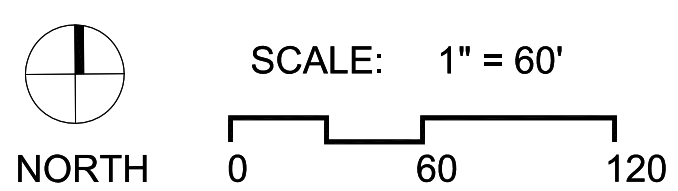


NARDIN ACADEMY
1801 ELMWOOD AVE - ALTERNATE
January 28, 2015

PETER GISOLFI ASSOCIATES
Architects Landscape Architects, LLP

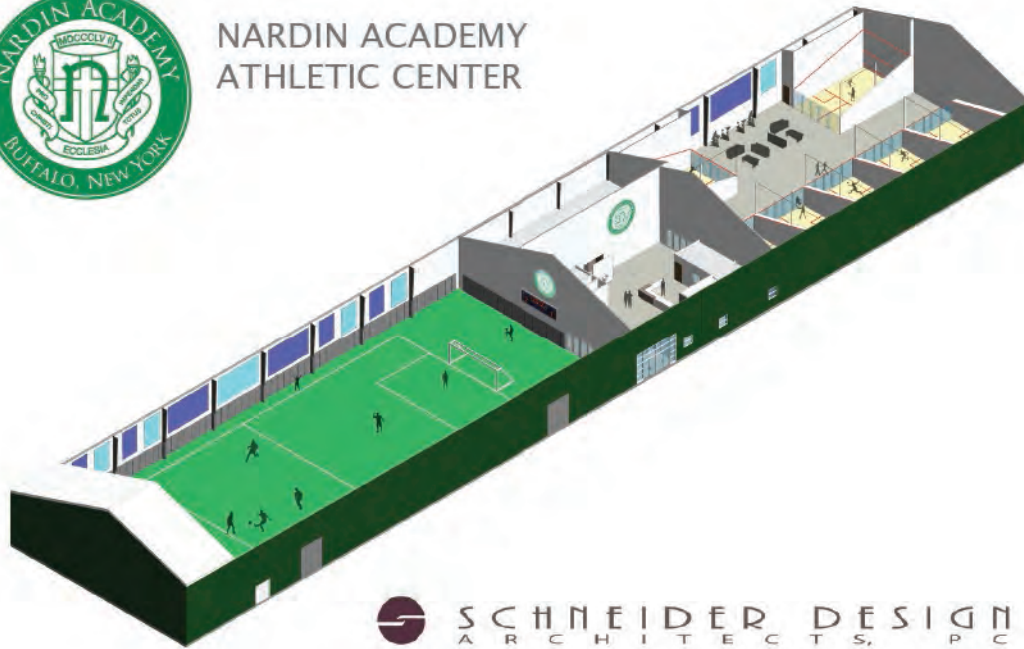


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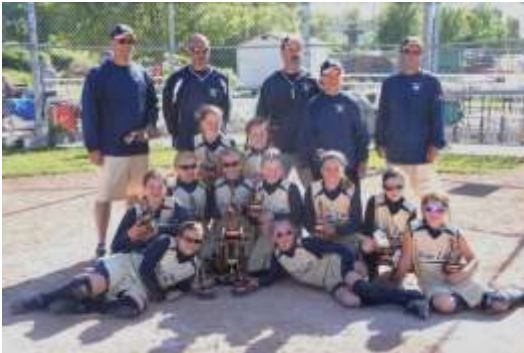
NARDIN ACADEMY ATHLETIC CENTER



 SCHNEIDER DESIGN
ARCHITECTS, P.C.







Recreational Needs Assessment Study

The South Buffalo Brownfield
Opportunity Area

Presented to:

Buffalo Urban Development
Corporation

Presented by:

Paradigm Economics
Wendel Companies
Spicer Group

January, 2015



This document was prepared for the Buffalo Urban Development Corporation and the City of Buffalo with financial assistance provided by the New York State Department of State Brownfield Opportunity Area Program.

Table of Contents

	Statement of Limiting Conditions.....	3
I.	Introduction.....	4
II.	Executive Summary.....	6
III.	Preliminary Analysis.....	15
IV.	Existing Conditions/Supply Analysis.....	17
V.	Demand Analysis.....	27
VI.	Market Analysis.....	37
VII.	Comparables Identification and Analysis.....	45
VIII.	Location Analysis.....	63
IX.	Construction Cost Estimation.....	79
X.	Financial Operations Analysis.....	83
XI.	Economic Impact Analysis.....	86
XII.	Appendix.....	94

Statement of Limiting Conditions

City-Based Recreation and Economic Development Initiative Recreation Needs Assessment

The consulting study is subject to the following limiting conditions, except as otherwise noted in the study:

1. The conclusions stated in the comprehensive analysis and market research study apply only as of the date indicated and no representation is made as to the effect of subsequent events on the study.
2. By reason of this assignment, Paradigm is not required to give testimony or be in attendance in court or any government or other hearing with reference to the study without written contractual arrangements having been made relative to such additional employment.
3. Neither all nor any part of the content of the report shall be disseminated through advertising media, public relations media, news media or any other means of communication including without limitation prospectuses, private offering memoranda, and other offering material provided to prospective investors.
4. Information, estimates and opinions contained in this report, obtained from sources outside of our office, are assumed to be reliable and may not have been independently verified.

The analyses contained in this study incorporate numerous estimates and assumptions regarding market performance, general and local business and economic conditions, the absence of material changes in the competitive environment and other matters. However, some estimates or assumptions inevitably will not materialize, and unanticipated events and circumstances may occur. Therefore, actual issues, outcomes and results experienced during the period covered by the enclosed analyses are likely to vary from our estimates, and the variations may be material.

I. INTRODUCTION

Paradigm Economics, a Buffalo-based sports, live entertainment, cultural tourism, and public assembly facility market research and facility management consulting practice, was contracted with by the Buffalo Urban Development Corporation (BUDC) in January of 2014 to work with the BUDC and its public sector project partners to identify and assess the regional indoor and outdoor recreational sports facility market and programmatic opportunities, priorities, and issues that are related to the maximization of facility operation and program execution within the South Buffalo Brownfield Opportunity Area (SBBOA).

This needs assessment project was intended to provide direction with respect to options and opportunities for attracting private sector developers to the SBBOA, for converting former industrial land within the SBBOA to productive use, to serving recreational needs of Buffalo and surrounding Western New York communities, and to generating incremental sports tourism activity so as to attract out-of-town visitors and increase measurable local economic impact.

As a Buffalo-based facilities consulting practice, Paradigm has, over the last 20 years, conducted over 100 market, feasibility, operational audit, and strategic planning studies across the country, with a significant percentage of those projects being located in New York State, and Western New York. Buffalo, Amherst, Hamburg, Niagara Falls and Jamestown are locales in which Paradigm has project experience, and First Niagara Arena, the Northtown Center at Amherst, Jamestown Savings Bank Arena, and Dwyer Ice Arena are representative venues on which Paradigm has worked and at which Paradigm has in some cases provided ongoing consultative services.

Similarly, Paradigm's project team members on this study, Wendel and Spicer Group, have extensive, significant, and relevant local and regional architectural, engineering, and construction cost project experience that, when combined with the background and experience of Paradigm, contributed to a well-qualified project team that was able to comprehensively, efficiently, and effectively address the assessment components that were articulated in the final BUDC study scope of services.

The main task areas of the project scope of services were articulated as follows:

- A. Preliminary Analysis
- B. Existing Conditions/Supply Analysis
- C. Demand Analysis
- D. Market Analysis

- E. Comparables Identification and Analysis
- F. Location Analysis
- G. Construction Cost Estimates
- H. Financial Operations Analysis
- I. Economic Impact Analysis

The project had an initial projected duration of four (4) months, which was extended to a term of eight (8) months due to the identified need for conformation to both materials development and data collection realities related to the research-specific areas of front-end tasks and subtasks, as well as to late winter-early spring weather conditions impacting project team access to City of Buffalo outdoor fields and facilities capable of hosting seasonal use and play.

II. EXECUTIVE SUMMARY

Preliminary Analysis

In January of 2014, the South Buffalo Brownfield Opportunity Area's recreational needs assessment study was initiated with Paradigm Economics and its project team consisting of Wendel Companies (site analysis, existing facility conditions) and Spicer Group (construction cost estimation) engaging with an advisory committee comprised of representatives from the Buffalo Urban Development Corporation, the State of New York, Visit Buffalo Niagara/Buffalo Niagara Sports Commission, the City of Buffalo Office of Strategic Planning, and the City of Buffalo Division of Parks and Recreation.

The overarching goal of the study was to determine the demand for a new facility (or facilities) development project in the SBBOA, or elsewhere in the City, preliminarily identified as an indoor-outdoor soccer/turf field complex attractive to private sector development and ownership. The overall needs assessment was confirmed to be bifurcated in that critical audiences for the research and analysis were Visit Buffalo Niagara for sports tourism needs and development, and the City of Buffalo Division of Parks and Recreation for recreation facility maintenance and resource allocation.

Existing Conditions/Supply Analysis

Working with the Division of Parks and Recreation, the project team first confirmed and quantified the inventory of outdoor recreational assets (football, soccer, baseball, softball, little league, t-ball, basketball, tennis, track, roller hockey) within the four traditional recreation districts designated by the City (South, East, West, Olmsted) in a comprehensive supply analysis. Findings related to this inventory determined that most sports fields were in fair to good condition, and in need of common repairs including drainage improvement, regarding, weed removal, and installation of amenities (fences, benches, paths). Facility concentrations were determined to exist in North Buffalo, South Buffalo, and the East Side, and are generally lacking on the City's West Side.

The overall facilities inventory within the City is represented by a variety of owners and operators including the City, Olmsted Parks Conservancy, Buffalo Public Schools, private high schools, and colleges. The City-owned facilities inventory is supplemented by seven outdoor all-weather surface fields. Five

confirmed and potential additions to this existing City-wide inventory were determined to be D'Youville College (new outdoor turf field, opened Q3 of 2014), proposed/potential projects at Tapestry Charter School (outdoor turf field and track), English Pork Pie Company (rugby stadium, side fields, other), and developer-driven interests in both South Buffalo and the Outer Harbor. Lastly, using Division of Parks and Recreation permitting histories and program/user data, a thorough inventory of City of Buffalo recreation facility for-profit (20 groups) and not-for-profit (50 groups) facility users was conducted, so as to measure both the distribution and density of annual usage received by the City facility inventory.

Demand Analysis

The demand analysis for the SBBOA recreation needs assessment was intended to evaluate the ability of identified recreational resources within the City of Buffalo to meet current and future market demand. Census data material was utilized that determined that between the years 1940-2010, City of Buffalo population decreased by 55%, with the population density decreasing to 6,472 residents per square mile. At the same time, the recreational youth sports market in the City grew significantly since the 1960s and 1970s. The net effect on the City's recreational assets has been that in the face of a declining population, pressure on the facilities from user groups in fact has increased over historical levels, especially in the past 40+ years. This pressure has been exacerbated by a significant increase in adult recreational sports programs hosted within the City during that period.

Comparing City of Buffalo facility inventories and user demand characteristics against facility standards developed by the National parks and Recreation Association (NPRA), it was determined that user demand in Buffalo aligned with a 30-year national trend indicating demand *decreases* for basketball and tennis courts, but an *increase* in demand for baseball and softball diamonds, as well as for rectangular sports fields. Anecdotal information gathered through user group interviews confirmed that both City-based non-profit and for-profit recreational youth and adult sports programs are now constrained by a lack of field space facilities in particular.

The local soccer community in particular is attempting to address this outdoor (and indoor) field space shortage by organizing so as to advocate private sector development projects. The Division of Parks and Recreation's own experience in

allocating user permits indicates a significant need for more ball field and rectangular field space. Interviews with for-profit user groups in particular indicated a strong demand for additional indoor turf/training facilities within the market; over two dozen user groups interviewed cited the need for additional indoor facilities more centrally-located within the market as being necessary for them to more adequately serve existing programs (i.e. intercollegiate and interscholastic athletics), and to grow their travel- and premier-level training, league and tournament offering (especially soccer).

Market Analysis

The study's supply analysis indicated a pent up demand for both indoor and outdoor field sports facilities, exhibited by youth and adult recreational programs, by the for-profit travel and premier-level soccer community, by City-based colleges, and by charter and private high schools. With respect to the indoor sports field investment and development option that was identified as a primary focus of the study, a critical mass of "pay-to-play" users was readily identified as including existing outdoor adult leagues, new indoor adult leagues, City-based travel, premier, and other membership soccer programs, regional baseball and softball programs (for off-season training), and City-based collegiate and private high school programs (off-season training).

