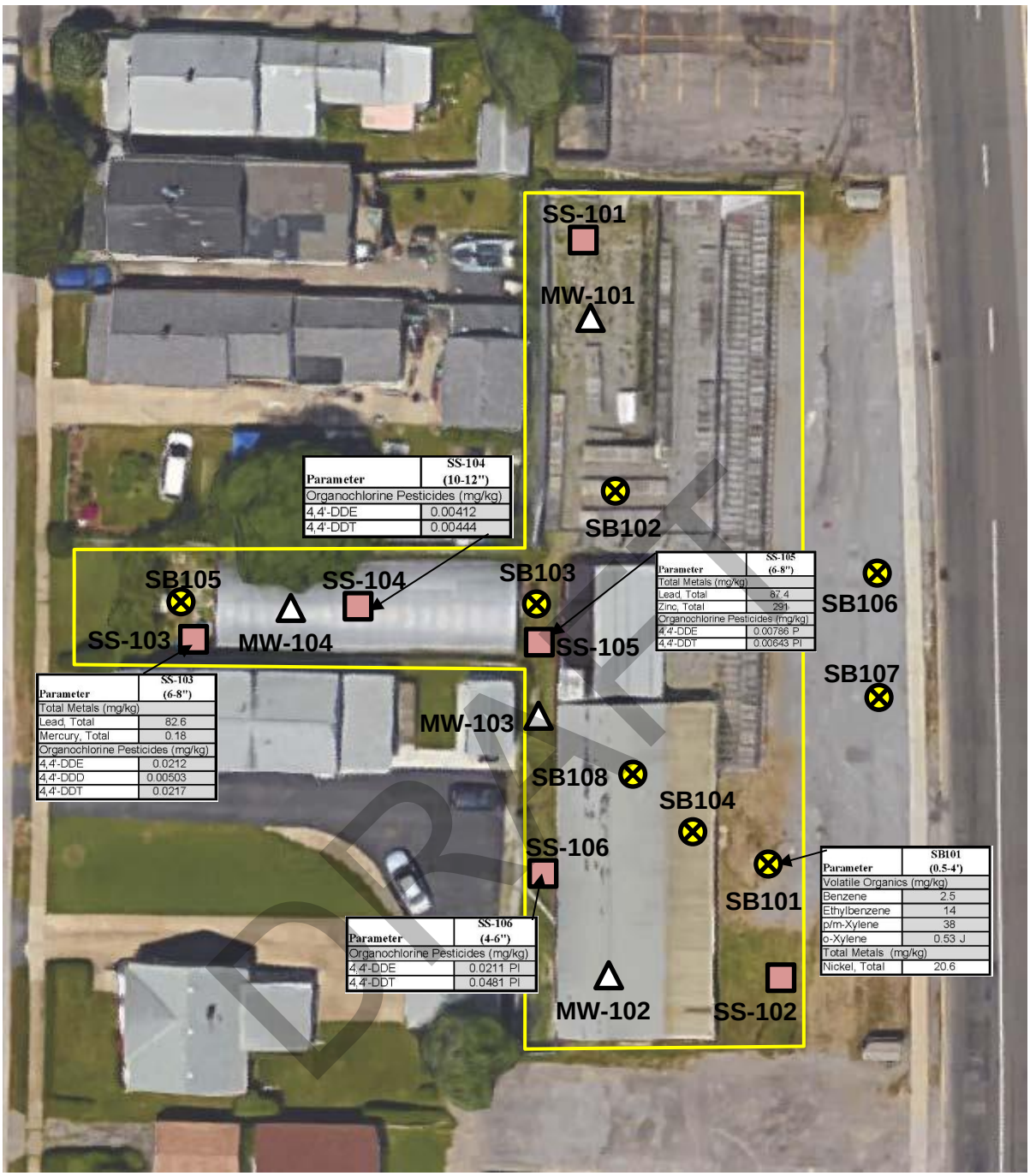
● = Confirmatory Soil Sample Location

= Feb 2018 IRM Excavation Limits

= August 2018 IRM Excavation Limits

Soil boring locations SB104 and SB108 both within SB104 & SB108 Excavation Limits

WITTMAN GEOSCIENCS, PLLC	Date: 10/2018	Post IRM Sampling Locations	Project: 18-102
	Scale: 1" = 20'	1550 Harlem Road, Cheektowaga, NY	Figure: 5



Parameter	SS-104 (10-12")
Organochlorine Pesticides (mg/kg)	
4,4'-DDE	0.00412
4,4'-DDT	0.00444

Parameter	SS-105 (6-8")
Total Metals (mg/kg)	
Lead, Total	87.4
Zinc, Total	291
Organochlorine Pesticides (mg/kg)	
4,4'-DDE	0.00786 P
4,4'-DDT	0.00643 PI

Parameter	SS-103 (6-8")
Total Metals (mg/kg)	
Lead, Total	82.6
Mercury, Total	0.18
Organochlorine Pesticides (mg/kg)	
4,4'-DDE	0.0212
4,4'-DDD	0.00503
4,4'-DDT	0.0217

Parameter	SB101 (0.5-4')
Volatile Organics (mg/kg)	
Benzene	2.5
Ethylbenzene	14
p/m-Xylene	38
o-Xylene	0.53 J
Total Metals (mg/kg)	
Nickel, Total	20.6

Parameter	SS-106 (4-6")
Organochlorine Pesticides (mg/kg)	
4,4'-DDE	0.0211 PI
4,4'-DDT	0.0481 PI

