REMEDIAL INVESTIGATION - INTERIM REMEDIAL MEASURES – ALTERNATIVE ANALYSIS REPORT WORK PLAN

BROWNFIELDS CLEANUP PROGRAM
For
166 Chandler Holdings, LLC
166 Chandler Street, Buffalo, New York 14207
BCP # C915320

Prepared For:
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WGS Project No: 18-104

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1.0 INTRODUCTION

1.1 Project Background

This Remedial Investigation (IR), Interim Remedial Measures (IRM) Work Plan presents the proposed scope of work (Work Plan) at the 166 Chandler Street Site at 166 Chandler Street located in the City of Buffalo, New York (site), as shown on Figure 1 and Figure 2. The Applicant, 166 Chandler Holdings LLC, has been accepted into the Brownfield Cleanup Program (BCP) as a Volunteer, identified as Site Number C915320, under Brownfield Site Cleanup Agreement Index No. C915320-07-17 dated December 11, 2017.

The RI/IRM will be completed by Wittman GeoSciences (WGS), Hazard Evaluations Inc. (HEI) and Schenne & Associates (S&A) on behalf of 166 Chandler Holdings LLC. The work will be completed in general accordance with New York State Department of Environmental Conservation (NYSDEC) DER-10 guidelines. The work plan provides details on the site investigation and interim remedial action to be undertaken. The site investigation will be focused on subsurface conditions beneath the existing building, and the IRM will include removal of fill soils in the existing vacant parcel on the western portion of the site. Following IRM work, 166 Chandler Holdings LLC will redevelop the property as a business incubator in cooperation with the State of New York's START-UP NY program.

1.2 Site Background

The site is addressed as 166 Chandler Street in the City of Buffalo, Erie County, New York and consists of one parcel totaling approximately 0.48 acres of land. The site is bound to the south by Chandler Street, to the west by vacant building and lot, and to the north by railroad line and to the east by a vacant lot used for storage. The property is located within an urban area, utilized for industrial, commercial, and residential purposes.

The 166 Chandler parcel is improved with one 43,000 square foot four-story building located on the eastern portion of the site. Historic industrial fill and rubble resulting from the demolition of old buildings, as well as piles of soil/debris are located within the western parking area.

The site building was originally constructed in 1907 as dairy machine manufacturer with additions to the building in 1909, 1919, 1927, and 1931. Former usages also included grocery, Linde Air Products, Sponge Air Seat Co., and Barcalo Mfg (furniture manufacturer). Several fires occurred during the 1980s and 1990s that resulted in demolition of western portion of building. The building has been vacant for over 20 years. Prior uses that appear to have led to site contamination including machining and furniture manufacturing.

1.3 Summary of Environmental Conditions

During due diligence work prior to property purchase, Hazard Evaluations Inc. completed a limited Phase II investigation for Signature Development at the property in

November of 2016. The work included completion of three hand augers, 13 soil borings and collection of soil and groundwater samples, at locations shown on Figure 2. Based on this limited investigation, the primary contaminants of concern in the soil/fill profile include semi-volatile organic compounds (SVOCs), and metals, while SVOCs were detected in the groundwater. Appendix A includes the sample location figure, tables summarizing analytical data and soil boring logs from the November 2016 investigation. A final report was not created for the Phase II work.

The Phase II testing identified SVOCs in the fill areas of the vacant lot at concentrations exceeding restricted residential, commercial, and industrial standards. Elevated levels of mercury was also identified within one sample under the building. Historical records identified a possible UST in the southwestern corner of the site. No record of tank removal or registration was identified.

1.4 Site Conditions

Based on the soil borings completed, approximately 2 to 7.5 feet of granular and cohesive fill material is present throughout the site. The fill material extended to depths of 6 to 7.5 feet below grade in the vacant lot area. Silty clay was encountered below the fill material at six of the soil boring locations, and extended the full depth drilled. Groundwater was not encountered during the subsurface investigation work; with the exception of a perched condition at one hand auger location.

The site is generally flat, with the surface covered by buildings and broken gravel vacant parcel. Based on a review of the site topographic conditions as depicted on the USGS 7.5 minute Topographic Quadrangle Map of Buffalo NW, New York, shallow regional groundwater flows is expected to flow in a southwesterly direction toward Scajaquada Creek located approximately 0.4 miles south and toward the Niagara River located approximately 1.25 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 plan. Figure 4, obtained from the Erie County GIS On-line Mapping System, depicts nearby wetlands and/or floodplains which include the floodplain along Scajaquada Creek, located approximately 0.4 miles south of the site.

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

2.0 PROJECT OBJECTIVES

The site has not been comprehensively characterized; therefore, the Applicant intends to further investigate the soil/fill and groundwater (if encountered) at the site. Data collected during the RI/IRM will be used to identify potential health risks and to evaluate remedial alternatives. The objectives of the RI/IRM include the following:

- Define the nature and extent of on-site contamination in both soil and groundwater.

- Identify on-site source areas of contamination, if any.
- 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.
- The IRM will mitigate risks at the site associated with the fill soils as well as potential UST. The planned IRM includes tank removal (if identified), and excavation and off-site disposal of impacted fill soils in the vacant lot.

2.1 Regulatory Criteria

NYSDEC has applicable standards, criteria and guidance (SCG) values that will be used for this project. These goals are applicable when considering remedial alternatives. For purposes of the RI/IRM, the following SCG will be utilized:

- 6 NYCRR Part 375-3 Brownfield Cleanup Program dated December 14, 2006.
- NYSDEC Policy CP-51/Soil Cleanup Guidance dated October 21, 2010.
- NYSDEC "DER-10 Technical guidance for Investigation and Remediation", dated May 2010.
- NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1) document "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" dated June 1998, amended January 1999 Errata Sheet, April 2000 Addendum and June 2004 Addendum.
- State Department of Health (NYSDOH) "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

In addition, sampling data will be used to evaluate remedial alternatives to meet the objectives identified above. Two data confidence levels will be considered, including field screening data and analytical level data. Field screening will include photoionization detector (PID), groundwater elevation measurement, and field groundwater analyses (pH, temperature, specific conductivity, turbidity). Analytical level data will be associated with select soil and groundwater samples submitted for chemical analysis to an independent laboratory.

Soil and groundwater samples will be collected in general accordance with NYSDEC and Environmental Protection Agency (USEPA) sample collection and handling methodologies. Samples selected for laboratory analysis will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP) Contract Laboratory Protocol (CLP) certified laboratory, with a Category B deliverables package. Additionally, a Data Usability Summary Report (DUSR) will be prepared by a third-party data validator.

2.2 Project Organization

WGS/S&A will establish a project team for successful completion of the project. The project team has not been finalized and subcontractors will be determined. Once the team has been finalized, appropriate resumes and information will be provided to NYSDEC, if requested. The anticipated project team is listed below:

Company	Name	Role
Wittman GeoSciences	Michele Wittman	Project Manager
Schenne & Associates	John Schenne, PE	Project Engineer
Schenne & Associates	John Schenne, PE	Structural/Civil Design
Wittman Geosciences	Michele Wittman	Project Director
Hazard Evaluations	Eric Betzold	Field Oversight
Alpha Analytical	Candace Fox	Analytical Laboratory
TBD	TBD	Geoprobe/Drilling Contractor
TBD	TBD	Excavation Contractor
Data Validation Services	Judy Harry	Data Usability Summary Report

Michele Wittman – Michele will be the Project Manager for the work and will be responsible for completion of each task, including coordination and supervision of field activities, adherence to work plan, schedule and budget. Additionally, Michele will be responsible for development of the work plan, coordination of subcontractors, field project oversight and report preparations.

3.0 INVESTIGATION SCOPE OF WORK

3.1 Introduction

The proposed RI scope of work will include investigation for potential site contaminants in the soil/fill and groundwater at the site, specifically under the existing building. The scope of work includes eleven (11) soil boring locations, three of which will be converted to monitoring wells. Additionally, IRM activities are expected to include removal of fill materials from within the vacant lot areas of the site. Proposed sampling locations are included on Figure and summary of proposed analytical testing is presented on Table 1.

3.2 Field Investigation Activities

Prior to intrusive activities, WGS/S&A and appropriate subcontractors will contact Dig Safely New York a minimum of three business days prior to the commencement of the field work. Investigative procedures are described below:

3.2.1 Surface Soil Investigation

Surface soil samples will not be collected at areas of the site currently covered with a building. Additionally, the IRM work will include removal of fill material from the vacant lot area. No areas of currently exposed surface soil area are anticipated to remain in place after completion of the IRM. Therefore, surface soil samples will not be collected.

3.2.2 Subsurface Soil Investigation

Soil sampling which has been completed on-site identified the presence of SVOCs and metals within the fill soils in the vacant lot areas. The fill material within the identified areas will be removed as part of the IRM as discussed in Section 4.0. Proposed sampling locations are included on Figure 5.

Subsurface soil sampling will include the soil constituents located beneath the building floor. Five (5) soil borings will be completed on the interior of the building and five (5) will be completed at exterior areas. Two (2) of the interior soil borings and one (1) exterior soil boring will be converted to groundwater wells (total of 3 proposed monitoring wells). Proposed soil boring locations are shown on Figure 5.

Interior soil borings will be cored through the concrete floor or be completed with a drill rig equipped with a concrete core barrel. A drill rig capable of advancing a borehole using direct push method via a Geoprobe drill rig will be used to advance the interior locations that will not be completed as monitoring wells. The drill rig will advance the 1.5-inch diameter, 4-foot long core sample liner to the desired depth and retrieve soil core samples at four foot intervals. The total depth of interior borings is anticipated to be approximately 12 feet below grade or spoon refusal, whichever is encountered first.

The three monitoring well locations will be advanced using a drill rig or direct-push drill rig capable of advancing hollow-stem augers for installing 2-inch micro-monitoring wells which are expected to be completed to depths of up to 16 to 20 below grade. Additionally, three exterior locations will also be completed using a drill rig to a depth of approximately 30 feet below grade to assess if the native clay extends to greater depths.

Discrete subsurface soil samples will be field screened in approximate two-foot depth intervals for VOCs with a calibrated organic vapor meter equipped with a photoionization detector (PID). Organic vapor meter results and soil descriptions will be recorded on the field soil boring logs.

Soil samples will be selected for analytical analysis based in field screening results, visual and olfactory observations. During initial investigations, granular and cohesive fill was encountered to depths of approximately 6 to 7.5 feet below grade in the vacant lot area, as well as 2 to 4 feet below the building floor. WGS will collect representative samples from each of the identified fill types, as well as the underlying native clay soils, for appropriate laboratory analysis.

The sample interval identified as the most impacted (i.e., highest PID reading, visual/olfactory evidence of odors, staining, or product) will be selected for analysis. Should fill material be encountered, a discrete sample will be collected from each type of fill soil. In the event that no impacts were identified, the native soils directly below the fill/native interface will be selected for analysis.

Additionally, attempt will be made to collected soil samples at vertical variations within the native soil.

Subsurface soil samples will be selected for analysis as shown on Table 1. Actual sample locations will be selected in the field based on utility locations, field observations, screening results, and engineering judgment. Subsurface soil samples will be collected using dedicated stainless steel sampling tools. Select representative soil samples will be place in pre-cleaned laboratory-provided sample bottles, labeled and cooled to 4^{o}C in the field, and transported under chain-of-custody to a NYSDOH ELAP certified analytical laboratory.

3.2.3 Monitoring Well Installation

Three (3) soil boring locations will be converted to monitoring wells using a direct-push drill rig capable of advancing hollow-stem augers to allow for installation of 2-inch diameter wells. The wells will be utilized for measurement of groundwater depth and collection of groundwater samples. The three proposed locations are included on Figure 5.

After completion of the soil borings to depths of approximately 16 to 20 feet below grade, a 2-inch diameter, schedule 40 PVC monitoring well will be installed at each location. An approximate 10 foot length of 0.010-inch machine slotted well screen will be installed at each location attached to the riser. The well screen depth will be backfilled with silica sand filter pack (estimated at size #0) from the base to approximately 2 feet above the well screen. A bentonite seal will be placed above the sand and hydrated to limit potential for down-hole contamination. The top of the well riser will be flush with the ground surface and completed with a locking J-plug. The well will be finished with a flush-mounted road box.

Groundwater samples will be collected from each of the monitoring wells using low flow sampling techniques. The total depth of the wells is expected to be approximately 16 to 20 feet below grade.

3.2.4 Monitoring Well Development

After a minimum of 24-hours from installation, the monitoring wells will be developed using dedicated disposable polyethylene bailers via purge methodology. Field parameters, including pH, temperature, turbidity, and specific conductance will be measured periodically until they become relatively stable (approximately 10% fluctuation or less). A minimum of three well volumes will be removed from each monitoring well, unless dry well conditions are encountered. Development water will be containerized and sampled for future off-site disposal.

3.2.5 Groundwater Sampling

Prior to sample collection, static groundwater levels will be measured at each of the monitoring wells. The wells will be purged and field measurements of pH, specific conductivity, temperature and turbidity will be recorded and monitored for stabilization prior to sampling. Groundwater samples will be collected using low

flow sampling techniques. If insufficient groundwater, new dedicated disposable bailers may be used to collect the groundwater samples.

The three (3) groundwater samples will be analyzed for the following parameters as summarized on Table 1:

- Target Compound List (TCL) VOCs
- TCL semi-volatile organic compounds (SVOCs)
- Target Analyte List (TAL) metals (both filtered and unfiltered)
- Polychlorinated bi-phenyls (PCBs)
- Pesticides
- Herbicides
- 1,4-dioxane
- Polyfluoralkyl substances (PFAS)

Groundwater samples will be 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 a NYSDOH ELAP certified analytical laboratory.

3.2.6 Test Pit Excavations

Test pit excavations will be completed in the western portion of the Site, where historical industrial fill was identified during initial investigations. Three (3) pits will be completed to further evaluate the historical fill material. The proposed locations are included on Figure 5. Test pits will be completed with a tracked excavator capable of reaching a minimum of 10 feet below grade. The depth of the test pit will extend into the former concrete slab, native clay, equipment refusal or groundwater, whichever is encountered first.

Soil samples will be selected for analytical analysis based in field screening results, visual and olfactory observations. HEI will collect representative samples from each of the identified fill types, as well as the underlying native clay soils, if encountered, for appropriate laboratory analysis.

The sample interval identified as the most impacted (i.e., highest PID reading, visual/olfactory evidence of odors, staining, or product) will be selected for analysis. Should fill material be encountered, a discrete sample will be collected from each type of fill soil. In the event that no impacts were identified, the native soils directly below the fill/native interface will be selected for analysis. Additionally, attempt will be made to collected soil samples at vertical variations within the native soil.

Subsurface soil samples will be selected for analysis as shown on Table 1. Actual sample locations will be selected in the field based on utility locations, field observations, screening results, and engineering judgment. Subsurface soil samples will be collected using dedicated stainless steel sampling tools. Select representative soil samples will be place in pre-cleaned laboratory-provided

sample bottles, labeled and cooled to 4°C in the field, and transported under chain-of-custody to a NYSDOH ELAP certified analytical laboratory.

3.2.7 Transformer Room Evaluation

A small former transformer room was located in the southern portion of the building. Access is limited to the transformer room, which is located through a small door. Therefore, one hand auger will be completed in the transformer room, to a depth from one to 3 feet below grade. The concrete floor in the area will be first removed with a concrete core machine, and hand auger completed with pre-cleaned hand equipment. Once soil sample will be collected below the concrete floor and analyzed for PCBs, SVOCs and Metals, as shown on Table 1

Additionally, two concrete samples will be collected from the surface to 2-inches. The concrete samples will be collected with a hand drill, allowing for the concrete dust to be collected and analyzed for PCBs.

3.2.8 Drainage Structure Evaluation

Three drainage structures were present in the northern portion of the site. The structures appeared to be concrete line pits with no discharge location. During the site investigation, an evaluation will be completed to assess if the drainage structures contain a concrete bottom, and if sediment is present. Select sediment and water samples will be collected for laboratory analysis, as presented on Table 1. Each additional drainage structures identified during site investigation work will also be evaluated and sampled, as necessary.

3.2.9 Field Specific Quality Assurance/Quality Control Sampling

Field-specific quality assurance/quality control samples will be collected and analyzed, as summarized on Table 1 to support third-party data usability assessment effort. Site-specific QA/QC samples will include blind duplicate, matrix spike/matrix spike duplicate, rinsate blank, and trip blank.

3.3 Investigation- Derived Waste Management

During the completion of soil borings, removed materials will be placed into the borehole. The excess soil cuttings that cannot be replaced into the borehole will be containerized in 55-gallon drums. Based on analytical testing results, the excess soil may be utilized on-site, or disposed off-site. Development/purge water generated during well development and/or sampling activities will be containerized in 55-gallon drums for testing and future off-site disposal.

3.4 Site Mapping

A base map will be prepared by a New York State-licensed surveyor. The map will include the RI investigation/sampling locations, as well as completed IRM work. Soil/fill boring locations will be field located and incorporated within the survey. Elevations of the ground surface and top of PVC riser will be measured for each monitoring well.

4.0 INTERIM REMEDIAL MEASURES

4.1 IRM Tasks

Based on initial sampling results SVOCs and metals impacts were identified within the fill materials within the vacant lot areas. The IRM activities included below are based on current information and may be modified based on RI fieldwork or waste characterization sample results. If modification is necessary, a revised IRM work plan will be provided for NYSDEC approval prior to initiation of work. The IRM is expected to include the following work, as shown on Figure 6:

- General site cleanout of existing materials
- Asbestos containing materials (ACM) survey and abatement, as necessary
- Lead base paint (LBP) survey and abatement, as necessary
- Removal of UST, if present.
- Excavation and off-site disposal of impacted fill material within the vacant lot areas of the site.

Due to the proposed future usage to include brewery, food services, and clean room manufacturing environment, the overall objective of the IRM is to remediate the site to Track 2 for restricted residential requirements.

4.2 Site Preparation

Prior to implementation of IRM activities, required permits, if any, will be obtained. Currently limited equipment and debris remaining from previous owner is present throughout the vacant lot that will be removed and properly disposed. The fill piles will be characterized and disposed along with the soil excavation activities.

The interior of the building is generally vacant and unused, with limited storage. During the IRM process, the Applicant will remove materials store inside for proper disposal. Additionally, the Applicant will complete required ACM and LBP surveys as well as required abatement, if necessary.

4.3 Pre-Characterization Sampling and Analysis

Prior to initiating IRM activities, waste characterization samples will be collected via soil borings. Due to the volume of soil and limited storage space on the subject site, the collection and analysis of the waste characterization samples will allow for the excavated soil to be directly loaded for off-site transportation and disposal.

The selected analysis will be determined based on solid waste landfill requirements (to be determined), but are expected to include toxicity characteristic leaching procedures (TLCP) VOCs, TCLP SVOCs, TCLP Metals, PCBs, pesticides, herbicides, ignitability, corrosivity, and reactivity. The soil will be disposed based on analytical testing results, and in accordance with applicable disposal regulations.

4.4 UST Removal

Historical Sanborn maps identified a potential tank in the southwestern portion of the site. After removal of various debris within the courtyard, further assessment will be made to assess if the UST is present on-site. The area near the potential UST will be exposed and if present, the tank will be removed in accordance with NYSDEC guidance.

4.5 Soil Excavation

Following removal of the USTs, the surrounding soils will be assessed to determine if the soils have been impacted. If impacted soils are encountered, the soils will be excavated, characterized, and disposed off-site.

The tank excavation sidewalls and bottom will be screened with a PID and visual/olfactory observation to determine the limits of impact to assure impacted soils are addressed. Project oversight will be completed by an experienced WGS/HEI field professional.

Soil/fill removal will be completed within the vacant lot following debris and removal. Fill material will be removed and transported for off-site disposal to an approved solid waste landfill. Estimated excavation limits are included on Figure 6. Excavation is expected to extend to depths of approximately 2 to 7 feet below ground surface, resulting in approximately 1,000 to 2,300 cubic yards.

Excavation limits are expected to be the property limit to the north, west and south, and the building to the east, as shown on Figure 6. Project oversight will be directed by an experienced WGS field professional.

4.6 Excavation Water Treatment and Disposal

Due to the shallow depth of expected excavations and limited groundwater encountered during initial investigations, groundwater is not anticipated to be encountered during excavation activities. However, should groundwater management be required, the water will be pumped and stored in a portable storage tank and tested prior to disposal.

4.7 Confirmatory Soil Sample Collection and Analysis

Confirmatory soil samples will be collected from the UST excavation. WGS estimates the one bottom sample and four sidewall samples will be required. Sidewall samples will be collected within two feet of the tank, unless impacted soil is encountered, which will be removed. Samples will be biased based on field screening toward the suspected location of greatest contamination. The petroleum confirmatory samples will

be analyzed for VOCs and SVOCs as listed on Table 1.

Confirmatory soil samples will also be collected from each of the excavation areas from the courtyard and vacant lot areas. Based on DER-10 requirements, one sample will be collected every 30 linear feet of sidewall and one sample for every 900 square feet of excavation bottom, as listed below:

- Vacant Lot – approximately 420 linear feet of sidewall and 9,000 square feet of bottom, resulting in 14 sidewall samples and 10 bottom samples. A buried concrete slab is anticipated to be encountered during excavation activities, and will remain in place, limiting the number of necessary bottom samples. A minimum of four (4) bottom samples will be collected below the buried concrete slab.

The number of confirmation samples may be reduced based on field conditions, and agreed upon by NYSDEC representative. Based on known contamination, it is anticipated that sidewall and bottom samples will be analyzed for TCL SVOCs and TAL Metals. Additionally, four samples from each the courtyard and vacant lot areas will also be analyzed for TCL VOCs, PCBs, pesticides and herbicides as part of site characterization. A summary of expected samples is included on Table 1.

4.8 Excavation Backfill

The vacant lot, as shown on Figure 6, will be redeveloped with a new building to be used as a future brewery. Following soil excavation, the area will be backfilled with appropriate structural fill as required for construction purposes. The backfill will be approved material in accordance with DER-10 and tested, if required.

4.9 Personnel Decontamination

The degree of decontamination is a function of both the particular task and the physical environment in which it takes place. Decontamination procedures will remain flexible, thereby allowing the decontamination crew to respond appropriately to changing conditions at the site. On-site sampling activities will be carried out in such a manner as to avoid gross contamination of site workers, personal protective equipment, machinery and equipment.

Between sampling locations (or sometimes between samples at one sampling location), and upon the completion of the daily field activities, site workers will proceed to the Contaminated Reduction Zone (CRZ). Equipment (e.g., sampling tubes, shovels, tools, etc.) will be decontaminated in this area. Prior to leaving the site for breaks, at the end of the work shift, or when PPE has been grossly contaminated, disposable boot covers, gloves, and suits will be removed and placed in a drum designated for the disposal of these materials. After removing PPE, each site worker will wash with soap and fresh water prior to donning new PPE or leaving the site for the day. All wash water and rinse water will be collected and disposed of in accordance with appropriate regulations.

Based on site features, a CRZ will likely be established in the entrance area into the courtyard. This areas is currently covered with asphalt and is the only entrance/exit into the courtyard area.

4.10 Decontamination of Equipment

Equipment decontamination efforts will be conducted in the CRZ. Gross contamination will first be removed with plastic scrapers or other appropriate tools. The equipment will be decontaminated at a temporary equipment decontamination pad in the CRZ via hand washing or pressure washing. Downhole tools and augers can be hand washed or pressure washed.

The decontamination of the direct push drilling rig, excavator, or other heavy equipment will be undertaken as necessary. Initially, scraping of the equipment will remove heavily caked materials prior to washing. Washing will then be accomplished by pressure washing. Water generated during decontamination activities will be collected, stored and profiled for future off-site disposal.

4.11 Disposal of Contaminated Materials

Potentially contaminated materials (gloves, clothing, sample sleeves etc.) will be bagged and segregated for proper disposal. Investigation derived waste will be managed in accordance with NYSDEC guidance regulations. All fluids collected during groundwater sampling and decontamination will be containerized and managed appropriately subsequent to field activities and decontamination procedures.

4.12 Stormwater Management

Remedial activities may result in surface water flow off site and into adjacent properties. Silt fencing will be the primary sediment control measure used in this area, if needed. Prior to extensive soil excavation or grading activities, silt fencing will be installed around the perimeter of the construction area. The positioning of the silt fencing will be adjusted as necessary as work proceeds or site conditions change. Silt fences will be maintained as deemed necessary and will remain in place until construction activities in an area are completed.

4.13 Dust Monitoring and Controls

A Community Air Monitoring Plan (CAMP) will be implemented during site investigation and includes particulate monitoring. The remediation crew will make all efforts to suppress dust and particulate matter during the handling of contaminated soil. Fugitive dust and particulate monitoring will be completed in accordance with DER-10 Appendix 1B. The following techniques have been shown to be effective for the controlling the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and/or
(g) Reducing the excavation size and/or number of excavations.

Care will be taken not to use excess water, which can result in unacceptably wet site conditions. Use of atomizing sprays will prevent overly wet conditions, conserve water and provide an effective means of suppressing fugitive dust.

Weather conditions will be evaluated during remedial work. When extreme wind conditions make dust control ineffective, as a last resort, remedial actions may need to be suspended.

5.0 REMEDIAL INVESTIGATION/INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT

Upon completion of the RI/IRM tasks, a RI/IRM/AAR report will be generated in general requirements as identified in DER-10 Section 3.14. The report will include the following information.

- Background and site information.
- Description of investigation and IRM areas.
- Identify and characterize the sources of contamination.
- Comparison with cleanup levels during the alternatives analysis report (AAR).
- Describe the amount, concentration, environmental fate and transport (if necessary), location and other significant characteristics of the contaminants present.
- Define hydraulic factors, as needed.
- Provide a qualitative human exposure assessment.
- Identify actual or potential adverse impacts to fish and wildlife resources
- Conclusions regarding the IRM and its effectiveness.

An independent data validation expert will complete a third-party data view of the analytical data generated during the RI/IRM work. A Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results.

A summary of the IRM work will be included within the RI/IRM/AAR report. Details of the IRM will be included in a separate section of the report, to include:

- Limits of areas remediated; Map will identify confirmatory sample locations
- Summary of estimated quantities of excavated soil and disposal location,
- Summary of estimated quantity and source of backfill;
- Analytical testing results for confirmatory samples

The RI/IRM/AAR report will also include an alternatives analysis to evaluate a remedial approach. The planned IRM work is anticipated to be an effective and final remedy; therefore, additional remedial alternatives are not anticipated at this time. In the event that additional and/or significant contamination is identified above that expected, the AAR will evaluate the need for further remedial activities.

Remedial action objectives will be evaluated and developed to assure the selected remedy is protective of human health and the environment under the proposed future site

usage. Proposed soil cleanup objectives will be based on proposed future usage. Should further remedial requirements be identified, a list of potentially applicable remedial technologies will be developed and evaluated. Criteria to be evaluated for the remedy and protectiveness to public health and the environment include:

- Overall protection of the public health and the environment
- Standards, criteria and guidance (SCG)
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility or volume of contamination through treatment
- Short-term impact and effectiveness
- Implementability
- Cost effectiveness
- Land use

Should the IRM not meet the objectives and be a final remedy, the results of the AAR a remedial alternative will be recommended for the site, which will include a discussion on the reasons for the selection. Community acceptance and comments will be evaluated within the alternative selection.

6.0 ADDITIONAL PROJECT DOCUMENTS

Various supporting documents have been prepared associated with the RI/IRM/AAR work plan and included in the appendix as listed below.

6.1 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) was generated in general accordance with Section 2.4 in DER-10. The QAPP describes the quality assurance/quality control (QA/QC) protocols and guidance associated with the RI/IRM/AAR Work Plan to ensure the suitability and verifiable data result from the sampling and analysis. The QAPP also provides procedures to be used during sampling of various media, field activities, and analytical laboratory testing. The QAPP is included in Appendix B.

6.2 Health and Safety Plan

A site specific Health and Safety Plan (HASP) has been prepared for this project and included in Appendix C. The HASP will be enforced by WGS, HEI, S&A, and subcontractors associated with the RI/IRM field activities. The HASP covers the on-site investigation and interim remedial work. Subcontractors will be required to develop and implement their health and safety plan.

The HASP will include a Community Air Monitoring Plan (CAMP) to describe particulate and volatile organic vapor monitoring to protect nearby community during the investigative and excavation activities.

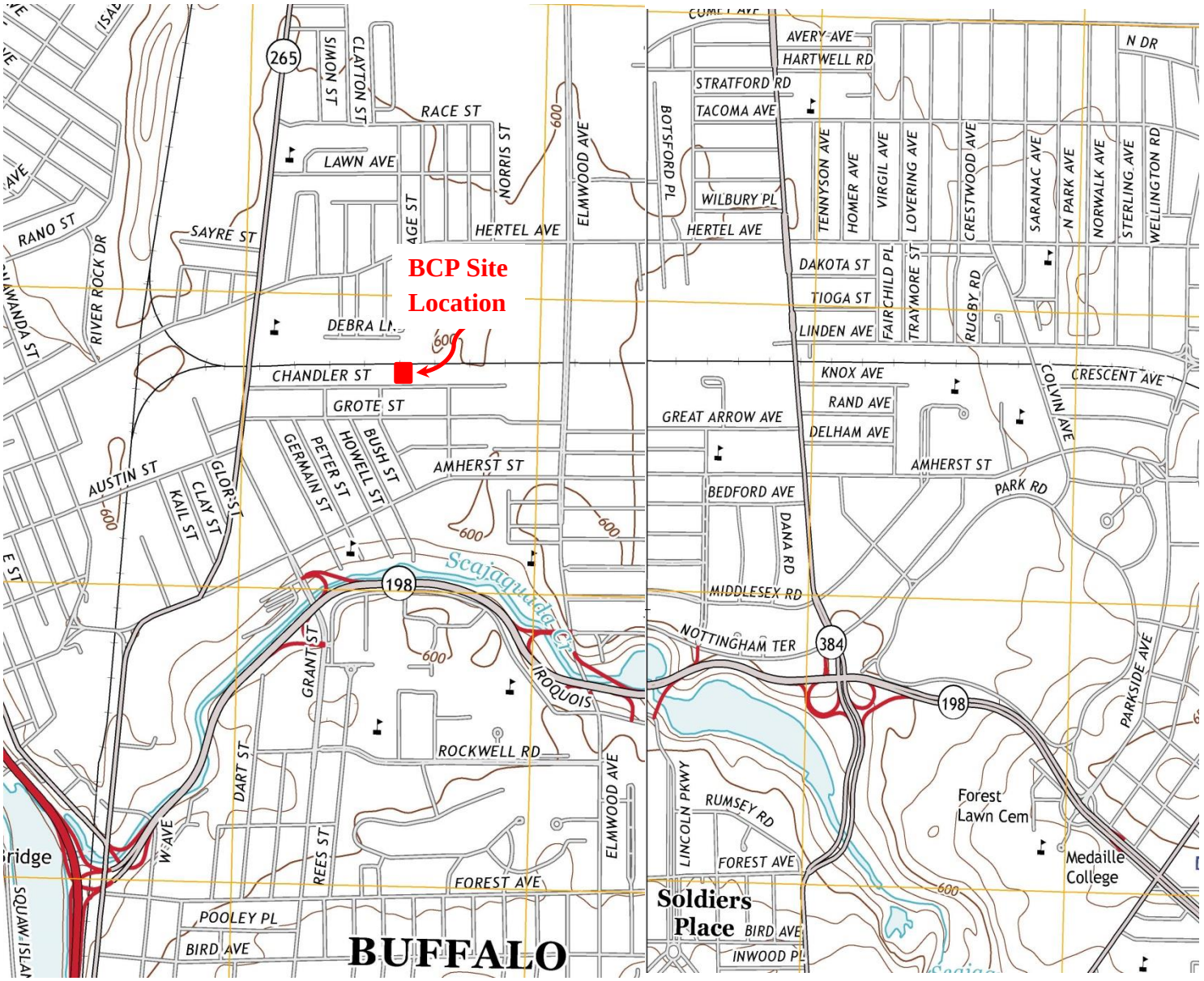
6.3 Citizens Participation Plan

A Citizens Participation Plan (CPP) was previously submitted to NYSDEC. The CPP was prepared in accordance with NYSDEC DER-23 to enable citizen participation. This plan directs responsibility for planning and conducting CP activities, as well as identifies objectives of the plan and how communication between the NYSDEC and individuals and organizations that have expressed interest in or are affected by the site, will be facilitated.

7.0 PROJECT SCHEDULE

The Applicant has requested the project be placed on a fast track. The project development has been approved by the City of Buffalo Planning Department. Additionally Applicant has tenants already confirmed. Figure 7 presents the tentative schedule for planned activities in order to meet Applicants aggressive schedule. A certificate of completion (COC) is anticipated by December 2018.

FIGURES



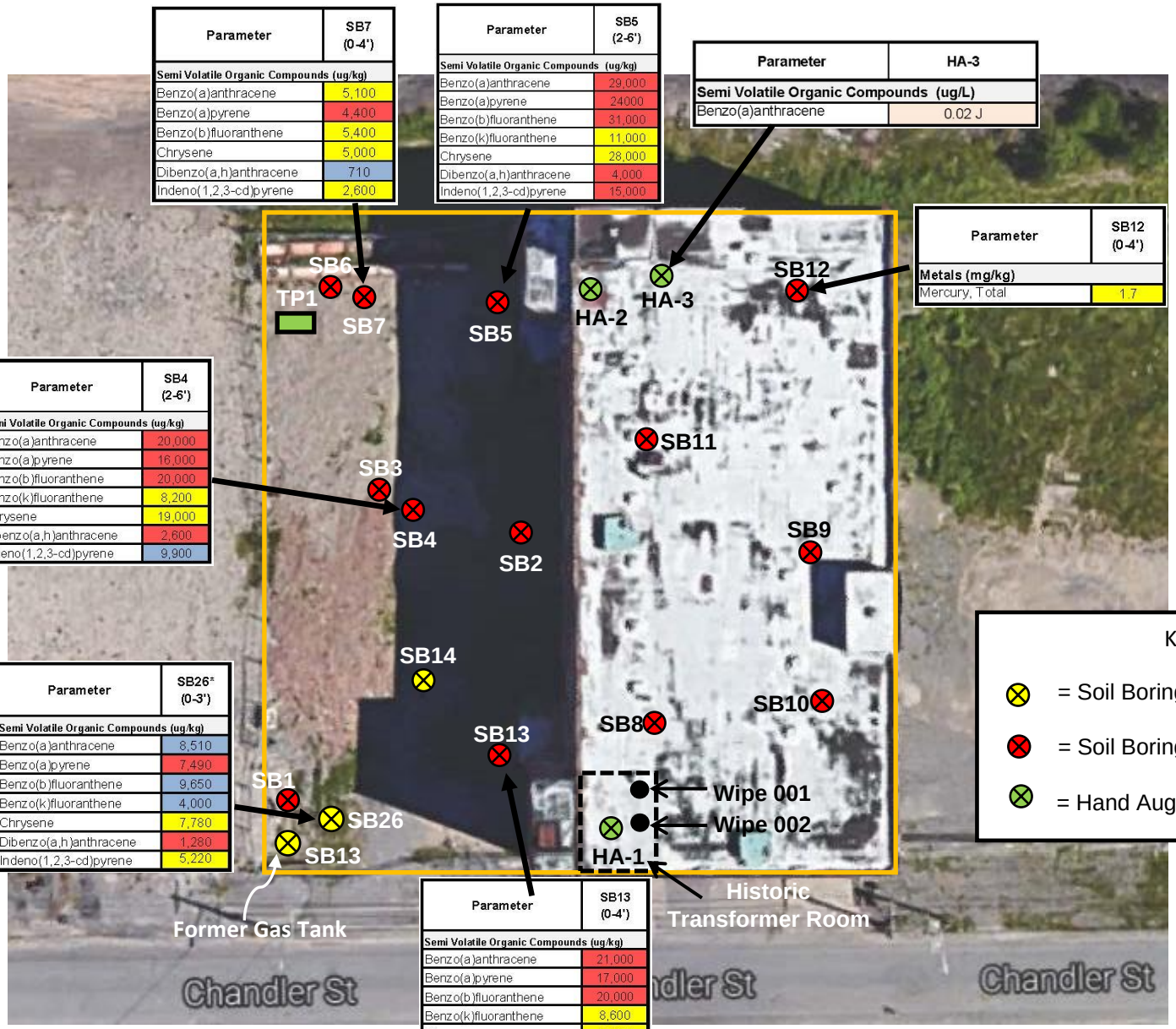
THIS DRAWING IS FOR ILLUSTRATIVE AND INFORMATIONAL PURPOSES ONLY
AND WAS ADAPTED FROM USGS, BUFFALO NE & NW, NEW YORK 2013 QUADRANGLE.