A test of this identified demand for indoor field facility access was conducted against the other nine largest counties in New York State. Within the seven-member cohort of counties having indoor turf field facilities, Erie County had the lowest density of indoor turf facilities per 100,000 population unit, with half as many facilities per population unit as Monroe County in particular. This finding supports the general premise that is implicit in the study's program representative interviews, that there is significant pressure within the local-regional sports market for greater access to indoor "off-season" facilities and turf time. Such indoor facility investment and operation is supported by demonstrated local user market characteristics including volume of existing programs, rates charged by existing facilities, volume of current utilization exhibited by existing programs, membership and program expansion goals of existing programs, and outdoor adult recreational programs that desire to provide an indoor season program offering to their current members.

The merit of such a facility development opportunity and business operation option includes quality of life improvement for City of Buffalo and regional

residents, contribution to the overall marketability of the City of Buffalo, a financially-sustainable business operation that should not require private sector investment or subsidy, and economic impact through both business operation and generation of incremental retail traffic and spending by users.

Comparables Identification and Analysis

An attempt was made by the Paradigm project team to identify contemporary industry standards for indoor facility design, operation, ownership, and development. Key findings in this analysis included economical design programs and use of lower-cost exterior and interior materials, multi-field configurations to allow for program flexibility and maximization of rental revenues, inclusion of basic retail (i.e food service, equipment sales) components, a high incidence of private sector investment, ownership and operation, exhibited financial sustainability through facility operations, and user-promoted and supported facility development and operation.

A comparables cohort of New York State metropolitan statistical areas (MSAs) was identified and assessed, to determine the degree to which the contemporary industry standards that were identified earlier in the section were in evidence in other NYS markets. The inventory of indoor facilities throughout the state includes converted tennis centers, inflatable sports domes (or “bubbles”), and built-to-suit buildings, with newer metal buildings and metal buildings in general being the dominant facility type. Many buildings have suburban locations, and city-based facilities tend to be located outside of the urban center or core.

Because of both its proximity to Buffalo and its high indoor turf field facility density, the Monroe County facility inventory was scrutinized in detail. Themes represented by these facilities include private ownership and operation, multiple facility ownership, multi-surface design and layout, a variety of field dimensions, and inclusion of some non-field sports (i.e. basketball court) spaces.

Location Analysis

Based on the determination of a potential new facility type that was identified in this study’s market supply and demand analysis, a preliminary location analysis was conducted that considered potential geographic footprints within the City of Buffalo that might serve as host sites for the indoor-outdoor turf field facility. This location analysis included three main components: development of criteria for optimal project location; creation of a comparative analysis of primary and

secondary locations based on evaluation criteria; and evaluation of sites within the South Buffalo BOA against the location criteria.

The location criteria were applied against 11 preliminary target locations provided to the project team by the BUDC. These locations were identified based on location and available acreage. No effort was made at this time to determine their availability. This set of location options happened to include seven (7) geographic footprints that were located in one of the four current Brownfield Opportunity Areas within the City of Buffalo. This location set and the BOA within which each location resides is provided as follows:

1. 90 Hopkins Street – South Buffalo BOA;
2. Outer Harbor – Buffalo Harbor BOA;
3. Elk Street – Buffalo River BOA;
4. Emerson Young Park – Buffalo Harbor BOA;
5. Tee-to-Green property – Tonawanda Corridor BOA;
6. Black Rock Yard – Tonawanda Corridor BOA;
7. 1070 Seneca Street;
8. Kensington Heights;
9. Buffalo Forge;
10. Village Farms/Hydroponics/English Pork Pie Company; and
11. American Axle.

Profiles for each of these 11 locations were developed that included geographic location detail, access detail, contextual detail (i.e. proximity to schools, retail and entertainment, and parks and recreation), and a placement map indicating location within the City of Buffalo footprint.

A comparative analysis of all 11 preliminary target locations against the primary and secondary location criteria indicated that with respect to the key primary location criteria of massing ability of necessary acreage, seven of the 11 target locations (Outer Harbor, Elk Street, Tee-to-Green, Black Rock Yard, 1070 Seneca Street, Kensington Heights, and Village Farms) have enough of a footprint so as to allow for both initial facility development, as well as expandability of the indoor-outdoor complex should marketability and operating characteristics of a new facility indicate that business operation expansion is appropriate.

Construction Cost Estimates

Based on the demand, market, and comparables findings articulated in earlier sections of this study, the Paradigm study group endeavored to generate a set of preliminary construction cost estimates based on the indoor-outdoor turf field complex facility type that was elevated to priority status within the new facility type option evaluation.

Based on predominant user group needs, recommendations, and requirements that were generated through the market supply and demand sections interview process, a set of *preliminary base case facility parameters* were developed by Spicer Group that reflected the indoor, outdoor, and support space construction specifications that would support a conservative construction scenario within the indoor-outdoor turf field facility type. These parameters were transferred to Spicer Group for construction cost estimating purposes, and are articulated as follows:

- One (1) 330'x210' indoor turf field surface;
- Two (2) 180'x300' outdoor field surfaces;
- Two (2) 240'x360' outdoor field surfaces;
- Paved parking for 200 vehicles (@325 SF/space);
- Interior support space that includes retail, administration, food service, lavatories, and storage;
- Adequate interior circulation space;
- Basic Butler building-type metal clad structure and materials;
- HVAC system that allows for year-round utilization of indoor spaces;
- 50' ceiling height over indoor playing surface;
- Security fencing around the footprint perimeter.

The total construction cost estimate, which includes soft costs, site preparation, some non-fixed equipment, bonding costs, insurance, and a 15% contingency, overhead, and profit, was determined to total \$10,498,678. This construction cost does not include cost of land.

The 21-acre footprint includes approximately 13 acres for building, parking lots, and outdoor fields, and eight additional acres for outdoor circulation, landscaping, and auxiliary space.

Financial Operations Analysis

Based on the design program selected for the proposed indoor-outdoor turf and field sport center (one full-sized indoor turf field, four outdoor turf and natural grass fields), a set of assumptions were generated that provided the basis for a preliminary financial performance analysis for the proposed facility operation. A summary of these key characteristics included but was not limited to the following:

- A private legal structure and operation (either for-profit or not-for-profit) is preferred;
- The business operation essentially has a 6-month revenue period (November-April); and
- The facility will be required to internally develop, market, and administer a variety of leagues and programs including but not limited to youth and adult soccer, flag football, and similar.

Other key characteristics for the cash flow model were preliminarily selected for illustrative purposes, and are described as follows:

- Indoor utilization reflects a 90% utilization of available prime time hours;
- Not-for-profit legal status has been selected and applied, which allows for solicitation of grants, donations, and pledges;
- A management company line item is included in the expense budget, which reflects the opportunity for experienced indoor/outdoor recreation facility operators to oversee day-to-day facility operation for ownership on a contract basis;
- Indoor field utilization is expected to include a combination of league and tournament play (run by the facility) and straight rentals by outside user groups. Also expected is variable utilization volume by sports type; and
- An 80% loan over 25 years on a construction budget of \$10,498,678 at 6.5% has been factored in as an expense.

The preliminary cash flow model included revenues from indoor and outdoor field utilization ("Total Usage Revenue"), as well as non-rental revenues that include concessions revenues (net), field sponsorship rights, revenues from grants, donations, and pledges, and sponsorship package revenues ("Ancillary Revenues").

The expense side of the cash flow model includes expense line items such as payroll (facility management, sports coordinators), utilities, management company fee, telephone/internet, insurance, building/grounds maintenance, equipment replacement fund, office expenses and supplies, contract services, legal and accounting fees, and marketing.

Total revenues (\$1,174,098) were aligned against total expenses (\$1,099,172) to generate a net cash flow figure of \$74,926. This net cash flow figure represents the cash that is available to the facility owner to make loan/mortgage payments that are incurred to purchase property and for building development/construction. For purposes of this financial performance modeling exercise, those payment obligations have not been estimated or included as line items in the expense side of the cash flow model.

Economic Impact Analysis

The Paradigm project team utilized estimations of projected facility construction cost and facility financial performance to determine an estimation of economic impact generated by both the single event (construction) and ongoing annual activity (financial performance). In this effort, the Minnesota IMPLAN economic impact model was utilized in conjunction with current Bureau of Economic Analysis (BEA) market data for Erie County.

The economic impact generated within Erie County by the proposed *indoor facility construction* is summarized as follows:

Impact Type	Employment	Labor Income	Output
Direct Effect	66.8	\$3,196,756	\$7,417,760
Indirect Effect	13.5	\$772,878	\$1,964,339
Induced Effect	21.0	\$896,164	\$2,651,473
Total Effect	101.3	\$4,865,797	\$12,033,572

Estimated economic impact for *indoor facility operations* from the IMPLAN model based on an annual revenue projection of \$1,174,098 is as follows:

Impact Type	Employment	Labor Income	Output
Direct Effect	6.0	\$146,500	\$1,174,098
Indirect Effect	2.1	\$110,093	\$314,420
Induced Effect	1.4	\$57,729	\$170,796
Total Effect	9.4	\$317,322	\$1,659,313

III. PRELIMINARY ANALYSIS

On January 21, a kick-off meeting was held at the BUDC offices with members of the project's advisory committee. The purpose of the meeting was to confirm goals and objectives for the project, to identify what materials and contact information existed within the advisory committee that could be helpful to and collected by the Paradigm project team, and to discuss interactively the overall project process and context. Participants at that meeting were of two groups as follows:

SBBOA project advisory committee:

Pete Cammarata (BUDC);

Mike Even (Visit Buffalo Niagara/Buffalo Niagara Sports Commission);

Becky Gandour (City of Buffalo);

Dave Stebbins (BUDC);

Dennis Sutton (City of Buffalo).

(Not in attendance – Chris Bauer, NYS, and Andy Rabb, City of Buffalo Division of Parks and Recreation)

Paradigm Economics project team:

Michael Bogucki (Paradigm);

Dean Gowen (Wendel).

It was confirmed that the core group for the advisory committee is Chris Bauer, Mike Even, and Andy Rabb, with BUDC participants acting as the facilitating entity.

Regularly scheduled monthly meetings were confirmed, to facilitate information sharing, interactivity, and a consistent feedback loop regarding work in progress and contact and information brainstorming.

It was confirmed that City of Buffalo Strategic Planning, City of Buffalo Division of Parks and Recreation, and Visit Buffalo Niagara participants were key to the

project with respect to definition of project roles and outcomes expectations. The SBBOA was confirmed as the tacit target geography for study, but it was also confirmed that the assessment was to have a City-wide focus, especially with respect to an existing conditions and supply analysis specific to City of Buffalo recreation facility assets.

The overarching question to be answered by the assessment effort was identified as follows:

“Is the demand for a new facility (or facilities) to be located somewhere in the City limits real, is the facility type able to be preliminarily identified as an indoor-outdoor sports complex of some defined size and purpose and if so, can private sector investment and ownership criteria be identified so as to allow for the advocating by the public sector of such a project?”

The three key phases of the project were reiterated and confirmed to be (1) inventory/supply/physical analysis; (2) demand analysis; and (3) economic analysis.

It was also stressed that the assessment needed to be bifurcated, that is, that it needed to assess a sports tourism component (for VBN), and a community recreation component (for the City of Buffalo).

For VBN specifically, sports to target were identified as baseball, softball, football, soccer, lacrosse, field hockey, rugby, track and field (all outdoor), as well as gymnastics, wrestling, indoor track, basketball, cheer, and dance (all indoor). Fresh water sports were also determined to be a consideration, given the proximity of the SBBOA to fresh water access.

It was determined and confirmed that VBN would be the best repository to access for sports tourism histories, sports tourism business development efforts and interests, and “lost business” information. Additionally, the City of Buffalo Department of Parks and Recreation was confirmed as being the office in which historical documentation resided in the areas of City of Buffalo field and facility permitting, City of Buffalo recreation asset inventory information, and historical facility/asset use information.

IV. EXISTING CONDITIONS/SUPPLY ANALYSIS

Task One in the SBBOA recreation needs assessment study entailed the identification and inventorying of recreational resources currently existing within the study area. This study area was not restricted to the SBBOA area and neighborhoods proper, but encompassed the entire inventory of recreational assets within the City limits.

While the inventory exercise focused primarily on City of Buffalo Division of Parks and Recreation assets, the effort also encompassed non-City recreational assets within the City, which either theoretically contribute to the overall inventory of available recreational assets, or in fact contribute in practice based on their known availability to City and other user groups.

City of Buffalo Division of Parks and Recreation Recreational Facilities Inventory

Materials available to the Paradigm project team through COB Parks and Recreation allowed for identification and a distribution analysis of existing COB recreation assets. COB recreational assets are identified based on the department's maintenance districts: South, East, West, and Olmsted. Facility types captured within these three distinct geographic districts and the Olmsted parks subset are identified as follows:

Football fields (game, practice);

Soccer fields (game, practice, with and without goal frames);

Hardball fields (baseball);

Softball fields;

Little League fields;

T-ball fields;

Basketball courts (full and half);

Tennis courts; and

Outdoor tracks.