KEY

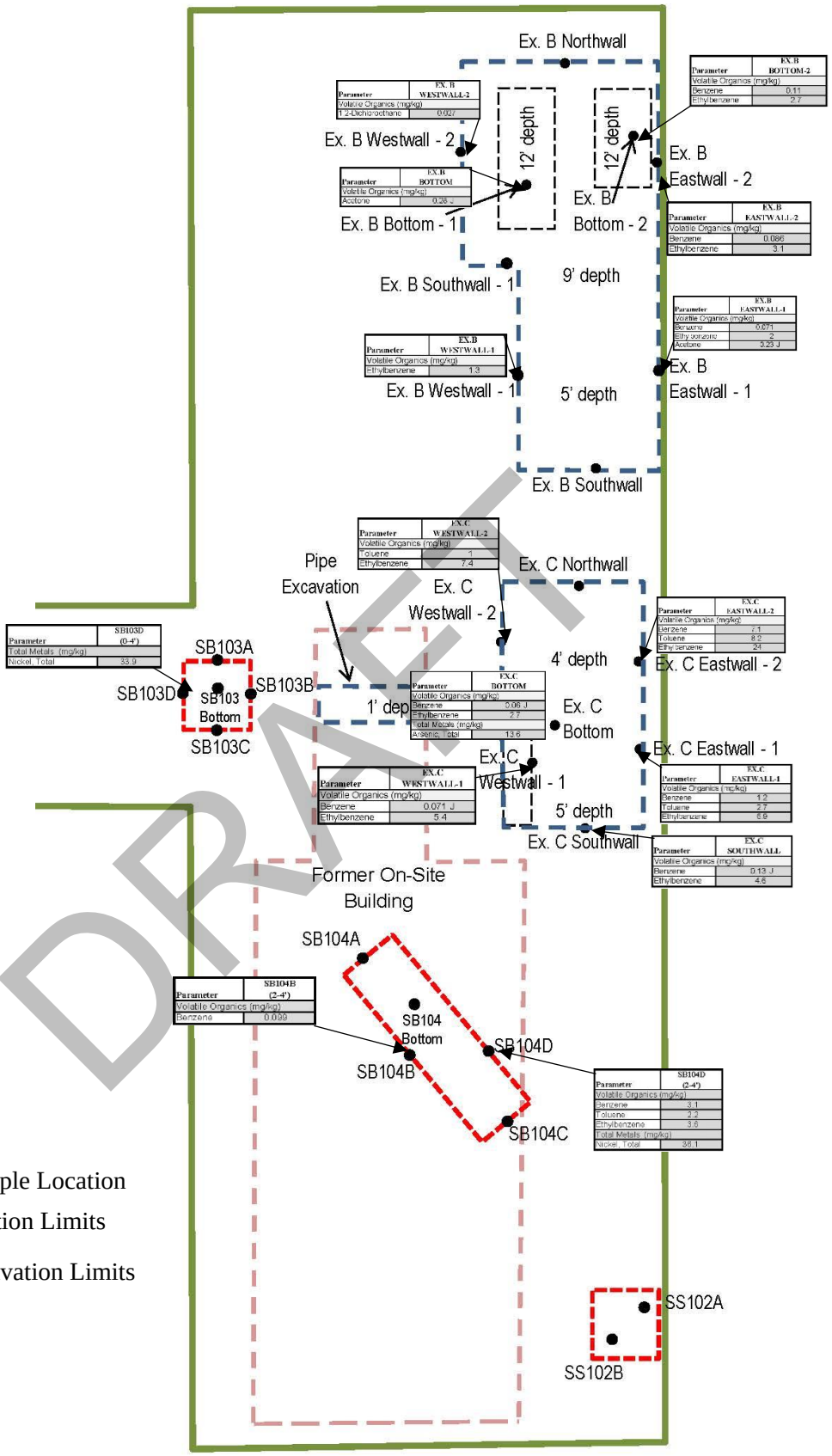
⊗ = Soil Boring Location

△ = Monitoring Well Location

▢ = Surface Soil Location

Detected soil concentrations presented on this figure exceed Unrestricted Use SCO, but below Restricted Residential Use SCO

WITTMAN GEOSCIENCS, PLLC	Date: 10/2018	**RI Sample Locations Exceeding Unrestrictive Use Soil Cleanup Objectives**	Project: 18-102
	Scale: 1" = 40'	1550 Harlem Road, Cheektowaga, NY	Figure: 6



KEY

● = Confirmatory Soil Sample Location

= Feb 2018 IRM Excavation Limits

= August 2018 IRM Excavation Limits

Detected soil concentrations presented on this figure exceed Unrestricted Use SCO, but below Restricted Residential Use SCO

WITTMAN GEOSCIENCS, PLLC	Date: 10/2018	IRM Sample Locations Exceeding Unrestrictive Use Soil Cleanup Objectives	Project: 18-102
	Scale: 1" = 20'	1550 Harlem Road, Cheektowaga, NY	Figure: 7

TABLES

Table 1
Summary of Analytical Samples
1550 Harlem Road, Sloan, New York

Lab Job #	Sample ID	Collection Date	Sample Matrix	VOC 8260 TCL	SVOC 8270 TCL	TAL Metals	TAL Metals Dissolved	Total PCBs	Total Pesticides	Total Herbicides	TCLP VOC	TCLP SVOC	TCLP Metals	Reactivity Cyanide/Sulfide	Flashpoint	pH	1,4-Dioxane	PFOA/ PFOS
L1805945	SB101 (0.5-4')	02/20/18	Soil	X	X	X												
L1805945	SB102 (4-8')	02/20/18	Soil	X	X	X		X	X	X								
L1805945	SB102 (4-8') Duplicate	02/20/18	Soil	X	X	X		X	X									
L1805945	MW101 (6-9')	02/20/18	Soil	X	X													
L1805945	SS101 (6-8")	02/20/18	Soil						X	X								
L1805945	SB103 (0-4')	02/20/18	Soil			X			X	X								
L1805945	SB104 (2-4')	02/20/18	Soil	X	X													
L1805945	SB104 (0.5-2')	02/20/18	Soil			X												
L1805945	Equipment Rinsate-1	02/20/18	Water	X	X	X		X	X	X								
L1805945	Trip Blank-1	02/20/18	Water	X														
L1805945	SS-102 (4-6'')	02/21/18	Soil	X	X	X		X	X	X								
L1805945	SS-102 (4-6'') MS/MSD	02/21/18	Soil	X	X	X		X	X	X								
L1805945	SS-103 (6-8")	02/21/18	Soil	X	X	X		X	X	X								
L1805945	SS-104 (10-12")	02/21/18	Soil						X	X								
L1805945	SS-105 (6-8")	02/21/18	Soil	X	X	X			X	X								
L1805945	SS-106 (4-6")	02/21/18	Soil						X	X								
L1805945	SB104 (2-4')	02/21/18	Soil						X	X								
L1805945	SB106 (1-4')	02/21/18	Soil - Offsite	X	X	X												
L1805945	SB108 (0-4')	02/22/18	Soil	X	X	X		X	X	X								
L1806535	WC-1	02/23/18	Soil					X	X	X	X	X	X	X	X	X		
L1806536	WC-2	02/23/18	Soil					X	X	X	X	X	X	X	X	X		
L1806536	EX. C Bottom	02/23/18	Soil	X	X	X		X	X	X								
L1806536	EX. C Bottom Duplicate	02/23/18	Soil	X	X	X		X	X	X								
L1806536	EX. C Northwall	02/23/18	Soil	X	X													
L1806536	Ex. C Westwall-1	02/23/18	Soil	X	X	X		X	X	X								
L1806536	Ex. C Westwall-2	02/23/18	Soil	X	X	X		X	X	X								
L1806536	Ex. C Eastwall-1	02/23/18	Soil	X	X													
L1806536	Ex. C Eastwall-2	02/23/18	Soil	X	X													
L1806536	Ex. C Southwall	02/23/18	Soil	X	X													
L1806536	Ex. B Bottom	02/23/18	Soil	X	X	X		X	X	X								
L1806536	Ex. B Eastwall-1	02/23/18	Soil	X	X													
L1806536	Ex. B Westwall-1	02/23/18	Soil	X	X	X		X	X	X								
L1806536	Ex. B Southwall	02/23/18	Soil	X	X													
L1806535	Trip Blank-2	02/26/18	Water	X														
L1806535	Equipment Rinsate-2	02/26/18	Water	X	X	X		X	X	X								
L1806535	Ex. B Bottom-1	02/26/18	Soil	X	X													