N

WITTMAN GEOSCIENCES		
SITE LOCATION 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/18	FIGURE NO: 1

BCP Boundary Limits

WITTMAN GEOSCIENCES		
SITE LIMITS 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/18	FIGURE NO: 2



Parameter	SB7 (0-4')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	5,100
Benzo(a)pyrene	4,400
Benzo(b)fluoranthene	5,400
Chrysene	5,000
Dibenzo(a,h)anthracene	710
Indeno(1,2,3-cd)pyrene	2,600

Parameter	SB5 (2-6')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	29,000
Benzo(a)pyrene	24000
Benzo(b)fluoranthene	31,000
Benzo(k)fluoranthene	11,000
Chrysene	28,000
Dibenzo(a,h)anthracene	4,000
Indeno(1,2,3-cd)pyrene	15,000

Parameter	HA-3
Semi Volatile Organic Compounds (ug/L)	
Benzo(a)anthracene	0.02 J

Parameter	SB12 (0-4')
Metals (mg/kg)	
Mercury, Total	1.7

Parameter	SB4 (2-6')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	20,000
Benzo(a)pyrene	16,000
Benzo(b)fluoranthene	20,000
Benzo(k)fluoranthene	8,200
Chrysene	19,000
Dibenzo(a,h)anthracene	2,600
Indeno(1,2,3-cd)pyrene	9,900

Parameter	SB26* (0-3')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	8,510
Benzo(a)pyrene	7,490
Benzo(b)fluoranthene	9,650
Benzo(k)fluoranthene	4,000
Chrysene	7,780
Dibenzo(a,h)anthracene	1,280
Indeno(1,2,3-cd)pyrene	5,220

Parameter	SB13 (0-4')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	21,000
Benzo(a)pyrene	17,000
Benzo(b)fluoranthene	20,000
Benzo(k)fluoranthene	8,600
Chrysene	19,000
Dibenzo(a,h)anthracene	2,400
Indeno(1,2,3-cd)pyrene	9,900

KEY

= Soil Boring Location (9/16)

= Soil Boring Location (11/16)

= Hand Auger Location (11/16)

Notes:

1 – Detected concentrations for SVOCs in ppb; metals in ppm

3 - Proposed Cleanup Standards = Restricted Residential

= exceeds Restricted Residential SCO

= exceeds Commercial SCO

= exceeds Industrial SCO

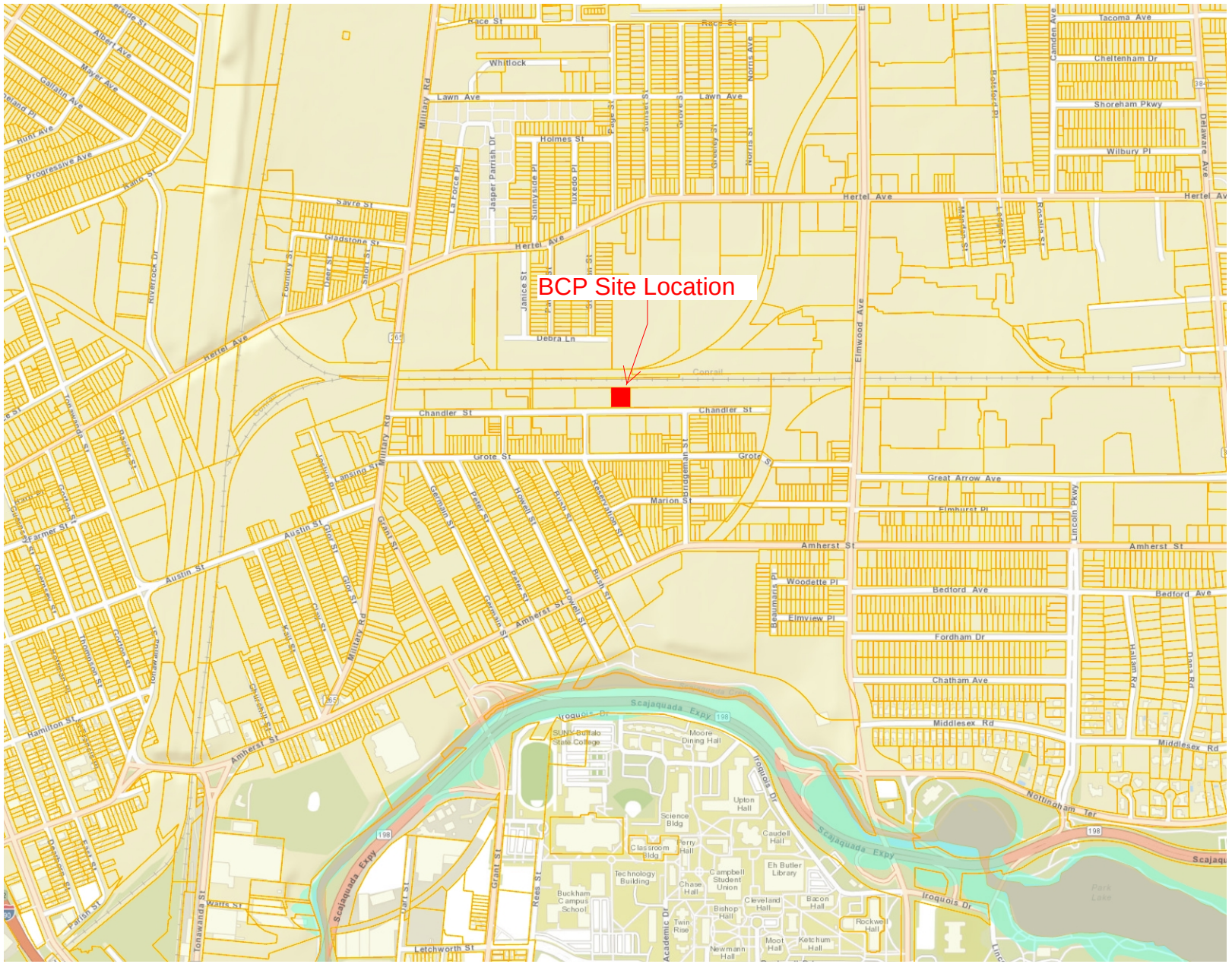
= exceeds Groundwater Standards

WITTMAN GEOSCIENCES

PREVIOUS SAMPLING LOCATIONS
166 CHANDLER STREET
BUFFALO, NEW YORK

DRAWN BY: MMW	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/18	FIGURE NO: 3

Erie County On-Line Mapping Application



Legend

- Parcels
- DEC Wetlands
- National Wetlands Inventory
  - Wetlands
  - No Digital Data
- FEMA Floodplains
- Municipal Boundaries

Figure 4
Nearby Wetland and Floodplain Locations

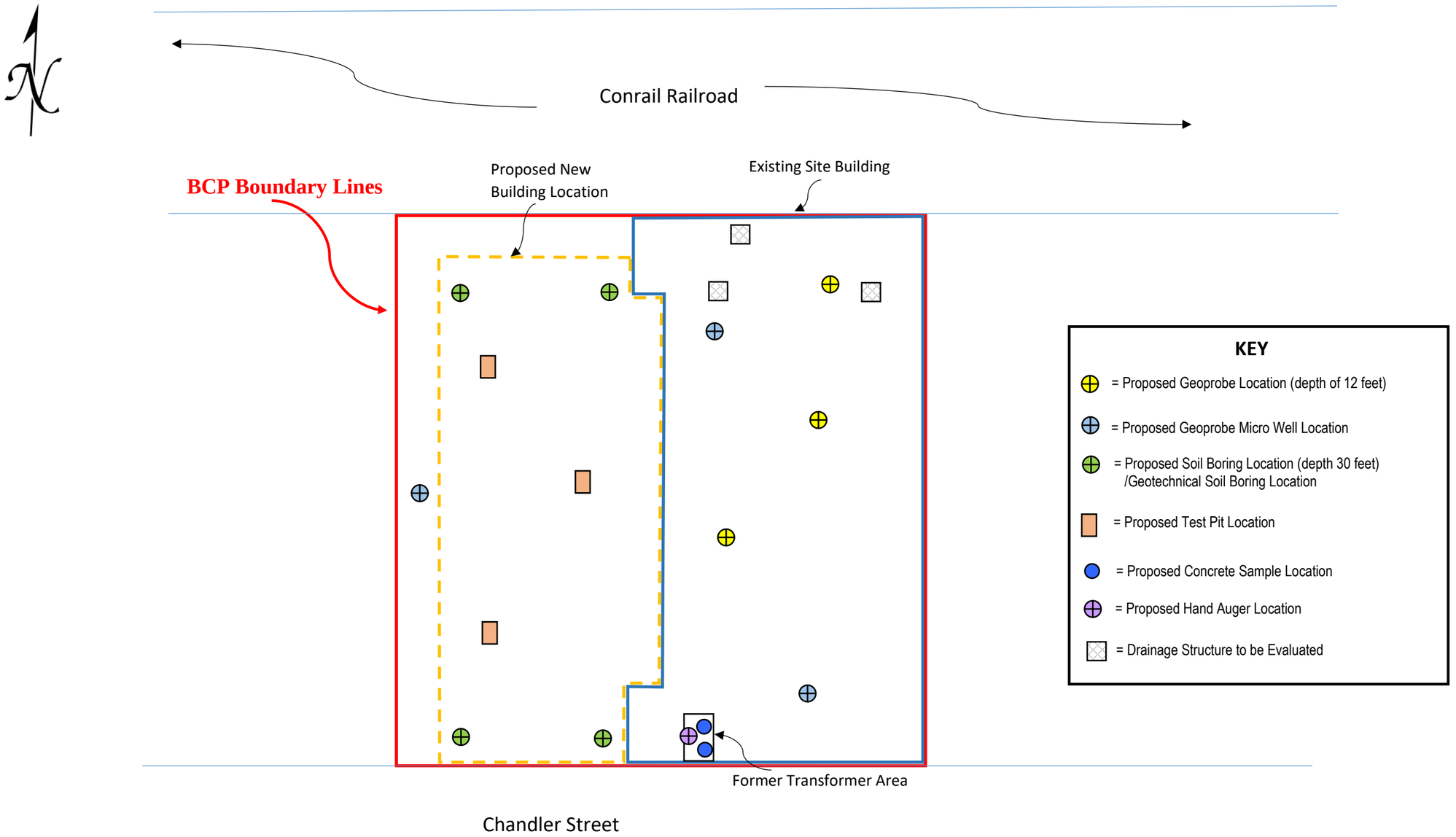
0 1,504.66 3,009.3 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
THIS MAP IS NOT TO BE USED FOR NAVIGATION

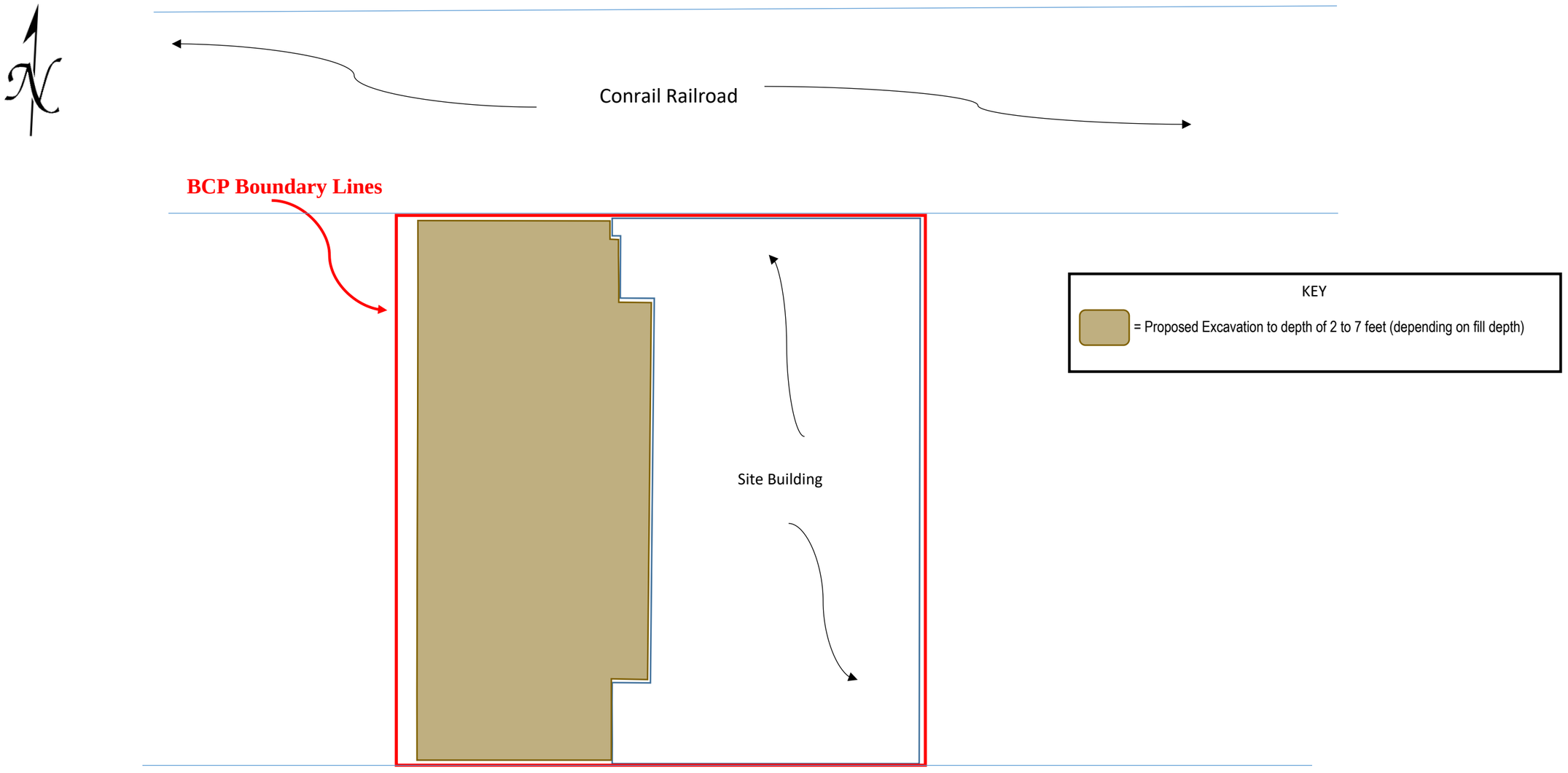
ERIE COUNTY
DEPARTMENT OF ENVIRONMENT & PLANNING
OFFICE OF GIS

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

1: 18,056



WITTMAN GEOSCIENCES		
Proposed Sampling Locations 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MMW	SCALE: 1" = 30'	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/2018 - revised	FIGURE NO: 5



WITTMAN GEOSCIENCES

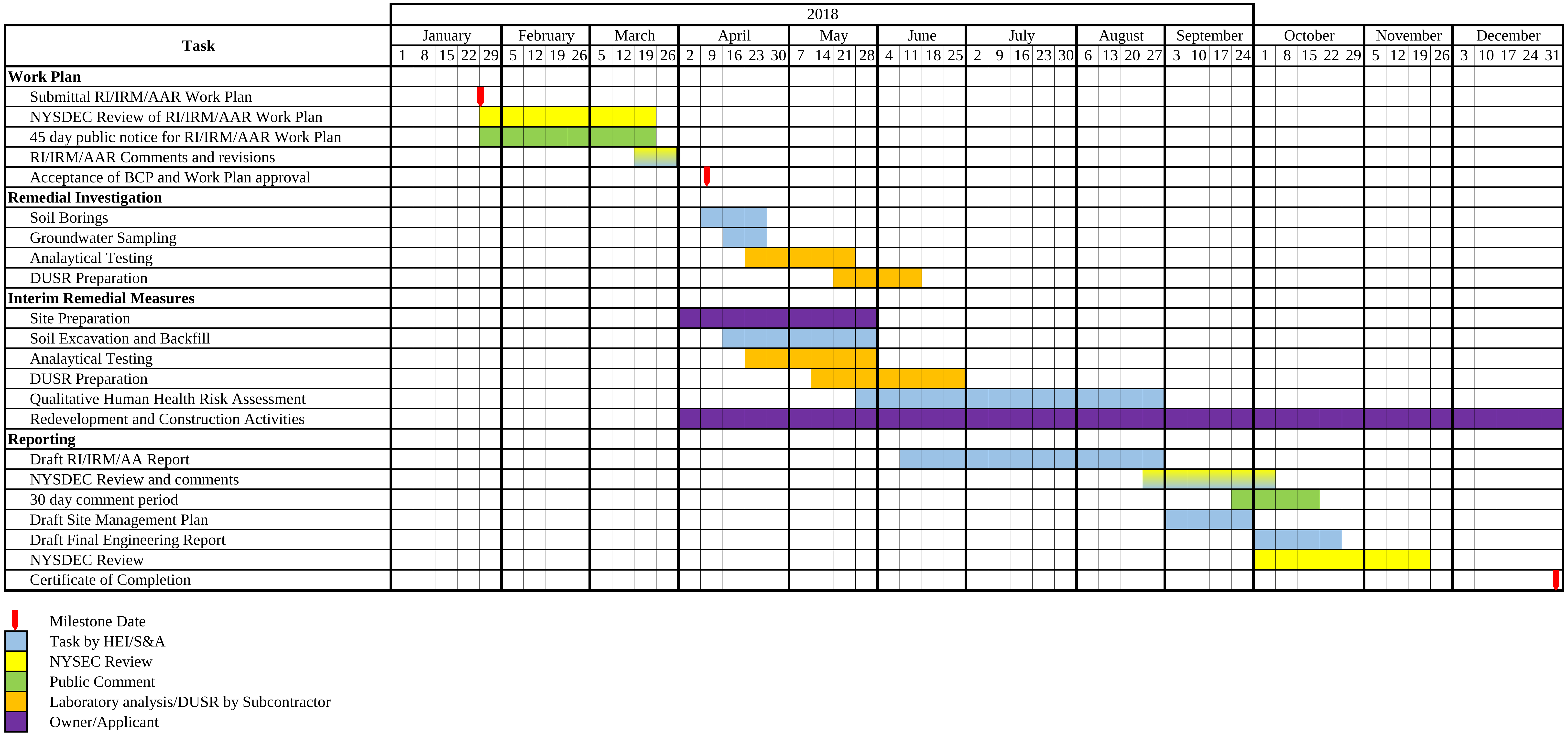
Phase I/II Audits – Site Investigations – Facility Inspections

Proposed IRM Excavation Areas
166 CHANDLER STREET
BUFFALO, NEW YORK

166 Chandler Holdings, LLC
BUFFALO, NEW YORK

DRAWN BY: MMW	SCALE: 1" = 30'	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/18	FIGURE NO: 6

Figure 7
BCP Project Schedule
166 Chandler LLC
166 Chandler, Buffalo, New York



TABLES

TABLE 1
Remedial Investigation Analytical Testing Program Summary
166 Chandler
Buffalo, NY
NYSDEC Brownfield Cleanup Program

Location	Number of Proposed Locations	Matrix	TCL VOCS	TCL SVOCs	TAL METALS Total	TAL METALS dissolved	PCBs	Pest/ Herbs	1,4-dioxane	PFAS	VOC - TO-15
Surface Soil Samples											
Soil Boring	0	Soil	-	-	-	-	-	-	-	-	-
Duplicate		Soil	-	-	-	-	-	-	-	-	-
MS/MSD		Soil	-	-	-	-	-	-	-	-	-
Rinsate		Water	-	-	-	-	-	-	-	-	-
Total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Remedial Investigation Subsurface Samples											
Soil Boring - Interior	5	Soil	5	5	5	-	3	3	-	-	-
Soil Boring - Exterior	5	Soil	3	3	3	-	1	1	-	-	-
Test Pits - Exterior	3	Soil	4	4	4	-	4	2	-	-	-
Hand Auger	1	Soil	1	1	1	-	1	-	-	-	-
Concrete Core	2	Soil	-	-	-	-	2	-	-	-	-
Drainage Structure	3	Soil	3	3	3	-	3	-	-	-	-
Duplicate		Soil	1	1	1	-	1	1	-	-	-
MS/MSD		Soil	2	2	2	-	2	2	-	-	-
Rinsate		Water	1	1	1	-	1	1	-	-	-
Total			**20**	**20**	**20**	**0**	**18**	**10**	**0**	**0**	**0**
Remedial Investigation Monitoring Wells											
Monitoring Well	3	Groundwater	3	3	3	3	3	3	3	3	-
Drainage Structure	3	Groundwater	3	3	3	3	3	-	-	-	-
Duplicate		Groundwater	1	1	1	1	1	1	1	1	-
MS/MSD		Groundwater	2	2	2	2	2	2	2	2	-
Rinsate		Water	1	1	1	1	1	1	1	1	-
Trip Blank		Water	1	-	-	-	-	-	-	-	-
Total			**11**	**10**	**10**	**10**	**10**	**7**	**7**	**7**	**0**
Sub-slab/Ambient Air samples											
Sub-slab	0	Air	-	-	-	-	-	-	-	-	-
Ambient Air		Air	-	-	-	-	-	-	-	-	-
Outdoor		Air	-	-	-	-	-	-	-	-	-
Duplicate		Air	-	-	-	-	-	-	-	-	-
Total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
UST Confirmatory Samples, if needed											
Sidewall Samples	4	Soil	4	4	-	-	-	-	-	-	-
Bottom Samples	1	Soil	1	1	-	-	-	-	-	-	-
Duplicate		Soil	1	1	-	-	-	-	-	-	-
MS/MSD		Soil	2	2	-	-	-	-	-	-	-
Rinsate		Water	1	1	-	-	-	-	-	-	-
Total			**9**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IRM Confirmation Sampling *											
Sidewall Samples	14	Soil	14	14	14	-	8	4	-	-	-
Bottom Samples	10	Soil	10	10	10	-	6	4	-	-	-
Duplicate		Soil	2	2	2	-	1	1	-	-	-
MS/MSD		Soil	4	4	4	-	2	2	-	-	-
Rinsate		Water	2	2	2	-	1	1	-	-	-
Total			**32**	**32**	**32**	**0**	**18**	**12**	**0**	**0**	**0**

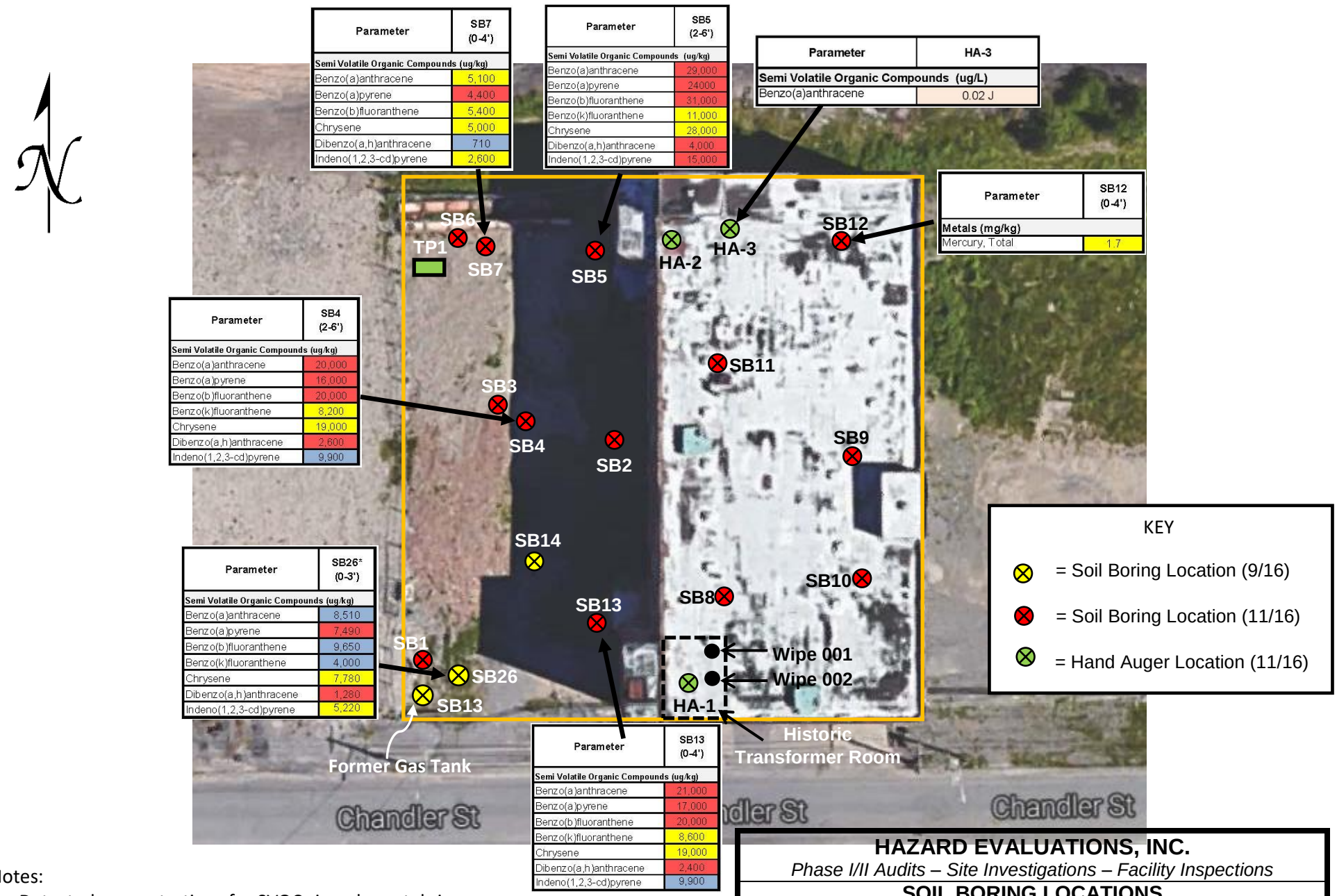
	VOCs	SVOCs	METALS	METALS	PCBs	Pest/ Herbs	1,4-dioxane	PFAS	VOC - TO-15
TOTAL SAMPLES	**72**	**71**	**62**	**10**	**46**	**29**	**7**	**7**	**0**

Notes:

TCL VOCs - Target Compound List Volatile Organic Compounds.
TCL SVOCs - Target Compound List Semi-volatile Organic Compounds.
TAL Metals - Target Analyte List Metals.
TCL PCBs - Target Compound List Polychlorinated Biphenyls.
VOC TO-15 - sub-slab, ambient air and soil vapor probe analysis
PFAS - Polyfluoroalkyl substances
* Number of IRM samples may change depeinding on field conditions.

APPENDIX A

SEPTEMBER 2016 INVESTIGATION INFORMATION



Parameter	SB7 (0-4')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	5,100
Benzo(a)pyrene	4,400
Benzo(b)fluoranthene	5,400
Chrysene	5,000
Dibenzo(a,h)anthracene	710
Indeno(1,2,3-cd)pyrene	2,600

Parameter	SB5 (2-6')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	29,000
Benzo(a)pyrene	24000
Benzo(b)fluoranthene	31,000
Benzo(k)fluoranthene	11,000
Chrysene	28,000
Dibenzo(a,h)anthracene	4,000
Indeno(1,2,3-cd)pyrene	15,000

Parameter	HA-3
Semi Volatile Organic Compounds (ug/L)	
Benzo(a)anthracene	0.02 J

Parameter	SB12 (0-4')
Metals (mg/kg)	
Mercury, Total	1.7

Parameter	SB4 (2-6')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	20,000
Benzo(a)pyrene	16,000
Benzo(b)fluoranthene	20,000
Benzo(k)fluoranthene	8,200
Chrysene	19,000
Dibenzo(a,h)anthracene	2,600
Indeno(1,2,3-cd)pyrene	9,900

Parameter	SB26* (0-3')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	8,510
Benzo(a)pyrene	7,490
Benzo(b)fluoranthene	9,650
Benzo(k)fluoranthene	4,000
Chrysene	7,780
Dibenzo(a,h)anthracene	1,280
Indeno(1,2,3-cd)pyrene	5,220

Parameter	SB13 (0-4')
Semi Volatile Organic Compounds (ug/kg)	
Benzo(a)anthracene	21,000
Benzo(a)pyrene	17,000
Benzo(b)fluoranthene	20,000
Benzo(k)fluoranthene	8,600
Chrysene	19,000
Dibenzo(a,h)anthracene	2,400
Indeno(1,2,3-cd)pyrene	9,900

KEY

= Soil Boring Location (9/16)

= Soil Boring Location (11/16)

= Hand Auger Location (11/16)

Notes:

1 – Detected concentrations for SVOCs in ppb; metals in ppm

3 - Proposed Cleanup Standards = Restricted Residential

= exceeds Restricted Residential SCO

= exceeds Commercial SCO

= exceeds Industrial SCO

= exceeds Groundwater Standards

HAZARD EVALUATIONS, INC.

Phase I/II Audits – Site Investigations – Facility Inspections

SOIL BORING LOCATIONS

166 CHANDLER STREET

BUFFALO, NEW YORK

166 Chandler Holdings, LLC

BUFFALO, NEW YORK

DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: e1608
CHECKED BY: EB	DATE: 01/17	FIGURE NO: III-A

Table III - A
Soil Analytical Testing Results
166 Chandler Street, Buffalo, New York

Parameter	SB4 (2-6')	SB5 (2-6')	SB7 (0-4')	SB8 (4-6.5')	SB10 (0-4')	SB12 (0-4')	SB13 (0-4')	SB26* (0-3')	HA-1 (0-0.5')	Wipe 001	Wipe 002	Unrestricted Use	Restricted Residential Use	Commercial Use	Industrial Use
Volatile Organic Compounds EPA Method 8260C TCL + STARS (ug/Kg)															
1,2,4-Trimethylbenzene	0.23 J	0.23 J	NT	ND	NT	NT	0.99 J	NT	NT	NT	NT	3,600	52,000	190,000	380,000
1,3,5-Trimethylbenzene	ND	ND	NT	ND	NT	NT	0.48 J	NT	NT	NT	NT	8,400	52,000	190,000	380,000
2-Butanone	3.9 J	ND	NT	4.7 J	NT	NT	ND	NT	NT	NT	NT	120	100,000	500,000	1,000,000
Acetone	26	12	NT	52	NT	NT	13	NT	NT	NT	NT	50	100,000	500,000	1,000,000
Ethylbenzene	ND	ND	NT	ND	NT	NT	0.25 J	NT	NT	NT	NT	1,000	41,000	390,000	780,000
Naphthalene	14	7.6	NT	1.3 J	NT	NT	190	NT	NT	NT	NT	12,000	100,000	500,000	1,000,000
o-Xylene	ND	ND	NT	ND	NT	NT	0.72 J	NT	NT	NT	NT	260	100,000	500,000	1,000,000
p-Isopropyltoluene	ND	ND	NT	ND	NT	NT	17	NT	NT	NT	NT	10,000	NV	NV	NV
p/m-Xylene	ND	ND	NT	ND	NT	NT	0.75 J	NT	NT	NT	NT	260	100,000	500,000	1,000,000
Tetrachloroethene	31	9.6	NT	0.67 J	NT	NT	1.7	NT	NT	NT	NT	1,300	19,000	150,000	300,000
Toluene	ND	ND	NT	ND	NT	NT	0.6 J	NT	NT	NT	NT	700	100,000	500,000	1,000,000
Trichloroethene	0.64 J	ND	NT	ND	NT	NT	ND	NT	NT	NT	NT	470	21,000	200,000	400,000
Semi Volatile Organic Compounds EPA Method 8270D TCL (ug/kg)															
2-Methylnaphthalene	710 J	770 J	260 J	NT	ND	87 J	1,400 J	NT	NT	NT	NT	NV	NV	NV	NV
Acenaphthene	3,800	4,500	950	NT	ND	ND	6,100	1,560	NT	NT	NT	20,000	100,000	500,000	1,000,000
Anthracene	12,000	17,000	2,800	NT	55 J	41 J	18,000	4,190	NT	NT	NT	100,000	100,000	500,000	1,000,000
Benzo(a)anthracene	20,000	29,000	5,100	NT	140	81 J	21,000	8,510	NT	NT	NT	1,000	1,000	5,600	11,000
Benzo(a)pyrene	16,000	24000	4,400	NT	110 J	72 J	17,000	7,490	NT	NT	NT	1,000	1,000	1,000	1,100
Benzo(b)fluoranthene	20,000	31,000	5,400	NT	140	100 J	20,000	9,650	NT	NT	NT	1,000	1,000	5,600	11,000
Benzo(g,h,i)perylene	8,400	12,000	2,200	NT	71 J	58 J	8,700	4,050	NT	NT	NT	100,000	100,000	500,000	1,000,000
Benzo(k)fluoranthene	8,200	11,000	2,200	NT	67 J	33 J	8,600	4,000	NT	NT	NT	800	3,900	56,000	110,000
Bis(2-ethylhexyl)phthalate	ND	19,000	880	NT	ND	ND	ND	NT	NT	NT	NT	NV	NV	NV	NV
Carbazole	5,300	6,600	1,500	NT	26 J	33 J	8,900	NT	NT	NT	NT	NV	NV	NV	NV
Chrysene	19,000	28,000	5,000	NT	130	99 J	19,000	7,780	NT	NT	NT	1,000	3,900	56,000	110,000
Dibenzo(a,h)anthracene	2,600	4,000	710	NT	22 J	ND	2,400	1,280	NT	NT	NT	330	330	560	1,100
Dibenzofuran	2,700	3,300	700	NT	ND	ND	4,900	NT	NT	NT	NT	7,000	59,000	350,000	1,000,000
Fluoranthene	42,000	60,000	10,000	NT	210	160	49,000	17,500	NT	NT	NT	100,000	100,000	500,000	1,000,000
Fluorene	5,200	6,800	1,300	NT	20 J	ND	8,300	1,700	NT	NT	NT	30,000	100,000	500,000	1,000,000
Indeno(1,2,3-cd)pyrene	9,900	15,000	2,600	NT	76 J	60 J	9,900	5,220	NT	NT	NT	500	500	5,600	11,000
Naphthalene	1,600 J	1,600 J	550	NT	ND	64 J	4,500	NT	NT	NT	NT	12,000	100,000	500,000	1,000,000
Phenanthrene	37,000	49,000	9,400	NT	150	200	50,000	14,800	NT	NT	NT	100,000	100,000	500,000	1,000,000
Pyrene	34,000	49,000	8,600	NT	170	140	38,000	15,300	NT	NT	NT	100,000	100,000	500,000	1,000,000
Metals EPA Method 6010 RCRA 8 & Cyanide (mg/kg)															
Arsenic, Total	4.3	4.2	3.1	NT	1.3	1.7	NT	13.1	NT	NT	NT	13	16	16	16
Barium, Total	130	74	86	NT	48	34	NT	99.8	NT	NT	NT	350	400	400	10,000
Cadmium, Total	0.62	0.31 J	0.39 J	NT	ND	0.05 J	NT	0.76	NT	NT	NT	2.5	4.3	9.3	60
Chromium, Total	7.9	5.1	6.2	NT	6.1	5.3	NT	12.3	NT	NT	NT	30	180	1,500	6,800
Lead, Total	100	58	76	NT	6.7	9	NT	54.7	NT	NT	NT	63	400	1,000	3,900
Mercury, Total	0.12	0.16	0.24	NT	0.05 J	1.7	NT	0.10	NT	NT	NT	0.18	0.81	2.8	5.7
PCBs EPA Method 8082 TCL (ug/kg)															
Aroclor 1254	NT	NT	NT	NT	NT	NT	57	0.099	57.2	ND	ND	100	1,000	1,000	25,000
Aroclor 1260	NT	NT	NT	NT	NT	NT	45	0.15	299	4.96	0.894	100	1,000	1,000	25,000
Aroclor 1268	NT	NT	NT	NT	NT	NT	38.4	ND	142	ND	ND	100	1,000	1,000	25,000
Total PCBs	NT	NT	NT	NT	NT	NT	102	0.25	441	4.96	0.894	100	1,000	1,000	25,000

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.
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. Soil samples collected on 11/29/2016; * = sampled on 9/2/2016
6. Shading indicates: exceeds UUSCO; exceeds CUSCO; exceeds RRUSCO; exceeds IUSCO

Table III - B
Groundwater Analytical Testing Results
166 Chandler Street Buffalo, New York
December 2016

Parameter	HA-3	Class GA Criteria (ug/L)
Volatile Organic Compounds EPA Method 8260C TCL + STARS (ug/L)		
p-Isopropyltoluene	1.4 J	5
Semi Volatile Organic Compounds EPA Method TCL (ug/L)		
Acenaphthene	0.04 J	20
Benzo(a)anthracene	0.02 J	0.002
Fluoranthene	0.04 J	50
Naphthalene	0.07 J	10
Phenanthrene	0.06 J	50

Notes:

1. Analytical testing performed by Alpha Analytical. Compounds detected in one or more samples are pesented in this table. Refer to Appendix for the full analytical report.