The provided parks and recreation materials were confirmed for completeness by the project team, and then manipulated so as to present all COB recreational facility assets by district, and with subtotals of facility type by district and totals by facility type for the City. This information is presented in Table One.

TABLE ONE – CITY OF BUFFALO RECREATIONAL FACILITIES DISTRIBUTION

SOUTH DISTRICT	Football Field	Soccer Field	Hardball	Softball	Little League	T-Ball	B'ball	Tennis	Track	Roller Hockey
JFK Park	1	2		1			3	4		
Willert							2			
Spring (Wende)							2			
Conway	1			2						
Mullen							1			
Collins							1			
Lanigan		1 (prac)					1.5			
Houghton	1	1 (prac)	1	1			2	1		2
Hillary	1	2					1.5			
Mungovan		1							1	
Boone				1			1			
Mulroy	1									
Okell	1		2	1	1	1	1			
Tifft	1	1		1						
Durant		1 (small)					1			
Franczck	1	1 (prac)		2			1 full, 2 half			1
Hennepin							1	4		
Subtotal =	8	10	3	9	1	1	21	9	1	3
EAST DISTRICT										
McCarthy	1	1	2	1	2		3	2		
Manhattan	1	1 (prac)					1			
Dewey		1 (prac)		1	1		3			
Trinidad	1 (short)						2			
Glenny	1			2			2			
Roosevelt	1	1 (prac)					2	1		
Kingsley		1 (prac)				1	2			
Masten				1			4			
Ed Dawson							1			
Nowak		1 (prac)								
Emerson	2					1	2	2		
Walden/Scaj	1	1 (prac)	1		2					
Schiller	1	1 (prac)					2			
Lang Weber	1	1 (prac)				1	1			
Lincoln						1	1			
Box/Glennwd							1			
Fr. Eckridge							3			
Sperry				1			3			
Bailey/Moore	1									
Woodlawn (Perkins)		1 (prac)				1	3			
Subtotal =	11	10	3	6	5	5	36	5		
WEST DISTRICT										
Waterfront	1	1					1	3		
Massachusetts		1 small prac					1			
Allison							2			
LaSalle	1	2		3	3	1				
Peter St.							1			
JH Williams		2					1.5			
Shoshone			1	2	2	1	2			
Subtotal =	2	6	1	5	5	2	8.5	3		

OLMSTED DISTRICT										
Delaware	1	5	2	1			4	17		
Riverside	1		1	1	2	1	2	2		
MLK							2	4		
Front		1						2		
Cazenovia	1	3	2	2			2	4		
South Park				2						
Subtotal =	3	9	5	6	2	1	10	29		
Total – All Districts=	24	35	12	26	13	9	75.5	46	1	6

Source: City of Buffalo Division of Parks and Recreation

Table One indicates that the City has an overall inventory of outdoor recreational assets (including practice fields) as follows:

Football fields	24
Soccer fields	35
Hardball fields	12
Softball fields	26
Little league fields	13
T-ball fields	9
Basketball courts	75.5
Tennis courts	47
Outdoor track	1
Roller hockey	6

This inventory includes facilities owned, maintained and permitted by the City. The Johnny B. Wiley sports complex is owned by the City, but is maintained and booked by Buffalo Public Schools under a management contract with the City. That complex includes a hardball field, an outdoor track, and a turf field that accommodates football, soccer, and lacrosse.

Supply Analysis Summary

As a component of the conditions/supply analysis, the project team identified proposed facilities in addition to the total number of existing City of Buffalo assets. Methodology included site visits and subjective rating, geographic spatial data utilizing ArcGIS, aerial imaging and interviews. The analysis included the geographic distribution, condition and use of facilities based on 2013 reservation data. A graphical representation of this asset analysis is provided in the report Appendix.

Based on our review of the City of Buffalo recreation facility inventory included within this study, five key findings were identified as follows:

1. Most sports fields are in fair to good condition; numerous City of Buffalo operated courts are currently in the process of being renovated. Common repairs needed include drainage improvement, re-grading, weed removal and park amenities such as fences, benches and paths;
2. Facilities are concentrated in areas of South Buffalo, along the East Side, and parts of North Buffalo. The west side is generally lacking recreation facilities;
3. The East Parks District accounts for over 45% of all public (public = City of Buffalo/Olmsted Parks Conservancy operated) football fields and basketball courts;
4. Current recreation facilities are owned/operated by a variety of actors: private developers, City of Buffalo Parks Dept., Olmsted Parks Conservancy, public schools and private schools; and
5. Climate is a constraint on the existing field supply usability as there is only one indoor soccer field in Buffalo (Tosh Collins Community Center).

Non-City of Buffalo Recreational Facility Inventory

In addition to City of Buffalo recreational facility assets, there are within the City limits a number of outdoor and indoor sports-rec facilities to which the general public, typically in the form of organized teams, leagues, and similar user groups, has access. This access is typically on a rental basis, but use is not exclusive to a rental arrangement in all cases, as private owners sometimes offer free or discounted use to groups with which they have affiliated or preferential relationships.

Table Two indicates the inventory of non-City recreational assets currently available to outside user groups. This includes facilities owned, maintained, and permitted by City-based private high schools, colleges, and Buffalo Public Schools primarily. The table generally follows the district designations of Table One, so as to make comparison of public vs. private inventories as well as to make possible aggregation of all facilities in a geographic district by type.

TABLE TWO – NON-CITY OF BUFFALO RECREATIONAL FACILITIES DISTRIBUTION

SOUTH DISTRICT	Football Field	Soccer Field	Hardball	Softball	Little League	T-Ball	B'ball	Tennis	Track
Pirce Field at Mulroy Park	1	1							
Subtotal =	1	1	0	0	0	0	0	0	0
EAST DISTRICT									
All-High Stadium (BPS)	1	1							1
Subtotal =	1	1	0	0	0	0	0	0	1
WEST DISTRICT									
Riverside High School (BPS)	1	1							1
Coyer Field (Buff State)	1	1							1
Demske Complex (Canisius)	1	1							
Canisius H.S.	1	1							
Nichols School	1	3							
Subtotal =	5	7	0	0	0	0	0	0	2
OLMSTED DISTRICT									
Subtotal =	0	0	0	0	0	0	0	0	0
Total – All Districts =	7	7	0	0	0	0	0	0	3

Source: City of Buffalo Division of Parks and Recreation

Table Two indicates that non-City facility owners theoretically contribute to the overall available football field (which typically allow for soccer, lacrosse and field hockey play as well), soccer, and track and field inventory within the City. However, there are conditions typically associated with privately-owned and public non-City facilities, and which are in place at this set of non-City facilities that can be articulated as follows:

- Unlike City of Buffalo facilities, which favor youth groups on its hierarchy of permitting, privately-owned facilities typically identify their own internal teams and programs as the absolute scheduling priority;
- For college facilities in particular, intercollegiate athletics, intramurals, and recreational use by campus constituents are scheduling priorities ahead of most if not all outside user groups;
- Unlike City of Buffalo facilities, privately-owned facilities typically charge *all* user groups a rental fee for use of their facilities, including *both* youth and adult programs; and
- Buffalo Public School facilities must first accommodate its interscholastic sports programs at its available facilities before considering permitting to outside groups.

Potential Additions to City of Buffalo Recreational Facility Inventory

In addition to existing City of Buffalo and non-City of Buffalo recreational facilities within the City limits, there are a number of recreational facility projects that are either underway or proposed that will and may, respectively, impact the overall recreational facility inventory within the City in the near term or otherwise. Paradigm has endeavored to identify and assess the status of these projects so as to determine the relative impact that each might ultimately have on overall facility availability within the City. Descriptions of actual and potential projects of this type that have been identified to-date are provided as follows:

- ***D'Youville College (new outdoor turf field):*** Construction recently completed on Porter Avenue. All-weather surface has a configuration that accommodates soccer, field hockey, lacrosse, football, as well as softball and baseball. Facility will not be available to outside groups for first full year of operation, but DYV athletics intention is to make facility available to outside groups on a rental basis thereafter.
- ***Tapestry Charter School (outdoor turf field and track):*** Combination of components is still under development, proposed components have

included all-weather turf surface (football, basketball, soccer, field hockey), 8-lane track encircling field, and seasonal air structures (domes) covering the all-weather surface in late fall-winter-early spring.

- **English Pork Pie Company (rugby stadium, side fields, indoor fieldhouse):** Proposed for outside space behind EPPC corporate location at 1176 South Park Avenue. Ownership indicates an intention to privately-finance development, primarily to provide a centralized and rugby-centric location for regional rugby play, as well as a secondary purpose of providing outdoor field space for the local soccer community. This intent would require acquisition by EPPC of contiguous land currently owned by the City, and the ability of EPPC to do so is uncertain at this time.
- **Lee Street Property (outdoor surfaces for soccer, rugby, lacrosse, beach volleyball):** 18 total acres, including existing structures, envisioned as potential live entertainment, retail and outdoor recreation complex to complement contiguous projects and business operations at Larkinvill, Railroad Museum, Silo City, etc.
- **Outer Harbor (multiple development proposals):** Projects have been proposed that are baseball-centric and multi-function (combination of retail, participative sports, live entertainment, other), as well as new Bills stadium-centric. Proposed as privately-developed, owned, and operated projects most likely, they are all speculative at present, likely require 100-150+ acres of development, propose to have sports facility components that might lend themselves to “sports tourism” opportunities that could align with VBN interests, and would likely require rental payments for access by outside groups and event.

On a probability scale, the NYC project was completed in Q3 of 2014, with availability to outside local user groups beginning perhaps in 2015-2016.

Tapestry Charter School has had a deliberate process in place since 2013 to both plan and fundraise for an 8+-acre project on land that it currently owns on Great Arrow Avenue. That said, if a development plan and funding was in place by fall of 2014, it is likely that facilities could not be online before spring of 2016, based on typical construction timelines that consider design efforts, materials purchase, and seasonality constraints.

The outer harbor proposals that have some degree of potential event, program, and/or recreational sports capability are expansive in their scopes, and would qualify as major development projects that would require significant funding, design, public-private collaboration, and construction efforts. As a result, the green-lighting of one or more of these projects would certainly be both intricate and deliberate. Therefore, integrating any aspect of their proposed component strategy is likely not advisable for planning for recreation program access and use in particular. That said, they do have relevance for potential VBN sports tourism business development efforts, and any eventual development component decisions that come to pass with respect to one or more of them.

Task Two in the SBBOA recreation needs assessment study entailed the determination and codification of the *current utilization* of existing recreational resources currently existing within the study area.

City of Buffalo Division of Parks and Recreation files and records, especially annual permitting logs, were utilized to create a comprehensive summary of users of City outdoor facilities, separated into for-profit and not-for-profit user groups. These summaries are provided in Table Three and Table Four, respectively.

TABLE THREE – FOR-PROFIT FACILITY USERS

Name	Sport(s)	District(s)	Park(s)
Buffalo Social Club	Softball, soccer	S,W,O	JFK, Franczyk, LaSalle, Front, Delaware, Schiller, Walden
M/ilesports	Softball, kickball, flag football, soccer	S,E,W,O	Conway, Tift, Glenny, LaSalle, Delaware
South Buffalo Softball	Softball	S,O	Houghton, Caz, Franczyk
Queen City Softball	Softball	W	LaSalle
Game On	Softball, baseball, flag football	O,E,S	South Park, Glenny, Boone, Del, Houghton, Franczyk
Buffalo Wings	Baseball	O	Caz, Delaware
Old First Ward	Softball	S	Conway
Friendly Friday	Softball	S	Conway
Buffalo Rugby Club	Rugby	O	Delaware
Buffalo Women's Rugby	Rugby	O	Delaware
USA Ultimate Frisbee	Frisbee		
WAKA	Kickball	O	Delaware
New Era 14U	Baseball	O	Delaware
Soccer Shots	Soccer	O	Delaware, South Park
Buffalo Niagara Tennis	Tennis	W,O	Riverside, Delaware
New Era Tourney	Baseball	O,E	Caz, McCarthy, Delaware
WNYFFL	Flag football	S	JFK
Go Flingo	Kickball	W	LaSalle
Tuesday Women's Night	Volleyball	S	Houghton
Old Neighborhood	Softball	S	Conway

Source: City of Buffalo Division of Parks and Recreation

Table Three indicates that at least 20 for-profit recreational sport organizations utilize City of Buffalo Recreational facilities on an annual basis in order to run their respective programs. These for-profits are almost exclusively for adult leagues, and represent men's, women's, and coed sports and leagues. The key users based on annual volume – Buffalo Social Club, M/ilesports, and Game On – provide multiple participative sports opportunities, and therefore use a wider variety of City field types and park locations. Other heavy users such as South Buffalo Softball are single-sport, but utilize multiple park locations as well due to their sizable membership.

The main calendar period for these sports and users is the May-August timeframe, with some activity taking place in “shoulder” seasons of April and September.