Table 1
Summary of Analytical Samples
1550 Harlem Road, Sloan, New York

Lab Job #	Sample ID	Collection Date	Sample Matrix	VOC 8260 TCL	SVOC 8270 TCL	TAL Metals	TAL Metals Dissolved	Total PCBs	Total Pesticides	Total Herbicides	TCLP VOC	TCLP SVOC	TCLP Metals	Reactivity Cyanide/Sulfide	Flashpoint	pH	1,4-Dioxane	PFOA/ PFOS
L1806535	Ex. B Northwall	02/26/18	Soil	X	X													
L1806535	Ex. B Westwall-2	02/26/18	Soil	X	X	X		X	X	X								
L1806535	Ex. B Westwall-2 MS/MSD	02/26/18	Soil	X	X	X		X	X	X								
L1806536	Ex. B Bottom-2	02/27/18	Soil	X	X													
L1806536	Ex. B Eastwall-2	02/27/18	Soil	X	X													
L1806536	Ex. B Southwall-1	02/27/28	Soil	X	X													
L1806985	MW-102	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-102 MS	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-102 MSD	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-103	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-103 Duplicate	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-104	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	MW-101	02/28/18	Ground water	X	X	X	X	X	X	X								
L1806985	Equipment Rinsate-3	02/28/18	Water	X	X	X	X	X	X	X								
L1806985	Trip Blank-3	02/28/18	Water	X														
L1830842	Trip Blank - 4	08/08/18	Soil	X														
L1830842	Equipment Rinsate - 4	08/08/18	Soil	X	X	X												
L1830842	SB103A	08/08/18	Soil			X												
L1830842	SB103B	08/08/18	Soil			X												
L1830842	SB103C	08/08/18	Soil			X												
L1830842	SB103D	08/08/18	Soil			X												
L1830842	SB103 Bottom	08/08/18	Soil			X												
L1830842	SS102A	08/08/18	Soil		X	X												
L1830842	SS102A Duplicate	08/08/18	Soil		X	X												
L1830842	SS102B	08/08/18	Soil		X	X												
L1830842	SS102B MS/MSD	08/08/18	Soil		X	X												
L1830842	SB104A	08/08/18	Soil	X		X												
L1830842	SB104A Duplicate	08/08/18	Soil	X		X												
L1830842	SB104B	08/08/18	Soil	X		X												
L1830842	SB104C	08/08/18	Soil	X		X												
L1830842	SB104D	08/08/18	Soil	X		X												
L1830842	SB104D MS/MSD	08/08/18	Soil	X		X												
L1830842	SB104 Bottom	08/08/18	Soil	X		X												
L1831543	MW101	02/28/18	Ground water														X	X
L1806985	MW103	02/28/18	Ground water														X	X
L1806985	MW104	02/28/18	Ground water														X	X
L1806985	MW101 MS	02/28/18	Ground water														X	X
L1806985	MW101 MSD	02/28/18	Ground water														X	X
L1806985	MW103 Duplicate	02/28/18	Ground water														X	X
L1806985	Equipment Rinsate-5	02/28/18	Water														X	X
L1806985	Trip Blank-1	02/28/18	Water														X	X

Table 2
Ground Water Elevations
1550 Harlem Road Cheektowaga, NY

			2/28/2018		7/27/2018	
Location	**Well Depth (feet)**	**Top of Riser Elevation**	**Depth to Water (feet)**	**Groundwater Elevation**	**Depth to Water (feet)**	**Groundwater Elevation**
MW101	19.23	98.29	5.15	93.14	7.27	91.02
MW102	19.22	99.04	5.21	93.83	8.46	90.58
MW103	19.12	98.08	4.30	93.78	6.86	91.22
MW104	19.23	97.85	4.55	93.30	7.56	90.29

Notes:

Depths measured to top of well riser.

Table 3
Remedial Investigation - Surface Soil Analtyical Testing Results
1550 Harlem Road, Cheektawaga, NY

Parameter	UUSCO	RRUSCO	CUSCO	SS-102 (4-6")	SS-103 (6-8")	SS-104 (10-12")	SS-105 (6-8")	SS-106 (4-6")
Lab Sample ID				**L1805945-11**	**L1805945-12**	**L1805945-13**	**L1805945-14**	**L1805945-15**
Sampling Date				**2/21/2018**	**2/21/2018**	**2/21/2018**	**2/21/2018**	**2/21/2018**
Volatile Organics (mg/kg)								
Chloroform	0.37	49	350	0.0012 J	ND	NT	ND U	NT
Toluene	0.7	100	500	0.00038 J	ND	NT	ND U	NT
Acetone	0.05	100	500	0.013	ND	NT	ND U	NT
Cyclohexane	NV	NV	NV	0.00091 J	ND	NT	ND U	NT
Methyl cyclohexane	NV	NV	NV	0.00092 J	ND	NT	0.00063 J	NT
Semivolatile Organics (mg/kg)								
Acenaphthene	20	100	500	0.03 J	ND	NT	ND	NT
Fluoranthene	100	100	500	1.6	0.12 J	NT	0.3	NT
Naphthalene	12	100	500	0.041 J	ND	NT	ND	NT
Bis(2-ethylhexyl)phthalate	NV	NV	NV	0.099 J	0.11 J	NT	0.09 J	NT
Butyl benzyl phthalate	NV	NV	NV	ND	ND	NT	0.058 J	NT
Benzo(a)anthracene	1	1	5.6	0.87	0.06 J	NT	0.15	NT
Benzo(a)pyrene	1	1	1	0.76	0.057 J	NT	0.16	NT
Benzo(b)fluoranthene	1	1	5.6	1	0.072 J	NT	0.22	NT
Benzo(k)fluoranthene	0.8	3.9	56	0.38	ND	NT	0.076 J	NT
Chrysene	1	3.9	56	0.74	0.059 J	NT	0.15	NT
Acenaphthylene	100	100	500	0.36	ND U	NT	0.035 J	NT
Anthracene	100	100	500	0.34	ND U	NT	0.051 J	NT
Benzo(ghi)perylene	100	100	500	0.43	0.039 J	NT	0.13 J	NT
Fluorene	30	100	500	0.06 J	ND	NT	ND	NT
Phenanthrene	100	100	500	0.49	0.057 J	NT	0.14	NT
Dibenzo(a,h)anthracene	0.33	0.33	0.56	0.14	ND	NT	0.035 J	NT
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	0.53	0.044 J	NT	0.13 J	NT
Pyrene	100	100	500	1.4	0.096 J	NT	0.24	NT
Dibenzofuran	7	59	350	0.023 J	ND	NT	ND	NT
Pentachlorophenol	0.8	6.7	6.7	ND	ND	NT	0.075 J	NT
3-Methylphenol/4-Methylphenol	0.33	100	500	ND	0.042 J	NT	ND	NT
Carbazole	NV	NV	NV	0.061 J	ND	NT	d J	NT
Total Metals (mg/kg)								
Aluminum, Total	NV	NV	NV	2560	7860	NT	4180	NT
Antimony, Total	NV	NV	NV	0.964 J	1.01 J	NT	1.06 J	NT
Arsenic, Total	13	16	16	3.57	6.97	NT	4.78	NT
Barium, Total	350	400	400	27.2	46.7	NT	114	NT
Beryllium, Total	7.2	72	590	0.256 J	0.326 J	NT	0.5	NT
Cadmium, Total	2.5	4.3	9.3	0.623 J	0.505 J	NT	1.41	NT
Calcium, Total	NV	NV	NV	174000	6160	NT	179000	NT
Chromium, Total	30	180	1500	163	12.9	NT	29.6	NT
Cobalt, Total	NV	NV	NV	2.09	3.16	NT	2.99	NT
Copper, Total	50	270	270	17.08	18.6	NT	25.4	NT
Iron, Total	NV	NV	NV	17100	13600	NT	16200	NT
Lead, Total	63	400	1000	39.5	82.6	NT	87.4	NT
Magnesium, Total	NV	NV	NV	6050	1280	NT	10500	NT
Manganese, Total	1600	2000	10000	2180	180	NT	510	NT
Mercury, Total	0.18	0.81	2.8	0.08 J	0.18	NT	0.14	NT
Nickel, Total	30	310	310	8.68	10.6	NT	13.2	NT
Potassium, Total	NV	NV	NV	244	420	NT	530	NT
Selenium, Total	3.9	180	1500	0.478 J	0.537 J	NT	0.952 J	NT
Sodium, Total	NV	NV	NV	115 J	40 J	NT	173 J	NT
Thallium, Total	NV	NV	NV	1.37 J	2.1 U	NT	1.88 U	NT
Vanadium, Total	NV	NV	NV	35.7	14.7	NT	11.1	NT
Zinc, Total	109	10000	10000	111	106	NT	291	NT
Polychlorinated Biphenyls (mg/kg)								
Aroclor 1254	0.1	1	1	0.0525	0.0212 J	NT	NT	NT
Aroclor 1260	0.1	1	1	0.0195 J	0.029 J	NT	NT	NT
PCBs, Total	0.1	1	1	0.072 J	0.0502 J	NT	NT	NT
Chlorinated Herbicides (mg/kg)								
2,4-D	NV	NV	NV	0.186 U	0.222 U	0.223 U	0.195 U	0.023 J
Organochlorine Pesticides (mg/kg)								
Delta-BHC	0.04	100	500	0.00092 J	0.00075 J	ND	0.00076 J	ND
Heptachlor epoxide	NV	NV	NV	ND	0.00199 J	ND	ND	ND
Endrin aldehyde	NV	NV	NV	ND	0.0142	ND	0.0137	ND
4,4'-DDE	0.0033	8.9	62	ND	0.0212	0.00412	0.00786 P	0.0211 PI
4,4'-DDD	0.0033	13	92	0.00288	0.00503	0.00215	ND	ND
4,4'-DDT	0.0033	7.9	47	ND	0.0217	0.00444	0.00643 PI	0.0481 PI
Endosulfan II	2.4	24	200	0.00122 JPI	ND	ND	ND	ND
Methoxychlor	NV	NV	NV	ND	0.00235 JPI	ND	0.00562 PI	0.0507
cis-Chlordane	0.094	4.2	24	0.00303 PI	0.00264 J	ND	0.00101 JPI	0.0194
trans-Chlordane	NV	NV	NV	0.00491 PI	0.002 JPI	ND	ND	0.00701 PI