2. ug/L = part per billion

3. Analytical results compared to NYSDEC Class GA criteria obtained from the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1999, January 1999 errata sheet, and April 2000 addendum.

4. Gray shading indicates exceedance of NYSDEC Class GA Criteria.

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: HA-1

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Hand Auger
GW Depth While Drilling	NWWD			Drilling Contractor	HEI
GW Depth at Completion	NWAC			Sampler Type:	Hand Auger

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-0.5	6	Dk Brown Clay Absorbant Material, oily sheen, odor, moist. (FILL)	0
1				Bottom of Hand Auger 0.5' bgs	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: HA-2

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Hand Auger
GW Depth While Drilling	NWWD			Drilling Contractor	HEI
GW Depth at Completion	1.5'			Sampler Type:	Hand Auger

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0.5-1.5	12	Concrete	
1				Brown Silt & Clay, some Concrete, little Gravel, moist. (FILL)	0
				Grades to… wet.	
2				Bottom of Hand Auger 1.5' bgs	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: HA-3

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Hand Auger
GW Depth While Drilling	1'			Drilling Contractor	HEI
GW Depth at Completion	1'			Sampler Type:	Hand Auger

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0.5-1.5	12	Concrete	
1				Brown Silt & Clay, little Gravel, tr. f/c Sand, saturated. (FILL)	0
2				Bottom of Hand Auger 1.5' bgs	

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB1

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	20	Gravel	0
1				Brown Silt & Clay, some Brick, some Gravel, tr. f/c Sand, moist. (FILL)	0
2				Grades to… Dk. Brown, some f/c Sand, little Slag.	0
3				Grades to… tr. Slag, tr. f/c Sand.	0
4	2	4-8	48	Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	
				Grades to… Red/Brown	0
5					0
6					0
7					0
8	3	8-9.5	40		0
9					0
10				Refusal encountered at 9.5' bgs	
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB2

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	24	Brown Silt & Clay, some f/c Sand, some Brick, some Gravel, moist. (FILL)	0
1					0
2				Grades to… some Wood.	0
3				Grades to… tr. Wood.	0
4	2	4-8	24		0
5				Grades to… little Concrete.	0
6					0
7				Red/Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	0
8	3	8-12	48		0
9					0
10					0
11					0
12				Bottom of Boring 12' bgs	
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB3

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	10	Gravel and Concrete	0
1				Dk. Brown Silt & Clay, some f/c Sand, little Wood, tr. Concrete, moist. (FILL)	
					0
2					
					0
3				Grades to… some Brick, tr. Wood, tr. Gravel.	
					0
	2	4-7.5	10		
4				Grades to… tr. f/c Sand, tr. Brick.	0
5					0
6					0
7					0
8				Refusal encountered at 7.5' bgs	
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB4

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	24	Brick and Concrete	0
1				Brown f/c Sand and Brick, little Gravel, moist. (FILL)	0
2					0
3				Brown Silt & Clay, some f/c Sand, some Brick, tr. Concrete, moist. (FILL)	0
4	2	4-8	18	Grades to… Dk. Brown, tr. Slag, tr. Brick.	0
5				Grades to… Some Brick, little f/c Sand.	0
6					0
7				Grades to… wet.	0
8				Refusal encountered at 7.5' bgs	
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB5

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	1.5'			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	20	Brown Silt & Clay, some Gravel, little f/c Sand, tr. Brick, moist. (FILL)	0
1					
				Grades to… some Brick, some f/c Sand, little Slag, wet.	0
2					
					0
3				Grades to… and Brick, little f/c Sand, tr. Slag, tr. Gravel, moist.	
					0
4	2	4-8	20		
					0
5					
					0
6				Grades to… Dk. Brown, tr. Brick, wet.	
				Grades to… and Concrete.	0
7					
				Grades to… tr. Concrete, tr. f/c Sand.	0
8	3	8-12	40	Red/Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	
					0
9					
					0
10					
					0
11					
					0
12				Bottom of Boring 12' bgs	
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB6

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-2	0	No Recovery	
1					
2				Refusal encountered at 2' bgs	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB7

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	12	Brown Silt & Clay, some f/c Sand, little Gravel, tr. Brick, moist. (FILL)	0
1					0
2					0
3					0
	2	4-7.5	12	Grades to… and f/c Sand, some Brick.	
4					0
5					0
6					0
7				Grades to… and Brick.	0
8				Refusal encountered at 7.5' bgs	
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB8

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
				Concrete	
1	1	0.5-4	10	Red/Brown Silt & Clay, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
2					0
3					0
4	2	4-6.5	10		0
5					0
6				Grades to… Dk. Brown, organic odor.	0
7				Refusal encountered at 6.5' bgs	
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB9

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-2	0	No Recovery	
1					
2				Refusal encountered at 2' bgs	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB10

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	10	Brown Silt & Clay, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
1					0
2					0
3					0
4	2	4-8	48		
				Red/Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	0
5					0
6					0
7					0
8	3	8-11	40		0
9					0
10					0
11				Refusal encountered at 11' bgs	
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB10

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	20	Concrete	
1				Brown, Silt & Clay, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
2					0
3					0
4	2	4-7.5	40		0
				Red/Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	
5					0
6					0
7					0
8				Refusal encountered at 7.5' bgs	
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB12

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	30	Brown Silt & Clay, some Concrete, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
1					0
2				Grades to… tr. Concrete.	1.0
3					1.6
4	2	4-7	24		
				Brown SILT & CLAY, tr. f/c Sand, tr. Gravel, moist.	1.0
5					0
6					0
7				Refusal encountered at 7' bgs	
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

HAZARD EVALUATIONS
3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No: SB13

Project Name & Location	Signature Dev. Phase II 166 Chandler Street Buffalo, NY			HEI Representative:	E. Betzold
Project Number:	e1604				
Start Date	11/29/2016	End Date	11/29/2016	Type of Drill Rig	Track Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	Zoladz Env.
GW Depth at Completion	NWAC			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
	1	0-4	12	Dk. Brown f/c Sand, some Brick, tr. Gravel, moist. (FILL)	0
1					25
2					5
3					1.0
4	2	4-4.5	0	Grades to… Brown, and Concrete	
5				Refusal encountered at 4.5' bgs	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

ANALYTICAL REPORT

Lab Number:	L1638793
Client:	Hazard Evaluations, Inc. 3752 North Buffalo Road Orchard Park, NY 14127
ATTN:	Michele Wittman
Phone:	(716) 667-3130
Project Name:	PHASE II ESA
Project Number:	E1604
Report Date:	12/07/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1638793-01	WIPE-001	WIPE	166 CHANDLER ST. BUFFALO, NY	11/29/16 09:25	11/30/16
L1638793-02	WIPE-002	WIPE	166 CHANDLER ST. BUFFALO, NY	11/29/16 09:30	11/30/16
L1638793-03	HA-3	WATER	166 CHANDLER ST. BUFFALO, NY	11/29/16 13:30	11/30/16
L1638793-04	SB13 (0-4')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 15:30	11/30/16
L1638793-05	SB12 (0-4')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 14:45	11/30/16
L1638793-06	SB10 (0-4')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 14:05	11/30/16
L1638793-07	SB8 (4-6.5')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 13:10	11/30/16
L1638793-08	SB7 (0-4')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 12:10	11/30/16
L1638793-09	SB5 (2-6')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 11:25	11/30/16
L1638793-10	SB4 (2-6')	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 11:00	11/30/16
L1638793-11	HA-1	SOIL	166 CHANDLER ST. BUFFALO, NY	11/29/16 09:20	11/30/16

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Case Narrative (continued)

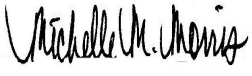
Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1638793-04, -07, -09 and -10: Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/07/16

ORGANICS

VOLATILES

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03
Client ID: HA-3
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/16 17:11
Analyst: PD

Date Collected: 11/29/16 13:30
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03 Date Collected: 11/29/16 13:30

Client ID: HA-3 Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	1.4	J	ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	113		70-130

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04
Client ID: SB13 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/05/16 14:01
Analyst: JC
Percent Solids: 87%

Date Collected: 11/29/16 15:30
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	12	1.3	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.10	1
Chloroform	ND		ug/kg	1.7	0.43	1
Carbon tetrachloride	ND		ug/kg	1.2	0.24	1
1,2-Dichloropropane	ND		ug/kg	4.0	0.26	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.35	1
Tetrachloroethene	1.7		ug/kg	1.2	0.16	1
Chlorobenzene	ND		ug/kg	1.2	0.40	1
Trichlorofluoromethane	ND		ug/kg	5.8	0.45	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.13	1
Bromodichloromethane	ND		ug/kg	1.2	0.20	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
Bromoform	ND		ug/kg	4.6	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.12	1
Benzene	ND		ug/kg	1.2	0.14	1
Toluene	0.60	J	ug/kg	1.7	0.22	1
Ethylbenzene	0.25	J	ug/kg	1.2	0.15	1
Chloromethane	ND		ug/kg	5.8	0.34	1
Bromomethane	ND		ug/kg	2.3	0.39	1
Vinyl chloride	ND		ug/kg	2.3	0.14	1
Chloroethane	ND		ug/kg	2.3	0.36	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.24	1
Trichloroethene	ND		ug/kg	1.2	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	5.8	0.18	1
1,3-Dichlorobenzene	ND		ug/kg	5.8	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	5.8	0.16	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04 Date Collected: 11/29/16 15:30

Client ID: SB13 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	2.3	0.10	1
p/m-Xylene	0.75	J	ug/kg	2.3	0.40	1
o-Xylene	0.72	J	ug/kg	2.3	0.39	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.16	1
Styrene	ND		ug/kg	2.3	0.46	1
Dichlorodifluoromethane	ND		ug/kg	12	0.22	1
Acetone	13		ug/kg	12	1.2	1
Carbon disulfide	ND		ug/kg	12	1.3	1
2-Butanone	ND		ug/kg	12	0.31	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.28	1
2-Hexanone	ND		ug/kg	12	0.77	1
Bromochloromethane	ND		ug/kg	5.8	0.32	1
1,2-Dibromoethane	ND		ug/kg	4.6	0.20	1
n-Butylbenzene	ND		ug/kg	1.2	0.13	1
sec-Butylbenzene	ND		ug/kg	1.2	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.8	0.46	1
Isopropylbenzene	ND		ug/kg	1.2	0.12	1
p-Isopropyltoluene	17		ug/kg	1.2	0.14	1
Naphthalene	190		ug/kg	5.8	0.16	1
n-Propylbenzene	ND		ug/kg	1.2	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	5.8	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	5.8	0.21	1
1,3,5-Trimethylbenzene	0.48	J	ug/kg	5.8	0.16	1
1,2,4-Trimethylbenzene	0.99	J	ug/kg	5.8	0.16	1
Methyl Acetate	ND		ug/kg	23	0.31	1
Cyclohexane	ND		ug/kg	23	0.17	1
1,4-Dioxane	ND		ug/kg	120	17.	1
Freon-113	ND		ug/kg	23	0.32	1
Methyl cyclohexane	ND		ug/kg	4.6	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	100		70-130

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-07
Client ID: SB8 (4-6.5')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/05/16 14:29
Analyst: JC
Percent Solids: 81%

Date Collected: 11/29/16 13:10
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	12	1.4	1
1,1-Dichloroethane	ND		ug/kg	1.8	0.10	1
Chloroform	ND		ug/kg	1.8	0.46	1
Carbon tetrachloride	ND		ug/kg	1.2	0.26	1
1,2-Dichloropropane	ND		ug/kg	4.3	0.28	1
Dibromochloromethane	ND		ug/kg	1.2	0.19	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.37	1
Tetrachloroethene	0.67	J	ug/kg	1.2	0.17	1
Chlorobenzene	ND		ug/kg	1.2	0.43	1
Trichlorofluoromethane	ND		ug/kg	6.2	0.48	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.14	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.14	1
Bromodichloromethane	ND		ug/kg	1.2	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.15	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
Bromoform	ND		ug/kg	4.9	0.29	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.12	1
Benzene	ND		ug/kg	1.2	0.14	1
Toluene	ND		ug/kg	1.8	0.24	1
Ethylbenzene	ND		ug/kg	1.2	0.16	1
Chloromethane	ND		ug/kg	6.2	0.36	1
Bromomethane	ND		ug/kg	2.5	0.42	1
Vinyl chloride	ND		ug/kg	2.5	0.14	1
Chloroethane	ND		ug/kg	2.5	0.39	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.32	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.26	1
Trichloroethene	ND		ug/kg	1.2	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	6.2	0.19	1
1,3-Dichlorobenzene	ND		ug/kg	6.2	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	6.2	0.17	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-07 Date Collected: 11/29/16 13:10

Client ID: SB8 (4-6.5') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	2.5	0.10	1
p/m-Xylene	ND		ug/kg	2.5	0.43	1
o-Xylene	ND		ug/kg	2.5	0.42	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.18	1
Styrene	ND		ug/kg	2.5	0.50	1
Dichlorodifluoromethane	ND		ug/kg	12	0.23	1
Acetone	52		ug/kg	12	1.3	1
Carbon disulfide	ND		ug/kg	12	1.4	1
2-Butanone	4.7	J	ug/kg	12	0.33	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.30	1
2-Hexanone	ND		ug/kg	12	0.82	1
Bromochloromethane	ND		ug/kg	6.2	0.34	1
1,2-Dibromoethane	ND		ug/kg	4.9	0.21	1
n-Butylbenzene	ND		ug/kg	1.2	0.14	1
sec-Butylbenzene	ND		ug/kg	1.2	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.2	0.49	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.15	1
Naphthalene	1.3	J	ug/kg	6.2	0.17	1
n-Propylbenzene	ND		ug/kg	1.2	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.2	0.18	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.2	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.2	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	6.2	0.17	1
Methyl Acetate	ND		ug/kg	25	0.33	1
Cyclohexane	ND		ug/kg	25	0.18	1
1,4-Dioxane	ND		ug/kg	120	18.	1
Freon-113	ND		ug/kg	25	0.34	1
Methyl cyclohexane	ND		ug/kg	4.9	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09
Client ID: SB5 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/05/16 14:56
Analyst: JC
Percent Solids: 84%

Date Collected: 11/29/16 11:25
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	12	1.3	1
1,1-Dichloroethane	ND		ug/kg	1.8	0.10	1
Chloroform	ND		ug/kg	1.8	0.44	1
Carbon tetrachloride	ND		ug/kg	1.2	0.25	1
1,2-Dichloropropane	ND		ug/kg	4.2	0.27	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.36	1
Tetrachloroethene	9.6		ug/kg	1.2	0.17	1
Chlorobenzene	ND		ug/kg	1.2	0.42	1
Trichlorofluoromethane	ND		ug/kg	6.0	0.46	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.14	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.13	1
Bromodichloromethane	ND		ug/kg	1.2	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
Bromoform	ND		ug/kg	4.8	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.12	1
Benzene	ND		ug/kg	1.2	0.14	1
Toluene	ND		ug/kg	1.8	0.23	1
Ethylbenzene	ND		ug/kg	1.2	0.15	1
Chloromethane	ND		ug/kg	6.0	0.35	1
Bromomethane	ND		ug/kg	2.4	0.40	1
Vinyl chloride	ND		ug/kg	2.4	0.14	1
Chloroethane	ND		ug/kg	2.4	0.38	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.31	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.25	1
Trichloroethene	ND		ug/kg	1.2	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	6.0	0.18	1
1,3-Dichlorobenzene	ND		ug/kg	6.0	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	6.0	0.16	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09 Date Collected: 11/29/16 11:25

Client ID: SB5 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	2.4	0.10	1
p/m-Xylene	ND		ug/kg	2.4	0.42	1
o-Xylene	ND		ug/kg	2.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.17	1
Styrene	ND		ug/kg	2.4	0.48	1
Dichlorodifluoromethane	ND		ug/kg	12	0.23	1
Acetone	12		ug/kg	12	1.2	1
Carbon disulfide	ND		ug/kg	12	1.3	1
2-Butanone	ND		ug/kg	12	0.32	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.29	1
2-Hexanone	ND		ug/kg	12	0.80	1
Bromochloromethane	ND		ug/kg	6.0	0.33	1
1,2-Dibromoethane	ND		ug/kg	4.8	0.21	1
n-Butylbenzene	ND		ug/kg	1.2	0.14	1
sec-Butylbenzene	ND		ug/kg	1.2	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.0	0.47	1
Isopropylbenzene	ND		ug/kg	1.2	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.15	1
Naphthalene	7.6		ug/kg	6.0	0.16	1
n-Propylbenzene	ND		ug/kg	1.2	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.0	0.18	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.0	0.17	1
1,2,4-Trimethylbenzene	0.23	J	ug/kg	6.0	0.17	1
Methyl Acetate	ND		ug/kg	24	0.32	1
Cyclohexane	ND		ug/kg	24	0.17	1
1,4-Dioxane	ND		ug/kg	120	17.	1
Freon-113	ND		ug/kg	24	0.33	1
Methyl cyclohexane	ND		ug/kg	4.8	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	101		70-130

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10
Client ID: SB4 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/05/16 15:23
Analyst: JC
Percent Solids: 84%

Date Collected: 11/29/16 11:00
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	12	1.3	1
1,1-Dichloroethane	ND		ug/kg	1.8	0.10	1
Chloroform	ND		ug/kg	1.8	0.44	1
Carbon tetrachloride	ND		ug/kg	1.2	0.25	1
1,2-Dichloropropane	ND		ug/kg	4.2	0.27	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.36	1
Tetrachloroethene	31		ug/kg	1.2	0.17	1
Chlorobenzene	ND		ug/kg	1.2	0.42	1
Trichlorofluoromethane	ND		ug/kg	6.0	0.46	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.14	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.13	1
Bromodichloromethane	ND		ug/kg	1.2	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.14	1
Bromoform	ND		ug/kg	4.8	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.12	1
Benzene	ND		ug/kg	1.2	0.14	1
Toluene	ND		ug/kg	1.8	0.23	1
Ethylbenzene	ND		ug/kg	1.2	0.15	1
Chloromethane	ND		ug/kg	6.0	0.35	1
Bromomethane	ND		ug/kg	2.4	0.40	1
Vinyl chloride	ND		ug/kg	2.4	0.14	1
Chloroethane	ND		ug/kg	2.4	0.38	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.31	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.25	1
Trichloroethene	0.64	J	ug/kg	1.2	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	6.0	0.18	1
1,3-Dichlorobenzene	ND		ug/kg	6.0	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	6.0	0.16	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10 Date Collected: 11/29/16 11:00

Client ID: SB4 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	2.4	0.10	1
p/m-Xylene	ND		ug/kg	2.4	0.42	1
o-Xylene	ND		ug/kg	2.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.17	1
Styrene	ND		ug/kg	2.4	0.48	1
Dichlorodifluoromethane	ND		ug/kg	12	0.23	1
Acetone	26		ug/kg	12	1.2	1
Carbon disulfide	ND		ug/kg	12	1.3	1
2-Butanone	3.9	J	ug/kg	12	0.32	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.29	1
2-Hexanone	ND		ug/kg	12	0.79	1
Bromochloromethane	ND		ug/kg	6.0	0.33	1
1,2-Dibromoethane	ND		ug/kg	4.8	0.21	1
n-Butylbenzene	ND		ug/kg	1.2	0.14	1
sec-Butylbenzene	ND		ug/kg	1.2	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.0	0.47	1
Isopropylbenzene	ND		ug/kg	1.2	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.15	1
Naphthalene	14		ug/kg	6.0	0.16	1
n-Propylbenzene	ND		ug/kg	1.2	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.0	0.18	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.0	0.17	1
1,2,4-Trimethylbenzene	0.23	J	ug/kg	6.0	0.17	1
Methyl Acetate	ND		ug/kg	24	0.32	1
Cyclohexane	ND		ug/kg	24	0.17	1
1,4-Dioxane	ND		ug/kg	120	17.	1
Freon-113	ND		ug/kg	24	0.33	1
Methyl cyclohexane	ND		ug/kg	4.8	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	94		70-130

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 10:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG958358-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 10:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG958358-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 10:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG958358-5					
Methyl cyclohexane	ND		ug/l	10	0.40

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	107		70-130

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 08:33
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,09-10 Batch: WG958370-5					
Methylene chloride	ND		ug/kg	10	1.1
1,1-Dichloroethane	ND		ug/kg	1.5	0.09
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.21
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.15
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.30
Tetrachloroethene	ND		ug/kg	1.0	0.14
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.39
1,2-Dichloroethane	ND		ug/kg	1.0	0.11
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.11
Bromodichloromethane	ND		ug/kg	1.0	0.17
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.12
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.12
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.10
Benzene	ND		ug/kg	1.0	0.12
Toluene	ND		ug/kg	1.5	0.19
Ethylbenzene	ND		ug/kg	1.0	0.13
Chloromethane	ND		ug/kg	5.0	0.29
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.12
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.26
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.21
Trichloroethene	ND		ug/kg	1.0	0.12
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.15
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.14

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 08:33
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,09-10 Batch: WG958370-5					
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.14
Methyl tert butyl ether	ND		ug/kg	2.0	0.08
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.14
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.19
Acetone	ND		ug/kg	10	1.0
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.27
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.28
1,2-Dibromoethane	ND		ug/kg	4.0	0.17
n-Butylbenzene	ND		ug/kg	1.0	0.11
sec-Butylbenzene	ND		ug/kg	1.0	0.12
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Isopropylbenzene	ND		ug/kg	1.0	0.10
p-Isopropyltoluene	ND		ug/kg	1.0	0.12
Naphthalene	ND		ug/kg	5.0	0.14
n-Propylbenzene	ND		ug/kg	1.0	0.11
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.15
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.18
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.14
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.14
Methyl Acetate	ND		ug/kg	20	0.27
Cyclohexane	ND		ug/kg	20	0.15
1,4-Dioxane	ND		ug/kg	100	14.
Freon-113	ND		ug/kg	20	0.27

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/16 08:33
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,09-10 Batch: WG958370-5					
Methyl cyclohexane	ND		ug/kg	4.0	0.15

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG958358-3 WG958358-4								
Methylene chloride	93		91		70-130	2		20
1,1-Dichloroethane	98		96		70-130	2		20
Chloroform	100		99		70-130	1		20
2-Chloroethylvinyl ether	**59**	Q	**56**	Q	70-130	5		20
Carbon tetrachloride	110		100		63-132	10		20
1,2-Dichloropropane	93		91		70-130	2		20
Dibromochloromethane	95		92		63-130	3		20
1,1,2-Trichloroethane	91		89		70-130	2		20
Tetrachloroethene	96		94		70-130	2		20
Chlorobenzene	93		91		75-130	2		20
Trichlorofluoromethane	99		93		62-150	6		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	100		99		67-130	1		20
trans-1,3-Dichloropropene	84		83		70-130	1		20
cis-1,3-Dichloropropene	96		94		70-130	2		20
1,1-Dichloropropene	100		98		70-130	2		20
Bromoform	86		85		54-136	1		20
1,1,2,2-Tetrachloroethane	86		86		67-130	0		20
Benzene	96		94		70-130	2		20
Toluene	92		90		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG958358-3 WG958358-4								
Ethylbenzene	99		96		70-130	3		20
Chloromethane	**54**	Q	**53**	Q	64-130	2		20
Bromomethane	71		70		39-139	1		20
Vinyl chloride	66		64		55-140	3		20
Chloroethane	90		90		55-138	0		20
1,1-Dichloroethene	94		89		61-145	5		20
trans-1,2-Dichloroethene	95		92		70-130	3		20
Trichloroethene	99		96		70-130	3		20
1,2-Dichlorobenzene	92		92		70-130	0		20
1,3-Dichlorobenzene	93		92		70-130	1		20
1,4-Dichlorobenzene	92		92		70-130	0		20
Methyl tert butyl ether	98		96		63-130	2		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	95		94		70-130	1		20
Dibromomethane	97		95		70-130	2		20
1,2,3-Trichloropropane	92		90		64-130	2		20
Acrylonitrile	95		91		70-130	4		20
Isopropyl Ether	100		100		70-130	0		20
tert-Butyl Alcohol	102		98		70-130	4		20
Styrene	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG958358-3 WG958358-4								
Dichlorodifluoromethane	41		41		36-147	0		20
Acetone	94		88		58-148	7		20
Carbon disulfide	84		81		51-130	4		20
2-Butanone	87		84		63-138	4		20
Vinyl acetate	100		97		70-130	3		20
4-Methyl-2-pentanone	72		68		59-130	6		20
2-Hexanone	67		64		57-130	5		20
Acrolein	85		82		40-160	4		20
Bromochloromethane	98		97		70-130	1		20
2,2-Dichloropropane	110		110		63-133	0		20
1,2-Dibromoethane	91		90		70-130	1		20
1,3-Dichloropropane	93		91		70-130	2		20
1,1,1,2-Tetrachloroethane	97		95		64-130	2		20
Bromobenzene	90		91		70-130	1		20
n-Butylbenzene	100		98		53-136	2		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	98		97		70-130	1		20
o-Chlorotoluene	86		86		70-130	0		20
p-Chlorotoluene	97		97		70-130	0		20
1,2-Dibromo-3-chloropropane	70		70		41-144	0		20
Hexachlorobutadiene	93		91		63-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG958358-3 WG958358-4								
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	90		90		70-130	0		20
Naphthalene	**66**	Q	**65**	Q	70-130	2		20
n-Propylbenzene	100		100		69-130	0		20
1,2,3-Trichlorobenzene	83		80		70-130	4		20
1,2,4-Trichlorobenzene	85		84		70-130	1		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
Methyl Acetate	95		94		70-130	1		20
Ethyl Acetate	99		95		70-130	4		20
Cyclohexane	100		99		70-130	1		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20
Tertiary-Amyl Methyl Ether	90		90		66-130	0		20
1,4-Dioxane	100		88		56-162	13		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	100		100		70-130	0		20
p-Diethylbenzene	96		95		70-130	1		20
p-Ethyltoluene	100		100		70-130	0		20
1,2,4,5-Tetramethylbenzene	93		93		70-130	0		20
Tetrahydrofuran	94		89		58-130	5		20
Ethyl ether	89		90		59-134	1		20
trans-1,4-Dichloro-2-butene	85		82		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG958358-3 WG958358-4								
Iodomethane	**49**	Q	**50**	Q	70-130	2		20
Methyl cyclohexane	100		95		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	117		114		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	99		101		70-130
Dibromofluoromethane	107		106		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,09-10 Batch: WG958370-3 WG958370-4								
Methylene chloride	95		90		70-130	5		30
1,1-Dichloroethane	93		88		70-130	6		30
Chloroform	96		93		70-130	3		30
Carbon tetrachloride	95		88		70-130	8		30
1,2-Dichloropropane	91		88		70-130	3		30
Dibromochloromethane	98		96		70-130	2		30
2-Chloroethylvinyl ether	86		88		70-130	2		30
1,1,2-Trichloroethane	98		96		70-130	2		30
Tetrachloroethene	97		89		70-130	9		30
Chlorobenzene	96		92		70-130	4		30
Trichlorofluoromethane	120		104		70-139	14		30
1,2-Dichloroethane	99		100		70-130	1		30
1,1,1-Trichloroethane	99		91		70-130	8		30
Bromodichloromethane	96		93		70-130	3		30
trans-1,3-Dichloropropene	90		90		70-130	0		30
cis-1,3-Dichloropropene	94		92		70-130	2		30
1,1-Dichloropropene	94		86		70-130	9		30
Bromoform	92		93		70-130	1		30
1,1,2,2-Tetrachloroethane	91		93		70-130	2		30
Benzene	90		85		70-130	6		30
Toluene	93		87		70-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,09-10 Batch: WG958370-3 WG958370-4								
Ethylbenzene	96		90		70-130	6		30
Chloromethane	82		73		52-130	12		30
Bromomethane	120		115		57-147	4		30
Vinyl chloride	90		82		67-130	9		30
Chloroethane	106		100		50-151	6		30
1,1-Dichloroethene	97		84		65-135	14		30
trans-1,2-Dichloroethene	94		87		70-130	8		30
Trichloroethene	94		88		70-130	7		30
1,2-Dichlorobenzene	97		94		70-130	3		30
1,3-Dichlorobenzene	96		94		70-130	2		30
1,4-Dichlorobenzene	98		94		70-130	4		30
Methyl tert butyl ether	97		99		66-130	2		30
p/m-Xylene	97		91		70-130	6		30
o-Xylene	99		94		70-130	5		30
cis-1,2-Dichloroethene	94		90		70-130	4		30
Dibromomethane	98		99		70-130	1		30
Styrene	98		94		70-130	4		30
Dichlorodifluoromethane	98		86		30-146	13		30
Acetone	104		96		54-140	8		30
Carbon disulfide	88		78		59-130	12		30
2-Butanone	81		79		70-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,09-10 Batch: WG958370-3 WG958370-4								
Vinyl acetate	90		90		70-130	0		30
4-Methyl-2-pentanone	87		88		70-130	1		30
1,2,3-Trichloropropane	95		95		68-130	0		30
2-Hexanone	84		85		70-130	1		30
Bromochloromethane	97		100		70-130	3		30
2,2-Dichloropropane	97		90		70-130	7		30
1,2-Dibromoethane	100		98		70-130	2		30
1,3-Dichloropropane	97		95		69-130	2		30
1,1,1,2-Tetrachloroethane	98		96		70-130	2		30
Bromobenzene	96		95		70-130	1		30
n-Butylbenzene	93		86		70-130	8		30
sec-Butylbenzene	92		86		70-130	7		30
tert-Butylbenzene	95		88		70-130	8		30
o-Chlorotoluene	91		89		70-130	2		30
p-Chlorotoluene	96		91		70-130	5		30
1,2-Dibromo-3-chloropropane	92		92		68-130	0		30
Hexachlorobutadiene	94		86		67-130	9		30
Isopropylbenzene	93		87		70-130	7		30
p-Isopropyltoluene	94		88		70-130	7		30
Naphthalene	95		95		70-130	0		30
Acrylonitrile	92		91		70-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,09-10 Batch: WG958370-3 WG958370-4								
Isopropyl Ether	84		83		66-130	1		30
tert-Butyl Alcohol	93		95		70-130	2		30
n-Propylbenzene	93		87		70-130	7		30
1,2,3-Trichlorobenzene	99		96		70-130	3		30
1,2,4-Trichlorobenzene	99		94		70-130	5		30
1,3,5-Trimethylbenzene	94		90		70-130	4		30
1,2,4-Trimethylbenzene	96		91		70-130	5		30
Methyl Acetate	86		82		51-146	5		30
Ethyl Acetate	86		87		70-130	1		30
Acrolein	82		92		70-130	11		30
Cyclohexane	86		76		59-142	12		30
1,4-Dioxane	99		98		65-136	1		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	99		80		50-139	21		30
p-Diethylbenzene	92		86		70-130	7		30
p-Ethyltoluene	91		86		70-130	6		30
1,2,4,5-Tetramethylbenzene	93		88		70-130	6		30
Tetrahydrofuran	92		92		66-130	0		30
Ethyl ether	104		102		67-130	2		30
trans-1,4-Dichloro-2-butene	92		95		70-130	3		30
Methyl cyclohexane	83		74		70-130	11		30
Ethyl-Tert-Butyl-Ether	90		89		70-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,09-10 Batch: WG958370-3 WG958370-4								
Tertiary-Amyl Methyl Ether	90		90		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		108		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	99		97		70-130

SEMIVOLATILES

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03
Client ID: HA-3
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/05/16 16:48
Analyst: MW

Date Collected: 11/29/16 13:30
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.67	1
Acetophenone	ND		ug/l	5.0	0.85	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03 Date Collected: 11/29/16 13:30

Client ID: HA-3 Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Atrazine	ND		ug/l	10	1.8	1
Benzaldehyde	ND		ug/l	5.0	1.1	1
Caprolactam	ND		ug/l	10	3.6	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.93	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	80		10-120
4-Terphenyl-d14	74		41-149

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03
Client ID: HA-3
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/06/16 15:17
Analyst: KL

Date Collected: 11/29/16 13:30
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.04	J	ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	0.04	J	ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	0.07	J	ug/l	0.20	0.04	1
Benzo(a)anthracene	0.02	J	ug/l	0.20	0.02	1
Benzo(a)pyrene	ND		ug/l	0.20	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.20	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.04	1
Chrysene	ND		ug/l	0.20	0.04	1
Acenaphthylene	ND		ug/l	0.20	0.04	1
Anthracene	ND		ug/l	0.20	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.20	0.04	1
Fluorene	ND		ug/l	0.20	0.04	1
Phenanthrene	0.06	J	ug/l	0.20	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	0.04	1
Pyrene	ND		ug/l	0.20	0.04	1
2-Methylnaphthalene	ND		ug/l	0.20	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-03 Date Collected: 11/29/16 13:30