TABLE FOUR – NOT-FOR-PROFIT FACILITY USERS

Name	Sport(s)	District(s)	Park(s)
MUNY MSPL	Baseball	E,O	Walden/Scaj., Delaware
Nardin	Tennis	O	Delaware
Canisius H.S.	Baseball	O	Delaware
Bishop Timon	Baseball, football, lacrosse	O,S	Delaware, Mulroy, Tifft
Mt. Mercy	Softball	O	Caz
South Buffalo Little League	Baseball	S	Okell
Kensington Little League	Baseball	E	McCarthy
NICYO	Baseball	E	Walden/Scaj.
West Side Little League	Baseball	W	LaSalle
Hertel N. Park Little League	Baseball	W	Shoshone
Riverrock Little League	Baseball	O	Riverside
BPS	Tennis, baseball, football, softball	O,E,W	Delaware, MLK, Riverside, Caz, Dewey, Masten, Waterfront, Riverside, Shoshone, LaSalle, Houghton, JFK
Maritime Charter	Baseball	O	Delaware
Delaware Soccer Club	Soccer	O,W,E	Delaware, JH Williams, McCarthy
Monsignor Nash	Softball	O	Caz
W. Side Int'l Soccer	Soccer	W	Front, Massachusetts
AAABA	Baseball	O	Delaware
Bflo Legion Post 64	Baseball	O	Delaware
Jr. Bisons CEBA	Baseball	O	Caz, Delaware
S. Buffalo Soccer	Soccer	O	Delaware
PAL	Basketball, baseball, soccer, tennis	W,O	Riverside, Delaware, Caz, Houghton
Ballin' for Breast Cancer	Basketball	O	Delaware
S. District Summer Camp	Basketball	O	Caz
S. Buffalo Football	Football	S	Hillary
Buffalo ravens	Football	E	Glenny
Redskins	Football	W	Waterfront
Cowboys	Football	E	JB Wiley
Buffalo Vets	Football	E	Manhattan
N. Buffalo Jr. Athletics	Football	E	McCarthy
Hurricanes	Football	S	Houghton
West Side Football	Football	W	LaSalle
Stingrays	Football	S	Okell
Blackrock Riverside	Football	W	Riverside
Wolverines	Football	E	Schiller
Buffalo Raiders	Football	E	Emerson

GC Cowboys	Football	E	Trinidad
Lovejoy Lions	Football	E	Bailey Moreland
Steelers	Football	E	Walden/Scaj.
JFK Giants	Football	S	JFK
Redskins	Football	E	Kingsley
Falcons	Football	S,E	Franczyk, Lang Weber
Jets	Football	S,E	Mungavin, Nowak
JFK Flag Football	Flag football	E	McCarthy, Manhattan
Medaille	Softball	Ee	McCarthy
Sacred Heart Academy	Softball	W	Shoshone
Notre Dame	Baseball, softball	S	Conway
Buffalo Soccer Club	Soccer	W	Waterfront
NABA	Baseball	W	LaSalle
S. Buffalo Celtics	Football	S	Tift
Diocese of Bflo CYO	Softball	S	Houghton

Source: City of Buffalo Division of Parks and Recreation

The not-for-profit cohort includes 50 user groups. Two of the largest users, Buffalo Public Schools and PAL, are multi-sport users and therefore utilize a variety of facilities throughout the City districts. Other high-volume users such as Delaware Soccer Club are single-sport, but make high use of multiple facilities, in the case of DSC Olmsted Park facilities (Delaware Park), as well as McCarthy and J.H. Williams. Seasonal neighborhood youth sports programs are significantly represented, and typically utilize facilities located within their own neighborhoods.

A number of private city-based high schools make significant use of City facilities, as they typically do not have facilities of their own for outdoor fall or spring sports.

V. DEMAND ANALYSIS

The demand analysis for the SBBOA recreation needs assessment was intended to evaluate the ability of identified recreational resources within the City of Buffalo to meet current and future market demand.

For purposes of this analysis, the inventory of City-owned recreation facilities was the primary focus, as the identified privately-owned facilities comprise a relatively small and frequently hard-to-access subset of the overall recreation facility inventory within the City of Buffalo geography.

Based on the current City of Buffalo recreation utilization analysis generated in the previous section, the primary sources of “demand” were determined to be a combination of not-for-profit programs, primarily for resident youth populations, and for-profit programs that generally cater to adult rec sport participants.

In addition to City of Buffalo Department of Parks and Recreation anecdotal information that speaks to current and projected demand trends, two key areas of quantifiable information that help to focus on the relationship between population and recreation resources are historical City of Buffalo population characteristics, and recreation industry baselines and standards.

City of Buffalo Population Characteristics

The City of Buffalo Office of Strategic Planning provided to the study an in-house data set of City of Buffalo census data reaching back to 1940. This data was utilized to identify and evaluate a 70-year history of population changes, as well as calculations of population density per square mile and population density by City of Buffalo census tracts. These subsets of population data are exhibited in Table Five.

TABLE FIVE – CITY OF BUFFALO 70-YEAR POPULATION AND DENSITY TRENDS

	1940	1950	1960	1970	1980	1990	2000	2010
Total Pop.	575,901	580,132	532,527	462,655	357,800	328,320	292,648	261,310
Density/Sq. Mi.	13,993	14,096	12,939	11,249	8,695	8,083	7,205	6,472

Source: City of Buffalo Office of Strategic Planning, U.S. Census

Table Five indicates that over the period 1940-2010, the City of Buffalo experienced a population decline of 314,591, or 55%. It is the project's

understanding that the City's recreational asset inventory remained relatively stable during that period, and in fact became more formalized in some instances, and has most recently been added to (i.e. McCarthy Park). This, to serve a City population less than half the size in 2010 than it was 3+ generations previous.

Another look at this data deals with population density. Whereas the population density per square mile in the City was 13,993 in 1940, due to consistently falling population numbers over the following 70-year period, the 2010 population density was calculated to be 6,472 residents per square mile.

Changes to the Traditional and Historic Youth Sports and Adult Recreation Markets

The other side of this particular data assessment considers the change in recreational programming that has taken place over that same period. Recreational sports for the youth market specifically have grown since the 1960s and 1970s; youth football and soccer especially have gained in popularity, and require green field space that heretofore was not required of City parks. Both non-profit and for-profit organizations have stepped in to provide programming options and opportunities in baseball, softball, football, and soccer for the youth market.

The net effect for the City is that while the population has decreased by half since 1940, additions to the overall inventory of popular youth sports, supported by the development of youth sports programs within the City to satisfy the program side of the overall recreational sports program equation, have served to actually increase the pressure on finite City of Buffalo Division of Parks and Recreation resources, some of which have been both in place and relatively unchanged for up to 100 years, to provide space and time for interested user groups based primarily within the City of Buffalo.

In addition to this youth sports program increase, the trend of increased activity in adult recreational sports further complicates the ability of the City to satisfy overall user-program demand. For-profit enterprises have seized the opportunity to provide adult recreation programs in the form of leagues primarily to satisfy not only traditional adult male rec sport demand in the areas of baseball, softball, and basketball, but also the now-institutionalized prevalence of both women's-only

and coed sports and leagues, including relatively new sports such as soccer, flag football, ultimate Frisbee, volleyball, lacrosse, and others.

Recreation Industry Standards

A way of measuring the adequacy of the City of Buffalo recreation asset inventory is to identify recreation industry standards that allow for both indexing and comparison to an identifiable comparable metropolitan area cohort.

Both The Trust for Public Land and the National Recreation and Parks Association (NRPA) proved to be valuable sources of information in the areas of metropolitan area recreation resource databases as well as facility prevalence per unit of population.

A survey of 100 U.S. cities conducted by The Trust for Public Land produced information on the prevalence of ball diamonds, basketball hoops, tennis courts, public golf courses, and ice skating rinks per 10,000 residents. High, low and median calculations were extracted from this 100-city deep database by Paradigm, to show the relative position of Buffalo against other U.S. markets exhibiting high and low prevalence, and against the median for all 100 markets. This comparison is provided in Table Six below.

TABLE SIX – SELECT FACILITIES PER 10,000 RESIDENTS – BASELINES

Facility	High	Low	Median	Buffalo
Ball Diamonds	5.3 (St. Paul)	0.0 (Laredo)	1.5	2.4
Basketball Hoops	10.7 (Madison)	0.0 (Miami)	2.2	6.4
Tennis Courts	6.0 (Norfolk)	0.1 (Boise)	1.7	2.1
Public Golf Courses (1)	1.7 (Honolulu)	0.0 (Gilbert AZ)	0.75	1.5
Ice Skating Rinks (2)	12.2 (Minneapolis)	0.0 (Tucson)	0.0	1.5

Source: The Trust for Public Land

(1) Per 100,000 residents, moderate-to-high density cities only;

(2) Per 100,000 residents, only five cities over 1.5.

Table Six would indicate that the City of Buffalo is above the median with respect to facilities per 10,000 in the areas of ball diamonds, basketball hoops, and tennis courts, three key facility types in the SBBOA needs assessment.

Another analysis to be conducted using this data is the comparing of the City of Buffalo against a cohort of other cities deemed to be comparable to Buffalo based on age, geographic location, and to a lesser extent, population size. This comparison is provided in Table Seven.

TABLE SEVEN – FACILITIES PER 10,000 RESIDENTS – BUFFALO AND COHORT

	Population	Ball Diamonds	Basketball Hoops	Tennis Courts
Columbus (OH)	809,798	1.1	1.9	1.7
Detroit	701,475	3.1	3.0	1.7
Baltimore	621,342	3.3	1.6	1.8
Milwaukee	598,916	0.9	2.3	1.3
Minneapolis	392,880	5.0	1.7	4.6
Cincinnati	390,928	3.6	6.9	4.2
Cleveland	318,172	3.6	5.9	2.8
Pittsburgh	306,211	4.0	3.5	2.8
St. Paul	290,770	5.3	1.3	2.6
Toledo	284,012	n.a.	n.a.	n.a.
Newark	277,727	1.4	1.5	1.6
Buffalo	259,384	2.4	6.4	2.1
Jersey City	254,441	0.4	0.8	0.2

Source: The Trust for Public Land

Table Seven indicates that with respect to the other 12 cities included in the cohort, Buffalo is ranked 8th in ball diamonds per 10,000, 3rd in basketball hoops, and 6th in tennis courts.

The NRPA data takes the position of suggesting what volume of facilities *should* be available to a local population. Access to “suggested development standard” information from the NRPA for the years 1983 and 2013 provide an opportunity to not only see the standards established for 2013, but the relative change by facility by type over the 30-year period in between the years. This comparison is provided in Table Eight.

TABLE EIGHT – NPRA PARK FACILITY STANDARDS

	1983 – NPRA “Suggested Facility Development Standards”	2013 – NPRA “Median Jurisdiction Population Per Facility”
Basketball Court (outdoor)	1 per 5,000	1 per 6,644
Diamond Field (baseball, softball)	1 per 5,000	1 per 3,403
Rectangular Field (football, soccer)	1 per 20,000/1 per 10,000	1 per 4,242
Tennis Court (outdoor)	1 per 2,000	1 per 4,283

Source: “Recreation, Park and Open Space Standards and Guidelines”, 1983 (NRPA); “2014 Parks and Recreation National Database Report” (NRPA)

Table Eight would indicate that the *suggested* requirement for basketball courts per population unit decreased by 33% over the 20-year period, as did the need for tennis courts (114% decrease). Conversely, the suggested requirement for baseball and softball diamonds per population increased by 32% during the period, while rectangular field requirements increased by 471%. These figures coincide in particular with pressure felt by the City of Buffalo parks-rec

department with respect to anecdotal demand for time by both youth and adult leagues at City-run baseball, softball, football, and soccer fields.

It should be noted that the NRPA put out an update in 1995 that focuses on a level of service (LOS) approach to determining park and recreational needs, as opposed to the traditional straight XX/1,000 persons recommendation. This LOS approach attempts to incorporate a more holistic and community-specific evaluation into overall recreational asset and programmatic strategies and development.

Anecdotal Evidence of Facility Need and Opportunity

Interviews were by Paradigm with City of Buffalo Department of Parks and Recreation personnel with respect to the department's assessment of where current pressure points exist in program scheduling and facilities use, and also where it is felt that future pressure will rest and what additional spaces might be necessary to relieve that pressure.

Additionally, Paradigm conducted direct first-person interviews with a representative sampling of current youth and adult program organizers so as to gather their thoughts, concerns, and recommendations regarding current facility availability, constraints holding back the growth of their programs, and ideas for future facility investment and use.