Notes:
1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/kg = parts per billion; mg/kg = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. Shading indicates:
   - exceeds UUSCO - Unrestriced Use Soil Cleanup Objective
   - exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objective
   - exceeds CUSCO - Commercial Use Soil Cleanup Objective

Table 4
Remedial Investigation - Subsurface Soil Analtyical Testing Results
1550 Harlem Road, Cheektawaga, NY

													Off-Site Sample
Parameter	UUSCO	RRUSCO	CUSCO	**SB101 (0.5-4')**	**SB102 (4-8')**	**SB102 (4-8') Dup**	**MW-101 (6-9')**	**SB103 (0-4')**	**SB104 (2-4')**	**SB104 (0.5-2')**	**SB104 (2-4')**	**SB108 (0-4')**	**SB106 (1-4')**
Lab Sample ID				**L1805945-01**	**L1805945-02**	**L1805945-03**	**L1805945-04**	**L1805945-06**	**L1805945-07**	**L1805945-08**	**L1805945-16**	**L1805945-18**	**L1805945-17**
Sampling Date				**2/20/2018**	**2/20/2018**	**2/20/2018**	**2/20/2018**	**2/20/2018**	**2/20/2018**	**2/20/2018**	**2/21/2018**	**2/22/2018**	**2/21/2018**
Volatile Organics (mg/kg)													
Benzene	0.06	4.8	44	2.5	ND	0.00024 J	0.032 J	NT	5.8	NT	NT	ND	18
Toluene	0.7	100	500	0.46 J	ND	0.00051 J	ND	NT	13	NT	NT	ND	95
Ethylbenzene	1	41	390	14	ND	ND	0.31	NT	13	NT	NT	ND	31
p/m-Xylene	0.26	100	500	38	ND	ND	ND	NT	61	NT	NT	ND	140
o-Xylene	0.26	100	500	0.53 J	ND	ND	ND	NT	8	NT	NT	ND	43
Acetone	0.05	100	500	ND	0.0028 J	0.0079 J	ND	NT	ND	NT	NT	0.022	ND
2-Butanone	0.12	100	500	ND	ND	ND	ND	NT	ND	NT	NT	0.0035 J	ND
Isopropylbenzene	NV	NV	NV	1.8	ND	ND	0.47	NT	1.2	NT	NT	ND	2.7
Cyclohexane	NV	NV	NV	13	0.00087 J	0.0011 J	ND	NT	12 J	NT	NT	ND	23
Methyl cyclohexane	NV	NV	NV	8.6	ND	ND	2.4	NT	6.9	NT	NT	ND	17
Semivolatile Organics (mg/kg)													
Fluoranthene	100	100	500	ND	ND	ND	ND	NT	ND	NT	NT	0.099 J	ND
Naphthalene	12	100	500	0.38	ND	ND	0.026 J	NT	0.29	NT	NT	ND	2.7
Bis(2-ethylhexyl)phthalate	NV	NV	NV	ND	ND	ND	ND	NT	ND	NT	NT	ND	0.09 J
Benzo(a)anthracene	1	1	5.6	ND	ND	ND	ND	NT	ND	NT	NT	0.059 J	ND
Benzo(a)pyrene	1	1	1	ND	ND	ND	ND	NT	ND	NT	NT	0.062 J	ND
Benzo(b)fluoranthene	1	1	5.6	ND	ND	ND	ND	NT	ND	NT	NT	0.096 J	ND
Chrysene	1	3.9	56	ND	ND	ND	ND	NT	ND	NT	NT	0.062 J	ND
Benzo(ghi)perylene	100	100	500	ND	ND	ND	ND	NT	ND	NT	NT	0.046 J	ND
Phenanthrene	100	100	500	ND	ND	ND	ND	NT	ND	NT	NT	0.053 J	0.029 J
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	ND	ND	ND	ND	NT	ND	NT	NT	0.052 J	ND
Pyrene	100	100	500	ND	ND	ND	ND	NT	ND	NT	NT	0.078 J	ND
Biphenyl	NV	NV	NV	ND	ND	ND	ND	NT	ND	NT	NT	ND	0.048 J
2-Methylnaphthalene	NV	NV	NV	0.2 J	ND	ND	0.026 J	NT	0.18 J	NT	NT	ND	2.7
2,4-Dimethylphenol	NV	NV	NV	ND	ND	ND	ND	NT	ND	NT	NT	ND	0.13 J
Phenol	0.33	100	500	0.04 J	ND	ND	ND	NT	ND	NT	NT	ND	ND
2-Methylphenol	0.33	100	500	ND	ND	ND	ND	NT	ND	NT	NT	ND	0.2
3-Methylphenol/4-Methylphenol	0.33	100	500	ND	ND	ND	ND	NT	ND	NT	NT	ND	0.61
Total Metals (mg/kg)													
Aluminum, Total	NV	NV	NV	9070	8550	11200	NT	6850	NT	3800	NT	8460	11800
Antimony, Total	NV	NV	NV	ND	ND	ND	NT	2.56 J	NT	ND	NT	ND	ND
Arsenic, Total	13	16	16	7.82	8.02	6.2	NT	9.2	NT	8.35	NT	5.33	7.51
Barium, Total	350	400	400	69.7	59.2	79.1	NT	214	NT	46.2	NT	64.2	85.2
Beryllium, Total	7.2	72	590	0.607	0.475	0.626	NT	0.63	NT	0.218 J	NT	0.663	0.714
Cadmium, Total	2.5	4.3	9.3	1.04	0.846 J	1.07	NT	2.69	NT	3.55	NT	0.852	0.275 J
Calcium, Total	NV	NV	NV	27800	39900	42700	NT	15800	NT	191000	NT	26400	24400
Chromium, Total	30	180	1500	14.9	14.8	18.4	NT	22.2	NT	527	NT	108	16.6
Cobalt, Total	NV	NV	NV	8.66	7.03	7.83	NT	4.83	NT	4.76	NT	4.62	10.5
Copper, Total	50	270	270	27.2	22.9	23.4	NT	65.5	NT	70.2	NT	28.2	29.8
Iron, Total	NV	NV	NV	20600	18500	22200	NT	16700	NT	109000	NT	24000	24600
Lead, Total	63	400	1000	32.8	11	9.99	NT	528	NT	98.6	NT	49.3	19.4
Magnesium, Total	NV	NV	NV	8430	13600	10600	NT	2840	NT	16400	NT	6390	9260
Manganese, Total	1600	2000	10000	488	330	339	NT	224	NT	8180	NT	2410	306
Mercury, Total	0.18	0.81	2.8	0.04 J	0.02 J	0.03 J	NT	0.24	NT	0.1	NT	0.07	0.05 J
Nickel, Total	30	310	310	20.6	18.6	23.9	NT	15.4	NT	121	NT	16.4	25.6
Potassium, Total	NV	NV	NV	730	749	826	NT	544	NT	323	NT	644	647
Selenium, Total	3.9	180	1500	1.75 J	1.54 J	1.71 J	NT	2.11	NT	5.92	NT	0.436	0.275 J
Silver, Total	2	180	1500	ND	ND	ND	NT	0.515 J	NT	1.53	NT	ND	ND
Sodium, Total	NV	NV	NV	200	104 J	101 J	NT	166 J	NT	261	NT	193	276
Thallium, Total	NV	NV	NV	ND	ND	ND	NT	ND	NT	4.42	NT	1.64	ND
Vanadium, Total	NV	NV	NV	19	18.1	20.1	NT	16.4	NT	126	NT	37.2	22.7
Zinc, Total	109	10000	10000	71.9	55.2	68.3	NT	522	NT	227	NT	108	59.1
Polychlorinated Biphenyls (mg/kg)													
PCBs, Total	0.1	1	1	NT	ND	ND	NT	NT	NT	NT	NT	ND	NT
Chlorinated Herbicides and Organochlorine Pesticides (mg/kg)													
Lindane	0.1	1.3	9.2	NT	ND	ND	NT	ND	NT	NT	0.00969 PI	ND	NT
4,4'-DDE	0.0033	8.9	62	NT	ND	ND	NT	0.00704 P	NT	NT	ND	ND	NT
4,4'-DDD	0.0033	13	92	NT	ND	ND	NT	0.00429	NT	NT	0.00149 J	ND	NT
4,4'-DDT	0.0033	7.9	47	NT	ND	ND	NT	0.00494	NT	NT	ND	ND	NT