Client ID: HA-3 Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	71		41-149

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04 D
Client ID: SB13 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/07/16 10:31
Analyst: RC
Percent Solids: 87%

Date Collected: 11/29/16 15:30
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	6100		ug/kg	1500	200	10
Hexachlorobenzene	ND		ug/kg	1200	220	10
Bis(2-chloroethyl)ether	ND		ug/kg	1700	260	10
2-Chloronaphthalene	ND		ug/kg	1900	190	10
3,3'-Dichlorobenzidine	ND		ug/kg	1900	510	10
2,4-Dinitrotoluene	ND		ug/kg	1900	380	10
2,6-Dinitrotoluene	ND		ug/kg	1900	330	10
Fluoranthene	49000		ug/kg	1200	220	10
4-Chlorophenyl phenyl ether	ND		ug/kg	1900	200	10
4-Bromophenyl phenyl ether	ND		ug/kg	1900	290	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2300	330	10
Bis(2-chloroethoxy)methane	ND		ug/kg	2100	190	10
Hexachlorobutadiene	ND		ug/kg	1900	280	10
Hexachlorocyclopentadiene	ND		ug/kg	5500	1700	10
Hexachloroethane	ND		ug/kg	1500	310	10
Isophorone	ND		ug/kg	1700	250	10
Naphthalene	4500		ug/kg	1900	230	10
Nitrobenzene	ND		ug/kg	1700	280	10
NDPA/DPA	ND		ug/kg	1500	220	10
n-Nitrosodi-n-propylamine	ND		ug/kg	1900	300	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1900	670	10
Butyl benzyl phthalate	ND		ug/kg	1900	480	10
Di-n-butylphthalate	ND		ug/kg	1900	360	10
Di-n-octylphthalate	ND		ug/kg	1900	650	10
Diethyl phthalate	ND		ug/kg	1900	180	10
Dimethyl phthalate	ND		ug/kg	1900	400	10
Benzo(a)anthracene	21000		ug/kg	1200	220	10
Benzo(a)pyrene	17000		ug/kg	1500	470	10
Benzo(b)fluoranthene	20000		ug/kg	1200	320	10
Benzo(k)fluoranthene	8600		ug/kg	1200	310	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04 D Date Collected: 11/29/16 15:30

Client ID: SB13 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	19000		ug/kg	1200	200	10
Acenaphthylene	ND		ug/kg	1500	300	10
Anthracene	18000		ug/kg	1200	380	10
Benzo(ghi)perylene	8700		ug/kg	1500	230	10
Fluorene	8300		ug/kg	1900	190	10
Phenanthrene	50000		ug/kg	1200	230	10
Dibenzo(a,h)anthracene	2400		ug/kg	1200	220	10
Indeno(1,2,3-cd)pyrene	9900		ug/kg	1500	270	10
Pyrene	38000		ug/kg	1200	190	10
Biphenyl	ND		ug/kg	4400	450	10
4-Chloroaniline	ND		ug/kg	1900	350	10
2-Nitroaniline	ND		ug/kg	1900	370	10
3-Nitroaniline	ND		ug/kg	1900	360	10
4-Nitroaniline	ND		ug/kg	1900	800	10
Dibenzofuran	4900		ug/kg	1900	180	10
2-Methylnaphthalene	1400	J	ug/kg	2300	230	10
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	1900	200	10
Acetophenone	ND		ug/kg	1900	240	10
2,4,6-Trichlorophenol	ND		ug/kg	1200	360	10
p-Chloro-m-cresol	ND		ug/kg	1900	290	10
2-Chlorophenol	ND		ug/kg	1900	230	10
2,4-Dichlorophenol	ND		ug/kg	1700	310	10
2,4-Dimethylphenol	ND		ug/kg	1900	640	10
2-Nitrophenol	ND		ug/kg	4200	720	10
4-Nitrophenol	ND		ug/kg	2700	780	10
2,4-Dinitrophenol	ND		ug/kg	9200	900	10
4,6-Dinitro-o-cresol	ND		ug/kg	5000	920	10
Pentachlorophenol	ND		ug/kg	1500	420	10
Phenol	ND		ug/kg	1900	290	10
2-Methylphenol	ND		ug/kg	1900	300	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2800	300	10
2,4,5-Trichlorophenol	ND		ug/kg	1900	370	10
Carbazole	8900		ug/kg	1900	190	10
Atrazine	ND		ug/kg	1500	670	10
Benzaldehyde	ND		ug/kg	2500	520	10
Caprolactam	ND		ug/kg	1900	580	10
2,3,4,6-Tetrachlorophenol	ND		ug/kg	1900	390	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04 D Date Collected: 11/29/16 15:30

Client ID: SB13 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		25-120
Phenol-d6	52		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	75		10-136
4-Terphenyl-d14	56		18-120

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-05
Client ID: SB12 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/06/16 22:18
Analyst: RC
Percent Solids: 88%

Date Collected: 11/29/16 14:45
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	1
2,6-Dinitrotoluene	ND		ug/kg	180	32.	1
Fluoranthene	160		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	64	J	ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	170	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	64.	1
Butyl benzyl phthalate	ND		ug/kg	180	47.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	63.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	39.	1
Benzo(a)anthracene	81	J	ug/kg	110	21.	1
Benzo(a)pyrene	72	J	ug/kg	150	45.	1
Benzo(b)fluoranthene	100	J	ug/kg	110	31.	1
Benzo(k)fluoranthene	33	J	ug/kg	110	30.	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-05 Date Collected: 11/29/16 14:45

Client ID: SB12 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	99	J	ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	41	J	ug/kg	110	36.	1
Benzo(ghi)perylene	58	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	200		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	60	J	ug/kg	150	26.	1
Pyrene	140		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	1
4-Chloroaniline	ND		ug/kg	180	34.	1
2-Nitroaniline	ND		ug/kg	180	36.	1
3-Nitroaniline	ND		ug/kg	180	35.	1
4-Nitroaniline	ND		ug/kg	180	77.	1
Dibenzofuran	ND		ug/kg	180	18.	1
2-Methylnaphthalene	87	J	ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	28.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	180	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	86.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	1
Pentachlorophenol	ND		ug/kg	150	41.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	36.	1
Carbazole	33	J	ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-05 Date Collected: 11/29/16 14:45

Client ID: SB12 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		25-120
Phenol-d6	64		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	47		10-136
4-Terphenyl-d14	51		18-120

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-06
Client ID: SB10 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/06/16 22:43
Analyst: RC
Percent Solids: 86%

Date Collected: 11/29/16 14:05
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	210		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	31.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	ND		ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	140		ug/kg	120	22.	1
Benzo(a)pyrene	110	J	ug/kg	160	47.	1
Benzo(b)fluoranthene	140		ug/kg	120	33.	1
Benzo(k)fluoranthene	67	J	ug/kg	120	31.	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-06 Date Collected: 11/29/16 14:05

Client ID: SB10 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	130		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	55	J	ug/kg	120	38.	1
Benzo(ghi)perylene	71	J	ug/kg	160	23.	1
Fluorene	20	J	ug/kg	190	19.	1
Phenanthrene	150		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	22	J	ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	76	J	ug/kg	160	27.	1
Pyrene	170		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	38.	1
3-Nitroaniline	ND		ug/kg	190	37.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	79.	1
2,4-Dinitrophenol	ND		ug/kg	930	91.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	93.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	26	J	ug/kg	190	19.	1
Atrazine	ND		ug/kg	160	68.	1
Benzaldehyde	ND		ug/kg	260	52.	1
Caprolactam	ND		ug/kg	190	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-06 Date Collected: 11/29/16 14:05

Client ID: SB10 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	58		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	38		18-120

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-08 D
Client ID: SB7 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/07/16 10:58
Analyst: RC
Percent Solids: 87%

Date Collected: 11/29/16 12:10
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	950		ug/kg	300	39.	2
Hexachlorobenzene	ND		ug/kg	230	42.	2
Bis(2-chloroethyl)ether	ND		ug/kg	340	51.	2
2-Chloronaphthalene	ND		ug/kg	380	37.	2
3,3'-Dichlorobenzidine	ND		ug/kg	380	100	2
2,4-Dinitrotoluene	ND		ug/kg	380	76.	2
2,6-Dinitrotoluene	ND		ug/kg	380	65.	2
Fluoranthene	10000		ug/kg	230	43.	2
4-Chlorophenyl phenyl ether	ND		ug/kg	380	40.	2
4-Bromophenyl phenyl ether	ND		ug/kg	380	58.	2
Bis(2-chloroisopropyl)ether	ND		ug/kg	450	64.	2
Bis(2-chloroethoxy)methane	ND		ug/kg	410	38.	2
Hexachlorobutadiene	ND		ug/kg	380	55.	2
Hexachlorocyclopentadiene	ND		ug/kg	1100	340	2
Hexachloroethane	ND		ug/kg	300	61.	2
Isophorone	ND		ug/kg	340	49.	2
Naphthalene	550		ug/kg	380	46.	2
Nitrobenzene	ND		ug/kg	340	56.	2
NDPA/DPA	ND		ug/kg	300	43.	2
n-Nitrosodi-n-propylamine	ND		ug/kg	380	58.	2
Bis(2-ethylhexyl)phthalate	880		ug/kg	380	130	2
Butyl benzyl phthalate	ND		ug/kg	380	95.	2
Di-n-butylphthalate	ND		ug/kg	380	72.	2
Di-n-octylphthalate	ND		ug/kg	380	130	2
Diethyl phthalate	ND		ug/kg	380	35.	2
Dimethyl phthalate	ND		ug/kg	380	79.	2
Benzo(a)anthracene	5100		ug/kg	230	42.	2
Benzo(a)pyrene	4400		ug/kg	300	92.	2
Benzo(b)fluoranthene	5400		ug/kg	230	64.	2
Benzo(k)fluoranthene	2200		ug/kg	230	60.	2

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-08 D Date Collected: 11/29/16 12:10

Client ID: SB7 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	5000		ug/kg	230	39.	2
Acenaphthylene	ND		ug/kg	300	58.	2
Anthracene	2800		ug/kg	230	74.	2
Benzo(ghi)perylene	2200		ug/kg	300	44.	2
Fluorene	1300		ug/kg	380	37.	2
Phenanthrene	9400		ug/kg	230	46.	2
Dibenzo(a,h)anthracene	710		ug/kg	230	44.	2
Indeno(1,2,3-cd)pyrene	2600		ug/kg	300	53.	2
Pyrene	8600		ug/kg	230	38.	2
Biphenyl	ND		ug/kg	860	88.	2
4-Chloroaniline	ND		ug/kg	380	69.	2
2-Nitroaniline	ND		ug/kg	380	73.	2
3-Nitroaniline	ND		ug/kg	380	71.	2
4-Nitroaniline	ND		ug/kg	380	160	2
Dibenzofuran	700		ug/kg	380	36.	2
2-Methylnaphthalene	260	J	ug/kg	450	46.	2
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	380	39.	2
Acetophenone	ND		ug/kg	380	47.	2
2,4,6-Trichlorophenol	ND		ug/kg	230	72.	2
p-Chloro-m-cresol	ND		ug/kg	380	56.	2
2-Chlorophenol	ND		ug/kg	380	45.	2
2,4-Dichlorophenol	ND		ug/kg	340	61.	2
2,4-Dimethylphenol	ND		ug/kg	380	120	2
2-Nitrophenol	ND		ug/kg	820	140	2
4-Nitrophenol	ND		ug/kg	530	150	2
2,4-Dinitrophenol	ND		ug/kg	1800	180	2
4,6-Dinitro-o-cresol	ND		ug/kg	980	180	2
Pentachlorophenol	ND		ug/kg	300	83.	2
Phenol	ND		ug/kg	380	57.	2
2-Methylphenol	ND		ug/kg	380	58.	2
3-Methylphenol/4-Methylphenol	ND		ug/kg	540	59.	2
2,4,5-Trichlorophenol	ND		ug/kg	380	72.	2
Carbazole	1500		ug/kg	380	37.	2
Atrazine	ND		ug/kg	300	130	2
Benzaldehyde	ND		ug/kg	500	100	2
Caprolactam	ND		ug/kg	380	110	2
2,3,4,6-Tetrachlorophenol	ND		ug/kg	380	76.	2

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-08 D Date Collected: 11/29/16 12:10

Client ID: SB7 (0-4') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		25-120
Phenol-d6	44		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	12		10-136
4-Terphenyl-d14	42		18-120

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09 D
Client ID: SB5 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/07/16 11:25
Analyst: RC
Percent Solids: 84%

Date Collected: 11/29/16 11:25
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	4500		ug/kg	1600	200	10
Hexachlorobenzene	ND		ug/kg	1200	220	10
Bis(2-chloroethyl)ether	ND		ug/kg	1800	260	10
2-Chloronaphthalene	ND		ug/kg	2000	190	10
3,3'-Dichlorobenzidine	ND		ug/kg	2000	520	10
2,4-Dinitrotoluene	ND		ug/kg	2000	390	10
2,6-Dinitrotoluene	ND		ug/kg	2000	340	10
Fluoranthene	60000		ug/kg	1200	220	10
4-Chlorophenyl phenyl ether	ND		ug/kg	2000	210	10
4-Bromophenyl phenyl ether	ND		ug/kg	2000	300	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2300	330	10
Bis(2-chloroethoxy)methane	ND		ug/kg	2100	200	10
Hexachlorobutadiene	ND		ug/kg	2000	290	10
Hexachlorocyclopentadiene	ND		ug/kg	5600	1800	10
Hexachloroethane	ND		ug/kg	1600	320	10
Isophorone	ND		ug/kg	1800	250	10
Naphthalene	1600	J	ug/kg	2000	240	10
Nitrobenzene	ND		ug/kg	1800	290	10
NDPA/DPA	ND		ug/kg	1600	220	10
n-Nitrosodi-n-propylamine	ND		ug/kg	2000	300	10
Bis(2-ethylhexyl)phthalate	19000		ug/kg	2000	680	10
Butyl benzyl phthalate	ND		ug/kg	2000	490	10
Di-n-butylphthalate	ND		ug/kg	2000	370	10
Di-n-octylphthalate	ND		ug/kg	2000	660	10
Diethyl phthalate	ND		ug/kg	2000	180	10
Dimethyl phthalate	ND		ug/kg	2000	410	10
Benzo(a)anthracene	29000		ug/kg	1200	220	10
Benzo(a)pyrene	24000		ug/kg	1600	480	10
Benzo(b)fluoranthene	31000		ug/kg	1200	330	10
Benzo(k)fluoranthene	11000		ug/kg	1200	310	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09 D Date Collected: 11/29/16 11:25

Client ID: SB5 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	28000		ug/kg	1200	200	10
Acenaphthylene	ND		ug/kg	1600	300	10
Anthracene	17000		ug/kg	1200	380	10
Benzo(ghi)perylene	12000		ug/kg	1600	230	10
Fluorene	6800		ug/kg	2000	190	10
Phenanthrene	49000		ug/kg	1200	240	10
Dibenzo(a,h)anthracene	4000		ug/kg	1200	230	10
Indeno(1,2,3-cd)pyrene	15000		ug/kg	1600	270	10
Pyrene	49000		ug/kg	1200	190	10
Biphenyl	ND		ug/kg	4500	450	10
4-Chloroaniline	ND		ug/kg	2000	360	10
2-Nitroaniline	ND		ug/kg	2000	380	10
3-Nitroaniline	ND		ug/kg	2000	370	10
4-Nitroaniline	ND		ug/kg	2000	810	10
Dibenzofuran	3300		ug/kg	2000	180	10
2-Methylnaphthalene	770	J	ug/kg	2300	240	10
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	2000	200	10
Acetophenone	ND		ug/kg	2000	240	10
2,4,6-Trichlorophenol	ND		ug/kg	1200	370	10
p-Chloro-m-cresol	ND		ug/kg	2000	290	10
2-Chlorophenol	ND		ug/kg	2000	230	10
2,4-Dichlorophenol	ND		ug/kg	1800	310	10
2,4-Dimethylphenol	ND		ug/kg	2000	650	10
2-Nitrophenol	ND		ug/kg	4200	740	10
4-Nitrophenol	ND		ug/kg	2700	800	10
2,4-Dinitrophenol	ND		ug/kg	9400	910	10
4,6-Dinitro-o-cresol	ND		ug/kg	5100	940	10
Pentachlorophenol	ND		ug/kg	1600	430	10
Phenol	ND		ug/kg	2000	300	10
2-Methylphenol	ND		ug/kg	2000	300	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2800	310	10
2,4,5-Trichlorophenol	ND		ug/kg	2000	380	10
Carbazole	6600		ug/kg	2000	190	10
Atrazine	ND		ug/kg	1600	680	10
Benzaldehyde	ND		ug/kg	2600	530	10
Caprolactam	ND		ug/kg	2000	600	10
2,3,4,6-Tetrachlorophenol	ND		ug/kg	2000	400	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09 D Date Collected: 11/29/16 11:25

Client ID: SB5 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		25-120
Phenol-d6	40		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	30		10-136
4-Terphenyl-d14	53		18-120

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10 D
Client ID: SB4 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/07/16 11:51
Analyst: RC
Percent Solids: 84%

Date Collected: 11/29/16 11:00
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	3800		ug/kg	1600	200	10
Hexachlorobenzene	ND		ug/kg	1200	220	10
Bis(2-chloroethyl)ether	ND		ug/kg	1800	270	10
2-Chloronaphthalene	ND		ug/kg	2000	200	10
3,3'-Dichlorobenzidine	ND		ug/kg	2000	520	10
2,4-Dinitrotoluene	ND		ug/kg	2000	390	10
2,6-Dinitrotoluene	ND		ug/kg	2000	340	10
Fluoranthene	42000		ug/kg	1200	220	10
4-Chlorophenyl phenyl ether	ND		ug/kg	2000	210	10
4-Bromophenyl phenyl ether	ND		ug/kg	2000	300	10
Bis(2-chloroisopropyl)ether	ND		ug/kg	2400	340	10
Bis(2-chloroethoxy)methane	ND		ug/kg	2100	200	10
Hexachlorobutadiene	ND		ug/kg	2000	290	10
Hexachlorocyclopentadiene	ND		ug/kg	5600	1800	10
Hexachloroethane	ND		ug/kg	1600	320	10
Isophorone	ND		ug/kg	1800	260	10
Naphthalene	1600	J	ug/kg	2000	240	10
Nitrobenzene	ND		ug/kg	1800	290	10
NDPA/DPA	ND		ug/kg	1600	220	10
n-Nitrosodi-n-propylamine	ND		ug/kg	2000	300	10
Bis(2-ethylhexyl)phthalate	ND		ug/kg	2000	680	10
Butyl benzyl phthalate	ND		ug/kg	2000	500	10
Di-n-butylphthalate	ND		ug/kg	2000	370	10
Di-n-octylphthalate	ND		ug/kg	2000	670	10
Diethyl phthalate	ND		ug/kg	2000	180	10
Dimethyl phthalate	ND		ug/kg	2000	410	10
Benzo(a)anthracene	20000		ug/kg	1200	220	10
Benzo(a)pyrene	16000		ug/kg	1600	480	10
Benzo(b)fluoranthene	20000		ug/kg	1200	330	10
Benzo(k)fluoranthene	8200		ug/kg	1200	310	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10 D Date Collected: 11/29/16 11:00

Client ID: SB4 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	19000		ug/kg	1200	200	10
Acenaphthylene	ND		ug/kg	1600	300	10
Anthracene	12000		ug/kg	1200	380	10
Benzo(ghi)perylene	8400		ug/kg	1600	230	10
Fluorene	5200		ug/kg	2000	190	10
Phenanthrene	37000		ug/kg	1200	240	10
Dibenzo(a,h)anthracene	2600		ug/kg	1200	230	10
Indeno(1,2,3-cd)pyrene	9900		ug/kg	1600	270	10
Pyrene	34000		ug/kg	1200	200	10
Biphenyl	ND		ug/kg	4500	460	10
4-Chloroaniline	ND		ug/kg	2000	360	10
2-Nitroaniline	ND		ug/kg	2000	380	10
3-Nitroaniline	ND		ug/kg	2000	370	10
4-Nitroaniline	ND		ug/kg	2000	810	10
Dibenzofuran	2700		ug/kg	2000	190	10
2-Methylnaphthalene	710	J	ug/kg	2400	240	10
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	2000	200	10
Acetophenone	ND		ug/kg	2000	240	10
2,4,6-Trichlorophenol	ND		ug/kg	1200	370	10
p-Chloro-m-cresol	ND		ug/kg	2000	290	10
2-Chlorophenol	ND		ug/kg	2000	230	10
2,4-Dichlorophenol	ND		ug/kg	1800	320	10
2,4-Dimethylphenol	ND		ug/kg	2000	650	10
2-Nitrophenol	ND		ug/kg	4200	740	10
4-Nitrophenol	ND		ug/kg	2800	800	10
2,4-Dinitrophenol	ND		ug/kg	9400	920	10
4,6-Dinitro-o-cresol	ND		ug/kg	5100	940	10
Pentachlorophenol	ND		ug/kg	1600	430	10
Phenol	ND		ug/kg	2000	300	10
2-Methylphenol	ND		ug/kg	2000	300	10
3-Methylphenol/4-Methylphenol	ND		ug/kg	2800	310	10
2,4,5-Trichlorophenol	ND		ug/kg	2000	380	10
Carbazole	5300		ug/kg	2000	190	10
Atrazine	ND		ug/kg	1600	690	10
Benzaldehyde	ND		ug/kg	2600	530	10
Caprolactam	ND		ug/kg	2000	600	10
2,3,4,6-Tetrachlorophenol	ND		ug/kg	2000	400	10

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10 D Date Collected: 11/29/16 11:00

Client ID: SB4 (2-6') Date Received: 11/30/16

Sample Location: 166 CHANDLER ST. BUFFALO, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		25-120
Phenol-d6	39		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	22		10-136
4-Terphenyl-d14	58		18-120

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/06/16 15:34
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04-06,08-10 Batch: WG957644-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	170	16.
3,3'-Dichlorobenzidine	ND		ug/kg	170	44.
2,4-Dinitrotoluene	ND		ug/kg	170	33.
2,6-Dinitrotoluene	ND		ug/kg	170	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.
4-Bromophenyl phenyl ether	ND		ug/kg	170	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	170	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	170	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	170	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	57.
Butyl benzyl phthalate	ND		ug/kg	170	42.
Di-n-butylphthalate	ND		ug/kg	170	31.
Di-n-octylphthalate	ND		ug/kg	170	56.
Diethyl phthalate	ND		ug/kg	170	15.
Dimethyl phthalate	ND		ug/kg	170	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/06/16 15:34
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04-06,08-10 Batch: WG957644-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	170	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	170	30.
2-Nitroaniline	ND		ug/kg	170	32.
3-Nitroaniline	ND		ug/kg	170	31.
4-Nitroaniline	ND		ug/kg	170	69.
Dibenzofuran	ND		ug/kg	170	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	17.
Acetophenone	ND		ug/kg	170	20.
2,4,6-Trichlorophenol	ND		ug/kg	100	31.
p-Chloro-m-cresol	ND		ug/kg	170	25.
2-Chlorophenol	ND		ug/kg	170	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	170	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/06/16 15:34
Analyst: KR

Extraction Method: EPA 3546
Extraction Date: 12/02/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04-06,08-10 Batch: WG957644-1					
Phenol	ND		ug/kg	170	25.
2-Methylphenol	ND		ug/kg	170	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	170	32.
Carbazole	ND		ug/kg	170	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	170	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	34.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	67		10-120
Nitrobenzene-d5	61		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	57		10-136
4-Terphenyl-d14	63		18-120

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/05/16 12:02
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:48

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG957870-1					
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63
Hexachlorocyclopentadiene	ND		ug/l	20	7.8
Isophorone	ND		ug/l	5.0	0.60
Nitrobenzene	ND		ug/l	2.0	0.75
NDPA/DPA	ND		ug/l	2.0	0.64
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91
Butyl benzyl phthalate	ND		ug/l	5.0	1.3
Di-n-butylphthalate	ND		ug/l	5.0	0.69
Di-n-octylphthalate	ND		ug/l	5.0	1.1
Diethyl phthalate	ND		ug/l	5.0	0.63
Dimethyl phthalate	ND		ug/l	5.0	0.65
Biphenyl	ND		ug/l	2.0	0.76
4-Chloroaniline	ND		ug/l	5.0	0.63
2-Nitroaniline	ND		ug/l	5.0	1.1
3-Nitroaniline	ND		ug/l	5.0	1.2
4-Nitroaniline	ND		ug/l	5.0	1.3
Dibenzofuran	ND		ug/l	2.0	0.66
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.67
Acetophenone	ND		ug/l	5.0	0.85
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68
p-Chloro-m-cresol	ND		ug/l	2.0	0.62

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/05/16 12:02
Analyst: MW

Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:48

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG957870-1					
2-Chlorophenol	ND		ug/l	2.0	0.63
2,4-Dichlorophenol	ND		ug/l	5.0	0.77
2,4-Dimethylphenol	ND		ug/l	5.0	1.6
2-Nitrophenol	ND		ug/l	10	1.5
4-Nitrophenol	ND		ug/l	10	1.8
2,4-Dinitrophenol	ND		ug/l	20	5.5
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1
Phenol	ND		ug/l	5.0	1.9
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72
Carbazole	ND		ug/l	2.0	0.63
Atrazine	ND		ug/l	10	1.8
Benzaldehyde	ND		ug/l	5.0	1.1
Caprolactam	ND		ug/l	10	3.6
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.93

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	81		41-149

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/06/16 09:34
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:52

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 03 Batch: WG957871-1					
Acenaphthene	ND		ug/l	0.10	0.04
2-Chloronaphthalene	ND		ug/l	0.20	0.04
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.04
Naphthalene	ND		ug/l	0.20	0.04
Benzo(a)anthracene	ND		ug/l	0.20	0.02
Benzo(a)pyrene	ND		ug/l	0.20	0.04
Benzo(b)fluoranthene	ND		ug/l	0.20	0.02
Benzo(k)fluoranthene	ND		ug/l	0.20	0.04
Chrysene	ND		ug/l	0.20	0.04
Acenaphthylene	ND		ug/l	0.20	0.04
Anthracene	ND		ug/l	0.20	0.04
Benzo(ghi)perylene	ND		ug/l	0.20	0.04
Fluorene	ND		ug/l	0.20	0.04
Phenanthrene	ND		ug/l	0.20	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.04
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	0.04
Pyrene	ND		ug/l	0.20	0.04
2-Methylnaphthalene	ND		ug/l	0.20	0.05
Pentachlorophenol	ND		ug/l	0.80	0.22
Hexachlorobenzene	ND		ug/l	0.80	0.03
Hexachloroethane	ND		ug/l	0.80	0.03

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/06/16 09:34
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 12/03/16 18:52

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 03 Batch: WG957871-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	76		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06,08-10 Batch: WG957644-2 WG957644-3								
Acenaphthene	64		59		31-137	8		50
Benzidine	13		10		10-66	26		50
1,2,4-Trichlorobenzene	75		67		38-107	11		50
Hexachlorobenzene	68		62		40-140	9		50
Bis(2-chloroethyl)ether	71		67		40-140	6		50
2-Chloronaphthalene	71		64		40-140	10		50
1,2-Dichlorobenzene	70		65		40-140	7		50
1,3-Dichlorobenzene	67		62		40-140	8		50
1,4-Dichlorobenzene	64		63		28-104	2		50
3,3'-Dichlorobenzidine	44		**37**	Q	40-140	17		50
2,4-Dinitrotoluene	74		66		40-132	11		50
2,6-Dinitrotoluene	79		68		40-140	15		50
Azobenzene	72		66		40-140	9		50
Fluoranthene	70		63		40-140	11		50
4-Chlorophenyl phenyl ether	68		62		40-140	9		50
4-Bromophenyl phenyl ether	70		65		40-140	7		50
Bis(2-chloroisopropyl)ether	76		71		40-140	7		50
Bis(2-chloroethoxy)methane	78		70		40-117	11		50
Hexachlorobutadiene	66		57		40-140	15		50
Hexachlorocyclopentadiene	68		61		40-140	11		50
Hexachloroethane	65		61		40-140	6		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06,08-10 Batch: WG957644-2 WG957644-3								
Isophorone	78		71		40-140	9		50
Naphthalene	68		61		40-140	11		50
Nitrobenzene	73		67		40-140	9		50
NDPA/DPA	73		66		36-157	10		50
n-Nitrosodi-n-propylamine	80		72		32-121	11		50
Bis(2-ethylhexyl)phthalate	75		67		40-140	11		50
Butyl benzyl phthalate	77		67		40-140	14		50
Di-n-butylphthalate	71		63		40-140	12		50
Di-n-octylphthalate	77		68		40-140	12		50
Diethyl phthalate	70		64		40-140	9		50
Dimethyl phthalate	76		67		40-140	13		50
Benzo(a)anthracene	70		62		40-140	12		50
Benzo(a)pyrene	69		64		40-140	8		50
Benzo(b)fluoranthene	71		64		40-140	10		50
Benzo(k)fluoranthene	71		65		40-140	9		50
Chrysene	69		62		40-140	11		50
Acenaphthylene	76		67		40-140	13		50
Anthracene	70		62		40-140	12		50
Benzo(ghi)perylene	70		63		40-140	11		50
Fluorene	69		62		40-140	11		50
Phenanthrene	70		61		40-140	14		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06,08-10 Batch: WG957644-2 WG957644-3								
Dibenzo(a,h)anthracene	70		65		40-140	7		50
Indeno(1,2,3-cd)pyrene	70		65		40-140	7		50
Pyrene	72		63		35-142	13		50
Biphenyl	79		68		54-104	15		50
Aniline	51		45		40-140	13		50
4-Chloroaniline	**37**	Q	**31**	Q	40-140	18		50
1-Methylnaphthalene	70		60		26-130	15		50
2-Nitroaniline	81		72		47-134	12		50
3-Nitroaniline	53		46		26-129	14		50
4-Nitroaniline	71		68		41-125	4		50
Dibenzofuran	70		62		40-140	12		50
2-Methylnaphthalene	73		65		40-140	12		50
1,2,4,5-Tetrachlorobenzene	75		68		40-117	10		50
Pentachloronitrobenzene	76		70		42-153	8		50
Acetophenone	80		73		14-144	9		50
n-Nitrosodimethylamine	70		65		22-100	7		50
2,4,6-Trichlorophenol	77		69		30-130	11		50
p-Chloro-m-cresol	77		69		26-103	11		50
2-Chlorophenol	76		70		25-102	8		50
2,4-Dichlorophenol	78		72		30-130	8		50
2,4-Dimethylphenol	80		73		30-130	9		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06,08-10 Batch: WG957644-2 WG957644-3								
2-Nitrophenol	77		71		30-130	8		50
4-Nitrophenol	77		70		11-114	10		50
2,4-Dinitrophenol	60		58		4-130	3		50
4,6-Dinitro-o-cresol	71		63		10-130	12		50
Pentachlorophenol	70		62		17-109	12		50
Phenol	74		68		26-90	8		50
2-Methylphenol	81		74		30-130.	9		50
3-Methylphenol/4-Methylphenol	78		72		30-130	8		50
2,4,5-Trichlorophenol	78		69		30-130	12		50
Benzoic Acid	43		46		10-110	7		50
Benzyl Alcohol	77		71		40-140	8		50
Carbazole	71		63		54-128	12		50
Pyridine	54		50		10-93	8		50
Parathion, ethyl	82		74		40-140	10		50
Atrazine	88		84		40-140	5		50
Benzaldehyde	62		58		40-140	7		50
Caprolactam	82		72		15-130	13		50
2,3,4,6-Tetrachlorophenol	74		69		40-140	7		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06,08-10 Batch: WG957644-2 WG957644-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	67		62		25-120
Phenol-d6	73		68		10-120
Nitrobenzene-d5	69		65		23-120
2-Fluorobiphenyl	67		59		30-120
2,4,6-Tribromophenol	64		61		10-136
4-Terphenyl-d14	64		58		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG957870-2 WG957870-3								
Acenaphthene	73		76		37-111	4		30
Benzidine	**1**	Q	**3**	Q	10-75	**97**	Q	30
1,2,4-Trichlorobenzene	73		70		39-98	4		30
Hexachlorobenzene	77		82		40-140	6		30
Bis(2-chloroethyl)ether	77		73		40-140	5		30
2-Chloronaphthalene	79		81		40-140	3		30
1,2-Dichlorobenzene	69		63		40-140	9		30
1,3-Dichlorobenzene	68		62		40-140	9		30
1,4-Dichlorobenzene	67		63		36-97	6		30
3,3'-Dichlorobenzidine	69		74		40-140	7		30
2,4-Dinitrotoluene	80		88		48-143	10		30
2,6-Dinitrotoluene	82		92		40-140	11		30
Azobenzene	82		88		40-140	7		30
Fluoranthene	79		86		40-140	8		30
4-Chlorophenyl phenyl ether	78		84		40-140	7		30
4-Bromophenyl phenyl ether	79		86		40-140	8		30
Bis(2-chloroisopropyl)ether	86		82		40-140	5		30
Bis(2-chloroethoxy)methane	82		83		40-140	1		30
Hexachlorobutadiene	67		61		40-140	9		30
Hexachlorocyclopentadiene	70		68		40-140	3		30
Hexachloroethane	67		62		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG957870-2 WG957870-3								
Isophorone	83		88		40-140	6		30
Naphthalene	75		70		40-140	7		30
Nitrobenzene	79		77		40-140	3		30
NitrosoDiPhenylAmine(NDPA)/DPA	80		86		40-140	7		30
n-Nitrosodi-n-propylamine	84		88		29-132	5		30
Bis(2-Ethylhexyl)phthalate	83		90		40-140	8		30
Butyl benzyl phthalate	77		86		40-140	11		30
Di-n-butylphthalate	83		91		40-140	9		30
Di-n-octylphthalate	84		92		40-140	9		30
Diethyl phthalate	78		84		40-140	7		30
Dimethyl phthalate	81		90		40-140	11		30
Benzo(a)anthracene	79		86		40-140	8		30
Benzo(a)pyrene	85		93		40-140	9		30
Benzo(b)fluoranthene	82		90		40-140	9		30
Benzo(k)fluoranthene	83		92		40-140	10		30
Chrysene	78		86		40-140	10		30
Acenaphthylene	82		86		45-123	5		30
Anthracene	80		87		40-140	8		30
Benzo(ghi)perylene	83		90		40-140	8		30
Fluorene	78		84		40-140	7		30
Phenanthrene	77		83		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG957870-2 WG957870-3								
Dibenzo(a,h)anthracene	81		89		40-140	9		30
Indeno(1,2,3-cd)Pyrene	87		93		40-140	7		30
Pyrene	79		86		26-127	8		30
Biphenyl	83		86		40-140	4		30
Aniline	**31**	Q	**28**	Q	40-140	10		30
4-Chloroaniline	52		51		40-140	2		30
1-Methylnaphthalene	76		74		41-103	3		30
2-Nitroaniline	82		94		52-143	14		30
3-Nitroaniline	62		62		25-145	0		30
4-Nitroaniline	77		83		51-143	8		30
Dibenzofuran	77		81		40-140	5		30
2-Methylnaphthalene	79		78		40-140	1		30
1,2,4,5-Tetrachlorobenzene	79		77		2-134	3		30
Pentachloronitrobenzene	89		94		4-189	5		30
Acetophenone	83		83		39-129	0		30
n-Nitrosodimethylamine	48		43		22-74	11		30
2,4,6-Trichlorophenol	83		86		30-130	4		30
P-Chloro-M-Cresol	83		89		23-97	7		30
2-Chlorophenol	76		72		27-123	5		30
2,4-Dichlorophenol	84		88		30-130	5		30
2,4-Dimethylphenol	82		75		30-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG957870-2 WG957870-3								
2-Nitrophenol	79		79		30-130	0		30
4-Nitrophenol	48		55		10-80	14		30
2,4-Dinitrophenol	71		81		20-130	13		30
4,6-Dinitro-o-cresol	75		82		20-164	9		30
Pentachlorophenol	84		85		9-103	1		30
Phenol	39		37		12-110	5		30
2-Methylphenol	74		71		30-130	4		30
3-Methylphenol/4-Methylphenol	68		69		30-130	1		30
2,4,5-Trichlorophenol	84		93		30-130	10		30
Benzoic Acid	37		42		10-164	13		30
Benzyl Alcohol	67		69		26-116	3		30
Carbazole	79		87		55-144	10		30
Pyridine	**5**	Q	10		10-66	**68**	Q	30
Parathion, ethyl	97		104		40-140	7		30
Atrazine	104		115		40-140	10		30
Benzaldehyde	78		73		40-140	7		30
Caprolactam	25		27		10-130	8		30
2,3,4,6-Tetrachlorophenol	81		87		40-140	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG957870-2 WG957870-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	52		51		21-120
Phenol-d6	39		38		10-120
Nitrobenzene-d5	80		79		23-120
2-Fluorobiphenyl	78		81		15-120
2,4,6-Tribromophenol	77		86		10-120
4-Terphenyl-d14	74		83		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 03 Batch: WG957871-2 WG957871-3								
Acenaphthene	70		80		37-111	13		40
2-Chloronaphthalene	77		90		40-140	16		40
Fluoranthene	75		87		40-140	15		40
Hexachlorobutadiene	70		78		40-140	11		40
Naphthalene	73		82		40-140	12		40
Benzo(a)anthracene	73		87		40-140	18		40
Benzo(a)pyrene	59		70		40-140	17		40
Benzo(b)fluoranthene	82		98		40-140	18		40
Benzo(k)fluoranthene	88		101		40-140	14		40
Chrysene	76		89		40-140	16		40
Acenaphthylene	82		94		40-140	14		40
Anthracene	76		89		40-140	16		40
Benzo(ghi)perylene	76		89		40-140	16		40
Fluorene	76		86		40-140	12		40
Phenanthrene	71		82		40-140	14		40
Dibenzo(a,h)anthracene	83		95		40-140	13		40
Indeno(1,2,3-cd)pyrene	84		98		40-140	15		40
Pyrene	75		87		26-127	15		40
1-Methylnaphthalene	73		84		40-140	14		40
2-Methylnaphthalene	74		84		40-140	13		40
Pentachlorophenol	72		86		9-103	18		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 03 Batch: WG957871-2 WG957871-3								
Hexachlorobenzene	70		86		40-140	21		40
Hexachloroethane	70		74		40-140	6		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	43		47		21-120
Phenol-d6	33		37		10-120
Nitrobenzene-d5	76		84		23-120
2-Fluorobiphenyl	66		75		15-120
2,4,6-Tribromophenol	73		84		10-120
4-Terphenyl-d14	64		73		41-149