Summary statements based on these interviews are provided as follows:

- City-based non-profit youth programs are currently constrained by a lack of available facilities. Organizations such as the PAL believe that they could provide more opportunity within their core summer sports, if they had greater access to a larger inventory of recreational facilities;
- For-profit adult programs such as M/ilesports and Buffalo Social Club are similarly constrained by a lack of City-based facilities. Their current experience is that potential participant programs migrate to suburban leagues, in some cases, due to a lack of league opportunity at City facilities, and/or because league seasons are shorter in the City due to a lack of facility availability. High growth of coed, kickball, and soccer programs in particular have created opportunity for these adult programs,

but the facility inventory in general in the City is unable to keep pace with that growth;

- Not-for-profit adult leagues such as South Buffalo Softball are similarly constrained by a lack of facilities, and have also been limited by the curtailing of certain opportunities to play which, in the case of South Buffalo Softball, included the elimination of lights at Houghton Park that had historically allowed for softball play past dark and into the middle and late evenings, as well as fall league evening play;
- The local soccer community, in particular, is taking it upon itself to organize and mobilize with respect to advocating investment somewhere in the market in a soccer complex of some size and capacity. The Buffalo Soccer Council currently includes as its members the following organizations: Westside International Soccer Club; FC Buffalo; Soccer Shots; Yemen Soccer; UB Men's Soccer; Buffalo developmental Soccer League; and Blackwatch Premier. Additionally, interviews with other premier programs such as Empire United and New York Premier Soccer indicate a desire on their part to advocate for a centrally-located soccer complex that would allow them to consolidate their outdoor training, outdoor league games, and off-season indoor training for their 200+ and 300+ participants respectively;
- City of Buffalo Division of Parks and Recreation estimates that if the current composition of available facilities in the City remains static, 80% of permitted time at City facilities will be allocated to youth programs within five years, and that that figure will grow to 85% in 10 years. It is estimated that an additional 10+ soccer fields would allow for youth program growth, while at the same time leaving availability for revenue-generating adult programs. Similarly, because many if not most of the City's baseball diamonds are "home" fields for City-based youth baseball programs, young and older adult baseball programs have limited opportunity to schedule time at City facilities. It is estimated that an additional four baseball fields would allow for more adult league play, and would be readily booked in the months of May, June, and July. Lastly, City softball diamonds are largely booked by under-10 baseball programs. The growth of coed, women's, and adult fun league programs has created added

pressure for softball play on the City's softball field inventory. It is estimated by the City that an additional 4-6 softball fields would readily accommodate adult league play and allow for their expansion.

Facility Options and Opportunities – Incremental and Non-COB Recreational Sports Demand

In the course of conducting interviews with City of Buffalo Division of Parks and Recreation youth sports and recreation program representatives, a degree of crossover was identified between programs that typically utilize City recreational assets on a generally seasonal basis (i.e. baseball, softball, soccer, football, other) and other sports-rec programs that operate as aggressive private non-profit or private sports program organizers and operators, with the later in some instances indicating a need for and willingness to pay for “off-season” (i.e. September-October through March-April) time at indoor facilities. This indication aligned with largely anecdotal information circulating within the market regarding the need for additional indoor sports facilities that could accommodate off-season clinics, training, leagues, tournaments, and related activities.

The preliminary indication gathered by Paradigm related to this indoor facility option caused a rigorous interview process to be constructed and executed by the project team, so as to add to largely anecdotal information regarding the need within the market, and perhaps within the City of Buffalo specifically, by speaking directly with key program representatives and user groups already established and active within the Western New York market. Ultimately, this effort included a broad interview process that captured information from a targeted variety of entities including but not limited to the following:

- City-based private high schools;
- City-based colleges;
- City-based charter schools;
- Youth sport membership programs (i.e. house/travel soccer, lacrosse);
- Premier youth sports programs (i.e. high-level premier soccer); and
- Adult membership sports programs (adult soccer and lacrosse leagues).

Specific programs and entities interviewed by the Paradigm team within these categories include but are not limited to the following:

- Blackwatch Premier (youth soccer, premier level);
- Buffalo District Soccer League (adult soccer);
- Buffalo Legacy Project;
- Buffalo Soccer Council;
- Buffalo State College;
- Buffalo/Western New York Junior Soccer League;
- Canisius College;
- Canisius High School;
- Daemen College;
- Delaware Soccer Club
- D'Youville College;
- Empire United Soccer (youth premier-level soccer);
- English Pork Pie Company
- Erie Canal Harbor development Corporation
- Erie Community College;
- FC Buffalo (adult soccer);
- Global Premier Soccer (youth premier-level soccer, NYS chapter);
- Health Science Charter School;
- Medaille College;
- Nichols School;
- Tapestry Charter School;
- University at Buffalo track (includes USATF and NYS high school); and
- West Side Soccer (youth soccer).

Informative themes, issues, and recommendations were identified throughout these interviews that in combination provide a consistent advocacy by potential users for a new indoor turf-centric sports-rec facility within the Western New York market. A condensation of these themes, issues, and recommendations is provided as follows:

- Programs that believe the regional youth-adult sports market is underserved by the current inventory of indoor turf facilities generally believe that a City-based indoor facility would have great utility not only for their own program(s), but for other local-regional programs needing indoor training, league, clinic, and tournament play, access, and programs;

- Programs that have extensive experience participating in competitions across the state support the development and operation of an additional indoor facility in WNY, based on their specific knowledge of facility inventories and facility operations not only in other New York State markets such as Rochester and Syracuse, but also in non-NYS markets in Boston, Ohio, Massachusetts, Connecticut, and elsewhere;
- The location of existing indoor turf facilities in WNY (i.e. Epic, Sahlens) tend to provide consistent travel issues related to concerns and challenges that come with winter driving during the November-February period;
- High-volume users of indoor turf time (i.e. premier youth soccer programs primarily) have a difficult time finding enough indoor time for training during the indoor season. Additionally, they find it problematic to consolidate their training schedules at a single facility or at one facility primarily. They would prefer to have “resident” status at a single facility, which would make the administration of their program in particular more efficient and effective;
- A lack of geographically-proximate indoor turf creates logistical issues for City-based college athletics programs looking for indoor training time for their spring sports programs. Programs do use existing indoor turf facilities for this purpose, but bussing student athletes to at-a-distance locations creates not only extra costs, but use-of-time issues that are inconvenient and that can cause scheduling challenges;
- Programs that are looking to grow their membership are restrained because of priority scheduling at existing indoor facilities that preclude them from gaining scheduling advantages over entrenched (i.e. “preferred”) user programs;
- The evident volume of indoor softball training in particular at Sahlen’s indicates a lack of specific indoor softball training facilities in WNY, which provides evidence of a potential for strong second-tier user demand generated by programs other than youth and adult soccer;

- In some instances, programs are relegated to utilizing hard-court indoor surfaces for practices and training, even at Epic Center, when turf field surface access would be preferred. Program representatives are sometimes forced to change and/or otherwise limit their training regimen on hard surfaces, because spaces tend to be smaller than preferred, are boarded on their perimeter, or are in gymnasiums with bleachers and/or concrete walls on the immediate perimeter.

VI. MARKET ANALYSIS

The purpose of the recreational needs assessment market analysis was to identify and evaluate target market, participant, and user segments for potential new facility utilization, and to also assess the relative merits of targeted markets and users within a City of Buffalo planning and development context.

It is relevant at this point in the overall analysis to restate the key question that is driving the recreational needs assessment, as follows:

“Is the demand for a new facility (or facilities) to be located somewhere in the City limits real, is the facility type able to be preliminarily identified as an indoor-outdoor sports complex of some defined size and purpose and if so, can private sector investment and ownership criteria be identified so as to allow for the advocating by the public sector of such a project?”

Potential Target Markets, Participants, and User Segments

Based on both City of Buffalo Department of Parks and Recreation program permitting experience as well as primary interviews conducted with current key City recreational facility user programs, there is clear evidence that overall demand is not being adequately met by the combination of City-owned and other-owned facilities in the City of Buffalo geography. In the case of the City of Buffalo, there are not enough facilities to satisfy the demand of either youth sports programs that play for free, or the adult pay-to-play programs that follow behind City-based youth programs and the Buffalo Public Schools interscholastic sports programs from a permitting priority standpoint.

City-based private facility owners including colleges and private high schools have scheduling priorities that preclude consistent access and utilization by outside user groups and programs. And Buffalo Public Schools, while having in its own inventory of facilities some of the newest and most contemporary fields within the City limits, have administrative processes in place that tend to limit and in some cases discourage pay-to-play programs from seeking access to and permitting for these high-demand facilities.

From the perspective of a private sector facility investment, development, ownership, and management opportunity, any attractive and realistic investment

will need to exhibit revenue-generating capability that will warrant the initial investment. Therefore, indoor and outdoor spaces that can attract pay-to-play programs need to be identified, quantified, and translated into annualized revenue estimates. Such programs have been determined to exist within the current City of Buffalo recreation facilities user base. In some cases, these programs are consistent and active users that would welcome additional access to facilities. In other cases, these programs are limited and inconsistent users of City facilities, not because the demand is not there, but because they are at the end of the City prioritization list and/or because they desire to access facilities that appear to them to be in the shortest supply (i.e. full-sized soccer fields).

For facilities that are accessible, there is evidence that demand will flow in the direction of new outdoor facilities in particular that are introduced to the market, and that pay-to-play programs in particular will permit for time especially if the facility provides a contemporary setting and play experience. An example of this is the new all-weather Pierce Field at Mulroy Park facility in South Buffalo. Additionally, private facilities that actively and aggressively book time, such as Nichols with its outdoor all-weather field surfaces, can generate six-figure annual income from outside rentals without compromising access by its own interscholastic sports programs.

Therefore, a focus on pay-to-play adult programs, as well as on for-profit premier league youth programs, can justify investment in outdoor facilities and spaces that are of a contemporary nature, and which most likely need to have extended-season capability by being of an all-weather surface design.

Additionally, off-season indoor training and league play can justify investment in an indoor facility. While not experienced by the City of Buffalo or City-based private sector facility owners, an indoor turf field facility in particular is routinely discussed by pay-to-play programs as being necessary within the market, and attractive if located within the City of Buffalo. Such an indoor facility would allow pay-to-play programs that are active at City and non-City facilities during the outdoor season to migrate indoors during the off season, and perhaps at the same location at which they concentrate their outdoor season play and training.

Lastly, with respect to an indoor turf field investment opportunity, City-based colleges and high schools in particular indicated an interest in having access to and utilization of a City-based indoor venue for off-season and pre-season training for football, baseball, softball, soccer, lacrosse, and field hockey.

In summary, target programs within the general “pay-to-play” category can be identified as including but not being limited to the following:

- *Existing outdoor adult leagues* (soccer, softball, baseball, kickball, flag football, volleyball, other) looking for contemporary, accessible, and convenient play opportunity;
- *Potential indoor adult leagues* (soccer, kickball, flag football, volleyball, other) looking to expand their participant base into year-round activity;
- *City-based travel, premier and other high-end soccer programs* (for both outdoor and indoor seasons and training), as well as soccer programs not necessarily resident within the City, but with large participant bases that are geographically proximate to the City;
- *Regional softball and baseball programs* conducting off-season training; and
- *City-based college and private high school sports programs* in need of off-season training facilities (for football, baseball, softball, soccer, lacrosse, and field hockey).

Test of Program Demand Against Measurable NYS Market Experience

The stated demand of local and/or City-based recreational, intercollegiate, and other sports programs for indoor facility access can be framed within and tested against the actual experience of other identifiable metropolitan markets in New York State, in order to better ascertain the credibility of indoor facility development as a preferred option within the City of Buffalo. This can be achieved by evaluating economic-demographic characteristics of comparable NYS markets by ranking NYS markets by county size, and by then comparing the inventory of available indoor turf facility assets to the population density of each market. This comparable county markets assessment is provided below in Table Nine.

Table Nine: NYS County Demographics

Market	Tot. Population (2000 actual)	Tot. Population (2013 est.)	# Indoor Field Sports Facilities
Erie	950,265	919,866	3
Monroe	735,343	749,606	5
Onondaga	458,336	468,387	4
Albany	294,565	306,945	3
Oneida	235,469	233,585	2
Broome	200,536	197,534	3
Ontario	-	109,103	0
Tompkins	96,501	103,617	1
Tioga	51,784	50,243	0
Chenango	51,401	49,503	0

Source: U.S. Census 2000 and 2013, New York State West Youth Soccer Association

This table would indicate that Monroe County has the largest number of indoor facilities in the top 10 NYS county markets.

Additionally, the exhibit represents that a wide range of indoor field sports venues per 100,000 of population exists between markets. This range, represented from high density of venues to low density of venues per county, is summary as follows:

Broome	One venue per 66,000
Albany	One venue per 102,315
Tompkins	One venue per 103,000
Onondaga	One venue per 117,000
Oneida	One venue per 117,000
Monroe	One venue per 150,000
Erie	One venue per 306,622

This facility density summary would indicate that, assuming that program and facility demand is equal among county markets, the Erie County market, at three indoor turf field facilities (Epic Center, Sahlen Sports Park, Sportsplex), is relatively underrepresented by indoor field sports facilities when compared to five lesser-sized NYS county markets that have at least one indoor facility. This supports the general premise that is implicit in the information generated through the study's program representative interviews, that there is significant pressure within the market for greater access to indoor "off season" turf time within the market.