Notes:
1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/kg = parts per billion; mg/kg = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. Shading indicates:
   - exceeds UUSCO - Unrestriced Use Soil Cleanup Objective
   - exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objective
   - exceeds CUSCO - Commercial Use Soil Cleanup Objective

Table 5
Groundwater Testing Results
1550 Harlem Road, Cheektowaga, New York

LOCATION	Class GA	MW-101	MW-102	MW-103	MW-103 DUPLICATE	MW-104
SAMPLING DATE		2/28/2018	2/28/2018	2/28/2018	2/28/2018	2/28/2018
LAB SAMPLE ID		L1806985-05	L1806985-01	L1806985-02	L1806985-03	L1806985-04
Volatile Organics (ug/l)						
Ethylbenzene	5	160 J	ND	ND	ND	ND
Vinyl chloride	2	ND	0.08 J	ND	ND	ND
Trichloroethene	5	ND	1.8	ND	ND	ND
Acetone	50	ND	ND	2.2 J	3.1 J	2 J
Cyclohexane	NV	76 J	ND	ND	ND	ND
Semivolatile Organics (ug/l)						
Bis(2-ethylhexyl)phthalate	5	ND	ND	21	1 J	ND
Acenaphthene	20	0.04 J	ND	ND	ND	ND
Naphthalene	10	6.6	0.26	ND	ND	ND
Benzo(a)anthracene	0.002	ND	ND	0.02 J	ND	ND
Benzo(b)fluoranthene	0.002	ND	ND	0.03 J	ND	ND
Fluorene	50	0.05 J	ND	ND	ND	ND
Phenanthrene	50	0.06 J	0.06 J	0.05 J	0.07 J	0.08 J
2-Methylnaphthalene	NV	1.3	0.1	ND	ND	0.05 J
Total Metals (ug/l)						
Aluminum, Total	NV	456	1560	351	250	189
Antimony, Total	3	0.47 J	0.95 J	2.25 J	1.03 J	0.54 J
Arsenic, Total	25	3.55	1.97	1.3	1.2	0.93
Barium, Total	1000	35.61	45.16	40.26	38.17	69.27
Beryllium, Total	3	ND	ND	ND	ND	ND
Cadmium, Total	5	ND	0.06 J	0.19 J	0.17 J	ND
Calcium, Total	NV	103000	102000	127000	123000	151000
Chromium, Total	50	1.17	3.05	0.78 J	0.8 J	0.64 J
Cobalt, Total	NV	1.44	2.18	2.81	2.77	2.71
Copper, Total	200	3.97	4.83	9.86	9.85	1.2
Iron, Total	300	1190	3040	669	544	323
Lead, Total	25	4.6	4.62	2.03	1.8	0.49 J
Magnesium, Total	35000	39500	33600	26200	25800	48900
Manganese, Total	300	993.4	262.2	631	647.4	382.8
Mercury, Total	0.7	ND	ND	ND	ND	ND
Nickel, Total	100	5.58	6.42	7.86	8.01	17.42
Potassium, Total	NV	566	1680	1620	1610	741
Selenium, Total	10	ND	ND	ND	ND	ND
Silver, Total	50	ND	ND	ND	ND	ND
Sodium, Total	20000	27100	41500	21200	21300	120000
Thallium, Total	0.5	ND	ND	ND	ND	ND
Vanadium, Total	NV	ND	3.37 J	ND	ND	ND
Zinc, Total	2000	11.62	16.44	7.4 J	6.35 J	4.92 J
Dissolved Metals (ug/l)						
Aluminum, Dissolved	NV	102	15.6	6.34 J	8.6 J	14.6
Antimony, Dissolved	3	ND	1.82 J	0.91 J	0.66 J	ND
Arsenic, Dissolved	25	2.42	0.68	0.78	0.76	0.77
Barium, Dissolved	1000	30.88	35.6	35.72	34.37	59.09
Beryllium, Dissolved	3	ND	ND	ND	ND	ND
Cadmium, Dissolved	5	ND	0.07 J	0.18 J	0.18 J	0.06 J
Calcium, Dissolved	NV	98400	101000	125000	116000	142000
Chromium, Dissolved	50	0.19 J	ND	ND	0.2 J	0.19 J
Cobalt, Dissolved	NV	0.62	0.74	2.4	2.38	2.97
Copper, Dissolved	200	1.08	1.37	6.76	7.51	1.4
Iron, Dissolved	300	ND	ND	33 J	23.5 J	ND
Lead, Dissolved	25	0.41 J	ND	0.47 J	0.46 J	1 U
Magnesium, Dissolved	35000	37600	32500	24800	24500	45400
Manganese, Dissolved	300	818.3	214.8	605.8	591.8	359.1
Mercury, Dissolved	0.7	ND	ND	ND	ND	ND
Nickel, Dissolved	100	4.63	3	7.6	7.69	17.23
Potassium, Dissolved	NV	483	1330	1530	1500	656
Selenium, Dissolved	10	ND	ND	ND	ND	ND
Silver, Dissolved	50	ND	ND	ND	ND	ND
Sodium, Dissolved	20000	26300	40600	20400	20300	109000
Thallium, Dissolved	0.5	ND	ND	ND	ND	ND
Vanadium, Dissolved	NV	ND	ND	ND	ND	ND
Zinc, Dissolved	2000	ND	ND	4.37 J	3.93 J	3.97 J
Chlorinated Herbicides and Organochlorine Pesticides (ug/l)						
Heptachlor epoxide	0.03	0.01 J	ND	ND	ND	ND
4,4'-DDD	0.3	ND	0.013 J	ND	ND	ND
Polychlorinated Biphenyls (ug/l)						
PCBs, Total	0.09	ND	ND	ND	ND	ND