PCBS

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID:	L1638793-01	Date Collected:	11/29/16 09:25
Client ID:	WIPE-001	Date Received:	11/30/16
Sample Location:	166 CHANDLER ST. BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	1,8082A	Extraction Date:	12/02/16 09:55
Analytical Date:	12/04/16 00:54	Cleanup Method:	EPA 3665A
Analyst:	HT	Cleanup Date:	12/03/16
		Cleanup Method:	EPA 3660B
		Cleanup Date:	12/03/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	0.040	1	A
Aroclor 1221	ND		ug Abs	0.500	0.046	1	A
Aroclor 1232	ND		ug Abs	0.500	0.059	1	A
Aroclor 1242	ND		ug Abs	0.500	0.061	1	A
Aroclor 1248	ND		ug Abs	0.500	0.042	1	A
Aroclor 1254	ND		ug Abs	0.500	0.041	1	A
Aroclor 1260	4.96		ug Abs	0.500	0.038	1	A
Aroclor 1262	ND		ug Abs	0.500	0.025	1	A
Aroclor 1268	ND		ug Abs	0.500	0.073	1	A
PCBs, Total	4.96		ug Abs	0.500	0.025	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	89		30-150	B

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-02
Client ID: WIPE-002
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Wipe
Analytical Method: 1,8082A
Analytical Date: 12/04/16 01:10
Analyst: HT

Date Collected: 11/29/16 09:30
Date Received: 11/30/16
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 12/02/16 09:55
Cleanup Method: EPA 3665A
Cleanup Date: 12/03/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/03/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.500	0.040	1	A
Aroclor 1221	ND		ug Abs	0.500	0.046	1	A
Aroclor 1232	ND		ug Abs	0.500	0.059	1	A
Aroclor 1242	ND		ug Abs	0.500	0.061	1	A
Aroclor 1248	ND		ug Abs	0.500	0.042	1	A
Aroclor 1254	ND		ug Abs	0.500	0.041	1	A
Aroclor 1260	0.894		ug Abs	0.500	0.038	1	A
Aroclor 1262	ND		ug Abs	0.500	0.025	1	A
Aroclor 1268	ND		ug Abs	0.500	0.073	1	A
PCBs, Total	0.894		ug Abs	0.500	0.025	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	74		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	81		30-150	B

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID:	L1638793-04	Date Collected:	11/29/16 15:30
Client ID:	SB13 (0-4')	Date Received:	11/30/16
Sample Location:	166 CHANDLER ST. BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	12/01/16 11:11
Analytical Date:	12/02/16 20:20	Cleanup Method:	EPA 3665A
Analyst:	HT	Cleanup Date:	12/02/16
Percent Solids:	87%	Cleanup Method:	EPA 3660B
		Cleanup Date:	12/02/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.4	3.04	1	A
Aroclor 1221	ND		ug/kg	38.4	3.54	1	A
Aroclor 1232	ND		ug/kg	38.4	4.51	1	A
Aroclor 1242	ND		ug/kg	38.4	4.71	1	A
Aroclor 1248	ND		ug/kg	38.4	3.24	1	A
Aroclor 1254	57.0		ug/kg	38.4	3.16	1	B
Aroclor 1260	45.0		ug/kg	38.4	2.93	1	B
Aroclor 1262	ND		ug/kg	38.4	1.91	1	A
Aroclor 1268	ND		ug/kg	38.4	5.58	1	A
PCBs, Total	102		ug/kg	38.4	1.91	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	A
Decachlorobiphenyl	91		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	102		30-150	B

Project Name: PHASE II ESA **Lab Number:** L1638793

Project Number: E1604 **Report Date:** 12/07/16

SAMPLE RESULTS

Lab ID:	L1638793-11	Date Collected:	11/29/16 09:20
Client ID:	HA-1	Date Received:	11/30/16
Sample Location:	166 CHANDLER ST. BUFFALO, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	12/01/16 11:11
Analytical Date:	12/02/16 20:36	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	12/02/16
Percent Solids:	57%	Cleanup Method:	EPA 3660B
		Cleanup Date:	12/02/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	57.2	4.52	1	A
Aroclor 1221	ND		ug/kg	57.2	5.28	1	A
Aroclor 1232	ND		ug/kg	57.2	6.71	1	A
Aroclor 1242	ND		ug/kg	57.2	7.00	1	A
Aroclor 1248	ND		ug/kg	57.2	4.83	1	A
Aroclor 1254	ND		ug/kg	57.2	4.70	1	A
Aroclor 1260	299		ug/kg	57.2	4.36	1	A
Aroclor 1262	ND		ug/kg	57.2	2.84	1	A
Aroclor 1268	142		ug/kg	57.2	8.30	1	B
PCBs, Total	441		ug/kg	57.2	2.84	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	**24**	Q	30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	94		30-150	B

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 12/02/16 16:46
Analyst: AF

Extraction Method: EPA 3546
Extraction Date: 12/01/16 11:11
Cleanup Method: EPA 3665A
Cleanup Date: 12/02/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/02/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 04,11 Batch: WG957151-1						
Aroclor 1016	ND		ug/kg	33.1	2.62	A
Aroclor 1221	ND		ug/kg	33.1	3.05	A
Aroclor 1232	ND		ug/kg	33.1	3.88	A
Aroclor 1242	ND		ug/kg	33.1	4.05	A
Aroclor 1248	ND		ug/kg	33.1	2.79	A
Aroclor 1254	ND		ug/kg	33.1	2.72	A
Aroclor 1260	ND		ug/kg	33.1	2.52	A
Aroclor 1262	ND		ug/kg	33.1	1.64	A
Aroclor 1268	ND		ug/kg	33.1	4.80	A
PCBs, Total	ND		ug/kg	33.1	1.64	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	83		30-150	B

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 12/03/16 23:31
Analyst: HT

Extraction Method: EPA 3540C
Extraction Date: 12/02/16 09:55
Cleanup Method: EPA 3665A
Cleanup Date: 12/03/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/03/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-02 Batch: WG957463-1						
Aroclor 1016	ND		ug Abs	0.500	0.040	A
Aroclor 1221	ND		ug Abs	0.500	0.046	A
Aroclor 1232	ND		ug Abs	0.500	0.059	A
Aroclor 1242	ND		ug Abs	0.500	0.061	A
Aroclor 1248	ND		ug Abs	0.500	0.042	A
Aroclor 1254	ND		ug Abs	0.500	0.041	A
Aroclor 1260	ND		ug Abs	0.500	0.038	A
Aroclor 1262	ND		ug Abs	0.500	0.025	A
Aroclor 1268	ND		ug Abs	0.500	0.073	A
PCBs, Total	ND		ug Abs	0.500	0.025	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	51		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 04,11 Batch: WG957151-2 WG957151-3									
Aroclor 1016	90		95		40-140	5		50	A
Aroclor 1260	94		100		40-140	6		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		89		30-150	A
Decachlorobiphenyl	80		85		30-150	A
2,4,5,6-Tetrachloro-m-xylene	87		91		30-150	B
Decachlorobiphenyl	81		85		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG957463-2 WG957463-3									
Aroclor 1016	73		72		40-140	1		50	A
Aroclor 1260	68		66		40-140	3		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		82		30-150	A
Decachlorobiphenyl	66		63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		83		30-150	B
Decachlorobiphenyl	69		65		30-150	B

METALS

Project Name: PHASE II ESA
Lab Number: L1638793
Project Number: E1604
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-05
Client ID: SB12 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Percent Solids: 88%

Date Collected: 11/29/16 14:45
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.7		mg/kg	0.44	0.09	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Barium, Total	34		mg/kg	0.44	0.08	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Cadmium, Total	0.05	J	mg/kg	0.44	0.04	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Chromium, Total	5.3		mg/kg	0.44	0.04	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Lead, Total	9.0		mg/kg	2.2	0.12	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Mercury, Total	1.7		mg/kg	0.07	0.02	1	12/02/16 06:50	12/02/16 14:18	EPA 7471B	1,7471B	BV
Selenium, Total	ND		mg/kg	0.89	0.11	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.44	0.12	1	12/01/16 20:40	12/02/16 20:13	EPA 3050B	1,6010C	AB

Project Name: PHASE II ESA
Lab Number: L1638793
Project Number: E1604
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-06
Client ID: SB10 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Percent Solids: 86%

Date Collected: 11/29/16 14:05
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.3		mg/kg	0.46	0.10	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Barium, Total	48		mg/kg	0.46	0.08	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.46	0.05	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Chromium, Total	6.1		mg/kg	0.46	0.05	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Lead, Total	6.7		mg/kg	2.3	0.12	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Mercury, Total	0.05	J	mg/kg	0.08	0.02	1	12/02/16 06:50	12/02/16 14:20	EPA 7471B	1,7471B	BV
Selenium, Total	ND		mg/kg	0.93	0.12	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.46	0.13	1	12/01/16 20:40	12/02/16 20:17	EPA 3050B	1,6010C	AB

Project Name: PHASE II ESA
Lab Number: L1638793
Project Number: E1604
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-08
Client ID: SB7 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Percent Solids: 87%

Date Collected: 11/29/16 12:10
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	3.1		mg/kg	0.45	0.09	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Barium, Total	86		mg/kg	0.45	0.08	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Cadmium, Total	0.39	J	mg/kg	0.45	0.04	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Chromium, Total	6.2		mg/kg	0.45	0.04	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Lead, Total	76		mg/kg	2.2	0.12	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Mercury, Total	0.24		mg/kg	0.07	0.02	1	12/02/16 06:50	12/02/16 14:25	EPA 7471B	1,7471B	BV
Selenium, Total	ND		mg/kg	0.90	0.12	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.45	0.13	1	12/01/16 20:40	12/02/16 20:38	EPA 3050B	1,6010C	AB

Project Name: PHASE II ESA
Lab Number: L1638793
Project Number: E1604
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09
Client ID: SB5 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Percent Solids: 84%

Date Collected: 11/29/16 11:25
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.2		mg/kg	0.47	0.10	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Barium, Total	74		mg/kg	0.47	0.08	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Cadmium, Total	0.31	J	mg/kg	0.47	0.05	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Chromium, Total	5.1		mg/kg	0.47	0.05	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Lead, Total	58		mg/kg	2.4	0.13	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Mercury, Total	0.16		mg/kg	0.08	0.02	1	12/02/16 06:50	12/02/16 14:27	EPA 7471B	1,7471B	BV
Selenium, Total	ND		mg/kg	0.94	0.12	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.47	0.13	1	12/01/16 20:40	12/02/16 20:46	EPA 3050B	1,6010C	AB

Project Name: PHASE II ESA
Lab Number: L1638793
Project Number: E1604
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10
Client ID: SB4 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Percent Solids: 84%

Date Collected: 11/29/16 11:00
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.3		mg/kg	0.47	0.10	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Barium, Total	130		mg/kg	0.47	0.08	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Cadmium, Total	0.62		mg/kg	0.47	0.05	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Chromium, Total	7.9		mg/kg	0.47	0.05	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Lead, Total	100		mg/kg	2.4	0.13	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Mercury, Total	0.12		mg/kg	0.08	0.02	1	12/02/16 06:50	12/02/16 14:29	EPA 7471B	1,7471B	BV
Selenium, Total	ND		mg/kg	0.95	0.12	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.47	0.13	1	12/01/16 20:40	12/02/16 20:50	EPA 3050B	1,6010C	AB

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05-06,08-10 Batch: WG957277-1										
Arsenic, Total	ND		mg/kg	0.40	0.08	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Barium, Total	ND		mg/kg	0.40	0.07	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.40	0.04	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Chromium, Total	0.10	J	mg/kg	0.40	0.04	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Lead, Total	ND		mg/kg	2.0	0.11	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Selenium, Total	ND		mg/kg	0.80	0.10	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB
Silver, Total	ND		mg/kg	0.40	0.11	1	12/01/16 20:40	12/02/16 17:47	1,6010C	AB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05-06,08-10 Batch: WG957378-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	12/02/16 06:50	12/02/16 13:45	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: PHASE II ESA

Project Number: E1604

Lab Number: L1638793

Report Date: 12/07/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 Batch: WG957277-2 SRM Lot Number: D091-540								
Arsenic, Total	83		-		80-121	-		
Barium, Total	86		-		84-117	-		
Cadmium, Total	87		-		83-117	-		
Chromium, Total	84		-		80-119	-		
Lead, Total	89		-		82-118	-		
Selenium, Total	84		-		79-121	-		
Silver, Total	89		-		75-124	-		
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 Batch: WG957378-2 SRM Lot Number: D091-540								
Mercury, Total	98		-		72-128	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 QC Batch ID: WG957277-3 QC Sample: L1638687-01 Client ID: MS Sample												
Arsenic, Total	1.7	11	6.2	**41**	Q	-	-		75-125	-		20
Barium, Total	75.	184	180	**57**	Q	-	-		75-125	-		20
Cadmium, Total	ND	4.68	1.8	**38**	Q	-	-		75-125	-		20
Chromium, Total	78.	18.4	85	**38**	Q	-	-		75-125	-		20
Lead, Total	83.	46.8	46	**0**	Q	-	-		75-125	-		20
Selenium, Total	ND	11	4.3	**39**	Q	-	-		75-125	-		20
Silver, Total	ND	27.6	16	**58**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 QC Batch ID: WG957378-3 QC Sample: L1637675-05 Client ID: MS Sample												
Mercury, Total	0.09J	0.191	0.32	**167**	Q	-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 QC Batch ID: WG957277-4 QC Sample: L1638687-01 Client ID: DUP Sample						
Arsenic, Total	1.7	1.6	mg/kg	6		20
Barium, Total	75.	75	mg/kg	0		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	78.	160	mg/kg	**69**	Q	20
Lead, Total	83.	36	mg/kg	**79**	Q	20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	0.39J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 05-06,08-10 QC Batch ID: WG957378-4 QC Sample: L1637675-05 Client ID: DUP Sample						
Mercury, Total	0.09J	0.11	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-04
Client ID: SB13 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 15:30
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.5		%	0.100	NA	1	-	12/01/16 12:04	121,2540G	RI

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-05
Client ID: SB12 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 14:45
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	12/01/16 12:04	121,2540G	RI

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-06
Client ID: SB10 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 14:05
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.5		%	0.100	NA	1	-	12/01/16 12:04	121,2540G	RI

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-07
Client ID: SB8 (4-6.5')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 13:10
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	12/02/16 02:47	121,2540G	VB

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-08
Client ID: SB7 (0-4')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 12:10
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	12/01/16 12:04	121,2540G	RI

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-09
Client ID: SB5 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 11:25
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.6		%	0.100	NA	1	-	12/02/16 02:47	121,2540G	VB

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-10
Client ID: SB4 (2-6')
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil

Date Collected: 11/29/16 11:00
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	12/02/16 02:47	121,2540G	VB

Project Name: PHASE II ESA
Project Number: E1604
Lab Number: L1638793
Report Date: 12/07/16

SAMPLE RESULTS

Lab ID: L1638793-11
Client ID: HA-1
Sample Location: 166 CHANDLER ST. BUFFALO, NY
Matrix: Soil
Date Collected: 11/29/16 09:20
Date Received: 11/30/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	57.4		%	0.100	NA	1	-	12/01/16 12:04	121,2540G	RI

Lab Duplicate Analysis
Batch Quality Control

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04-06,08,11 QC Batch ID: WG957134-1 QC Sample: L1638727-01 Client ID: DUP Sample						
Solids, Total	83.3	84.8	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 07,09-10 QC Batch ID: WG957373-1 QC Sample: L1639009-01 Client ID: DUP Sample						
Solids, Total	78.8	78.4	%	1		20

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1638793-01A	Amber 100ml Hexane preserved	A	N/A	5.6	Y	Absent	NYTCL-8082-3540C(14)
L1638793-02A	Amber 100ml Hexane preserved	A	N/A	5.6	Y	Absent	NYTCL-8082-3540C(14)
L1638793-03A	Vial HCl preserved	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-03B	Vial HCl preserved	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-03C	Vial HCl preserved	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-03D	Amber 1000ml unpreserved	A	10	5.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1638793-04A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-04A9	Vial MeOH preserved split	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-04B	Glass 250ml/8oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),TS(7),NYTCL-8082(14)
L1638793-05A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),TS(7)
L1638793-05B	Glass 60ml unpreserved split	A	N/A	5.6	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1638793-06A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),TS(7)
L1638793-06B	Glass 60ml unpreserved split	A	N/A	5.6	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1638793-07A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14),TS(7)
L1638793-07A9	Vial MeOH preserved split	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-08A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),TS(7)
L1638793-08B	Glass 60ml unpreserved split	A	N/A	5.6	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1638793-09A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),NYTCL-8260-R2(14),TS(7)
L1638793-09A9	Vial MeOH preserved split	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)
L1638793-09C	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1638793-10A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	NYTCL-8270(14),NYTCL-8260-R2(14),TS(7)
L1638793-10A9	Vial MeOH preserved split	A	N/A	5.6	Y	Absent	NYTCL-8260-R2(14)

*Values in parentheses indicate holding time in days

Project Name: PHASE II ESA
Project Number: E1604

Lab Number: L1638793
Report Date: 12/07/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1638793-10C	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1638793-11A	Glass 120ml/4oz unpreserved	A	N/A	5.6	Y	Absent	TS(7),NYTCL-8082(14)

*Values in parentheses indicate holding time in days

Project Name:	PHASE II ESA	**Lab Number:**	L1638793
Project Number:	E1604	**Report Date:**	12/07/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHASE II ESA	**Lab Number:**	L1638793
Project Number:	E1604	**Report Date:**	12/07/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PHASE II ESA	**Lab Number:**	L1638793
Project Number:	E1604	**Report Date:**	12/07/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 2

Date Rec'd in Lab: 12/1/16

ALPHA Job #: L1638793

Client Information
Client: Hazard Evaluations Inc
Address: 3752 N. Buffalo Rd
Orchard Park NY 14127
Phone: 716-667-3130
Fax: 716-667-3156
Email: MWittman@hazardevaluations.com

Project Information
Project Name: Phase II ESA
Project Location: 166 chandler st. Buffalo, NY
Project # E1604
(Use Project name as Project #) ☐
Project Manager: Candy Fox
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days: 5 day Firm

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Additionally email results to ebetzold@hazardevaluations.com

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total PCBs	VOC 8260 TCL + STARS	VOC 8260 TCL + STARS	SVOC 8270 TCL	T. PCBs	Metals (RCRA 8)			Sample Specific Comments	Total Bottle
38793 - 01	WIPE 001	11/29/16	9:25am		EB	X									1
02	WIPE 002		9:30am		EB	X									1
03	HA-3		1:30pm	Water	EB		X		X						4
04	SB13 (0-4')		3:30pm	Soil	EB			X	X	X					2
05	SB12 (0-4')		2:45pm	Soil	EB				X		X				1
06	SB10 (0-4')		2:05pm	Soil	EB				X		X				1
07	SB8 (4-6.5')		1:10pm	Soil	EB			X							1
08	SB7 (0-4')		12:10pm	Soil	EB				X		X				1
09	SB5 ~~(0-4')~~ (2-6')		11:25pm	Soil	EB			X	X		X				2
10	SB4 (2-6')		11:00am	Soil	EB			X	X		X				2

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	V	A	A	A	A		
Preservative	O	B	A	A	A	A		

Relinquished By:	Date/Time	Received By:	Date/Time
	11/30/16 1515	AAL	11/30/16 15:15
AAL	11/30/16 16:05		12/1/16 0025

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 2

Date Rec'd in Lab: 12/1/16

ALPHA Job #: L1638793

Client Information

Client: Hazard Evaluations Inc
Address: 3752 N. Buffalo Rd
Orchard Park NY 14127
Phone: 716-667-3130
Fax:
Email: mwithrow@hazardevaluations.com

Project Information

Project Name: Phase II ESA
Project Location: 166 Chandler St. Buffalo, NY
Project # e1604
(Use Project name as Project #) ☐
Project Manager: Cindy Fox
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days: 5 day Firm

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TCL BS

Sample Filtration
☐ **Done**
☐ **Lab to do**
Preservation
☐ **Lab to do**
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL BS	Total Bottle	Sample Specific Comments
38793 - 11	HA-1	11/29/16	9:20am	SOIL	EB	X	1	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A								
Preservative	A								

Relinquished By:	Date/Time	Received By:	Date/Time
Emily Eckel	11/30/16 1515	Jm AL AAL	11/30/16 15:15
Jm AL AAL	11/30/16 16:05	Mark Kelly	12/1/16 0020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

APPENDIX B

QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE PROJECT PLAN

BROWNFIELDS CLEANUP PROGRAM
For
166 Chandler Street
166 Chandler Street, Buffalo, New York 14207
BCP #C915321

Prepared For:
166 Chandler Holdings, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No: 18-104

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1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been cooperatively developed by Wittman GeoSciences (WGS), Hazard Evaluations Inc. (HEI) and Schenne & Associates (S&A) as prepared for proposed 166 Chandler Street at 166 Chandler Street, Buffalo, New York. The QAPP was prepared in general accordance with the requirements of Section 2.4 of the NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, dated May 2010 (DER-10).

The QAPP is designed to produce data of the quality necessary to achieve the project objectives. The objective of the QA/QC protocol and procedures is to ensure the information, data, and decisions associated with the project are technically sound and properly documented.

1.1 Project Scope

This QAPP presents the project scope, objectives, organization, planned activities, data quality objectives, quality assurance/quality control (QA/QC) procedures and sampling procedures. This project involves test borings, monitoring well installation, monitoring well development, subsurface soil and groundwater sample collection, as well as interim remedial measures (IRM) to include soil excavation. Proposed sampling locations are included on Figure 1 and a summary of the anticipated number of samples and analytical testing is included on Table 1. The project goal associated with the RI/IRM includes the following:

- Define the nature and extent of on-site contamination in both soil and groundwater.
- Identify on-site source areas of contamination, if any.
- 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.
- The IRM will mitigate risks at the site associated with the fill soils as well as potential USTs. The planned IRM includes tank removal, excavation and off-site disposal of impacted fill soils in the vacant lot and courtyard area.

1.2 Project Organization

The general responsibilities of key project personnel are listed below. Resumes are included in Attachment A.

Project Manager	Ms. Michele Wittman, WGS Principal, will have responsibility for overall program/project management and coordination with NYSDEC and subcontractors.
Technical Coordinator	Mr. John Schenne, PE, is responsible for review of project documents and all engineering aspects and responsibilities.

Field Team	Mr. Eric Betzold is HEI Project Geologist and will have overall responsibility for on-Site implementation of the Site Investigation project activities. The technical team will consist of experienced professionals (engineers, geologists, scientists) to gather and analyze data, prepare project documentation and collection of various soil and groundwater samples.
QA Officer	Mr. Mark Hanna, CHMM, HEI Principal, will serve as Quality Assurance Officer (QAO), and will be responsible for laboratory and data validation subcontractor procurement and assignment, as well as data usability reports. The QA may conduct audits of the operations at the site to ensure that work is being performed in accordance with the QAAP.

1.3 Project Sub-Contractors

Subcontractor specialists will be contracted for services relating to drilling and monitoring well installation, laboratory/analytical services, data validation services, field surveying, and waste transportation and disposal. The subcontractors will be determined approved by NYSDEC prior to beginning of site work:

Laboratory Analysis -	Alpha Analytical - A laboratory certified under the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) will perform the analysis
Data Validation -	Data Validation Services
Exploration Services -	To be determined.
Surveying -	To be determined

2.0 FIELD INVESTIGATION PROCEDURES

Field sampling at the proposed 166 Chandler Street site has been designed to obtain representative samples of various environmental media to assess impact that the site may have to human health and the environment. The field investigation procedures include sampling for subsurface soils and groundwater.

Proposed sampling locations are included within the RI/IRM Work Plan. Environmental sampling and other field activities will be performed in general accordance with the appropriate techniques presented in the following guidance document.

- DRAFT DER-10: Technical Guidance for Site Investigations and Remediation; NYSDEC Division of Environmental Remediation, May 2010.

Field activities are described in the following sections and in the RI/IRM/AAR Work Plan.

2.1 Air Monitoring

Air monitoring/screening of volatile compounds for health and safety concerns will be performed with a portable organic vapor meter (OVM) equipped with a photoionization detector (PID) that is using a 10.6 electron volt (eV) bulb. Monitoring will be done during invasive activities such as soil borings, monitoring well installation, well development, sampling, and IRM activities. Detections above background during air monitoring will require that the work be stopped until air monitoring levels decrease to background levels or until health and safety protocol are upgraded and approved by NYSDEC. On-site personnel will be outfitted in modified Level D personnel protection (hardhat, safety glasses, work boots and gloves).

2.2 Soil Screening and Logging

Subsurface soil samples will be collected from direct push macro-core samplers in general accordance with American Society for Testing and Material (ASTM) D6282-98 Standard Guide for Direct Push Soil Samples for Environmental Site Characteristics. Subsurface soil sampling from split-spoon samples advanced ahead of hollow steam augers will be completed in general accordance with ASTM D1586-99. A soil boring log will be prepared for each location to include date, boring location, drill rig type, blow counts, sample identification, sample depth interval, percent recovery, OVM reading, stratigraphic boundaries, and well installation information.

Subsurface soil will be sampled by opening the split spoon sampler (borings) or slicing the core vertically down the middle with a sharp blade. Soil samples will be visually examined for evidence of suspect contamination (e.g., staining, odor) and field screened with a calibrated OVM. Portions of the soil samples may be placed in containers for future analytical testing. Different portions of the soil samples will be placed within sealable plastic bags and will be field screened the same day as collected. Prior to screening, the soil samples will be allowed to equilibrate to ambient temperature. The OVM sampling port will be placed within a corner of the bag. The peak reading will be recorded on the boring log.

2.3 Soil Sample Collection

Soil samples selected for VOC analysis will be collected using an Encore or Terracore sampling kit, limiting headspace by compacting the soil into the container. Samples for VOC will be placed into the appropriate container immediately after opening of sampler, prior to making any field measurements or sample homogenization.

Remaining soil samples will be homogenized using a "coning and quartering" procedure. The soil will be removed from the sampling equipment and transferred to a clean surface (metal foil, steel pan, bowl, etc.) and thoroughly mixed to provide a more homogeneous sample to the lab. An aliquot of the sample will then be transferred

to the required sample containers and sealed with the appropriate cap.

2.4 Soil Borings

Soil borings will be completed using either direct push subsurface investigation techniques or rotary drilling with continuous split spoon sampling and hollow stem augers. Drilling cuttings will be visually inspected and screened with an OVM and managed consistent with DER-10 requirements. Soil sampling will be conducted to define the subsurface conditions. During continuous sampling process, soil samples will be field screened for the presence of VOCs using an OVM. Soil samples for laboratory analysis will be selected in the field based on visual/olfactory observations and OVM screening results.

The drill rig/ soil probe rig, tools, augers, etc. will be decontaminated between holes at an on-site temporary decontamination pad or area. Decontamination will be accomplished using steam cleaning or high pressure wash equipment. Direct push sampling equipment and split spoon sampling devices will be cleaned manually with non-phosphate detergent (i.e., Alconox) wash and potable water followed by a potable water rinse or a second steam cleaning followed by a distilled/deionized water rinse. All equipment will be cleaned prior to leaving the Site.

2.5 Monitoring Well Installation

Monitoring wells will be constructed of 2-inch ID flush coupled Schedule 40, polyvinyl chloride (PVC) riser and screen. The actual installation depth and screen depth will be selected based on groundwater depth, observation of subsurface materials and headspace screening test results. In general, the screen will consist of a maximum 10 foot length of 0.010-inch machine slotted well screen. A schematic of the well construction detail is provided as Figure 2.

Following placement of the assembled screen and riser, the borehole will be backfilled. The well screen depth will be backfilled with silica sand filter pack (estimated at size #0) from the base to a minimum of one (1) foot above the well screen. A minimum 1-foot layer of bentonite pellets will be placed above the sand filter and allowed to hydrate. A mixture of cement/bentonite water will be placed above the bentonite seal. The monitoring well will be completed by placing a locking steel casing or road box over the riser. Concrete will be then placed in the borehole around the protective casing and sloped away from the casing.

2.6 Monitoring Well Development and Sampling

2.6.1 Monitoring Well Development

Monitoring wells will be developed by utilizing either a dedicated tubing or new dedicated disposable bailer, depending on the field conditions. Fluids will not be added during development process. New, dedicated well development equipment will be utilized prior to development of each well. The well development procedure is listed below.

- Well cover will be unlocked. OVM will be used to survey the ambient air

and air directly at the top of the well.

- A pre-development static water level measurement will be taken.
- Sound the bottom of the well and agitate/loosen accumulated sediment.
- Calculate water volume in the well.
- Obtain initial field water quality measurements, including pH, specific conductance, turbidity, and temperature obtained using a Horiba U-22 water quality meter (or equivalent).
- Alternate water agitation methods such as moving a bailer or pump tubing up and down inside screened interval coupled with water removal methods (pumping or bailing) in order to suspend and remove solids/sediment from the wells.
- Water quality meter measurements should be recorded every one to three gallons of water removed. Record water quantities removed and water quality measurements.
- Development can cease when the following water quality criteria are met, or at least 5 well volumes have been removed.
  - Water is clear and free of sediment and turbidity is less than 50 nephelometric turbity units (NTUs)
  - pH is +/- 0.1 standard unit between readings
  - Specific conductivities is +/-3% between readings
  - Temperature is +/-10% between readings
- Record post-development water level readings. Development information will be recorded on well development logs.

After the water level has returned to its pre-purge level (or within a maximum of two hours, if the well has recharged sufficiently to allow sampling), samples will be collected from the middle of the screened portion of the well for overburden wells. If the water level is slow to recharge and does not reach to its pre-purge level within two hours, then samples can be collected after sufficient water has recharged, and the degree of recharge indicated in field notes with time and depth to water noted.

2.6.2 Groundwater Sampling

Groundwater samples will be collected by utilizing low-flow sampling techniques with dedicated tubing or by conventional methods using a new dedicated disposable bailer. A peristaltic pump and new disposable high density polyethylene (HDPE) tubing will be used at each location. Tubing and sampling equipment will be clean upon arrival at the Site. After removal of three well volumes or well purging, the well should be sampled.

A Well Data Sheet should be completed during groundwater sampling. Each well to be sampled will have designated pre-labeled, certified clean, sample bottles. The following steps describe the groundwater sample procedure.

- Unlock and remove well cap. Test the air at the wellhead with the OVM.
- Measure the static water level. Determine the total well volume.

- Slowly lower the dedicated bailer or tubing into the well. Purge the well, minimum of three well volumes. If the well goes dry during bailing, allow for full recovery and sample. If recovery takes longer than 20 minutes, proceed to next well but return to sample within 24 hours.
- Fill the appropriate sample bottles. Two or three (depending on laboratory-specific requirements) 40-ml glass vials (with Teflon septa) will be used to collect samples for VOCs. Sample collection with the following sample collection order: volatile organic compounds, semi-volatile organic compounds (including 1,4-dioxane), PCBs/pesticides/herbicides and metals. If the well should go dry during sampling, the well should to be re-sampled the next day. The second attempt to sample the well will proceed with the same sample order.
- Preservative for the various sampling preservatives will be added by the laboratory provided jars. The following parameters required additional special handling.
  - VOC samples must be free of air bubbles. When the container is determined to be bubble free, the sample containers should be immediately chilled.
  - Metals analysis should be preserved with nitric acid to a pH less than 2.
- Record pertinent information in the field logbook and well data sheet.
- Lock well, inspect well site, and note any maintenance required.
- Purge water will be containerized for future disposal.

Groundwater sampling for perfluorooctanoic acid (PFOAs) and other perfluorinated compounds will be collected by modified (Low Level) Test Sampling, as required by NYSDEC. Specific sampling protocol for PFOAs is included in Attachment B.

2.7 Background Samples

Due to the historical industrial usage of the site and industrial nature of the site contaminants, soils and groundwater samples have not been pre-designed as likely to characterize site background conditions.

2.8 Equipment Decontamination

In order to reduce the potential for cross-contamination of samples collected during the project, sampling equipment will be decontaminated to ensure that data is acceptable. It is anticipated that most of the materials used in sample collection will be disposable one-time use materials, such as sampling containers, bailers, tubing, gloves, etc.