Sports Program Market Characteristics that Apply to and Support Indoor Facility Investment and Operation

A set of key quantifiable information captured through secondary research and program representative interviews serve in the aggregate to support the contention of the market that the regional outdoor recreational, intercollegiate and related sports market is of a size and has budget, membership and operational characteristics that align with assumptions that would integrate with business plan development and financial modeling exercises for such a project. Examples of such information can be articulated as follows:

- Existing local indoor turf field facilities can charge between \$165-\$225 per hour for prime field time, which is a rental fee range that is similar to ranges charged in other NYS markets and by facilities in those markets that follow a private ownership model and which have exhibited operational longevity in their respective markets;
- Similarly outdoor fields in WNY tend to charge in the range of \$125 per hour for rental time, which again is commensurate with rental rates charged by going concern facility operations in other markets;
- Larger premier soccer programs in WNY exhibit a range of annual indoor and outdoor field rental costs of \$140,000-\$180,000 each;
- Larger premier soccer programs in WNY have membership levels of 200-375 annually, with desires to and expectations of enlarging these programs, with field access being a key consideration in their efforts to do so;
- City-based house and premier soccer programs are expanding in order to add play levels to their overall offering, in particular in the areas of girls' travel and girls' premier team play;
- Existing rec sports programs that operate primarily in the summer (May-September) spend low- to mid-five figures in outdoor facility rentals annually, and believe that they could expand their program offering to include indoor sports with the addition within the City of contemporary indoor facility space.

Relative Merits of Target Markets and Users

In the judgment of the study team and within a City of Buffalo planning and economic development context, a privately-developed indoor-outdoor sports complex would appear positioned to contribute in both a broad and specific manner.

In broad terms, the type of sports programs and the profile of program participants envisioned for a proposed indoor-outdoor sports complex speak directly to “quality of life” enhancement for City residents primarily. Such a development project contributes specifically to the marketability of the City of Buffalo as a place to live, work and recreate. A project of this type can also combine with other recent and forthcoming recreation, leisure, and public assembly development projects and business operations – think Larkinville, HarborCenter, inner and outer harbor and similar – in a “whole is greater than the sum of its parts” manner.

In more specific terms, the target users and programs represented by the “pay-to-play” universe represent disposable income, and therefore economic impact. Expansion of existing adult rec sport programs means the likelihood of additional employment and incremental business spending. Incremental business spending generates incremental economic impact through business operations – direct, indirect, induced, and fiscal.

Additionally, a state-of-the-art complex that produces an ongoing stream of user programs and participants in turn will likely produce incremental foot traffic for restaurants, retailers, service stations, and the like. Target audiences and program participants that might otherwise limit their exposure to and time in the City as a result of minimal participation in available City-based recreational programs, or who might not experience the City at all because they or their children currently utilize suburban facilities for league play and/or training, will contribute to an incremental increase in visitations to the City by adults, young adults, and families with children.

On the other side of this point, City of Buffalo residents who currently participate in suburban recreation programs due to a lack of similar program opportunity in the City, will be able to remain in the City to satisfy their recreational needs, and will keep their related social dollar spending in the City as a result.

Lastly, the ultimate design program for an indoor-outdoor sports complex may lend itself to some of the functionality that will allow Visit Buffalo Niagara to increase its business development efforts and sports tourism prospecting success rate, by including outdoor sports field and indoor field house capability that satisfies the facility requirements of local, regional and other bid opportunities in the areas of baseball, softball, soccer, lacrosse, field hockey, rugby (all outdoor), as well as gymnastics, wrestling, indoor track, basketball, cheer, dance, and other (all indoor).

Investment that would allow for sports tourism-related functionality and competitive positioning would depend largely if not solely on the cost-benefit that would be attributable by the owner to the capital investment and operating budget, and specifically the amount of annual projected revenue that would be gained, or lost, by allocating rentable time to potentially low- or non-rent-paying multi-day sports events.

Support for Indoor Turf-Centric Development Opportunity

Based on the key user, overall demand, broad market and competitive facility analyses conducted by the project team in this study, the professional judgment of the project team concludes that an indoor turf-centric development project identifies, above other indoor or outdoor facility types that might be considered, as a high-priority need within the WNY market, and within the City of Buffalo in particular, and importantly as one that should be attractive to private sector developer-owner-operators because of its financial performance viability.

Characteristics of an indicative prototype facility can be identified based on the project analyses conducted in this and previous report sections, can be judged against active comparable market economic, demographic, and existing facility conditions as assessed in the report section that follows, and will be fully articulated as a preliminary layout and construction cost estimation in a later section of this report.

The judgment of the project team specifically indicates the following list of criteria for the prototype facility:

- A City-based location, having relatively high visibility for vehicular traffic, in-place infrastructure, easy ingress and egress for passenger vehicles;
- In an optimal situation, room within the geographic footprint for potential facility expandability in later phases, with any expansion to be based on demonstrated key program need and growth;
- Construction using metal clad (“Butler building”) materials and technology, to maintain a conservative overall construction budget;
- A single-field indoor design as a first phase construction, with a dimension large enough to both support true 11v11 U18 and adult soccer play, and to also be sectionable with curtaining so as to divide into three smaller side-by-side fields;
- A cluster of four outdoor playing surfaces, two all-weather surface and two natural grass surface, to accommodate late-season and early season demand in particular as indicated by local soccer, lacrosse, rugby, and other field sport teams, leagues, and programs, and to create in combination with the indoor facility a true indoor-outdoor complex that supports year-round play and activities;
- A primary programmatic focus on satisfying local/regional team, league, program, and school needs so as to maximize both seasonal utilization and revenue-generating opportunities for the ownership group, with a limited focus on special events other than those that can be conceived of and managed by the facility itself; and
- A private not-for-profit legal/business structure that is capable of maximizing revenue generation while at the same time taking advantage of income and tax-saving opportunities that are available to registered non-profits.

VII. COMPARABLES IDENTIFICATION AND ANALYSIS

ANALYSIS OF EXISTING SPORTS-REC FACILITY INDUSTRY CONDITIONS

An analysis of existing industry conditions on behalf of the proposed indoor turf center project focused on supply-related characteristics of the local-regional facility and events market, as well as on identification of regional and other comparable facility development projects and operations that a new City of Buffalo-based strategic planning, design, and management-operations planning could both learn from and model itself after.

DESIGN AND OPERATIONAL TREND SUMMARY

As is the case with indoor skating venues, contemporary indoor turf field facility design and construction has accelerated within the last decade based primarily on the increasing level of youth soccer participation in the U.S.

Particularly in seasonal regions of the country like the northeastern U.S., soccer programs benefit from the year-round activity that indoor facilities allow, as do other outdoor sports with lesser participation such as lacrosse and field hockey. As a result, facility design programs and specifications have adjusted in order to provide a more satisfactory indoor playing experience for participants, as well as for a more comfortable experience for attending non-participants. In certain cases, some of these improvements have now become the new technical standard and are expected by individual users and programs to be included in a facility's design or renovation process.

These improvements and considerations should be acknowledged and top-of-mind for a proposed City of Buffalo project as it contemplates an indoor turf field investment as a potential component of a potential regional multi-activity sports complex development project.

A summary of contemporary indoor turf field facility design trends is provided in the following key areas:

- Multi-field configuration
 - Retail component integration
 - Energy efficiency
 - Enhancement of user spaces
 - Community component inclusion
 - Enhancement of exterior and interior treatments
 - Enhancement of seating capacity and type of seating
 - Allowance for year-round utilization
 - Cost per square foot (SF) range
 - Break-even opportunity
-
- **Multi-Field Configuration:**

Sizing of new facilities is typically carried out in order to accommodate the current and projected programming needs of existing local-regional user groups and anchor tenants. A consideration in many cases is the inclusion of at least two playing surfaces in a development project. This can be justified, beyond projected tenant utilization, as a means for better accommodating special events (such as field sports leagues, tournaments and clinics) that require access to more than one playing surface. Additionally, assuming that there is alignment with market demand, multiple fields are often a requirement to generate sufficient revenue to assure successful long-term financial performance.

Lastly, some projects adopt either a “wait and see” strategy that allows for building expansion and the increasing in size of an initial single-field configuration, and/or the adding of a second or third field at a later date should user demand warrant;
-
- **Retail Component Integration:**

Typical concessions food is generally offered, as well as vending machine fare. Pro shops that sell athletic gear specific to the facility’s targeted sports are often found, but they typically occupy a modest amount of space and often are combined with the food sales operation so as to minimize staffing for each. Interviews with NYS-based owner-operators has indicated that food service and retail operations are often provided as a courtesy to users, not with an intention of generating incremental revenues;

- **Energy Efficiency:**

Unlike indoor skating venues, indoor field sports facilities have relatively limited utility (electric, gas, water) requirements, due to the need to only warm and cool the air of a typical indoor environment during a typical 6-month operating calendar. This can make the indoor field sports facility, as opposed to an ice rink complex, a more attractive type of facility and operation from a purely operational (i.e. expense line item for utilities) standpoint;

- **Enhancement of User Spaces:**

Maximizing field use is key to enhancing revenue performance in any new indoor facility. That said, support spaces for field sport activities are typically less in demand than they are in indoor skating venues. Locker rooms are helpful but not always necessary, as field sports participants can arrive in their athletic gear. The same applies to referees. Therefore, it is possible to concentrate space allocation on the playing surface specifically, as opposed to on support spaces. The exception is for storage space, which is always in some degree of demand;

- **Enhancement of Interior and Exterior Treatments:**

Typically, facilities are of a “Butler building” design so as to minimize the cost per square foot of construction. However, for facilities that are intended to be “signature” structures for a municipality or on a college campus, enhanced exteriors and interiors might be a necessary construction investment, so that the look and feel of the facility satisfactorily integrates into the overall design and development strategy of its surroundings;

- **Enhancement of Seating Capacity and Type of Seating:**

Organized soccer play does not typically attract the same size crowds as does indoor ice hockey or figure skating. However, in order to accommodate anticipated special events, new facilities having multiple fields can consider having a designated “feature” field that provides a larger volume of seating (sometimes 1,000+ seats) than the typical facility.

Seating capacity must be provided so as to accommodate the greatest volume of anticipated attendees at any regular user group event, and consideration is often given to providing seating in excess of that amount, in order to accommodate on a situational basis special events as well as future anchor tenant programs. In many cases, use by a local college soccer and/or

lacrosse program, or anticipation of serious regional or national tournament play, can be the justification for extra seating;

- **Allowance for Year-Round Utilization:**

Older indoor field sports facilities typically were not designed to be utilized during the traditional outdoor playing season (May-September). That is, they often did not have HVAC systems installed initially that were capable of cooling the facility for summer use.

Today, almost all new turf field facilities are designed to be used on a year-round basis, even if off-season utilization is relatively minimal. This requires investment in and installation of HVAC equipment, the running of which increases energy use and expenses during warm weather months. However, field sports typically migrate outdoors during the May-September period, and limited revenue opportunity typically exists for field sports facilities during the late spring-summer and early fall months.

- **Cost Per Square Foot (SF) Range:**

In today's indoor turf field facility development environment, the construction cost per SF that is associated with contemporary design and utilization has a price point range that is fairly narrow, but which is at the same time more costly than that which was experienced by earlier generations of turf field facilities.

Typical metal facilities are in the \$75-\$125 per SF range for construction only. Facilities on the low end of this range have found ways to economize on materials purchase (by receiving discards and donated materials) and on construction labor (by using volunteer labor). The specific economic benefits created by donated materials and labor are best generated by an ownership group operating under non-profit status (typically 501 I(3)), which allows for tax benefits for donations of materials and time. More expensive facilities tend to include enhanced food service and retail components, as well as higher price points on interior and exterior materials and finishes;

- **Break-Even Opportunity:**

The volume of annual rented field time and hourly rental rates are the most significant variables impacting an indoor field sport facility's ability to generate operating revenues.

In many cases, particularly in smaller and/or isolated markets with low or moderate prime time rental rates, primary user groups (youth soccer, youth lacrosse and field hockey) with small memberships and low public use volumes (i.e. open play), achieving financial break-even on operations can be problematic, and covering typical debt service for a traditional construction loan is often unrealistic. In these instances, public or private operating subsidies are necessary.

Conclusion

In summary, older generations of indoor field sports facility complexes were designed to simply accommodate the most basic recreational and competitive play needs of their primary sports participant audience. User comfort, customer service, marketability, and any needs of non-participating fans, parents, and friends were of little or no consideration in early facility design and operation.

Today, contemporary design at minimum considers the needs of both facility users and the spectating public, as well as the opportunity to enhance the marketability and revenue-generating ability of the facility, and also to accommodate non-field sports, multi-purpose use and year-round utilization.