Notes:
1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/L = parts per billion; mg/L = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. Shading indicates: exceeds NYSDEC Class GA criteria

Table 6
Emergent Contaminant Sampling Results
1550 Harlem Road, Cheektowaga, NY

Parameter	MW101	MW103	MW104	MW103 DUPLICATE	EQUIPMENT BLANK-5	FIELD BLANK-1
LAB ID:	L1831543-01	L1831543-02	L1831543-03	L1831543-04	L1831543-05	L1831543-06
COLLECTION DATE:	8/13/2018	8/13/2018	8/13/2018	8/13/2018	8/13/2018	8/13/2018
1,4 DIOXANE BY 8270D-SIM (ug/l)						
1,4-Dioxane	ND <0.147	ND <0.15	ND <0.144	ND <0.147	ND <0.144	ND <0.139
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION (ng/l)						
Perfluorobutanoic Acid (PFBA)	22.1	7.78	14	7.5	ND <1.8	ND <1.8
Perfluoropentanoic Acid (PFPeA)	22.1	3.02	3.34	3.54	ND <1.8	ND <1.8
Perfluorobutanesulfonic Acid (PFBS)	7.82	3.62	2.1	3.22	ND <1.8	ND <1.8
Perfluorohexanoic Acid (PFHxA)	20.4	1.9	1.92	2.34	ND <1.8	ND <1.8
Perfluoroheptanoic Acid (PFHpA)	10.4	1.86	0.946 J	2.24	ND <1.8	ND <1.8
Perfluorohexanesulfonic Acid (PFHxS)	2.2	1.44 J	0.35 J	0.676 J	ND <1.8	ND <1.8
Perfluorooctanoic Acid (PFOA)	16	9.76	2.65	10.9	ND <1.8	0.119 J
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	67	2.01 B	3.07 B	1.12 JB	ND <1.8	0.95 JB
Perfluoroheptanesulfonic Acid (PFHpS)	ND <1.84	0.362 J	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluorononanoic Acid (PFNA)	0.643 J	1.09 J	ND <1.78	1.05 J	ND <1.8	ND <1.8
Perfluorooctanesulfonic Acid (PFOS)	2.64	18.7	0.157 J	20.1	ND <1.8	ND <1.8
Perfluorodecanoic Acid (PFDA)	0.276 J	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND <1.84	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMel	ND <1.84	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluoroundecanoic Acid (PFUnA)	0.184 J	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluorodecanesulfonic Acid (PFDS)	ND <1.84	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluorooctanesulfonamide (FOSA)	ND <1.84	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFO	ND <1.84	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluorododecanoic Acid (PFDoA)	0.099 J	ND <1.77	ND <1.78	ND <1.86	ND <1.8	ND <1.8
Perfluorotridecanoic Acid (PFTrDA)	ND <1.84	ND <1.77	ND <0.00178	ND <1.86	ND <1.8	ND <1.8
Perfluorotetradecanoic Acid (PFTA)	ND <1.84	0.124 J	0.104 J	0.204 J	ND <1.8	ND <1.8

Notes:
1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table.
Refer to Appendix for the full analytical report.
2. ug/L = parts per billion; mg/L = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and and Groundwater Effluent Limitations.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. B = Analyte detected above reporting limit in the associated method blank

Table 7
Interim Remedial Measures Soil Sample Testing Results
1550 Harlem Road, Cheektowaga, NY