Non-dedicated material such as split spoon samples, stainless steel mixing bowls, drill rig, water-level indicator, etc., will be decontaminated by the following methods:

- Steam clean the equipment within a dedicated decontamination area; or
- Decontamination typically involves scrubbing/washing with a laboratory

grade detergent (e.g. alconox) to remove visible contamination, followed by potable (tap) water and analyte-free water rinses. Tap water may be used from any treated municipal water system.

The effectiveness of the equipment decontamination of non-dedicated sampling equipment will be evaluated via analytical testing of rinsate blanks. Decontamination liquids, disposable equipment, and PPE will be containerized for future disposal.

2.9 IRM Activities

IRM activities are planned as part of the RI/IRM field activities to include soil excavation and UST removal, if identified. Specific information on location and depth of excavation areas are include within the RI/IRM Work Plan.

2.9.1 UST Excavation

If USTs are identified during IRM excavation, the UST will be removed to prevent further movement of contaminants. The following general procedures will be followed.

- DEC will be notified of tank removal at least 10-days in advance.
- Tank removal will be completed in general conformance with NYSDEC Memorandum for Permanent Closure of Petroleum Storage Tanks, dated January 20, 1987.
  - Remove all product, if present. Drain and flush piping lines into tank. Remove entire tank contents including tank bottom, product, water and sediments.
  - Expose tank and lines. Remove fill and vent lines. Temporarily plug tank openings.
  - Complete excavation on sides of tank, removed tank and place in a secure location.
  - The tank atmosphere should be made save (via dry ice, or other acceptable method). The tank atmosphere must be tested to ensure it is safe with an oxygen meter. For save condition, the reading should be 6-7% oxygen and/or lower explosive limit (LEL) of 10-20%.
  - The tank will be cleaned on-site. Tank cleaning waste will be containerized and disposed off-site. The certified clean tank will be taken to a scrap yard for recycling.
- If there is evidence of impacted soil, the excavation will continue until all contaminated soil is removed or until further excavation is no longer feasible. Once excavation is complete, confirmation soil samples will be taken.

2.9.2 IRM Confirmation Samples

IRM confirmation soil samples are anticipated to be collected from the UST excavation and soil excavation areas. IRM confirmation samples will be collected using disposable or dedicated stainless steel spoons or hand trowels from excavation walls and floor. Based on DER-10 requirements, one sample

will be collected every 30 linear feet of sidewall and one sample for every 900 square feet of excavation bottom. To minimize volatilization, confirmation samples will be collected from the soils located two to four inches inside the walls or floor of the excavation. The retrieved soil sample will be placed directly into parameter specific glass containers. Each sample container will be appropriately labeled and transported to the contracted laboratory.

Underground storage tank (UST) excavation confirmation samples will be collected after extent of impacted soil has been removed. A minimum of five (5) soil samples will be collected, including four sidewall and one bottom sample for every complete 15 linear feet of trench. The samples will be biased based on field screening toward the suspected location of greatest contamination.

2.10 Storage and Disposal of Investigation-Derived Waste

The sampling methods and equipment have been selected to limit the need for decontamination and the volume of waste material to be generated. Investigation-derived material (e.g., drill cuttings and purge water) generated will be presumed to be non-hazardous waste and will be disposed at the boring or well from which the material was derived. Excess auger cuttings will be drummed and stored on-Site for future disposal. Monitoring well development/purge water will be containerized in 55-gallon drums for testing and future off-site disposal.

Personal protective equipment and disposable sampling equipment will be placed in plastic garbage bags for disposal as a non-hazardous waste.

Decontamination water used in steam cleaning and/or spoon washing, and rinse water, including detergent, may be generated during Site work. Tap and analyte-free water used for rinsing will be allowed to percolate back into the ground, or will be disposed into a sanitary system. Non-phosphate detergent and water rinse will be disposed into a sanitary system.

2.11 Survey/Site Mapping

A base map will be prepared by a New York State licensed surveyor. This will allow measurement of the actual exploration locations and elevations. The base map will include property lines, buildings, fence lines, and other key site features. The surveyor may establish the horizontal location and vertical elevations. The map will include the RI investigation/sampling locations, as well as completed IRM work excavation limits. Monitoring well vertical measurements will include the ground surface at exploration locations, plus the top of casing and top of riser at monitoring well locations. The top of riser will serve as the water level monitoring point. Soil/fill boring locations will be field located and incorporated within the survey. Elevations of the ground surface and top of PVC riser will be measured for each monitoring well.

3.0 SAMPLE HANDLING and MANAGEMENT

Various environmental samples will be collected during the RI/IRM investigation work. The procedures below will assist in documentation and tracing of the various samples. During sampling, field personnel will wear disposable or latex or nitrile gloves. Gloves will be changed and discarded between sampling locations.

Laboratory analysis samples will be placed in new laboratory-grade containers. Appropriate sample preservatives will be added to the sample containers by the laboratory prior to delivery to the project site. The specific volume and preservation of samples, if any, is summarized on Table 2. Samples will be shipped to the laboratory within 48-hours from sample collection. Samples will be kept in coolers, on ice, for shipment to the analytical laboratory.

3.1 Sample Label and Identification

Each field and QC sample will be identified by a self-adhesive, non-removable label placed on the sample containers. The label information will include, at a minimum, client name, site location, data and time of collection, sample identification number, sampler's name, and notes, as needed recorded in waterproof ink. All sample bottles within each shipping container will be individually labeled with the laboratory provided label.

Each sample will with a unique identification using the following test location designations:

Designation	Media Type	Sample Location	Example
SB	Soil	Soil boring number with sample depth interval (x-x')	SB1 (8-10')
MW	Groundwater	Monitoring well with well number	MW2
EX	Soil	Excavation confirmation sample with sample depth interval	EX3 (1-2')
TB	Trip blank	None – include day/month/year	TB1 – 10/25/16
RB	Rinsate blank	Any – rinsate of sampling equipment; include day/month/year	RB2 – 10/25/16
MS/MSD	Matrix spike/ matrix spike duplicate	Any – identify original sample location	SB1 MS MW2 MSD

Quality control (QC) field duplicate samples will be submitted blind to the laboratory; a fictitious sample identification will be created using the same system as the original. The sample identifications (of the original sample and its field duplicate) will be marked in the project specific field book and on the copy of the chain-of-custody kept by the sampler and copied to the project manager.

3.2 Chain of Custody

A chain-of-custody form will trace the path of sample containers from the project site to the laboratory. An example Chain of Custody is included in Attachment 2. The chain-of-custody documentation will accompany the samples from their inception until analysis. Pertinent field information will be included on the chain-of-custody, including client name, project name/location, sampler name, sample identification number, date, time, media, grab/composite, number of containers, analysis required, and preservation.

Samples will be packaged into coolers used for shipment. The cooler will be packed with ice (or equivalent) to maintain sample temperature at 4 ^{o}C. The chain of custody forms will be signed and placed in a sealed plastic bag in the cooler. The cooler will be sealed and custody seal placed over the cooler opening, designed to break if opened or disturbed. The custody seal will be signed and dated. Shipping tape will be wrapped around the cooler and over the custody seal. Sample receipt personnel at the laboratory will document whether the custody seals remained intact upon arrival and lab personnel will sign the chain-of-custody form.

4.0 FIELD DOCUMENTATION

Daily field activities will be recorded in a bound field notebook. The field notebook will include the following daily information for Site activities:

- Date, time of arrival, time of departure, weather conditions.
- Field staff, sub-contractors or other personnel on site.
- Description of field activities and location of work area.
- Equipment used on site (such as drill rig, operator)
- Field observations and descriptions, such as soil descriptions, well/piezometer installation information, evidence of contamination, staining, odors, etc.
- Field measurements (OVM, water quality readings) and calibration
- Sampling locations, depths, identification numbers, time, etc.
- Sampling location measurements.
- Chain of custody information
- Modifications to scope of work or issues encountered.

Field notes may be transferred to soil boring logs, or monitoring well forms as part of the RI/IRM. Typical forms to be utilized during the field investigation are presented in Attachment 2 and include:

- Daily Field Report
- Soil Boring Log
- Monitoring Well Installation Log
- Well Development Data Sheet
- Chain of Custody
- Building Inventory

5.0 ANALYTICAL LABORATORY QA/QC PROTOCOLS

This section describes the analytical methods, principles and procedures that will be used to generate quality data. These protocols include laboratory calibration, field equipment calibration, QC sample collection and analysis, quantitative evaluation of data quality protocols and data qualification, if necessary.

5.1 Analytical Methods, Procedures and Calibration

Chemical analysis for samples collected during the field work will be completed by a laboratory capable of performing project specific analysis as included in this QAAP.

5.1.2 Analytical Methods

Sample analytical analysis will be consistent with the NYSDEC ASP Category B requirements. Specific methods and references for each parameter including sample preservation and holding times are shown on Table 2. Quantification and detections limits for all analysis are those specified under the appropriate test methods.

5.1.3 Laboratory Instrumentation & Equipment

Laboratory instruments and equipment will be calibrated following SW-846 analytical methods protocol and laboratory requirements.

5.1.3 Field Equipment

Various field equipment will be used during the project. Calibration of the field equipment will be complete in accordance with manufacture's specifications, prior to the start of each day.

Organic Vapor Meter – Real-time monitoring for VOCs will be done with an organic vapor meter (OVM) equipped with a photoionization detector (PID) to evaluate the nature and extent of potential petroleum or solvent impacts at the site. The OVM will be calibrated on a daily basis in accordance with manufacturer's specifications.

Particulate Monitoring Equipment – Particulate air monitoring will be completed during soil excavation activities as part of the IRM as noted in the Community Air Monitoring Program (CAMP). Measurements will be collected along the upwind perimeter of the excavation areas to assess the amount of particulates naturally occurring in the air. The particulate meter will be regularly calibrated in accordance with the manufacturer's specifications.

Additional Field Equipment – Additional field equipment will be used as part of the project including an electric static water level indicator and Horiba U-22 water quality meter that measures pH, specific conductivity, temperature,

dissolved oxygen, oxygen reduction potential and turbidity. The meters will be calibrated in accordance with the manufacturer's specifications.

5.2 Quality Control Samples

Analytical methods, summarized on Table 2, to be utilized for laboratory sample analysis address the quality control to be used and the frequency of replicates, blanks and calibration standards for laboratory analytical equipment. Several types of field QC samples will be collected and submitted for laboratory analysis including trip blanks, sample duplicate, matrix spike and matrix spike duplicate.

Trip blanks – A trip blank sample monitors for potential impacts due to handling, transport, cross contamination from other samples during storage or laboratory contamination. The trip blanks, for aqueous VOCs only, will consist of analyte free reagent grade water in VOC sampling containers to be used for the project. Trip blanks will be prepared at the laboratory, sealed, transported to the Site and returned without being opened to assess contamination that may have occurred during transport. Trip blanks will be submitted at a rate of one per cooler when aqueous VOCs are shipped to the laboratory.

Blind duplicates – Blind duplicate samples are used to monitor field and laboratory precision, as well as matrix heterogeneity. The samples are separate aliquots of the same sample, collected from the same location, at the same time, in the same manner as the first, and placed into a separate container. Each duplicate sample will be analyzed for the same parameters as the original sample collected that day. Blind duplicates will be collected at a frequency of 1 per 20 environmental samples of a given matrices (i.e. soil or groundwater).

Matrix spike/matrix spike duplicate (MS/MSD) are used to monitor precision and accuracy of the analytical method on various matrices. The samples are spiked with known quantities of target analytes at the laboratory. The MS/MSD will be collected at a frequency of 1 pair per 20 environmental samples of a given matrices (i.e. soil or groundwater).

Rinsate Blanks – Rinsate blank is used to indicate potential contamination from sample instruments used to collect and/or transfer samples. The rinsate blank will be generated by passing distilled water through and over cleaned sampling equipment. Rinsate blank samples will not be performed when dedicated disposal equipment is used. The rinsate blank will be collected at a frequency of 1 per 20 environmental samples of a given matrices (i.e. soil or groundwater).

5.3 Corrective Actions

If instrument performance or data fall outside acceptable limits, then corrective actions will be taken to resolve problems and restore proper functioning of the analytical system. Actions may include recalibration or standardization of instruments, acquiring new standards, replacing equipment, repairing equipment, and reanalyzing samples or redoing sections of work. Subcontractors providing analytical services

should perform their own internal laboratory audits and calibration procedures with data review conducted at a frequency so that errors and problems are detected early, thus avoiding the prospect of redoing large segments of work.

6.0 DATA USABILITY

The main objective of the DUSR is to determine whether the data presented meets the project-specific needs for data quality and data use. Data validation will be performed and a Data Usability Summary Report (DUSR) will be prepared to meet the NYSDEC requirements for analytical data generated during the RI/IRM. The DUSR will be completed in general accordance with Appendix 2B of DER-10. The findings of the DUSR will be incorporated in the RI/IRM/AAR report. Waste characterization and/or delineation samples will not be validated.

TABLES

TABLE 1
Remedial Investigation Analytical Testing Program Summary
166 Chandler
Buffalo, NY
NYSDEC Brownfield Cleanup Program

Location	Number of Proposed Locations	Matrix	TCL VOCS	TCL SVOCs	TAL METALS Total	TAL METALS dissolved	PCBs	Pest/ Herbs	1,4-dioxane	PFAS	VOC - TO-15
Surface Soil Samples											
Soil Boring	0	Soil	-	-	-	-	-	-	-	-	-
Duplicate		Soil	-	-	-	-	-	-	-	-	-
MS/MSD		Soil	-	-	-	-	-	-	-	-	-
Rinsate		Water	-	-	-	-	-	-	-	-	-
Total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Remedial Investigation Subsurface Samples											
Soil Boring - Interior	5	Soil	5	5	5	-	3	3	-	-	-
Soil Boring - Exterior	5	Soil	3	3	3	-	1	1	-	-	-
Test Pits - Exterior	3	Soil	4	4	4	-	4	2	-	-	-
Hand Auger	1	Soil	1	1	1	-	1	-	-	-	-
Concrete Core	2	Soil	-	-	-	-	2	-	-	-	-
Drainage Structure	3	Soil	3	3	3	-	3	-	-	-	-
Duplicate		Soil	1	1	1	-	1	1	-	-	-
MS/MSD		Soil	2	2	2	-	2	2	-	-	-
Rinsate		Water	1	1	1	-	1	1	-	-	-
Total			**20**	**20**	**20**	**0**	**18**	**10**	**0**	**0**	**0**
Remedial Investigation Monitoring Wells											
Monitoring Well	3	Groundwater	3	3	3	3	3	3	3	3	-
Drainage Structure	3	Groundwater	3	3	3	3	3	-	-	-	-
Duplicate		Groundwater	1	1	1	1	1	1	1	1	-
MS/MSD		Groundwater	2	2	2	2	2	2	2	2	-
Rinsate		Water	1	1	1	1	1	1	1	1	-
Trip Blank		Water	1	-	-	-	-	-	-	-	-
Total			**11**	**10**	**10**	**10**	**10**	**7**	**7**	**7**	**0**
Sub-slab/Ambient Air samples											
Sub-slab	0	Air	-	-	-	-	-	-	-	-	-
Ambient Air		Air	-	-	-	-	-	-	-	-	-
Outdoor		Air	-	-	-	-	-	-	-	-	-
Duplicate		Air	-	-	-	-	-	-	-	-	-
Total			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
UST Confirmatory Samples, if needed											
Sidewall Samples	4	Soil	4	4	-	-	-	-	-	-	-
Bottom Samples	1	Soil	1	1	-	-	-	-	-	-	-
Duplicate		Soil	1	1	-	-	-	-	-	-	-
MS/MSD		Soil	2	2	-	-	-	-	-	-	-
Rinsate		Water	1	1	-	-	-	-	-	-	-
Total			**9**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
IRM Confirmation Sampling *											
Sidewall Samples	14	Soil	14	14	14	-	8	4	-	-	-
Bottom Samples	10	Soil	10	10	10	-	6	4	-	-	-
Duplicate		Soil	2	2	2	-	1	1	-	-	-
MS/MSD		Soil	4	4	4	-	2	2	-	-	-
Rinsate		Water	2	2	2	-	1	1	-	-	-
Total			**32**	**32**	**32**	**0**	**18**	**12**	**0**	**0**	**0**

	VOCs	SVOCs	METALS	METALS	PCBs	Pest/ Herbs	1,4-dioxane	PFAS	VOC - TO-15
TOTAL SAMPLES	**72**	**71**	**62**	**10**	**46**	**29**	**7**	**7**	**0**

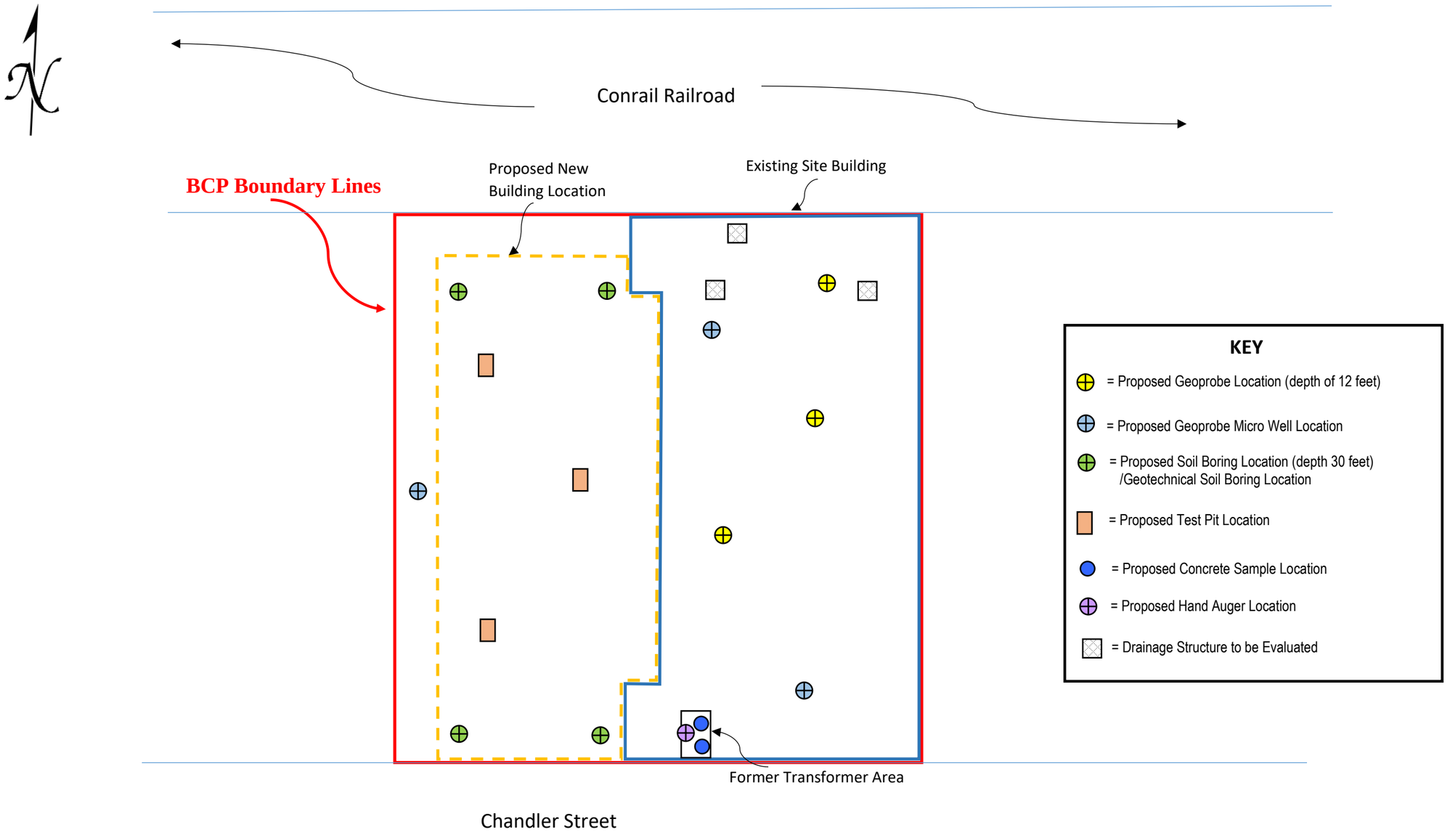
Notes:

TCL VOCs - Target Compound List Volatile Organic Compounds.
TCL SVOCs - Target Compound List Semi-volatile Organic Compounds.
TAL Metals - Target Analyte List Metals.
TCL PCBs - Target Compound List Polychlorinated Biphenyls.
VOC TO-15 - sub-slab, ambient air and soil vapor probe analysis
PFAS - Polyfluoroalkyl substances
* Number of IRM samples may change depeinding on field conditions.

TABLE 2
Sample Container, Volume, Preserving and Holding Time Requirements
166 Chandler Street
Buffalo, NY
NYSDEC Brownfield Cleanup Program

PARAMETER DESCRIPTION	MATRIX	METHOD NO.	Quantity/ Bottle Type	Preservation	Holding Time
Soil Samples					
Volatiles, TCL list	Soil	5035/3035A/8260	Encore or Terracore Samplers	Freeze withint 48 hours	Freeze within 48 hours 14 days
Semi-Volatiles, TCL list	Soil	8270	(1) 4oz glass jar	Cool, 4 C	14 days
Metals, TAL (no CN)	Soil	6010/7000	(1) 4oz glass jar	none	180 days, Mercury 28 days
PCBs	Soil	8082	(1) 4oz glass jar	Cool, 4 C	365 days/40 days from extraction
Pesticides	Soil	8081	(1) 4oz glass jar	Cool, 4 C	14 days/40 days from extraction
Herbicides	Soil	8151	(1) 4oz glass jar	Cool, 4 C	14 days/40 days from extraction
Monitoring Wells					
Volatiles, TCL list	Water	8260	(3) 40ml vial	Cool, 4 C, HCL	14 days
Semi-Volatiles, TCL list	Water	8270	(2) 1 liter amber	Cool, 4 C	7 days
PCBs	Water	8082	(2) 1 liter amber	Cool, 4 C	7 days/40 days from extraction
Pesticides	Water	8081	(2) 500ml amber	Cool, 4 C	7 days/40 days from extraction
Herbicides	Water	8151	(2) 1 liter amber	Cool, 4 C	7 days/40 days from extraction
Metals, TAL	Water	6010	(1) 250ml plastic	HNO3	180 days
Mercury, Total	Water	7000	(1) 250ml plastic	HNO3	28 days
Metals, TAL (dissolved) field filtered	Water	6010	(1) 250ml plastic	HNO3	180 days
Mercury, Dissolved	Water	7000	(1) 250ml plastic	HNO3	28 days

FIGURES



WITTMAN GEOSCIENCES		
Proposed Sampling Locations 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: MMW	SCALE: 1" = 30'	PROJECT: 18-104
CHECKED BY: MMW	DATE: 04/2018 - revised	FIGURE NO: 1

Hazard Evaluations, Inc.	Date started: Date finished:	Hole No.: Sheet 1 of 1
Client: Location:		
Project No.: Proj. Mgr:	Drilling Co. Driller: Drill Rig:	Weather:

Depth (ft.)	Sample No.	Sample Depth (ft.)	Sample Blows /6"	Well Construction Details	Field Analytical Readings	Well Details	Groundwater and Other Observations
				1" well completed w/ flush road box			
				Cement/bentonite mix (1' - 2')			
4	2	4-8		Bentonite pellets (2'-4')			
				1" sch. 40 PVC riser (0'-5')			
8	3	8-12		#0 sand (4'-15')			
12	4	12-15	N/A: Well completed w/ geoprobe drill rig	1" sch. 40 PVC (.010 slot screen).			
				Bottom of screen 15 feet bg.			
				Bottom of borehole 15 feet bg.			
16							
24							
30							

S=Split Spoon: _____ T= Shelby Tube: _____

R= Rock Core: _____ WH = Weight of Hammer

N = ASTM D1586

Backfill Well Key:

- Grout
- Cement/ Bentonite
- Sand
- Bentonite

Attachment 1

Resumes

Michele M. Wittman, P.G.
Principal

Education

B.A., 1994, Geology, State University of New York at Buffalo

B.S., 1994, Social Sciences-Environmental Studies, State University of New York at Buffalo

Professional Registrations

2018, Professional Geologist, New York, #000726

2002, Professional Geologist, Washington, #1772

Affiliations and Certifications

New York State Council of Professional Geologists, Member
Buffalo Association of Professional Geologists, Member
Air and Waste Management Association of Western New York, Member
OSHA 40 Hour 29 CFR 1910. (HAZWOPER) Certification

Ms. Wittman is a Professional Geologist with over 24 years of professional experience in conducting a variety of environmental projects for both private and public clients. Clients have included industry, governmental agencies, developers, legal firms, financial institutions, and engineering firms. Project work has included conducting and managing Phase I and Phase II Environmental Site Assessments throughout New York and surrounding states, Brownfield Cleanup Program project investigations and site remediation, hydrogeologic investigations, remedial option evaluation and cost estimating, and remediation of soil and groundwater.

Ms. Wittman's responsibilities have ranged from supervising field and technical activities, completion of field work including soil classification, well installation, collection of environmental laboratory samples, excavation oversight; training staff, data analysis, report preparation and review, and client contact. Additionally, responsible for developing and maintaining client relationships, account and project management, bidding, contracting and scheduling and financial management including budgets, proposals, profit/loss assessment. Ms. Wittman has also acted as business manager which included business development and client management, generation of marketing materials; supervising administration staff, and office management.

Ms. Wittman also previously held the position as Assistant Vice President and Environmental Risk Analysis Officer at an international financial institution. During her tenure at this position, Ms. Wittman reviewed hundreds of environmental reports and provided remedial cost estimates to evaluate the potential risk and future losses.

Areas of Specialization

- ✓ Brownfield Cleanup Program
- ✓ Remedial Investigations
- ✓ Feasibility Studies
- ✓ Hydrogeologic Investigations
- ✓ Petroleum and Chemical Bulk Storage
- ✓ Environmental Site Assessments
- ✓ Geologic Evaluations
- ✓ Soil Testing
- ✓ Budgeting & Cost Controls
- ✓ Subcontractor/Crew Management

Environmental Project Highlights

Phase I Environmental Site Assessments – Various
Ms. Wittman has performed, completed, managed or reviewed over 1,500 Phase I Environmental Site Assessments (ESAs) from areas throughout the United States, with focus in the north east and Western New York area. Site assessments have ranged from small, vacant properties, apartment complexes, office buildings, commercial buildings, shopping plaza, automotive dealerships, gasoline stations, as well as small to large 1,000,000-square foot manufacturing and industrial facilities. Ms. Wittman has completed all aspects of Phase I ESAs including site visits, historical review, municipal agency review, database evaluations, and report preparation.

Phase II Environmental Site Assessments – Various
Ms. Wittman has been involved with hundreds of Phase II ESAs at various commercial, manufacturing, industrial and gasoline station properties. Work has included completion of soil borings and/or test pits, installation of groundwater monitoring wells, collection of soil and/or groundwater samples, and vapor intrusion sampling. Ms. Wittman completes data evaluation including with a final report with conclusions and recommendations, if appropriate.

Brownfield Cleanup Program – Commercial Facility, Cheektowaga, New York
Project Manager and Geologist for the investigation and remediation of a former gasoline station for future commercial and residential usage. Site work involved remedial investigation and an interim remedial measure including removal of two underground storage tanks and petroleum impacted soil. Limited remedial work is required and the facility is anticipated to receive certificate of completion in Fall 2018.

Brownfield Cleanup Program – Commercial Facility, Buffalo, New York
Project Manager and Geologist for the investigation and remediation of a former industrial facility for future proposed commercial and residential usage. Site work included remedial investigation, which identified high concentrations of PCBs and hazardous concentrations of lead within site soil. Remedial design included removal and out-of-state disposal of PCB soils and on-site stabilization and off-site disposal of lead impacted soils. Remedial work also included excavation of underground storage tank, and removal of impacted soil and concrete within the building. Additionally, significant asbestos abatement was completed. Remedial design included installation of a sub-slab vapor mitigation system. Facility received certificate of completion in less than nine months from work plan approval.

Remedial Cleanup - Commercial Facility, Amherst, New York
Project Manager and Geologist for the remedial oversight during new building construction, which resulted in identifying former oil/water separator pits, hydraulic lifts, and underground tanks. Each underground structure was evaluated upon discovery, removed, and appropriate samples collected for laboratory analysis. NYSDEC oversight was present during the construction process and one NY Spill was assigned to the site. Upon completion of the project, a final report was done to summarize the findings and the NY Spill was closed.

Remedial Action Plan Evaluation – Former Bulk Petroleum Terminal, Rochester, New York
Developed Remedial Action Plan for former terminal property that underwent extensive subsurface investigations resulting in over 70 borings and 80 soil sample analyses. Initial remedial estimates (by others) included significant soil excavation and remedial costs. Our evaluation included comparison to NYSDEC CP-51 soil guidance for assessment of potential remediation. As such, based on minimal groundwater contamination and identification of significant impacts at greater depths, and negotiation with NYSDEC, no soil remediation was needed.

Management of Environmental Conditions – Retail Gasoline Chain, Western New York
Evaluated environmental concerns associated with 75 different retail gasoline stations. Reviewed regulatory information, previous reports, and data analysis to assess current environmental status. Developed a summary of findings and recommendation of action for each property. Further evaluations included Phase II investigation and continued monitoring of remedial efforts. Developed remedial cost estimate ranges for locations current undergoing remedial work.

Voluntary Cleanup Program - Commercial Facility, Hamburg, New York
Completed a Phase I ESA and identified historical dry cleaner. Conducted investigation and identified contamination beneath the building floor slab and behind the building (i.e. back door). Interim remedial measures (IRM) included soil removal, resulting in approximately 200 tons of soil that was disposed at a hazardous waste landfill. A soil vapor intrusion study was done and identified the presence of compounds To achieve site closure, negotiated a remedial solution that included confirmation sampling of soils around the building structure and installation of a sub-slab depressurization/vent system.

Contract to Closure, Remedial Activities, Commercial Facility, Rochester, New York.
Two former gasoline stations were located at adjoining properties. Our client wanted to develop the Site for commercial use. Completed a Site Investigation and identified subsurface soil contamination, groundwater contamination and separate phase product. Developed a Remedial Work Plan that included removal of separate phase product and implementation of in-situ chemical oxidation via hydrogen peroxide injections to further reduce contaminants in soil and groundwater. Remedial action also included asbestos abatement and building. The Site received a “no further action” letter and has been developed as a retail bank.

True Bethel Baptist Church – Technical Consultant
Senior Project Manager on the NYSDEC first ever Technical Assistance Grant (TAG) to a community group impacted by a brownfield site. Reviewed site technical documents, attended public meetings and interacted on behalf of the community with NYSDEC and its representatives and contractors on the Site.

JOHN A. SCHENNE, P.E.

REGISTRATION

Registered Professional Engineer -- Texas, New York and Florida
Licensed Fire Protection II Contractor - Florida

EDUCATION/ TRAINING

BS - Civil Engineering - Clarkson University (1975)
BA - Geology - State University of New York at Potsdam (1976)
MS - Environmental Engineering - Clarkson University (1977)
Architectural and Planning Courses - State University of New York at Buffalo (1982-87)
U.S. Army Corps of Engineers – Engineer Officer Basic Course (1977)
Earth and Rock fill Dam Construction (1979)
Contract Management (1979)
Oil Field and Hazardous Environment Safety (1986)
Petroleum Production Repair (1984-1986)
Engineer Officer Advanced Course (1987)
U.S. Army Medical Service Corps – Officer Advanced Course (1993)

PUBLICATIONS

Earthen Manure Storage Design Considerations, US NRCS, 1997, co Author

MILITARY EXPIERENCE

23 years of experience, 2LT thru LTC, USAR officer, retired 1999 as 0-5. Various staff and command positions including Equipment officer responsible the maintenance of 4000 Army vehicles, to include Humves, Trucks to 80 ton, heavy equipment, bridging equipment, NBC decontamination equipment, repair equipment, generators air compressors, and various other diesel and gas fire equipment. I was also a safety engineer for the US Army for 12 years.

EXPERIENCE SUMMARY

Thirty five years of professional experience in design, construction, and management of multi-disciplined projects involving major earthworks, tunnels, buildings, treatment plants, and site developments. Responsibility as Project Engineer/Manager for feasibility, environmental, and design studies, supervision of field and laboratory investigations, field inspections, providing technical support, and liaison with regulatory agencies. Areas of experience and training include: Environmental Engineering,

Sanitary Engineering, Hydrology, Geological Exploration and Mapping; Site Investigation and Assessment, Hazardous Waste Remediation & Testing; Earthwork; Rock Excavation and Blasting; Concrete Design and Construction; Structural Design; Mechanical Design, Corrosion Protection; Facility Planning and Design, and Construction Management.

As a Licensed Fire Protection Contractor I have designed hundreds of water and chemical based fire sprinkler systems and coordinated the work with various fire departments and water utilities. I am familiar with NFPA specifications and codes including rating and testing of potable water systems and fire services. I am very familiar with the New York State Building Code as it relates to fire safety in structures.

KEY PROJECTS

Project-Engineer - Responsible for Draft Environmental Impact Study for 100 unit Residential Development in Orchard Park, New York. Work included traffic studies and investigation of Electro-Magnetic Radiation near power lines.

Project Engineer-Responsible for completion of a chrominum contamination study on twenty (20) miles of Cattaraugus Creek.

Project Engineer – Phase II Environmental hazardous waste investigation and remediation for the Seneca Nation of Indians Elderly Housing Complex, (former U.S. Leather Tannery Site).

Project Engineer - Responsible for the design and construction certification for the U. S. Army Corps of Engineers for over 80 miles of small diameter (four to eight inch) water and sewer lines. Work included approximately 50 lift stations, three 50,000 gpd package water treatment plants, and five land application sewage treatment systems.

Design Engineer - Responsible for the structural design of a high capacity sewage lift station handling extremely corrosive industrial sewage. Project was designed using 8000 psi chemically resistant concrete.

Project Engineer - Responsible for repairs to a 200 mgd water intake in Buffalo Harbor for the City of Buffalo. Repairs included underwater grouting of a 110 year old concrete foundation and installation of a zebra mussel suppression system.

Senior Design Engineer - Erie County Water Authority Sturgeon Point Water Treatment Plant, upgrade of sedimentation basins, sludge removal system and rehabilitation of rapid sand filters at a 100 mgd water plant.

Senior Design Engineer - Responsible for plant and structural design of slow sand water filtration plants at Ripley and Woodridge, New York. Plant sizes 0.3 mgd and 0.5 mgd

Project Engineer - Underwater inspection and emergency repairs to 70 mgd, 90 year old concrete and timber drinking water intake in the Niagara River for the City of Niagara Falls. Work included analysis of intake structure to resist dynamic water and ice loads

Design Engineer - Responsible for investigations and preparation of Phase I Site Assessments for Residential and Commercial Properties in Western New York.

Design Engineer - Responsible for foundation design for a 100 foot tall 300,000 gallon elevated water storage tank.

Design Engineer – Prepared design specifications for more than 50 fire pumps and more than 200 fire sprinkler systems in New York and Florida.

Design Engineer – Prepared designs for 10 –FM 200 fire suppression systems

Design Engineer – Prepared designs for s more than 250 commercial fire detection and alarms systems.

HAZARD EVALUATIONS

C. Mark Hanna, CHMM
President, Principal

Mr. Hanna has over 34 years of experience in environmental pollution control and health/safety services. As principal for Hazard Evaluations, Inc., Mr. Hanna is responsible for all technical services. He specializes in hazardous materials/wastes management, site assessment and remediation, industrial compliance auditing, chemical exposure assessment, safety program development and implementation, and Process Safety Management and Risk Management Planning programs.