Contemporary design considerations and options are typically focused on the generation of revenue above and beyond field rentals, the more comfortable and expeditious accommodation of user groups, support personnel, and event attendees, the enhancement and streamlining of facility operations and functionality, and the minimization of common and major operational expenses. However, such designs and accommodations come at a cost of construction that is greater than that which was found in earlier generations of buildings.

Additionally, the seasonal aspect of indoor field sports operations, when combined with unique market characteristics that can impact revenue generation (size of target market, price points on field rentals, incidence and size of traditional field sports user groups), can make the achieving of financial breakeven a goal that not every indoor facility in every U.S. market can attain.

DEVELOPMENT TREND SUMMARY

Earlier generations of indoor field sports facilities were developed in a typically straightforward manner. In many cases during the 1980's and 1990's, indoor field sports were played on a temporary basis on top of temporarily covered municipal ice sheets, or on hardwood gym floors in school and church gymnasiums.

In some instances, municipalities financed, developed, operated, and then subsidized the operation of (primarily) single-field indoor enclosed facilities, with a target user market being the local and regional tax-paying public. Private schools, colleges, and universities also built new indoor facilities in order to accommodate their intercollegiate programs primarily and on-campus user groups secondarily.

Since the early 1980's, and primarily based on the interest in soccer generated by U.S.-based Summer Olympics competition, World Cup Soccer play, and the achievements of the U.S. women's national soccer team, U.S. youth and adult soccer participation growth has stimulated the development of a new generation of indoor field sports venues in the U.S., particularly to accommodate off-season indoor play. In many cases, traditional municipal financing, development, and operating mechanisms are no longer applicable based on a facility owner's need to cost-justify its initial capital, and potentially its ongoing operational, investment.

As a result, a number of non-traditional conditions and characteristics are regularly found attached to current-generation indoor field sport facility development, renovation, and expansion projects. A summary is provided in this section of these conditions and characteristics in the following areas:

- Multi-purpose utilization strategy
 - Public/private partnerships
 - Generation of ancillary economic development as a key strategic goal
 - Generation of commercial foot traffic as a key strategic goal
 - Non-traditional ownership, management, and utilization
 - User-promoted development
-
- **Multi-Purpose Utilization Strategy:**

Traditional indoor field sport facilities were typically designed and operated for single-purpose utilization only.

In today's user climate, research can indicate that a facility investment can better or best serve its targeted service area by being multi-purpose in its intent, design, and operation. Additionally, multi-purpose capability can oftentimes provide the year-round revenue generating capability that a facility needs in order to sustain itself financially.

Multi-purpose utilization of an indoor field sport facility can include the hosting of ticketed events during the indoor season (by covering the turf playing surface) or during the off season, as well as scheduling of a variety of "dry" events such as craft fairs, CPA exams, and consumer shows;

- **Public/Private Partnerships:**

Traditional facilities were typically financed and developed by either a municipality or by an educational institution.

In today's indoor field sports facility industry development and operating environment, most facilities are found to be owned and operated privately. This runs contrary to the typical ownership/operating scenario found with indoor skating venues, and speaks to the more attractive investment opportunity that indoor field sports venues generally represent when compared to ice rink operations;

- **Generation of Ancillary Economic Development as Key Strategic Goal:**

Traditional indoor field sport facilities had a simple mission: to provide a recreational opportunity to the local/regional recreational sports public.

While an indoor field sport's facility's strategic purpose can be multi-dimensional, the concentration of privately-owned indoor field sports facilities causes ancillary economic development to typically be a low priority. Private owner-operators generally are focused on generating revenues for their facilities primarily if not solely, and any ancillary economic development or benefit that results is typically unplanned and unexpected;

- **Generation of Commercial Foot Traffic as a Key Strategic Goal:**

Once again, the concentration of field house operations with private operators makes location of facilities in high or potentially high foot traffic areas a low priority. While retail operations within facilities do need a steady flow of retail consumers, those can typically be generated by the facility's user base for whom the food-beverage and other retail are typically tailored;

- **Non-Traditional Ownership, Management, and Utilization:**

In today's market, facilities tend to have ownership, management, and utilization characteristics that have not been found at traditional municipal indoor field sports venues. With respect to new or recently-built indoor field sports facilities, USA Soccer-connected ownership groups, and even not-for-profit foundations are now in the business of financing, developing, and operating indoor field sports operations.

Private management companies, theoretically providing to facilities operational expertise and access to unique industry resources, are being contracted with on a limited basis to oversee facility operations on behalf of both private and public owners. And non-field sports uses are frequently becoming a greater percentage of the facility's annual event schedule;

- **User-Promoted Facility Development:**

Demand for primetime indoor field use in the U.S. by both youth soccer and, to a lesser extent, youth lacrosse and field hockey associations, has grown dramatically since the late 1980s. As a result, these primary user groups primarily have been strong advocates for the renovation, replacement, and addition of new indoor field sports facilities, particularly at the private ownership and operation level. In some cases, regional youth-adult soccer organizations themselves have become developers and owner-operators, especially with outdoor soccer field complexes, which often serve as a prelude to indoor field sports facility development and operations.

Conclusion

As is the case with indoor skating facilities, the projected financial performance of new indoor field sports facilities is now a key consideration for most development projects of this type. Market evidence indicates that the private development-ownership-management model is most prevalent with new indoor field sports complexes, and the imperative is therefore on optimizing financial performance for the private owner-operator. The exception in indoor field sports facility development is now the traditional municipally-financed, owned, and operated facility.

ANALYSIS OF COMPARABLE AND REGIONAL COMPETITIVE FACILITY OPERATIONS

COMPARABLE INDOOR FIELD SPORTS FACILITIES/MARKETS ANALYSIS

Beyond the broad U.S. indoor field sports facilities market, it is important for the purpose of this City of Buffalo analysis to examine subsets of the facilities universe that can serve as strategic and operational reference points for a potential Buffalo-based indoor turf field sports facility operation.

In order to accomplish this, an evaluation was made by the Paradigm project team of indoor field sports facilities in major NYS markets, as well as in NYS markets deemed to be most comparable in size to that of Erie County, with particular interest in facilities designed to accommodate either, and perhaps a combination of, youth sports programs, interscholastic, and intercollegiate field sports programming.

Key U.S. Census Bureau Data

As a state with one of the country's most active youth soccer program volumes, New York State serves as an appropriate geographic territory to identify applicable markets against which the Erie County market can be measured.

Using actual 2000-2013 U.S. Census data and estimates, all major metropolitan statistical areas (MSAs) in NYS were evaluated according to total population in order to determine correlations between existing NYS market characteristics, and incidence of indoor sports field facilities and operations in those markets.

These markets were then cross-referenced against indoor field sports venue databases, to show the number of indoor field sports facilities *that actively book indoor sports-rec programs* per major NYS MSA. Table Ten provides a comparative summary of this data.

Table Ten: Comparable Markets Analysis – New York State

Market (MSA)	Tot. Population (2000 actual)	Tot. Population (2013 est.)	# Indoor Field Sports Facilities
Buffalo-Niagara – WNY	1,170,111	1,134,115	3
Rochester	1,098,201	1,083,278	5
Albany-Schenectady-Troy	875,583	877,905	3
Syracuse	650,154	662,578	4
Utica-Rome	299,896	297,766	2
Binghamton	252,320	247,777	3
Jamestown	139,750	133,080	0
Glens Falls	124,345	128,774	1
Elmira	91,070	88,506	0

Source: U.S. Census 2000 and 2013, NYS West Youth Soccer Association

- While the NYSWYSA database may not include all available indoor field sport facilities in every market, it does provide a reliable standardized measure for comparing one market against another. As would be expected, and with some exceptions, larger metropolitan areas in New York State exhibit substantially larger inventories of indoor venues than do smaller markets.

OLDER, RECENTLY OPENED, AND PENDING NYS FACILITIES

A second context that was assessed was the more specific classification of inventory of old, new or recently opened, and pending indoor field sports facilities in New York State.

By identifying and understanding the strategic reasoning behind these development projects, it was expected that broad industry and market trends could be identified that would have relevance to the strategic decision-making that would need to be applied against facility development considerations for a new indoor facility in the City of Buffalo.

Using a variety of industry and professional contact resources, an inventory of long-standing and recently built facilities, as well as pending or under construction facilities, have been identified in New York State by the market study.

This inventory is represented in Table Eleven.

Table Eleven: NYS Indoor Field Sport Facilities Inventory

Facility	Location	Legal Entity Type	# Indoor Fields	Year Opened/ Added	Comments
OLDER FACILITIES					
Akron Sports Park	Akron	Private	3	Unknown	Might have been closed – phone and e-mail disconnected
Rochester Sports Garden	Rochester	Private	3	Unknown	Appears to be low-cost complex and provider.
Sportsplex Indoor Soccer Center	Tonawanda	Private	2	1982	Very old building, former indoor tennis center, limited flexibility.
Syracuse Indoor Soccer Center	Syracuse	Private	2	1984	Debt paid off, owner beginning to reinvest in facility.
NEWER FACILITIES					
All Star Sports Arena	Rochester	Private	2	2006	Converted in 2006.
Brighton Sports Zone	Rochester	Private	2+	2006	Converted in 2006.
CNY Family Sports Centre	Baldwinsville	Private	2	Unknown	Rumored by other facilities in market to be for sale.
Cortland	Cortland	Private Non-Profit	2	2004	\$1 million in foundation support for construction.
Epic Center Indoor Soccer	Lancaster	Private	2	1998	Very aggressive operation, multi-sport programming.
Sahlen's Sports Park	Elma	Private	2	1997	Significant corporate/family financial support.
SportsCenter 481	Syracuse	Private	2	Unknown	Fairly traditional operation.
The Field	Ithaca	Private Non-Profit	2	2001	Fields added on to existing indoor skating rink operation
Total Sports Experience	Rochester	Private	3	DNK	Multi-function sports and non-sports capability.
Turin Sports Dome	Fairport	Private	1	DNK	Converted tennis center.
Ultimate Goal	Syracuse	Private	2	DNK	Company's Watertown location closed down 2-3 years ago.
Sports Dome	Endicott	Private	3	2006	Large inflatable dome.
PENDING FACILITIES					
Canandaigua	Canandaigua	Private Non-Profit	TBD	TBD	1-2 field facility planned, in discussion since early '00s.
Greater Binghamton	Conklin	Private Non-Profit	3	2005	Phase Two to include double-sheet ice skating component.

Source: Paradigm Economics interviews and database

- Only two of the state's *existing* facilities, The Community Center (The Rink/The Field) in Ithaca, and the Cortland facility, operate as a private non-profit (501 I(3) entity;
- The two *proposed* new NYS facilities are proposing to construct and operate as private non-profit entities;
- Four facilities are considered to be “older”, and 12 facilities are considered “newer” and are estimated to have come on line since 1996, with five and perhaps six either having been built or converted since 2001.

A summary of significant characteristics of the facilities highlighted above is as follows:

Reality of Economic Breakeven Potential

- Because these facilities are all operating as either private for-profit or private non-profit entities, they have a financial imperative to at least break even on operations and repayment of debt service. There is no public subsidy or underwriting available to these facilities if they suffer a financial shortfall (unlike the operation of most ice rink operations);
- The potential ramifications of private ownership and operation can be felt by user groups. As employees and utilities are the number one and two annual expense line items, these two areas tend to be cut back if a facility experiences difficulty in generating targeted revenues. As a result, customer service and user comfort tends to decrease if and when this occurs. The current Vestal facility in particular seems to have these characteristics, and some facilities in the Syracuse area are rumored to have lean and inexperienced staffs and what seems to be lower indoor temperatures (as a result of lowered utility utilization) as well;
- Elimination or minimization of debt service, when possible, can relieve financial pressure from facilities. The Ithaca facility in particular exemplifies how creative construction and development strategies can lower building debt service – discarded light fixtures from Home Depot were utilized to light the indoor skating facility, conveyor belt remnants were used to piece together floor surface covers at the rink, and donated materials were utilized to build bleacher seating using 100% volunteer labor.

Reality of Multi-Purpose Utilization

- Even when planned for in advance, true multi-purpose utilization of an indoor field sports facility is difficult to attain due to the lack of attractiveness of indoor facilities during the spring-summer-fall months for either sports or non-sports programming;
- In actuality, indoor facilities tend to fall back on multi-purpose utilization as a means for making up for an inability to schedule rental times during the off-season at a volume great enough to meet operating projections. Under this scenario, facilities are often forced to retrofit themselves and reorient their operations and marketing staffs in a multi-purpose manner that was originally unintended and unprepared for during the facility's planning, grand opening, and stabilization phases.