				EXCAVATION C								EXCAVATION B					
Parameter	UUSCO	RRUSCO	CUSCO	**EX.C BOTTOM**	**EX.C BOTTOM DUPLICATE**	**EX.C NORTHWALL**	**EX.C WESTWALL-1**	**EX.C WESTWALL-2**	**EX.C EASTWALL-1**	**EX.C EASTWALL-2**	**EX.C SOUTHWALL**	**EX.B BOTTOM**	**EX.B EASTWALL-1**	**EX.B WESTWALL-1**	**EX.B SOUTHWALL**	**EX.B BOTTOM-2**	**EX.B EASTWALL-2**	**EX. B SOUTHWALL-1**
Lab Sample ID				**L1806536-01**	**L1806536-02**	**L1806536-03**	**L1806536-04**	**L1806536-05**	**L1806536-06**	**L1806536-07**	**L1806536-08**	**L1806536-09**	**L1806536-10**	**L1806536-11**	**L1806536-12**	**L1806536-13**	**L1806536-14**	**L1806536-15**
Sampling Date				**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/23/2018**	**2/27/2018**	**2/27/2018**	**2/27/2018**
Volatile Organics (mg/kg)																		
Methylene chloride	0.05	100	500	ND	1.2 U	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	26	240	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	3.1	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	4.8	44	0.06 J	0.095 J	ND	0.071 J	ND	1.2	7.1	0.13 J	0.021 J	0.071	0.016 J	ND	0.11	0.086	ND
Toluene	0.7	100	500	0.51	0.69	ND	0.43	1	2.7	8.2	0.38	0.019 J	0.46	0.014 J	ND	0.14	0.13	ND
Ethylbenzene	1	41	390	2.7	3	0.58	5.4	7.4	6.9	24	4.6	0.22	2	1.3	ND	2.7	3.1	0.015 J
p/m-Xylene	NV	NV	NV	12	13	1.2	24	28	29	92	18	0.12 J	7.8	0.14	0.065 J	1.4	1.2	0.32
o-Xylene	NV	NV	NV	3.7	4.2	0.2 J	3.5	3.2	9.1	20	0.57	ND	0.8	ND	ND	0.46	0.6	ND
cis-1,2-Dichloroethene	0.25	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	0.05	100	500	ND	ND	ND	ND	ND	ND	ND	ND	0.28 J	0.23 J	ND	ND	ND	ND	ND
Carbon disulfide	NV	NV	NV	ND	ND	ND	ND	ND	0.24 J	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND
2-Butanone	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NV	NV	NV	0.28	0.32	0.85	0.46	1.4	0.72	5.8	0.5	0.11	0.28	0.31	0.015 J	0.14	0.34	0.06 J
Methyl Acetate	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NV	NV	NV	2.3 J	2.9	6.6	4.6	15	7.9	ND	5.2	0.17 J	0.5 J	1 J	ND	0.47 J	0.63 J	0.35 J
Methyl cyclohexane	NV	NV	NV	2.5	3.1	5.1	4.9	17	8.3	14	5.9	0.14 J	0.48	0.88	1.1	0.08 J	0.32	0.032 J
Semivolatile Organics (mg/kg)																		
Acenaphthene	20	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	500	ND	ND	ND	ND	ND	0.041 J	0.03 J	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.14 U	0.13 U	ND
Naphthalene	12	100	500	1.4	1.1	0.16 J	1.2	0.71	1.3	1.8	0.78	0.026 J	0.97	0.081 J	0.2 U	0.05 J	0.24	ND
Bis(2-ethylhexyl)phthalate	NV	NV	NV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.074 J
Butyl benzyl phthalate				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	1	1	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	1	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	1	1	5.6	ND	ND	ND	ND	ND	0.036 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.8	3.9	56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1	3.9	56	ND	ND	ND	ND	ND	0.025 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	100	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30	100	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100	100	500	ND	ND	ND	ND	ND	0.031 J	0.032 J	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	0.33	0.33	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	100	500	ND	ND	ND	ND	ND	0.03 J	0.023 J	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	59	350	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.8	6.7	6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylphenol/4-Methylphenol	0.33	100	500	0.041 J	ND	ND	ND	ND	0.036 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole				ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals (mg/kg)																		
Aluminum, Total	NV	NV	NV	12400	11000	NT	13400	13600	NT	NT	NT	9160	NT	10200	NT	NT	NT	NT
Antimony, Total	NV	NV	NV	ND	ND	NT	ND	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT
Arsenic, Total	13	16	16	13.6	11.6	NT	9.24	7.46	NT	NT	NT	7.78	NT	8.44	NT	NT	NT	NT
Barium, Total	350	400	400	90.3	73	NT	106	114	NT	NT	NT	51.4	NT	57.6	NT	NT	NT	NT
Beryllium, Total	7.2	72	590	0.649	0.481 J	NT	0.655	0.696	NT	NT	NT	0.367 J	NT	0.395 J	NT	NT	NT	NT
Cadmium, Total	2.5	4.3	9.3	0.098 J	ND	NT	ND	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT
Calcium, Total	NV	NV	NV	32300	36000	NT	5130	2780	NT	NT	NT	40000	NT	35700	NT	NT	NT	NT
Chromium, Total	30	180	1500	16.8	15.6	NT	17.9	18.9	NT	NT	NT	14	NT	15	NT	NT	NT	NT
Cobalt, Total	NV	NV	NV	10.8	10.2	NT	10.3	9.83	NT	NT	NT	8.73	NT	9.5	NT	NT	NT	NT
Copper, Total	50	270	270	32.8	25.5	NT	25.8	22.8	NT	NT	NT	26.8	NT	27.6	NT	NT	NT	NT
Iron, Total	NV	NV	NV	27300	23800	NT	24500	24200	NT	NT	NT	20600	NT	22100	NT	NT	NT	NT
Lead, Total	63	400	1000	16	11.8	NT	11.1	12.4	NT	NT	NT	10.7	NT	11.2	NT	NT	NT	NT
Magnesium, Total	NV	NV	NV	12000	11500	NT	4890	4080	NT	NT	NT	12300	NT	11200	NT	NT	NT	NT
Manganese, Total	1600	2000	10000	561	626	NT	223	216	NT	NT	NT	407	NT	445	NT	NT	NT	NT
Mercury, Total	0.18	0.81	2.8	0.02 J	0.02 J	NT	0.03 J	0.03 J	NT	NT	NT	0.02 J	NT	0.02 J	NT	NT	NT	NT
Nickel, Total	30	310	310	26	24.5	NT	25.8	26.4	NT	NT	NT	22.6	NT	24.3	NT	NT	NT	NT
Potassium, Total	NV	NV	NV	702	704	NT	596	1040	NT	NT	NT	669	NT	699	NT	NT	NT	NT
Selenium, Total	3.9	180	1500	ND	ND	NT	0.421 J	0.267 J	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT
Sodium, Total	NV	NV	NV	118 J	113 J	NT	79.6 J	83.1 J	NT	NT	NT	108 J	NT	105 J	NT	NT	NT	NT
Vanadium, Total	NV	NV	NV	24.5	19.4	NT	23.3	23.6	NT	NT	NT	17.7	NT	18	NT	NT	NT	NT
Zinc, Total	109	10000	10000	66.9	61.3	NT	63.2	62	NT	NT	NT	58.8	NT	63.6	NT	NT	NT	NT
Polychlorinated Biphenyls (mg/kg)																		
PCBs, Total	0.1	1	1	ND	ND	NT	ND	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT
Chlorinated Herbicide and Organochlorine Pesticides by GC																		
Heptachlor	0.042	2.1	15	0.00089 JPI	ND	NT	ND	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT

Notes:
1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/kg = parts per billion; mg/kg = parts per million.
3. ND = not detected; NT = not tested; NV = no value.
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) UUSCO; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. E = Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
7. J = Estimated value. The target analyte is below the reporting limit (RL), but above the method dectection limit (MDL).
8. P = The RPD between the results for the two columns exceeds the method-specified criteria.
9. Shading indicates: exceeds UUSCO - Unrestriced Use Soil Cleanup Objective
   exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objective
   exceeds CUSCO - Commercial Use Soil Cleanup Objective

Table 7
Interim Remedial Measures Soil Sample Testing Results
1550 Harlem Road, Cheektowaga, NY