Mr. Hanna's career has included over 40 federal/state Superfund projects and over 1,500 due diligence projects. His industrial experience focuses on air, water, waste and chemical management compliance aspects at metal working, wood working, foundry, electroplating, printing and food production facilities.

Education

B.A., 1975, Biology, S.U.C. at Oswego, N.Y.

M.S., 1977, Natural Sciences (Toxicology Concentration), S.U.N.Y. at Buffalo, N.Y.

MEPC, 1982, Pollution Control, Pennsylvania State University

M.S., 1983 Forest Hydrology (Hydrogeology Minor), Pennsylvania State University

Professional Registrations

1985, Certified Hazardous Materials Manager, Senior Level

1989-1998, Registered Environmental Professional

1997, Certified Hazardous Materials Manager, Master Level

Key Skills

- Industrial Emission Permits and Controls
- Hazardous/Solid Waste Management
- Industrial Wastewater Pretreatment and Discharge Permits
- Waste Reduction and Pollution Prevention Programs
- Petroleum and Chemical Bulk Storage
- Industrial Stormwater Management
- Environmental Site Assessments
- Environmental Compliance Assessment
- Industrial Risk Management Program and Audit
- Remedial Investigations
- Brownfield Cleanup Program
- Budgeting & Cost Controls

Affiliations and Certifications

Academy of Hazardous Materials Management, Member
Erie County Local Emergency Planning Committee, Member
New York Water Environment Association, Member
International Institute of Ammonia Refrigeration, Member
OSHA 40 Hour 29 CFR 1910. (HAZWOPER) Certification

Environmental Project Highlights

- Performed site characterization for subsurface TCE contamination from historical improper disposal via septic system. Developed Interim Remedial Measures and Remedial Alternatives Reports and Work Plan for this Voluntary Brownfield Cleanup. Installed two banks of piezometers to allow both extraction of contaminated groundwater and injection of Potassium permanganate using continuously operating metering pumps. Recovered over 60 gallons of free product and significantly reduced contamination in groundwater in one year.

- Project Manager for the remediation of numerous (85+) underground petroleum storage tank sites located throughout Western New York. The primary method of remediation has been excavation/removal with appropriate management of tank contents and/or residues, cleaning and scrapping of the tanks and piping, and site restoration. Where petroleum releases were detected, excavation/removal of contaminated soil/fill was completed the majority of the time, with soil management including off-site disposal or on-site bio-treatment. In several cases, on-site vapor extraction systems or chemical oxidation systems with groundwater monitoring have been installed as the recommended remedial method.

- Project Manager for industrial site restoration project which involved the characterization of Lead-contaminated kiln brick surfaces. Appropriate characterization allowed demolition debris from kiln to be disposed of in-place on-site as solid waste material as authorized by NYSDEC. Area was then backfilled with structural flowable fill to allow reuse of floor space for manufacturing.

- Completed investigation and remediation (excavate and remove) of subsurface Lead contamination at an historical industrial site in Buffalo (NY).

- Project Manager for non-hazardous aspects of site remediation at former Frontier Chemical-Pendleton Site. Remedial tasks included sampling/analysis of wastes, emptying, cleaning and scrapping of bulk storage tanks and collecting/disposing of various on-site residuals.

- Project Manager for the installation of groundwater monitoring wells at AL Tech Specialty Steel's solid waste management unit located in Watervliet, NY. Prepared Closure Plan and Bid Specifications for the related RCRA surface impoundment. Addressed technical impact of surface run-off from adjacent landfill, steep terrain and on-site source for cover material. Prepared response package required by NYSDEC regarding the basis of design and construction practices completed during closure.

- Project Manager for the remediation of a cutting oil spill at a Lockport, NY machine shop. Cleanup activities included an underground storage tank removal, scarification of surface soils and inoculation of contaminated soils with petroleum biodegrading bacteria. Responsibilities included coordination of subcontractors, soil sampling, and preparation of report certifying contamination removal.

- Project Manager for industrial site restoration project for solid waste materials abandoned on-site in the on-site production of flowable fill as authorized by a NYSDEC Beneficial Use Determination. Flowable fill produced was used as structural fill to backfill subfloor tanks and large vaults to grade within the facility to allow reuse of the floor space. Tasks included CBS-registered process tank fluid removal and management, basement vault water management, chemical lab packing and disposal, PCBs-contaminated concrete characterization and disposal, UST closure and soil management, scrap and demolition debris management, and subsequent SEQR filing and Phase I Environmental Site Assessment.

Regulatory Compliance Project Highlights

- Project Manager for the development of numerous Process Safety Management and/or Risk Management Plan programs utilizing anhydrous ammonia for refrigeration, including Sorrento Lactalis, Inc.'s South Park (Buffalo, NY), Goshen, NY, Nampa, ID and San Jose, CA facilities, Upstate Niagara Cooperative, Inc.'s Culture (West Seneca, NY), Dale Road (Cheektowaga, NY) and Fulton (Rochester, NY) facilities, as well as Rosina Foods, Inc. (West Seneca, NY), Steuben Foods, Inc. (Elma, NY), Elmhurst Dairy, Inc. (Jamaica, NY), and Sodus Cold Storage, Inc. (Sodus, NY). Responsibilities included coordinating written program preparation, Process Hazard Analysis development, preparing release scenarios, evaluating and upgrading SOPs, developing MOC methods, etc.

- Provided consulting services to over 75 facilities nationwide regarding SARA Title III reporting requirements. Services included regulations and process reviews, mass balance calculations, purchasing and process data evaluation, database development and USEPA Tier Two and Form R preparation.

- Project Manager for numerous environmental compliance audits including, Mod-Pac Corp., Buffalo, NY (commercial printing), Sahlen Packing Co., Inc., Buffalo, NY (meat packing), Upstate Niagara Cooperative, Inc., Buffalo, NY (dairy products), MoldTech, Inc., Lancaster, NY (plastics), Sorrento Lactalis, Inc., Buffalo, NY (cheese manufacturing), Chautauqua Hardware Corp., Jamestown, NY (brass hardware), Thomson Professional Publishing, Webster, NY (printed media), Buffalo China, Inc., Buffalo, NY (lead glazed china), Brainerd Manufacturing Co., East Rochester, NY (electroplating and finishing), Falconer Die Casting Co., Inc., Lakewood, NY (aluminum and zinc casting), and Jensen Fittings Corp., North Tonawanda, NY (stainless pipe fittings). These audits emphasized the inspection of all manufacturing operations, hazardous materials and hazardous waste handling, wastewater treatment operations, air emissions and facility records to evaluate current practices with regard to RCRA, SARA, New York State Parts 200 (air), 360 (solid waste) and 370 (hazardous waste) regulations, USEPA Categorical Pretreatment Standards, UIC NESHAP & CFATS regulations, New York State SPDES regulations, and local sewer authority and fire and building department codes.

- Oversaw the modification of an industrial wastewater pre-treatment system for Whiting Door Manufacturing. Evaluated plant manufacturing wastewater sources, modified existing pretreatment system, developed wastewater pretreatment schedule, and completed wastewater discharge monitoring. Developed a Toxic Organics Management Plan to reduce cost of wastewater monitoring. Evaluated and assisted with the revision of municipal Industrial User Permit.

- Project Manager for Title V Clean Air Act permit development for Whiting Door Manufacturing Corp., Dinaire, Inc., Metalico Aluminum Recovery, Inc. and Flexo Transparent, Inc. Continued services include annual emission statements, 12-month rolling emissions determinations and semi-annual compliance reporting.

- Project Manager for Clean Air Act and/or NYSDEC Part 228 determinations and State Air Facility Permit or Air Facility Registration development for numerous industrial clients including Niagara Ceramics Corporation, Buffalo Metal Casting Co., Inc., ITT Standard/XYLEM, Metalico Rochester, Inc., Ulrich Planfiling Equipment Corp., United Silicone, Inc., U.S. Chrome Corp., Metalico Aluminum Recovery, Inc., Truck-Lite Co., Inc., Jensen Fittings Corp., API Delavan, Inc., Tapecon Inc., Dura-Plating, Inc., Buffalo China, Inc., Forsyth Industries, Inc., Jamestown Laminating Co., Classic Brass Inc., Ivaco Steel Processing (New York), LLC, Innovative Tool & Machine Co., Inc., and Whiting Door Manufacturing, Inc.

HAZARD EVALUATIONS

Eric J. Betzold
Project Geologist

Mr. Betzold is a Geologist with over four years of experience in conducting a variety of environmental investigations and remediation at various types of properties. As a Project Geologist, Mr. Betzold has performed Phase I Environmental Site Assessments to include historical review, site reconnaissance and report preparation. Mr. Betzold's responsibilities with Phase II Environmental Site Assessments include soil borings, test pits, soil sampling, groundwater monitoring well installation and samplings. Additionally, Mr. Betzold completed evaluation and reporting requirements.

In addition to his duties in the site assessment field, Mr. Betzold is involved in local Western New York Stormwater and Wastewater compliance work, including sampling and data interpretations. Mr. Betzold plays a key role in report preparation under a multitude of environmental compliance requirements.

Education

B.A., Geology, 2012, State University of New York at Buffalo

Key Skills

- Environmental Site Assessments
- NYSDEC Stormwater Compliance
- BSA & ECSA Wastewater Compliance
- NYSDEC MSGP Compliance
- Geologic Interpretation
- Soil Testing
- Field Technology
- Project Management
- Assessment of Vapor Intrusion

Affiliations and Certifications

OSHA 40 Hour 20 CFR 1910. (HAZWOPER) Certification

Attachment 2

Perfluorooctanoic Acid (PFOA) Sampling Protocol

Collection of Groundwater Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) from Monitoring Wells Sample Protocol

Samples collected using this protocol are intended to be analyzed for perfluorooctanoic acid (PFOA) and other perfluorinated compounds by Modified (Low Level) Test Method 537.

The procedure used must be consistent with the NYSDEC March 1991 Sampling Guidelines and Protocols http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf with the following materials limitations.

At this time acceptable materials for sampling include: stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene. Equipment blanks should be generated at least daily. Additional materials may be acceptable if pre-approved by NYSDEC. Requests to use alternate equipment should include clean equipment blanks. **NOTE: Grunfos pumps and bladder pumps are known to contain PFC materials (e.g. Teflon™ washers for Grunfos pumps and LDPE bladders for bladder pumps).** All sampling equipment components and sample containers should not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials must be avoided. Many food and drink packaging materials and “plumbers thread seal tape” contain PFCs.

All clothing worn by sampling personnel must have been laundered multiple times. The sampler must wear nitrile gloves while filling and sealing the sample bottles.

Pre-cleaned sample bottles with closures, coolers, ice, sample labels and a chain of custody form will be provided by the laboratory.

1. Fill two pre-cleaned 500 mL HDPE or polypropylene bottle with the sample.
2. Cap the bottles with an acceptable cap and liner closure system.
3. Label the sample bottles.
4. Fill out the chain of custody.
5. Place in a cooler maintained at 4 ± 2º Celsius.

Collect one equipment blank for every sample batch, not to exceed 20 samples.

Collect one field duplicate for every sample batch, not to exceed 20 samples.

Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, not to exceed 20 samples.

Request appropriate data deliverable (Category A or B) and an electronic data deliverable.

Groundwater Sampling for Emerging Contaminants

April 2018

Issue: NYSDEC has committed to analyzing representative groundwater samples at remediation sites for emerging contaminants (1,4-dioxane and PFAS) as described in the below guidance.

Implementation

NYSDEC project managers will be contacting site owners to schedule sampling for these chemicals. Only groundwater sampling is required. The number of samples required will be similar to the number of samples where "full TAL/TCL sampling" would typically be required in a remedial investigation. If sampling is not feasible (e.g., the site no longer has any monitoring wells in place), sampling may be waived on a site-specific basis after first considering potential sources of these chemicals and whether there are water supplies nearby.

Upon a new site being brought into any program (i.e., SSF, BCP), PFAS and 1,4-dioxane will be incorporated into the investigation of groundwater as part of the standard "full TAL/TCL" sampling. Until an SCO is established for PFAS, soil samples do not need to be analyzed for PFAS unless groundwater contamination is detected. Separate guidance will be developed to address sites where emerging contaminants are found in the groundwater. The analysis currently performed for SVOCs in soil is adequate for evaluation of 1,4-dioxane, which already has an established SCO.

Analysis and Reporting

Labs should provide a full category B deliverable, and a DUSR should be prepared by a data validator, and the electronic data submission should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html ,

The work plan should explicitly describe analysis and reporting requirements.

PFAS sample analysis: Currently, ELAP does not offer certification for PFAS compounds in matrices other than finished drinking water. However, laboratories analyzing environmental samples (ex. soil, sediments, and groundwater) are required, by DER, to hold ELAP certification for PFOA and PFOS in drinking water by EPA Method 537 or ISO 25101.

Modified EPA Method 537 is the preferred method to use for groundwater samples due to the ability to achieve 2 ng/L (ppt) detection limits. If contract labs or work plans submitted by responsible parties indicate that they are not able to achieve similar reporting limits, the project manager should discuss this with a DER chemist. Note: Reporting limits for PFOA and PFOS should not exceed 2 ng/L.

PFAS sample reporting: DER has developed a PFAS target analyte list (below) with the intent of achieving reporting consistency between labs for commonly reportable analytes. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. This list may be updated in the future as new information is learned and as labs develop new capabilities. If lab and/or matrix specific issues are encountered for any particular compounds, the NYSDEC project manager will make case-by-case decisions as to whether particular analytes may be temporarily or permanently discontinued from analysis for each site. Any technical lab issues should be brought to the attention of a NYSDEC chemist.

Some sampling using this full PFAS target analyte list is needed to understand the nature of contamination. It may also be critical to differentiate PFAS compounds associated with a site from other

sources of these chemicals. Like routine refinements to parameter lists based on investigative findings, the full PFAS target analyte list may not be needed for all sampling intended to define the extent of contamination. Project managers may approve a shorter analyte list (e.g., just the UCMR3 list) for some reporting on a case by case basis.

1,4-Dioxane Analysis and Reporting: The method detection limit (MDL) for 1,4-dioxane should be no higher than 0.28 µg/l (ppb). ELAP offers certification for both EPA Methods 8260 and 8270. In order to get the appropriate detection limits, the lab would need to run either of these methods in "selective ion monitoring" (SIM) mode. DER is advising the use of method 8270, since this method provides a more robust extraction procedure, uses a larger sample volume, and is less vulnerable to interference from chlorinated solvents (we acknowledge that 8260 has been shown to have a higher recovery in some studies).

Full PFAS Target Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**375-73-5**
	Perfluorohexanesulfonic acid	**PFHxS**	**355-46-4**
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanessulfonic acid	**PFOS**	**1763-23-1**
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	**PFHpA**	**375-85-9**
	Perfluorooctanoic acid	**PFOA**	**335-67-1**
	Perfluorononanoic acid	**PFNA**	**375-95-1**
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Bold entries depict the 6 original UCMR3 chemicals

Attachment 3

Field Forms

HAZARD EVALUATIONS

Date: _____ Project No.: _____

Client: _____

Project: _____

Site: _____

Weather: _____

3636 N. Buffalo Rd.
Orchard Park, NY 14127
P (716) 667-3130
F (716) 667-3156

FIELD INVESTIGATION REPORT

(Start typing here making sure underline is on and text is justified. Hit tab at the end of the very last row to extend the underline to the right margin).

Signature _____ Title _____

HAZARD EVALUATIONS

3752 N. Buffalo Road
Orchard Park, NY 14127
716-667-3130

Boring No:

Project Name & Location _____ HEI Representative: _____

Project Number: _____

Start Date _____ End Date _____ Type of Drill Rig _____

GW Depth While Drilling _____ Drilling Contractor _____

GW Depth at Completion _____ Sampler Type: _____

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

General Notes:

1 - Boundary between soil types represented with stratification line. Transitions may be gradual. Depths are approximate.
2 - Groundwater (GW) depths approximate at time of sampling. Fluctuations in groundwater may occur.
3 - f=fine; m=medium; c=coarse
4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

MC - Geoprobe Macrocore SS - Split Spoon SH - Shelby Tube BC - Bedrock Core

Well Data Sheet

Date: Job #:

Crew:

Well Depth:

Initial *Phase* Level:

Initial *Water* Level:

Volume Calculation:

DTB-DTW*_____=1-well vol

Purge Record

Time	Volume	pH	Cond.	Temp.	Turbidity

Purge Method: Bailer/Submersible Pump

Initial Water Quality

Final Water Quality

SAMPLE RECORD

Date:

Time:

Crew:

Method:

Sample ID:

Water Quality:

pH:

Conductivity:

Temperature:

Turbidity:

Volume:

Analysis:

Chain of Custody #:

Sample Type:

Diameter	Multiply by
1"	0.041
2"	0.163
3"	0.367
4"	0.653
6"	1.468
8"	2.61

Comments:

Signature:

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

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of

Date Rec'd in Lab

ALPHA Job #

Client Information
Client:
Address:
Phone:
Fax:
Email:

Project Information
Project Name:
Project Location:
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ **Done**
☐ **Lab to do**
Preservation
☐ **Lab to do**
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	**Sample Specific Comments**

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Soil Vapor Intrusion - Structure Sampling Building Questionnaire **Structure ID :** _____

Site No. : _____ **Site Name** : _____

Date: _____ **Time:** _____

Structure Address : _____

Preparer's Name & Affiliation : _____

Residential ? ☐ **Yes** ☐ **No** **Owner Occupied ?** ☐ **Yes** ☐ **No** **Owner Interviewed ?** ☐ **Yes** ☐ **No**

Commercial ? ☐ **Yes** ☐ **No** **Industrial ?** ☐ **Yes** ☐ **No** **Mixed Uses ?** ☐ **Yes** ☐ **No**

Identify all non-residential use(s) : _____

Owner Name : _____ **Owner Phone** : ( ) _____ - _____

Secondary Owner Phone : ( ) _____ - _____

Owner Address (if different) : _____

Occupant Name : _____ **Occupant Phone** : ( ) _____ - _____

Secondary Occupant Phone : ( ) _____ - _____

Number & Age of All Persons Residing at this Location : _____

Additional Owner/Occupant Information : _____

Describe Structure (style, number floors, size) : _____

_____

Approximate **Year Built** : _____ Is the building **Insulated**? ☐ Yes ☐ No

Lowest level : ☐ Slab-on-grade ☐ Basement ☐ Crawlspace

Describe Lowest Level (finishing, use, time spent in space) : _____

_____

Floor Type: ☐ Concrete Slab ☐ Dirt ☐ Mixed : _____

Floor Condition : ☐ Good (few or no cracks) ☐ Average (some cracks) ☐ Poor (broken concrete or dirt)

Sumps/Drains? ☐ Yes ☐ No Describe : _____

Identify other floor penetrations & details : _____

_____

Wall Construction : ☐ Concrete Block ☐ Poured Concrete ☐ Laid-Up Stone

Identify any wall penetrations : _____

_____

Identify water, moisture, or seepage: location & severity (sump, cracks, stains, etc) : _____

_____

Heating Fuel : ☐ Oil ☐ Gas ☐ Wood ☐ Electric ☐ Other : _____

Heating System : ☐ Forced Air ☐ Hot Water ☐ Other : _____

Hot Water System : ☐ Combustion ☐ Electric ☐ Boilermate ☐ Other: _____

Clothes Dryer : ☐ Electric ☐ Gas Where is dryer **vented** to? _____

If combustion occurs, describe where air is drawn from (cold air return, basement, external air, etc.) : _____

_____

Fans & Vents (identify where fans/vents pull air from and where they vent/exhaust to) : _____

_____

Describe factors that may affect indoor air quality (chemical use/storage, unvented heaters, smoking, workshop):

Attached garage ? ☐ Yes ☐ No Air fresheners ? ☐ Yes ☐ No

New carpet or furniture ? ☐ Yes ☐ No What/Where ? _____

Recent **painting** or **staining** ? ☐ Yes ☐ No Where ? : _____

Any **solvent** or **chemical-like** odors ? ☐ Yes ☐ No Describe : _____

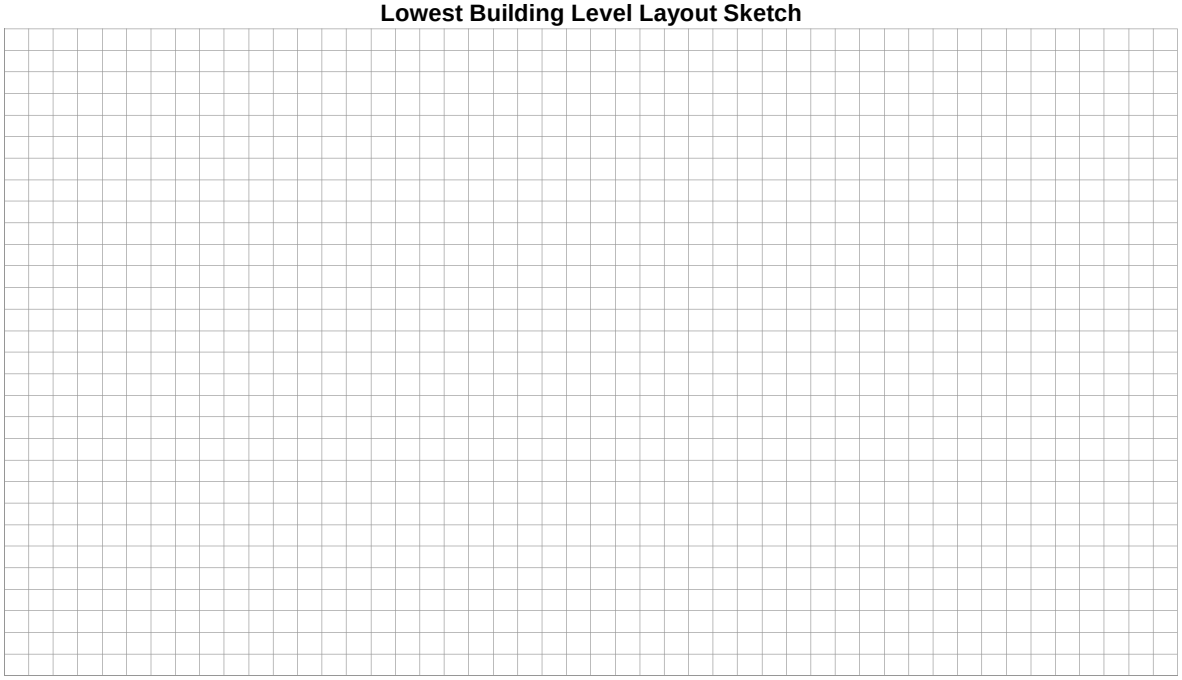
Last time **Dry Cleaned** fabrics brought in ? _____ What / Where ? _____

Do any building occupants use solvents at work ? ☐ Yes ☐ No Describe : _____

Any testing for Radon ? ☐ Yes ☐ No Results : _____

Radon System/Soil Vapor Intrusion Mitigation System present ? ☐ Yes ☐ No If yes, describe below

Lowest Building Level Layout Sketch



- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sketch.
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	######	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab vapor samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling - Product Inventory

Homeowner Name & Address: _____ **Date:** _____

Samplers & Company: _____ **Structure ID:** _____

Site Number & Name: _____ **Phone Number:** _____

Make & Model of PID: _____ **Date of PID Calibration:** _____

Identify any Changes from Original Building Questionnaire : _____

Product Name/Description	Quantity	Chemical Ingredients	PID Reading	Location

HAZARD EVALUATIONS

AIR/VAPOR SAMPLING FIELD DATA SHEET

Client: _____ Project No.: _____

Site Name & Address: _____

Person(s) Performing Sampling: _____

Sample Identification: _____

Sample Type: ☐ Indoor Air (ambient) ☐ Outdoor Air ☐ Soil Vapor ☐ Sub-slab Vapor

Date of Collection: _____ Setup Time: _____ Stop Time: _____

Sample Depth: _____

Sample Height: _____

Sampling Method(s) & Device(s): _____

Purge Volume: _____

Sample Volume: _____

Sampling Canister Type & Size (if applicable): _____

Canister # _____ Regulator # _____

Vacuum Pressure of Canister Prior to Sampling: _____

Vacuum Pressure of Canister After Sampling: _____

Temperature in Sampling Zone: _____

Apparent Moisture Content of Sampling Zone: _____

Soil Type in Sampling Zone: _____

Standard Chain of Custody Procedures Used for Handling & Delivery of Samples to Laboratory:

☐ Yes ☐ No. If no, provide reason(s) why? _____

Laboratory Name: _____

Analysis: _____

Comments:

_____

_____

_____

_____

Sampler's Signature _____ Date: _____

APPENDIX C

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

BROWNFIELDS CLEANUP PROGRAM
For
166 Chandler Street
166 Chandler Street, Buffalo, New York 14207
BCP #C915321

Prepared For:
166 Chandler Holdings, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No: P18-104

Prepared By:

Wittman GeoSciences
3636 North Buffalo Road
Orchard Park, New York 14127
(716) 667-3130

Schenne & Associates
391 Washington Street, Suite 800
Buffalo, NY 14203
(716) 655-4991

April 12, 2018

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1.0 INTRODUCTION

This Health & Safety Plan (HASP) has been developed for the Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) to be completed by Wittman GeoSciences (WGS), Hazard Evaluations, Inc. (HEI) and Schenne & Associates (S&A) for 166 Chandler Street, Buffalo, Erie County, New York as shown on Figure 1, on behalf of 166 Chandler Holdings, LLC (Applicant) as part of the Brownfield Cleanup Program (BCP). The proposed work will include completion of soil boring, installation of monitoring wells, soil and groundwater sampling, soil excavation and sampling, vapor intrusion sampling and report preparation. Such activities mandate the performance of tasks with a potential to expose remediation workers to various environmental contaminants previously identified on-site, primarily involving historical industrial fill potentially including semi-volatile organic compounds (SVOCs) and metals. Limited exposure potential may be related to commercial substances used for equipment decontamination. A general listing of the work tasks to be completed is as follows:

1. Soil sampling using a direct push method (Geoprobe) and hollow stem auger equipment
2. Soil sample collection and analysis
3. Monitoring well installation, purging and development
4. Groundwater sampling using disposable bailers, and analysis
5. Soil vapor intrusion sampling and analysis
6. Excavation, stockpiling and off-site disposal of contaminated soil
7. Backfilling of excavated area with clean fill and regrading

The intent of this HASP is to identify and present appropriate safety procedures to be followed by investigation/remediation workers involved with project activities throughout the performance of the RI/IRM. Such procedures are designed to reduce the risk of remediation worker exposure to the primary substances of concern.

The procedures also address several other physical hazards that may be encountered during the RI/IRM activities. Recommended safety procedures presented herein may be modified as the RI/IRM proceeds based upon conditions encountered at the site, with the mutual agreement of WGS, HEI, S&A, NYSDEC, NYSDOH and Applicant. A copy of this HASP (including any modifications) will be maintained on-site throughout the RI/IRM field work to be used as a reference by WGS, HEI, S&A and their subcontractors. An initial safety meeting will be conducted at the site prior to the initiation of the sampling activities to inform all affected remediation workers of potential exposures and hazards.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The site is addressed as 166 Chandler Street in the City of Buffalo, Erie County, New York and consists of one parcel totaling approximately 0.48 acres of land. The site is bound to the south by Chandler Street, to the west by vacant building and lot, and to the north by railroad line and to the east by a vacant lot used for storage. The property is located within an urban area, utilized for industrial, commercial, and residential purposes. The 166 Chandler parcel is improved with one 43,000 square foot four-story building located on the eastern portion of the site. Historic industrial fill and rubble resulting from the demolition of old buildings, as well as piles of soil/debris are located within the western parking area.

2.2 Site History

The structure was originally constructed in 1907 as dairy machine manufacturer with additions to the building in 1909, 1919, 1927, and 1931. Former usages also included grocery, Linde Air Products, Sponge Air Seat Co., and Barcalo Mfg (furniture manufacturer). Several fires occurred during the 1980s and 1990s that resulted in demolition of western portion of building. The building has been vacant for over 20 years. Prior remedial measures have not been completed at the site. Hazard Evaluations Inc. completed a limited Phase II investigation in November 2016. The work included completion of three hand augers, and 13 soil borings and collection of soil and groundwater samples, which is included in Section III. One soil boring and one test pit were also completed in October 2016.

3.0 ASSIGNED RESPONSIBILITIES

Specific safety responsibilities have been established for the performance of the RI/IRM as indicated below:

3.1 Environmental Health & Safety Manager

The Environmental Health & Safety Manager (EHSM) has the authority to commit any resources necessary to implement an effective RI/IRM safety program, thereby protecting the health of affected site workers. The EHSM will delegate responsibilities, as necessary, to the Project Manager (PM) in order to facilitate various aspects of this HASP. The resolution of any on-site safety issues encountered during the RI/IRM will be coordinated by the EHSM.

3.2 Project Manager

The Project Manager (PM) will be responsible for the overall project including implementation of the HASP. The PM will coordinate with the Site Safety Officer (SSO) to ensure that project goals of the project are met in a manner consistent with the HASP requirements.

3.3 Site Safety Officer

The Site Safety Officer (SSO) will be responsible for ensuring that the recommended safety procedures are followed during sampling activities. The SSO will supervise WGS/HEI/S&A employees and subcontractors throughout the field work. The SSO is knowledgeable of general construction safety practices and remediation worker protection techniques. Responsibilities will include:

- Ensuring day to day compliance with HASP safety procedures;
- Maintaining adequate PPE supplies
- Calibration and maintenance of monitoring instruments
- Authority to stop work activities any time unsafe work conditions are identified;
- Implementing personnel decontamination procedures;
- Initiate emergency response procedures; and
- Maintain a diary of activities with safety relevance;
- Establishing and assuring adequate records of all:
  - Occupational injuries and illnesses;
  - Accident investigations;
  - Reports to insurance carrier or state compensation agencies;
  - Records and reports required by local, state and/or federal agencies;
  - Property or equipment damage.

3.4 Site Workers

Affected site workers will include WGS/HEI/S&A employee and subcontractor employees. Site workers must comply with aspects of the HASP and its safety procedures. Personnel entering the site will have completed training requirements for hazardous waste site operations in accordance with OSHA 29CFR 1910.120 (c); 29CRF 1910.146 (d) and 29CFR 1910.147 (c). Site workers and SSO must have completed appropriate medical surveillance as required by OSHA 29CRF 1910.120(f).

3.5 Subcontractors

Various subcontractors will be utilized on the site during RI/IRM activities, such as driller and excavation contractor. Subcontractors are responsible for development of their own HASP that is at least as stringent. A copy of this HASP will be provided to the subcontractors for information purposes. Subcontractors will be informed of potential health and safety hazards, as well as environmental monitoring data collected during field activities.

4.0 TRAINING and SAFTETY MEETINGS

4.1 Training

Site personnel assigned to the site will be in compliance with the training requirements of 29 CFR 1910and 1926 as listed below. Site personnel will have met one of the following requirements prior to the start of on-site activities.

- A 40 hour minimum hazardous materials safety and health course, as stipulated in 29 CFR 1926.65 e(3); and

- An 8 hour minimum refresher course per year after the 40 hour minimum training has occurred (29 CFR 1926.65.e[8]).

On-site managers and supervisors must be in compliance with the additional supervisory training requirements of 29 CFR 1926.65.e(4). Emergency responders must be in compliance with the additional training requirements of 29 CFR 1926.65.e(7). Appropriate certificates of participating in training programs will be maintained at WGS/HEI/S&A offices.

4.2 Safety Meetings

Site workers and subcontractors will be familiar with the site and facility layout, have an understanding of known and potential hazards, and details within this HASP. On-site safety meetings will occur daily, or as needed to assist site workers and subcontractors in conducting activities safely. Attending personnel must sign an attendance sheet. Site workers must attend a safety meeting prior to being allowed to work on-site.

5.0 PERSONAL PROTECTIVE EQUIPMENT

An important aspect for site worker safety is correct selection of personal protective equipment (PPE). The levels of protection listed below are based on 29 DFR 1910.120. The majority of site activities will be conducted in Level D protection. This level of protection was selected based on the types and measured concentrations of the hazardous substances in the samples previously collected and their associated hazards and/or toxicity; and potential or measured exposure to substances in air, splashes of liquids or others indirect contact with material due to the task being performed.

- Level D will generally consist of the following:
  - Coveralls; or long pants and long sleeve shirt to provide protection from dermal contact with soil
  - High visibility safety vest
  - Steel toe work boots
  - Safety glasses
  - Hard hat
  - Chemical-resistant gloves

  Additional equipment can be donned at SSO requirements, including disposable boots, hearing protection, safety vest, or disposable outer chemical coveralls (Tyvek suits).

- Level C will generally consist of the following:
  - Full or half face air purifying respirator (APR) equipped with appropriate organic vapor canisters and/or other chemical cartridges.
  - Chemical resistant clothing, such as Tyvek suit. Suits will be one piece with booties, hood, and elastic wristbands.

- High visibility safety vest (disposable)
- Outer chemical-resistant gloves (i.e. nitrile or neoprene) and inner latex gloves
- Steel toe work boots
- Hard hat

○ Level B will generally consist of the following:
- Self-contained breathing apparatus (SCBA) in a pressure demand mode, or supplied air with escape SCBA.
- Chemical resistant closing, such as Tyvek suit. Suits will be one piece with booties, hood, and elastic wristbands.
- High visibility safety vest (disposable)
- Outer chemical-resistant gloves (i.e. nitrile or neoprene) and inner latex gloves
- Chemical resistant tape over PPE as needed (i.e. at glove/Tyvek location)
- Steel toe work boots
- Hard hat

6.0 HAZARD ANALYSIS

Many hazards are associated with environmental work on a site. The hazards listed below deal specifically with those hazards associated with the management of potentially contaminated soil, air, and groundwater, physical hazards, as well as environmental hazards.

6.1 Chemical Hazards

The primary contaminants of concern in the soil include semi-volatile organic compounds (SVOCs) including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene and metals including mercury, primarily within the fill which varies from 2 to 7.5 feet below ground surface. A summary of hazards associated with these chemicals is include on Table 1. The list has been developed based on planned activities and potential site conditions. The most likely routes of chemical exposure during site work includes skin absorption and inhalation of airborne dust particles. The information was used to develop the levels of personal protective equipment (PPE).

6.2 Physical/General Hazards

Based on the proposed scope of work to be completed, the following potential physical hazards have been identified:

○ Slip/Trip/Fall – Due to the timing of the project, some areas may have icy surfaces that will increase the possibility of accidental falls. Additionally, good housekeeping practices such as cleaning up garbage, and stored materials

from the work area are essential to reduce the occurrence of trips and falls the trip hazards.

- Vehicle and machinery in motion hazards – A drill rig will be utilized for soil sample collection. To minimize potential hazards, the drilling subcontractor will be responsible for health and safety of its personnel, equipment and operations. Utilities must be called in via Dig Safely New York and/or site owner. Cones and flags will be set up around each work area, as necessary. Workers must be aware of pinch points when setting the rig and lowering mast/pull rods. PPE must be worn to prevent eye injury. All body parts, clothing and manual tools must be kept 3-5 feet from moving equipment when possible. Gloves and PPE must be worn when working with rods and cleaning equipment. Monitoring of the breathing zone will be completed as necessary to ensure vapors are below action levels. Each worker must have an awareness of muscle strain. All sampling liners must be opened in a motion away from body and hands. The rig cannot be moved with the mast in a raised position.