				EXCAVATION B			SS102 EXCAVATION		SB103 EXCAVATION					SB104 & SB108 EXCAVATION					
Parameter	UUSCO	RRUSCO	CUSCO	**EX. B BOTTOM-1**	**EX. B NORTHWALL-**	**EX. B WESTWALL-2**	**SS102A (1.3-1.5')**	**SS102B (1.3-1.5')**	**SB103A (0-4')**	**SB103B (0-4')**	**SB103C (0-4')**	**SB103D (0-4')**	**SB103 BOTTOM**	**SB104A (2-4')**	**SB104A DUP**	**SB104B (2-4')**	**SB104C (2-4')**	**SB104D (2-4')**	**SB104 BOTTOM**
Lab Sample ID				**L1806536-18**	**L1806536-19**	**L1806536-20**	**L1830842-08**	**L1830842-10**	**L1830842-03**	**L1830842-04**	**L1830842-05**	**L1830842-06**	**L1830842-07**	**L1830842-11**	**L1830842-12**	**L1830842-13**	**L1830842-14**	**L1830842-15**	**L1830842-16**
Sampling Date				**2/26/2018**	**2/26/2018**	**2/26/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**	**8/8/2018**
Volatile Organics (mg/kg)																			
Methylene chloride	0.05	100	500	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	26	240	0.0014 J	0.0012 J	0.0049	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	3.1	30	0.0066	0.0026	0.027	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
Benzene	0.06	4.8	44	0.0031	0.0011 U	0.00052 J	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.099	0.026 J	3.1	ND
Toluene	0.7	100	500	ND	ND	0.0013 J	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	2.2	ND
Ethylbenzene	1	41	390	ND	ND	0.0014	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.042 J	0.26	3.6	ND
p/m-Xylene	NV	NV	NV	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.38	0.46	9.1	ND
o-Xylene	NV	NV	NV	ND	ND	0.0055	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.045 J	0.065 J	1	ND
cis-1,2-Dichloroethene	0.25	100	500	ND	ND	0.00041 J	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
Styrene	NV	NV	NV	ND	ND	0.0021 U	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NV	NV	NV	ND	ND	0.01 U	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
Acetone	0.05	100	500	0.013	0.015	0.015	NT	NT	NT	NT	NT	NT	NT	0.022	0.023	0.045	ND	ND	ND
Carbon disulfide	NV	NV	NV	0.0012 J	0.0014 J	0.01 U	NT	NT	NT	NT	NT	NT	NT	ND	ND	ND	ND	ND	ND
2-Butanone	NV	NV	NV	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	0.0031 J	0.0038 J	ND	ND	ND	ND
Isopropylbenzene	NV	NV	NV	ND	ND	0.00051 J	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.33	0.1	0.43	0.11
Methyl Acetate	NV	NV	NV	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.41	0.12 J	ND	0.37
Cyclohexane	NV	NV	NV	ND	0.00062 J	ND	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.077 J	0.07 J	0.45 J	ND
Methyl cyclohexane	NV	NV	NV	0.0043 U	0.00045 J	0.0035 J	NT	NT	NT	NT	NT	NT	NT	ND	ND	0.14 J	0.08 J	0.44	ND
Semivolatile Organics (mg/kg)																			
Acenaphthene	20	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluoranthene	100	100	500	ND	ND	ND	ND	0.08 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Naphthalene	12	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Bis(2-ethylhexyl)phthalate	NV	NV	NV	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Butyl benzyl phthalate				ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)anthracene	1	1	5.6	ND	ND	ND	ND	0.037 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(a)pyrene	1	1	1	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(b)fluoranthene	1	1	5.6	ND	ND	ND	ND	0.058 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(k)fluoranthene	0.8	3.9	56	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chrysene	1	3.9	56	ND	ND	ND	ND	0.047 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Acenaphthylene	100	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Anthracene	100	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Benzo(ghi)perylene	100	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Fluorene	30	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenanthrene	100	100	500	ND	ND	ND	ND	0.047 J	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibenzo(a,h)anthracene	0.33	0.33	0.56	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pyrene	100	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Dibenzofuran	7	59	350	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Pentachlorophenol	0.8	6.7	6.7	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
3-Methylphenol/4-Methylphenol	0.33	100	500	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Carbazole				ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Metals (mg/kg)																			
Aluminum, Total	NV	NV	NV	NT	NT	10700	10600	15500	9720	9580	12500	15400	14200	10500	NT	9160	12600	13600	12000
Antimony, Total	NV	NV	NV	NT	NT	1.05 J	0.562 J	0.592 J	0.643 J	4.8 U	0.499 J	0.507 J	0.433 J	0.573 J	NT	0.413 J	0.517 J	0.842 J	4.71 U
Arsenic, Total	13	16	16	NT	NT	4.94	9.93	7.91	7.55	7.64	7.35	7.31	12.1	8.54	NT	7.8	10.9	12	9.99
Barium, Total	350	400	400	NT	NT	59.7	55.6	86.9	89.2	69.1	114	188	134	111	NT	60.5	84.6	91.6	114
Beryllium, Total	7.2	72	590	NT	NT	0.484 J	0.459 J	0.538	0.575	0.384 J	0.64	0.732	0.838	0.817	NT	0.384 J	0.698	0.673	0.735
Cadmium, Total	2.5	4.3	9.3	NT	NT	ND	0.59 J	0.645 J	0.537 J	0.605 J	0.612 J	0.878 J	0.79 J	0.77 J	NT	0.525 J	0.617 J	0.645 J	0.782 J
Calcium, Total	NV	NV	NV	NT	NT	37500	30400	38300	2080	92900	7460	2940	3350	2090	NT	28700	3050	4880	3080
Chromium, Total	30	180	1500	NT	NT	16.8	16.3	18.2	12.3	13.2	17.3	19.5	19.4	14.1	NT	13.6	17.1	18.7	16.3
Cobalt, Total	NV	NV	NV	NT	NT	10.3	10.1	9.14	8.31	7.74	10.3	14.1	9.58	18.5	NT	7.75	9.4	18.5	13
Copper, Total	50	270	270	NT	NT	26.2	28.3	23.1	14.7	22.1	24.9	18.4	21.5	23.4	NT	22.9	24.1	27.2	25.4
Iron, Total	NV	NV	NV	NT	NT	21600	23700	23200	19500	20100	25200	27000	31400	25500	NT	19000	25900	28700	25400
Lead, Total	63	400	1000	NT	NT	11.6	15.7	20.3	13.7	11.8	16.1	13.4	14.9	15	NT	21.6	13.4	17.7	15.2
Magnesium, Total	NV	NV	NV	NT	NT	13500	10300	10800	2510	10300	5020	4090	4080	2660	NT	9660	4190	6060	3690
Manganese, Total	1600	2000	10000	NT	NT	384	439	440	206	450	348	445	304	770	NT	418	332	1160	635
Mercury, Total	0.18	0.81	2.8	NT	NT	0.02 J	0.031 J	0.046 J	0.048 J	0.019 J	0.033 J	0.047 J	0.048 J	0.042 J	NT	0.05 J	0.034 J	0.029 J	0.035 J
Nickel, Total	30	310	310	NT	NT	27.3	25.3	22.7	19.5	20.1	27.7	33.9	27	22.4	NT	19.9	26	36.1	29.6
Potassium, Total	NV	NV	NV	NT	NT	1130	1510	3960	883	864	1110	1120	1170	743	NT	1000	651	1050	665
Selenium, Total	3.9	180	1500	NT	NT	0.741 J	0.853 J	1.17 J	0.575 J	0.375 J	0.471 J	0.42 J	0.298 J	0.648 J	NT	0.328 J	1.81 U	0.514 J	0.66 J
Sodium, Total	NV	NV	NV	NT	NT	134 J	274	423	39 J	128 J	60.1 J	171 J	44.2 J	167 J	NT	216	148 J	148 J	303
Vanadium, Total	NV	NV	NV	NT	NT	20.5	20.2	26.9	17.9	17.4	22.5	24.5	27.8	20.9	NT	17.8	23.7	23.3	22.7
Zinc, Total	109	10000	10000	NT	NT	64.7	64.2	63.8	41.8	51.3	67.8	70.9	70.6	55.3	NT	60.5	66.3	68.9	60.2
Polychlorinated Biphenyls (mg/kg)																			
PCBs, Total	0.1	1	1	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chlorinated Herbicide and Organochlorine Pesticides by GC																			
Heptachlor	0.042	2.1	15	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Table 8
Cost Estimate of Unrestricted Use
1550 Harlem Rd, Cheektowaga, NY

Task	Estimated Quantity		Unit Cost		Total Cost
1. Soil excavation					
Soil Excavation	1,000	cy	$12		$12,000
Soil transportation and disposal	1,500	ton	$25		$37,500
Confirmatory Soil Samples	50	samples	$400		$20,000
Backfill and grading	1,500	ton	$24	cy	$36,000
2. Reporting and Engineering					
Health and Safety (CAMP)	10%				$10,550
Contractor Contingency Fee	10%				$10,550
Engineering/oversight	25%				$26,375
Total Estimated Remedial Cost					**$152,975**