- Electrical – Heavy equipment (e.g., excavator, backhoe, drill rig) shall not be operated within 10 feet of high voltage lines. Working near wet areas should also be taken into consideration when working with electrical equipment; Surge protectors and ground fault protectors must be used in such conditions.

- Noise – Heavy machinery creates excessive and loud noise levels. Over exposure can result in hearing damage or loss. Proper hearing protection shall be worn during exposure to noise from heavy equipment.

- Underground utilities– The proper utility clearance will be obtained before conducting any digging or drilling operations.

- Excavation and soil sampling through use of heavy equipment – Excavations that are greater than 4 feet in depth require a protective system prior to entry into the excavation. The Project Manager will be responsible for determining if the excavation requires safety shoring. Personnel will not be permitted to work under suspended or raised loads, and shall always wear highly visible clothing. Personal protective equipment (PPE), including steel-toed boots, safety glasses, hard hats must be worn; personnel should not walk directly in back of, or to the side of, heavy equipment without the operator's knowledge. Engineering controls can be implemented such as water for particulate control.

- Cold Stress – Site work is scheduled during the early spring to summer months; therefore cold weather are not anticipated. Frostbite and hypothermia can occur quickly and the signs and symptoms of such should be known. Signs of hypothermia include slurred speech, confusion, and an overall warm sensation. Frostbite can be identified by red/frozen skin, numbness, and lack of sensation on the skin. In each case, the victim should be moved to a warm place. With frostbite, the affected area should be placed in warm water and wrapped with a warm towel. Medical attention is necessary after initial treatment.

- Heat stress - Site work is scheduled during the early spring to early summer months; therefore extreme hot weather is not anticipated. Heat stress is a severe hazard that can result in heat fatigue or even heat stroke. Signs and symptoms of heat stroke include red, dry, and hot skin as well as confusion, a rapid pulse, and nausea. Adequate shade and drinking liquids should be provided to personnel working in hot weather conditions. If a person is suspected to be suffering from heat fatigue or stroke, transport to a cool place and place cold compresses on the neck and armpits; call 911 immediately.

- Weather (i.e. lightning storm) – On-site personnel shall cease operation at the first sign of a thunderstorm/lightning strike. Workers should seek shelter within a permanent building and stay away from tall structures trees, telephone poles, and drill rigs/equipment.

6.3 Biological Hazards

Biological hazards can be caused by contact with land animals, birds, insects, and plants. Irritation, illness, and, in extreme cases, permanent disability or death can occur. The site is located in an urban area within the City of Buffalo and field work will occur in spring/early summer. Rodents are considered the most likely biological hazards at this site. Contact with rodents, more specifically rats, shall be avoided. If bitten or scratched by any type of rodent or fur-bearing animal, medical treatment should be sought immediately. Insect bites and stings are not considered a serious threat due to time of year. Insect bites and stings can cause irritation and transmit disease. If stung by an insect, apply cold water and soap and immediately apply a cold compress to the area to limit swelling. If the victim is allergic to such bite or sting, immediate medical care may be necessary.

7.0 SITE MONITORING

Air monitoring will be performed on-site in order to track contamination levels. By knowing these levels, safety is insured for personnel working on-site. A Photoionization Detector (PID) equipped with a 10.6 eV lamp will be utilized during field monitoring.

7.1 Soil Borings and Monitoring Wells

On-site monitoring will be completed by the SSO or site worker assigned to oversee drilling operations, soil sampling and monitoring well installation/sampling. The PID will be utilized to monitor the breathing zone, the borehole, and subsurface samples for the presence of volatile organic compounds (VOCs). Auger spoils will also be monitored. Fluids produced from monitoring well development and sampling will also be monitored with the PID.

7.2 Interim Remedial Measures

Interim remedial measures (IRM) are planned as part of the site remedy and expected to including soil excavation to depths of 2 feet up to 7 feet at certainly locations. Excavation will be completed throughout the vacant lot area of the site. Monitoring will be done during excavation and sampling activities when WGS/HEI/S&A site workers are within the work zone. Historical investigation results did not identify VOCs within the fill material. However, the PID will be used during subsurface excavation activities.

7.3 Action Levels

Work area ambient air monitoring for VOCs will be completed within the breathing zone periodically. Action levels will be based on the PID readings. The action level assumes that background level of organics is close to non-detect. Background VOC readings will be recorded daily. Action levels are listed below.

Sustained PID Reading	Action	Minimum Respiratory Protection
0 to 10 ppm	None	None – Level D
10 to 25 ppm	Monitor for 15 minutes; if concentration does not decrease to under 10 ppm, upgrade PPE; consider venting area	Full-face Air-purifying respirator with organic vapor cartridges – Level C
>25 ppm	Monitor for 15 minutes; Consider venting area, upgrade PPE	Suspend work or supplied-air full face respirator – Level B

7.4 Particulate Monitoring

Monitoring for particulates will be completed periodically in the site worker breathing zone. The decision to upgrade levels of PPE will be made in conjunction with consideration for weather conditions, wind conditions and anticipated duration of field activity. Background particulate concentrations will be measured and recorded on a daily basis.

8.0 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Program (CAMP) requires monitoring of VOCs and particulates at downwind locations and is intended to provide a level of protection for neighboring residences and businesses. Continuous monitoring will during ground intrusive activities. The completed CAMP is attached in Attachment A.

9.0 SITE ACTIVITY AREAS AND ACCESS CONTROL

Prior to the initiation of the RI/IRM, three work zones will be established to facilitate the implementation of the HASP. Prior to commencement of field work, a further definition of where these zones will be set up will be established. Guidelines for establishing work areas follows.

- Exclusion Zone (EZ) – Primary exclusion zones will be established around each intrusive field activity, such as soil boring or excavation area. Locations will be identified by the placement of orange cones. Site workers in these areas must wear appropriate PPE. Upon leaving Work Zone, if PPE becomes contaminated, site workers must remove and dispose of gloves and any other disposable PPE. After removing the PPE, site workers should thoroughly wash their hands. Access to the EZ will be limited to site workers only for both safety and data integrity purposes.

- Contamination Reduction Zone (CRZ) – A CRZ will be established between the EX and property limit, and provides an area for decontamination of site equipment. The specific location of this pad will be field determined, but will be out of the way of site activities and sampling activities. Portable wash stations will be set up in the CRZ and will consist of a potable water supply, hand soap and disposable towels. An Alconox solution will be available to decontaminate equipment used in the sampling locations. The SSO will monitor equipment cleaning procedures to ensure their effectiveness. Equipment will be adequately cleaned and site workers will remove contaminated PPE prior to either entering the Support Zone or leaving the site for the day once sampling activities have been completed. A fire extinguisher and first aid kit will be located in this area.

- Support Zone (SZ) – The SZ is considered to be clean, and PPE are not required. The SZ will be an area on-site adjacent to the CRZ in which supplies or equipment are stored and maintained. PPE is donned in the SZ prior to entering the CRZ.

10.0 DECONTAMINATION PROCEDURES

Decontamination procedures for personal and equipment will be implemented when exiting work area. Decontamination involves physically removing contaminants and general include removal of contamination, avoiding spreading contamination from the work zone, and avoiding exposure of unprotected personnel outside the work zone to contaminants.

10.1 Prevention of Contamination

The first step in decontamination is to establish standard operating procedures that minimize contact with hazardous substances, and thereby the potential for contamination. Site workers should be aware of the importance of minimizing contact with hazardous substances and the use of appropriate practices and procedures for site operations. WGS/HEI/S&A utilizes this approach by ensuring site workers:

- Stress work practices that minimize contact with hazardous substances (e.g., do not walk through areas of obvious contamination, do not directly touch

potentially hazardous substances, etc.);

- Protect sampling instruments from gross contamination by bagging; make openings in the bag for sample ports and sensors that contact site materials;

- Wear disposable outer garments and use disposable equipment where appropriate.

10.2 Personal Decontamination

The degree of contamination exposure is a function of both a particular task and the physical environment in which it takes place. The following decontamination procedures will remain flexible, thereby allowing the decontamination crew to respond appropriately to changing conditions at the site. It is expected that site workers will be exposed to soil/fill potentially contaminated with SVOCs, metals, PCBs, and petroleum compounds. On-site sampling activities will be carried out in such a manner as to avoid gross contamination of site workers, personal protective equipment, machinery and equipment.

Between sampling locations (or sometimes between samples at one sampling location), and upon the completion of the daily field activities, site workers will proceed to the CRZ. Equipment (e.g., sampling tubes, shovels, tools, etc.) will be decontaminated in this area. Prior to leaving the site for breaks, at the end of the work shift, or when PPE has been grossly contaminated, disposable boot covers, gloves, and suits will be removed and placed in a drum designated for the disposal of these materials. After removing PPE, each site worker will wash with soap and fresh water prior to donning new PPE or leaving the site for the day. All wash water and rinse water will be collected and disposed of in accordance with appropriate regulations.

10.3 Decontamination during Medical Emergencies

In the event of a minor, non-life-threatening injury or medical problem, site workers should follow the decontamination procedures as defined above and then administer first aid. If prompt, live-saving first aid is required, decontamination procedures should be omitted and immediate first aid should be administered, unless the environmental conditions are considered immediately dangerous to Life or Health (IDLH). In this case, the victim should be moved to a clean area and life-saving care should be instituted immediately without considering decontamination.

Outside garments can be removed (depending on the weather) if they do not cause delays, interfere with treatment or aggravate the problem. Respirators and backpacks must always be removed. Chemical-resistant clothing can be cut away. If the outer contaminated garments cannot be safely removed, the individual should be wrapped in plastic, rubber or blankets to help prevent contaminating the insides of ambulances and medical personnel. Outside garments will then be removed at the medical facility. No attempt should be made to wash or rinse the victim at the site. One exception would be if it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury or loss

of life.

10.4 Decontamination of Equipment

Decontamination efforts will be conducted in the CRZ. Gross contamination will first be removed with plastic scrapers or other appropriate tools. The equipment will be decontaminated at a temporary equipment decontamination pad in the CRZ via hand washing or pressure washing. Alconox and water will then be used to wash the equipment with a cleaning brush. The equipment will then be rinsed with deionized water. The equipment will then be allowed to air dry for a sufficient time prior to reuse or removal from the site. Downhole tools and augers can be hand washed or pressure washed.

The decontamination of the direct push drilling rig will be undertaken (if necessary) when all on-site activities have been completed. Initially, scraping of the equipment will remove heavily caked materials prior to washing. Washing will then be accomplished Alconox and water or pressure washing. Water generated during decontamination activities will be collected, stored and profiled for future off-site disposal.

10.5 Disposal of the Contaminated Materials

Potentially contaminated materials (gloves, clothing, sample sleeves etc.) will be bagged and segregated for proper disposal. Investigation derived waste will be managed in accordance with NYSDEC guidance regulations. For this project, it is expected that soils will be disposed as part of the IRM. All fluids collected during groundwater sampling will be containerized and managed appropriately subsequent to field activities.

11.0 EMERGENCY RESPONSE

In the event of an emergency, the SSO will coordinate on-site emergency response activities. Appropriate authorities will be immediately notified of the nature and extent of the emergency. Emergency contact list is include on Table 2. The route and directions to the hospital are included as Figure 2.

11.1 Response Procedures

In the event of an emergency or acute exposure symptom, remediation workers will signal distress to the SSO. The SSO will be responsible for the response to emergencies and must:

- Have available a summary of the associated risk potential of the project so that it can be provided to any authorities or response personnel in the event of an emergency;
- Maintain an Emergency Contact List (Table 2) and post in a visible location a map detailing directions to the nearest hospital (Figure 2); and
- Ensure appropriate safety equipment is available at the site.

11.2 Communications

Cell phones will be the primary means of communicating with emergency support services/facilities.

11.3 Evacuation

In the event of an emergency situation, such as fire, explosion, etc., all personnel will evacuate and assemble in a designated assembly area. The SSO will contact outside services (i.e. police, fire, etc.) as required. Under no circumstances will personnel be allowed to re-enter the area once the emergency signal has been given. The SSO must see that emergency equipment is available and emergency personnel notified.

11.4 Fire or Explosion

Immediately evaluate the site. The Buffalo Fire Department will then be notified immediately, and advised of the situation and the identification of any hazardous materials involved.

11.5 Personal Injury

Only basic emergency first aid will be applied on-site as deemed necessary. The SSO will supply available chemical specific information to appropriate medical personnel, as requested. First Aid kits supplied by WGS/HEI/S&A and its subcontractors will conform to Red Cross and other applicable good health standards, and will consist of a weatherproof container with individually sealed packages for each type of item. First Aid kits will be fully equipped before being sent to the site.

11.6 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO will determine if work can continue without sacrificing the safety of remediation workers. Some of the items to be considered prior to determining if work should continue are the potential for heat stress, inclement weather-related working conditions (heavy snow) and the operation of field instruments.

11.7 Traffic, Heavy Equipment & Machinery

Site workers must remain aware of the heavy equipment and machinery being used during RI/IRM activities. Site workers will be required to wear a high visibility safety vest during on-site work activities.

11.8 Utilities

Prior to the beginning site activities, all available drawings of the facility will be examined to determine the presence of underground or sub-slab utilities.

11.9 Emergency Contingency Plan

In the case of a spill emergency (e.g., tank/drum release, spill, fire, etc.), this section will describe the procedures to be followed during the event.

11.9.1 Contamination Emergency

It is unlikely that a contamination emergency will occur; however, if such an emergency does occur, the specific work area shall be shut down and immediately secured. The area in which the contamination occurred shall not be entered until the arrival of trained personnel who are properly equipped with the appropriate PPE and monitoring instrumentation.

11.9.2 Spill/Air Release

In the event of a spill or air release of hazardous materials on-site, the specific area of the spill or release shall be shut down and immediately secured. The area in which the spill or release occurred shall not be entered until the cause can be determined and site safety can be evaluated. The NYSDEC Spill Response unit shall be notified immediately. The spilled material shall be immediately contained.

11.9.3 Unknown Drums or USTs

In the event that unidentified containerized substances, including USTs, are discovered during soil sampling or soil excavation, work will be ceased immediately until hazards are addressed. The SSO will then visually assess the situation and identify any leaks or releases from the container. If leaking is identified, the spilled material shall be immediately contained. Upon visual assessment of releases and safety, properly trained personnel will then sample and remove/dispose of the waste/container.

11.10 Additional Safety Practices

The following are important safety precautions and practices that will be enforced during the field activities.

- Eating, drinking, smoking, chewing gum or tobacco or any activity that increases the probability of hand-to mouth transfer and ingestion of hazardous substances is prohibited during the RI/IRM activities.
- Remediation worker hands and face must be thoroughly washed before leaving the CRZ or before eating, drinking or other activity.
- Contact with potentially contaminated surfaces should be avoided whenever possible.
- The number of remediation workers and the amount of equipment should be minimized.
- Alcoholic beverages will not be consumed during work hours by site personnel; Personnel using prescription drugs may be limited in performing specific task (i.e. operating heavy equipment) without written authorization from physician.

The SSO will be responsible for establishing and maintaining adequate records of activities which take place at the site. The records will pertain to site workers involved in the project, regardless of their employer, as well as any agency personnel. A basic list of the information to be maintained is as follows:

- Occupational injuries or illnesses.
- Accident investigations.
- Reports to insurance carrier or State Compensation agencies.
- Records and reports required by local, state and federal agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Explosive and hazardous substances inventories and records.
- Records of inspections and citations.
- Related correspondence.
- Safety training level.

Tables

Table 1
Hazard Characteristics of Potential Contaminants of Concern

Contaminant	Potentially Impacted Media	Carcinogenicity/Symptoms of Acute Exposure	Occupational Exposure Values* ACGIH TLV OSHA PEL NIOSH IDLH
Benzene	Soil, Groundwater	Confirmed human carcinogen. Symptoms include irritation to eyes, skin, nose, respiratory system; headache; nausea; giddiness, fatigue.	PEL - 10 ppm; IDLH - 500 ppm; TLV - 0.5 ppm; STEL - 2.5 ppm
Chlorinated Organic Compounds	Soil, Groundwater	Exposure to the vapors of many chlorinated organic compounds such as vinyl chloride, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene and 1,2-dichloroethylene and other chlorinated hydrocarbons may result in various symptoms including irritation of the eyes, nose and throat, drowsiness, dizziness, headache, blurred vision, uncoordination, mental confusion, flushed skin, tremors, nausea, vomiting, fatigue and cardiac arrhythmia. The liquid if splashed in the eyes, may cause burning irritation and damage. Repeated or prolonged skin contact with the liquid may cause dermatitis. Some of these compounds are considered to be potential human car-cinogens.	Refer to 29 CFR 1910.1017 for exposure values
Toluene	Soil, Groundwater	Insufficient data from carcinogenic studies to classify substance as a potential carcinogen. Symptoms include irritation to eyes, nose; fatigue; weakness; euphoria; headache; lacrimation.	PEL - 10 ppm; IDLH - 500 ppm; TLV - 20 ppm; STEL - 150 ppm
Ethyl Benzene	Soil, Groundwater	Confirmed animal carcinogen with unknown relevance to humans. Symptoms include irritation to eyes, skin, mucous membranes; headache; narcosis.	PEL - 5 ppm; IDLH - 800 ppm; TLV - 20 ppm; STEL - 30 ppm
o-, m-, and p-Xylenes	Soil, Groundwater	Insufficient data from carcinogenic studies to classify substance as a potential carcinogen. Symptoms include irritation to eyes, nose, throat; dizziness; excitement; drowsiness; nausea; vomiting.	PEL - 100 ppm; IDLH - 900 ppm; TLV - 100 ppm; STEL - 150 ppm
Polynuclear Aromatic Hydrocarbons (PAH's)	Soil, Groundwater	Many PAH's found in fuel oil and coal tar pitch volatiles (creosote) are confirmed human carcinogens. Symptoms include dermatitis and bronchitis.	Some PAH's have no established exposure values. Others considered coal tar pitch volatiles have an ACGIH TLV and OSHA PEL value of 0.2 mg/m^3.
Cadmium	Soil	Suspected human carcinogen. Symptoms include pulmonary edema; difficulty breathing; cough; tightness in chest; substernal pain; headache; chills; nausea; vomiting; diarrhea; asnosmia.	PEL - 0.2 mg/m3; IDLH - 50 mg/m3; TLV - 0.01 mg/m3 (these limits are expressed for Cd dust)
Chromium	Soil	Hexavalent chromium compounds are confirmed human carcinogens. Symptoms include irritation to the respiratory system; nasal septum perforation; sensitization dermatitis (hexavalents). Irritation to the eyes; sensitization dermatitis (trivalents).	PEL - 0.5 mg/m3; IDLH - 250 mg/m3; TLV - mg/m3 (insoluable)
Lead	Soil	Confirmed animal carcinogen with unknown relevance to humans. Symptoms include weakness; tremor; irritation to eye; constipation; abdominal pain.	PEL - 0.05 mg/m3; IDLH - 100 mg/m3; TLV - 0.5 mg/m3
Mercury	Soil	Insufficient data from carcinogenic studies to classify substance as a potential carcinogen. Symptoms include irritation to eyes, skin; cough; chest pain; difficulty breathing; irritability; indecision; headache; fatigue; weakness; salivation.	PEL - 0.025 mg/m3 (acceptable ceiling concentration); IDLH - 2 mg/m3; TLV - 0.025 mg/m3 (elemental/inorganic)
Polychlorinated Biphenyl (PCBs)	Soil	Confirmed human carcinogen. Symptoms include dermal and ocular lesions, irregular menstrual cycles and a lowered immune response. Other symptoms included fatigue, headache, cough, and unusual skin sores	PEL - 1 mg/m3; IDLH - 5 mg/m3; TLV - 1 mg/m3

ACGIH TLV – American Conference of Governmental Industrial Hygienists Threshold Limit Value; Concentrations in ppm of mg/m3 based on an 8-hour TWA

OSHA PEL – Occupational Safety and Health Admiration Permissible Exposure Limits; Concentrations are shown in parts per million (ppm) or milligrams per cubic meter (mg/m3) based on an 8-hour time weighted average (TWA)

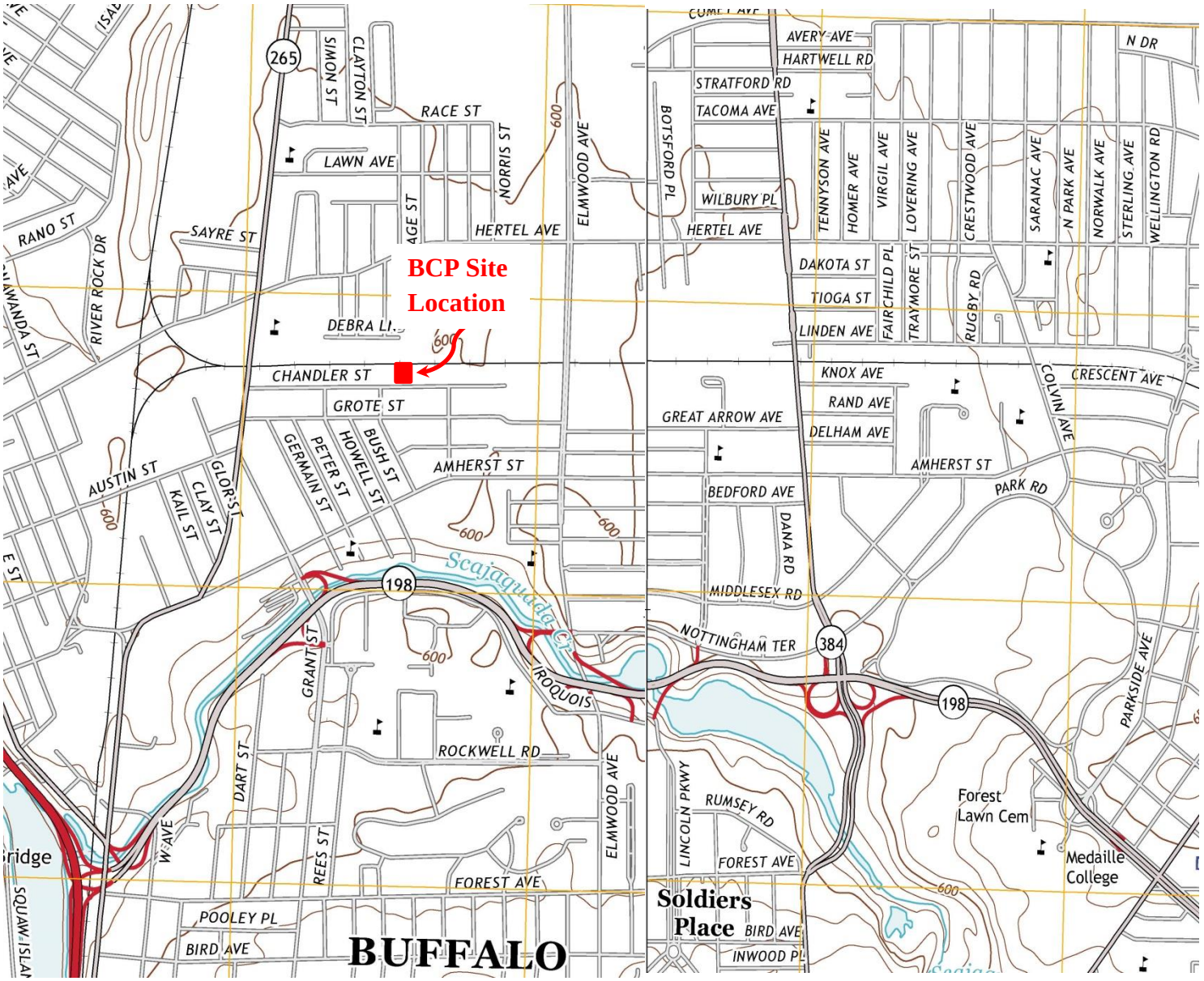
NIOSH IDLH – National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health; Concentrations in ppm or mg/m3

OSHA STEL - Short Term Exposure Limit

Table 2
Emergency Contacts

Agency	Contact	Phone Number
Buffalo Police	Emergency	911
Buffalo Fire/First Aid	Emergency	911
Ambulance	Emergency	911
Poison Control Center	Emergency	911
Hospital	Erie County Medical Center 462 Grider Street Buffalo, NY 14215	(716) 898-3000
NYSDOH	Krista Anders Empire State Plaza, Corning Tower Room 1787 Albany, NY 12237	(866) 881-2809
NYSDEC	Jaspal Walia 270 Michigan Ave. Buffalo, NY 14203	(716) 851-7220
NYSDEC	SPILL Hotline	(800) 457-7362
Wittman GeoSciences	Michele Wittman 3636 N. Buffalo Rd. Orchard Park, NY 14127	Cell: (716) 574-1513
Hazard Evaluations	C. Mark Hanna 3636 N. Buffalo Rd. Orchard Park, NY 14127	Office: (716) 667-3130 Cell: (716) 574-1513
Schenne & Associates	John Schenne 391 Washington St. Suite 800, Buffalo, NY 14203	(716) 655-4991
166 Chandler Holdings, LLC (Owner)	Rocco Termini 391 Washington St. Buffalo, NY 14203	(716) 861-5385
Directions to Hospital - Erie County Medica Center: Head east on Chandler St. toward Bridgeman St. Turn right onto Bridgeman St. Turn left at the third cross street onto Amherst Street. Turn right onto Crescent Ave., Turn left onto Jewett. Turn right onto Fillmore Ave. Turn left onto Kensington Ave. ECMC entrance is located on the right.		

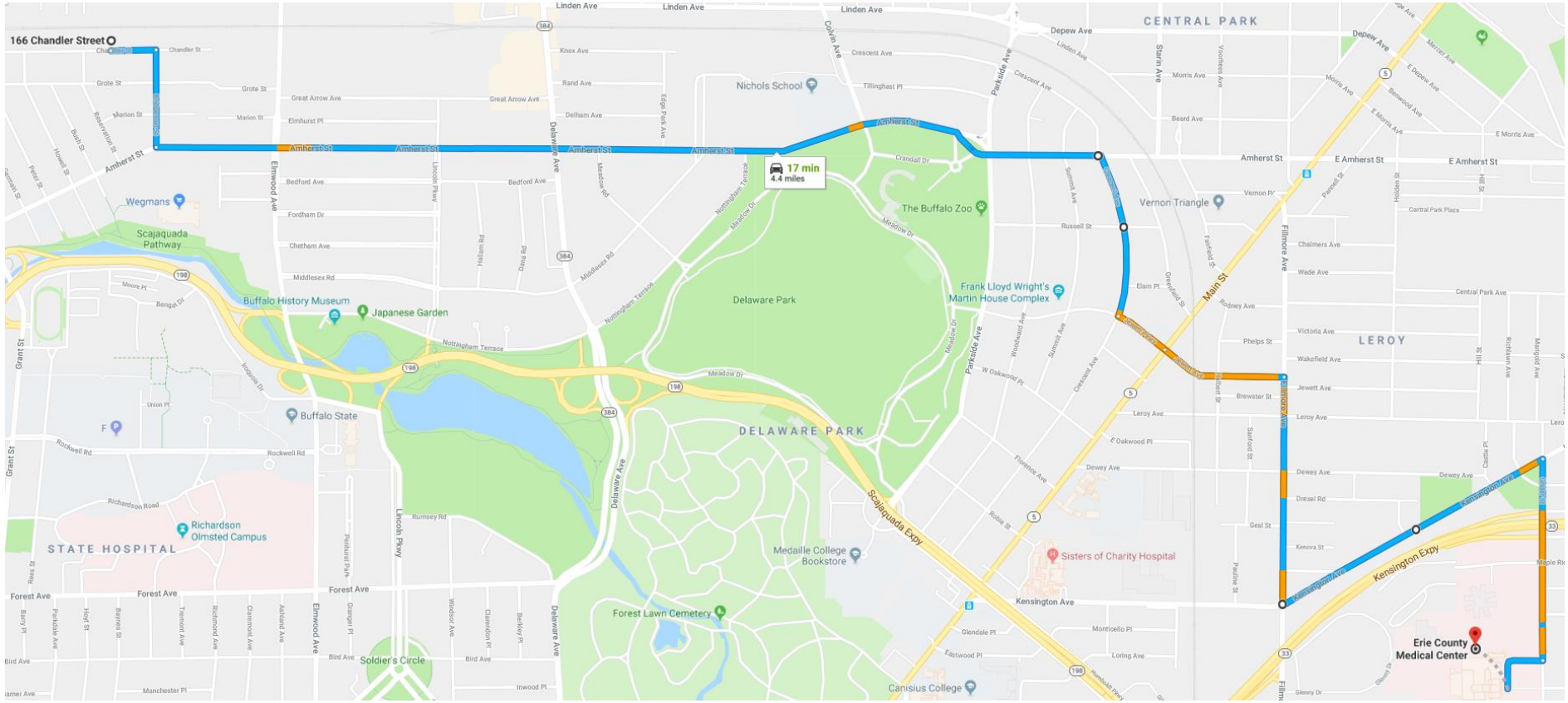
Figures



THIS DRAWING IS FOR ILLUSTRATIVE AND INFORMATIONAL PURPOSES ONLY
AND WAS ADAPTED FROM USGS, BUFFALO NE & NW, NEW YORK 2013 QUADRANGLE.

N

WITTMAN GEOSCIENCES		
SITE LOCATION 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MMW	DATE: 4/2018	FIGURE NO: 1



Directions: Head east on Chandler St. toward Bridgeman St. Turn right onto Bridgeman St. Turn left at the third cross street onto Amherst Street. Turn right onto Crescent Ave., Turn left onto Jewett. Turn right onto Fillmore Ave. Turn left onto Kensington Ave. ECMC entrance is located on the right.

WITTMAN GEOSCIENCES		
HOSPITAL DIRECTIONS 166 CHANDLER STREET BUFFALO, NEW YORK		
DRAWN BY: GB	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MW	DATE: 04/18	FIGURE NO: 2

Attachment A

Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN

BROWNFIELDS CLEANUP PROGRAM
For
166 Chandler Street
166 Chandler Street, Buffalo, New York 14207
BCP # C915321

Prepared For:
166 Chandler Holdings, LLC
391 Washington Street, Buffalo, New York 14203
WGS Project No: P18-104

Prepared By:

Wittman GeoSciences
3636 North Buffalo Road
Orchard Park, New York 14127
(716) 667-3130

Schenne & Associates
391 Washington Street, Suite 800
Buffalo, NY 14203
(716) 655-4991

April 12, 2018

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LIST OF ATTACHMENTS

1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been developed for the Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) Work Plan to be completed by Wittman GeoSciences (WGS), Hazard Evaluations, Inc. (HEI) and Schenne & Associates (S&A) for 166 Chandler Street at 166 Chandler Street, Buffalo, Erie County, New York, on behalf of 166 Chandler Holdings, LLC (Applicant) as part of the Brownfield Cleanup Program (BCP).

The CAMP requires real-time monitoring of volatile organic compounds (VOCs) and particulates (dust) at downwind perimeter of each designated work area. The CAMP will be implemented during the excavation and removal of soils from the courtyard and vacant lot areas of the subject site. This CAMP will be completed in general accordance with NYSDEC DER-10 Appendix 1A, as included in Attachment A. A figure showing proposed monitoring points is included as Figure 1.

2.0 VOLATILE ORGANIC COMPOUND AIR MONITORING

VOCs will be monitored at the downwind perimeter of the work are on a continuous basis and periodically during non-intrusive activities. VOC monitoring will be done using an organic vapor meter (OVM) equipped with a photoionization detector (PID) to provide real-time recordable air monitoring data.

VOCs will also be monitored and recorded at the downwind perimeter of the immediate work area(s). Upwind concentrations will be measured at the beginning of each day before activities begin and periodically throughout the day to establish background conditions. The downwind VOC monitoring device will also be checked periodically throughout the day to assess emissions and the need for corrective action. VOC monitoring action levels as per *DER-10 Technical Guidance for Site Investigations and Remediation* is as follows:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If the organic vapor level at the perimeter of the work area persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions take to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half

the distance to the nearest potential receptor or residential/commercial structure, whichever is less; but in no case than that 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down.

3.0 PARTICULATE AIR MONITORING

The remediation crew will make all efforts to suppress dust and particulate matter during the handling of contaminated soil. Fugitive dust and particulate monitoring will be completed in accordance with DER-10 Appendix 1B, as included in Attachment B. The following techniques have been shown to be effective for the controlling the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and/or
(g) Reducing the excavation size and/or number of excavations.

Care will be taken not to use excess water, which can result in unacceptably wet site conditions. Use of atomizing sprays will prevent overly wet conditions, conserve water and provide an effective means of suppressing fugitive dust.

Weather conditions will be evaluated during remedial work. When extreme wind conditions make dust control ineffective, as a last resort, remedial actions may need to be suspended.

Dust and particulate monitoring will be conducted near approximate upwind and downwind perimeters of the work area, when possible. If visual evidence of dust is apparent in other locations, monitoring equipment will be placed where necessary. Dust monitoring may be suspended during period of precipitation and snow cover.

Particulate air monitoring will be done with a DataRAM-4 (or similar), which will be capable of reading particles less than 10 micrometers in size (PM-10) and equipped with an audible alarm feature which will indicate exceedances. Dust monitoring devices will be recorded periodically throughout the day to assess emissions and the need for corrective actions. Particulate monitoring action levels as per *DER-10 Technical Guidance for Site Investigations and Remediation* is as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 ($\mu g/m^3$) above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 ($\mu g/m^3$) above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

4.0 DOCUMENTATION

All 15-minute readings will be recorded and be available for or State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

5.0 WIND DIRECTION

Prevailing wind direction will be recorded at the beginning of each work day by visual observations of an on-site windsock. As wind direction may change throughout the work day, direction will be reestablished if a significant change in direction is observed. The wind direction results will be utilized to determine the placement of the monitoring equipment.

Figures

KEY
Down-wind site perimeter monitoring location stations
Up-wind site perimeter monitoring location stations
Site limits

WITTMAN GEOSCIENCES

POTENTIAL AIR MONITORING DEVICE LOCATIONS
166 CHANDLER STREET
BUFFALO, NEW YORK

DRAWN BY: GB	SCALE: NOT TO SCALE	PROJECT: 18-104
CHECKED BY: MW	DATE: 04/18	FIGURE NO: 1

Attachment A

NYSDEC DER-10 Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

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Attachment B

NYSDEC DER-10 Appendix 1B
Fugitive Dust and Particulate Monitoring

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Appendix 1C
DEC Permits Subject to Exemption

In accordance with section 1.10, exemptions from the following permit programs may be granted to the person responsible for conducting the remedial programs undertaken pursuant to section 1.2:

Air - Title 5 permits
Air - State permits
Air - Registrations
Ballast Discharge
Chemical Control
Coastal Erosion Hazard Areas
Construction of Hazardous Waste Management Facilities
Construction of Solid Waste Management Facilities
Dams
Excavation and Fill in Navigatable Waters (Article 15)
Flood Hazard Area Development
Freshwater Wetland
Hazardous Waste
Long Island Wells
Mined Land Reclamation
Navigation Law - Docks
Navigation Law - Floating Objects
Navigation Law - Marinas
Non-Industrial Waste Transport
Operation of Solid Waste Management Facilities
Operation of Hazardous Waste Management Facilities
State Pollution Discharge Elimination Systems (SPDES)
Stream Disturbance
Tidal Wetlands
Water Quality Certification
Water Supply
Wild, Scenic and Recreational Rivers