Benefits of Multi-Function Program of Requirements

- Municipal facilities in particular are tending to bundle a variety of use opportunities into their facility planning and design, in order to extend the overall economic impact that is generated by the initial facility project. However, this tendency is not typically evidenced in private facility development projects, as private sector developer/owner/operator groups tend to have limited resources to invest, a small margin for financial error, and therefore a specific focus on the intended indoor sports facility and its specific operation only;

New Facilities Have Active and Stable Programs as Anchor Tenants

- Most facilities from the above list were committed to and developed knowing that they had existing youth soccer, youth lacrosse, and in some cases high school and college sports programs that would be either league participants or contract users upon opening. This provided these facilities with guaranteed annual rental revenues from the outset;

Nature of Legal Entity and Accounting Practices Can Make Assessment of Profit-Loss Difficult

- In some cases, facility operating detail for for-profit operations can be either unavailable, and/or perhaps difficult to decipher. On the other hand, non-profit entity statements are by law readily accessible, but allow for accounting practices that can make true determination of operational characteristics difficult as well;

Conclusion

Recent indoor field sports facility development in New York State has occurred in and around major markets (Buffalo, Rochester, Syracuse) as well as in some smaller markets (Ithaca). In all but two cases, new facilities were built by private for-profit developers/operators. Based on assessment of available operating information from some of these facilities, it is evident that achieving economic break-even as a for-profit entity requires that per session team fees for leagues be in the range of \$550-\$650 (kickball) and \$785-\$825 and up to \$1,200 per team for soccer and lacrosse, with per hour field rental rates of \$100 or \$175 to \$225 per hour being the norm throughout the state.

Additionally, indoor field sports facilities are in reality not actually readily adaptable for multi-purpose utilization. However, some new development projects are expecting to have success in bring complementary recreational functions (fitness centers, public spaces, meeting areas) together under one roof.

ANALYSIS OF MONROE COUNTY COMPETITIVE FACILITY OPERATIONS

Within New York State, Monroe County provides the example of the greatest density of indoor turf facilities per 100,000 of population in markets having more than one indoor facility. Paradigm conducted a comprehensive analysis of indoor turf, indoor multi-sport, and indoor track facilities within the Monroe County geography, so as to understand the most aggressive New York State competitive context within which any new City of Buffalo-based indoor-outdoor turf field facility would compete for targeted users, programs, and revenues.

Paradigm conducted a broad facilities identification exercise that captured both indoor and outdoor facilities and locations identified as being in both the City of Rochester and Monroe County market proper, and attempted to identify key design, layout, management, ownership, marketing, pricing, and user group characteristics of each business operation.

For comparative purposes, indoor turf facility summary descriptions have been in Monroe County have been captured in summary form in Table Twelve so that key facility characteristics by category can be assessed against each other.

Table Twelve: Regional Indoor Specialty Use and Multi-Sport/Turf Field Facility Inventory

Facility	Ownership	Sports Supported	Building Specs	Programming	Marketing	Other	Users
All Star Sports Arena 557 East Ridge Road Rochester	Lonestar Recreation (private)	Travel Soccer, lacrosse, baseball, football, kickball	40x80 yd boardless field; 40x60 yd boardless field; 30,000 total SF	Multi-sports afterschool programs; lessons; youth and adult leagues; private rentals	"tournaments, camps, preseason practices, special events, corporate outings, birthday parties"	Has main lobby area, game area, snack bar; Was converted from a boarded field/rink in 2006; Empire Sports Solutions does naming/sponsorship sales;	Empire United Soccer; Pittsford Mustangs Soccer Club; Fairport Soccer Club; Victor Farmington United Soccer; Chili Soccer Association; Penfield Rangers; Penfield Strikers; Rush-Henrietta Soccer; Honeoye Falls Blaze Soccer Club
Brighton Sports Zone 3195 Brighton Henrietta Road Rochester	Lonestar Recreation (private)	Travel soccer, lacrosse, baseball, football, kickball	40x100 yd boardless 40x100 yd boardless 20x30 yd walled	Boys and girls leagues ages 11-16, and scholastic; \$100 cost for 2-hr birthday party for 10	"Rochester's premier indoor sports facility"	Converted from a skate park to a turf field facility in 2006	
Rochester Sports Garden 1460 E. Henrietta Rd. Rochester	Private	Indoor soccer, "soccer tots", basketball, batting cages, table tennis	75x175 ft boardless 75x125 ft boardless 3 basketball courts 2 batting cages Fields are field turf; Have electronic scoreboards;	Batting clinics, adult basketball leagues, soccer leagues and tournaments, rentals, men's annual holiday tournament	"Rochester's premier indoor sports facility"	\$25/hr rate for basketball court; \$45/hr rate for 2 batting cages (youth league rate); Hours = 7 days per week, M-F 12n-midnight, open 10a weekends; Installing new turf July 2011; Have relationship with	

						West Ham United Int'l Academy, and Super 9 Soccer	
Total Sport Experience	Private	Soccer, lacrosse, basketball, baseball, softball, indoor football	50x80 yd boardless 28x62 yd boarded 25x25 yd warmup 40x65 ft basketball All Astroplay turf	Leagues, camps, clinics, academies, tournaments	"Total Sports Experience is the ultimate sports center!"	\$225/hr. full boarded field, \$145/hr half field; \$125/hr boarded field \$60/hr training area \$40/hr basketball court	
Turin Sports Dome 260 Hogan Road Fairport	Lonestar Recreation (private)	Travel soccer, lacrosse, baseball, football	40x80 yd boardless Field is Supergrass Outdoor facilities include 2 pools, tennis courts, 40x80 yd field, snack bar, game room, basketball court, locker rooms, pro shop	Kickball leagues (@ \$700/team) – 8-wk session, runs Nov.- April		"Adult beverages allowed" at kickball leagues	

Source: Paradigm Economics database and site visits

Table Twelve indicates that within the regional Rochester/Monroe County market, there exist five active indoor rec sports facilities having all-weather turf surfaces either exclusively or in combination with other hard surface areas. These facilities are all privately owned and operated. Three of the facilities – All Star Sports Arena, Brighton Sports Dome, and Turin Sports Dome – are owned by a single owner/operator, Lonestar Recreation. As privately owned and operated facilities, the sole purpose for their existence is to generate revenue. Therefore, their legal structures, business models, and marketing, booking, and scheduling priorities are assumed to focus on this revenue-first operating objective.

The dimensions of the indoor turf surfaces represented by these five facilities are significant to the City of Buffalo facility analysis. These facilities' largest surfaces are of the following dimensions: 100x40 yards, 80x50 yards; and 80x40 yards. These fields can accommodate play up to U12 youth soccer specifications (100-105 yard length min/max, 40-55 yard width min/max), and almost accommodate U13 play (100-110 yard length min/max, 50-60 yard width min/max). Adult play requirements specify 110-120 yard length min/max, and 65-80 yard width min/max.

These five facilities typically include some combination of ancillary and support spaces that includes locker rooms, game rooms, concessions areas, lounge areas, and retail components.

In some cases, it is estimated that the hours of weekly operation for these business operations – that is, how many hours of rental time are available to outside programs and individual users - can reach 90+.

In addition to the five identified indoor turf surface facilities, the regional market has a baseball-specific privately owned indoor operation (Valle Sports Indoor Baseball) and one privately owned volleyball-specific indoor facility (Hotshots Volleyball).

VIII. LOCATION ANALYSIS

Based on the determination of a potential new facility type that was identified in this study's market supply and demand analysis, a preliminary location analysis was conducted that considered potential geographic footprints within the City of Buffalo that might serve as host sites for the indoor-outdoor turf field facility. This location analysis included three main components as follows:

- Development of criteria for optimal project location;
- Creation of a comparative analysis of primary and secondary locations based on evaluation criteria; and
- Evaluation of sites within the South Buffalo BOA against the location criteria.

Development of Criteria for Optimal Project Location

The first consideration for determining the criteria for optimal facility project location is the size of the geographic footprint that needs to be available in order to site indoor and outdoor facilities, parking, and adequate outdoor circulation areas. In this effort, square footage calculations were conducted by the Paradigm project team so as to determine the geographic footprint size that would accommodate the indoor/outdoor sports complex development project that is being preliminarily considered.

The geographic footprint range that was identified (in round figures) is a minimum of 13 acres for a “base” project (indoor turf facility, outdoor soccer fields, parking), and up to a maximum of 37 acres for a phased project that considers additional revenue-generating spaces based on exhibited demand and cost-benefit that could ultimately include a second indoor turf field facility (with additional parking), an indoor baseball/softball training center (with additional parking), and an indoor field house/events center with seating capacity of 5,000+, a rubberized hard floor surface for indoor track and other sports, with additional parking for 1,818 based on a standard 2.75 live event patrons-per-vehicle calculation. Obviously, the need for substantial parking for a potential indoor field house component adds significantly to the maximum footprint scenario (approximately 13.5 acres, or over 33% of the total).

Additionally, using observational information gathered from similar facility types in Western New York and Central New York primarily, a location characteristics wish list was identified that included both primary and secondary criteria as follows:

- Primary criteria:

- Ability to mass acreage that has been determined to be necessary for both initial development and potential expansion;
 - Immediate access to primary vehicular thoroughfares (i.e. ready access from all directions, and major thoroughfares);
 - Effective traffic controls re vehicular ingress/egress;
 - High visibility by vehicular traffic (neighborhood, local, elevated, other);
 - Geographic proximity to existing/planned complementary business operations (i.e. especially retail, entertainment, gas and food service, recreational, other hospitality);
 - Ability to accommodate high and/or surging vehicle counts without negative impacts on neighborhood;
 - Ability to accommodate relatively high noise (and perhaps field lighting after sundown) levels without negative impacts on neighborhood;
 - Ability to secure perimeter of property;
- Secondary criteria:
 - Proximity to shareable public parking;
 - Ability to install outdoor field lights without negative neighborhood impacts;
 - Proximity to additional, safe walkable street and/or other public parking.

Using these primary and secondary criteria as a guideline, an exercise need to be conducted that provided a determination as to how and where this scenario fit within the South Buffalo BOA, and whether there were one or more location alternatives within the BOA that could be considered for development. Additionally, alternatives outside of the BOA were determined to be of interest as well, so that location characteristics for an array of potential location options within and without the BOA could be compared, as information on and comparison of a menu of preliminarily-identified locations would be of primary interest to potential private sector developer candidates.

Comparative Analysis of Locations

With assistance from the BUDC and the City of Buffalo, an inventory of potential host locations for the new facility project was identified that included both South Buffalo BOA and other City of Buffalo locations. This set of potential sites was selected based solely on a combination of size and availability (i.e. vacant land). Owners of these locations were not contacted and have not indicated that these sites would be available for this type of development and use. The intent of determining this initial set of locations is to indicate that there are potential sites within the City limits that meet the preliminary study criteria.

A total of 11 locations were identified for evaluation by the Paradigm team. This set of location options happened to include seven (7) geographic footprints that were located in one of the four current Brownfield Opportunity Areas within the City of Buffalo. This location set and the BOA within which each location resides is provided as follows:

12. 90 Hopkins Street – South Buffalo BOA;
13. Outer Harbor – Buffalo Harbor BOA;
14. Elk Street – Buffalo River BOA;
15. Emerson Young Park – Buffalo Harbor BOA;
16. Tee-to-Green property – Tonawanda Corridor BOA;
17. Black Rock Yard – Tonawanda Corridor BOA;
18. 1070 Seneca Street;
19. Kensington Heights;
20. Buffalo Forge;
21. Village Farms/Hydroponics/English Pork Pie Company; and
22. American Axle

A more explicit description of basic location characteristics is provided in Table Thirteen below.

Table Thirteen: Target Location Descriptions

	Street Address	Ownership	Size
1. 90 Hopkins Street	90 Hopkins and 40 Hopkins	City, LKQ	17 acres
2. Outer Harbor	Buffalo Outer Harbor	Empire State Development	120 acres
3. Elk Street	85 Lee Street, 98 Maurice, 42 Elk (Buffalo Color), and 503 Elk Street (ExxonMobil)	Buffalo Color, ExxonMobil	15-49 acres
4. Emerson Young Park	Including 43 Carolina	City	15+ acres
5. Tee-to-Green	189/191/205 Tonawanda Street, and 69 Dearborn	Golf & Recreational/Ambassador Bridge	32+ acres
6. Black Rock Yard	300 Hertel	CSX	28+ acres
7. 1070 Seneca Street	Same	Private	21.5 acres (potential for add'l 6)
8. Kensington Heights	1827 Fillmore	BMHA	71 acres
9. Buffalo Forge	490 Broadway	Buffalo Forge/Howden Fan	8 acres, plus 4 add'l
10. Village Farms/EPPC	1176/1216 South Park Ave.	EPPC, city-sponsored econ dev	33 total acres

11 American Axle	1001 East Delevan Avenue		5-8 acres total
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Source: BUDC

In order to best evaluate the 11 identified City of Buffalo location options, the Paradigm team conducted first-person site evaluations of all the target locations, and supplemented those evaluations with aerial scans using Google Earth. Particular attention was paid to assessing the locations against the primary and secondary criteria that were identified as being elemental to optimal facility location and operation. The following maps and narrative summaries provide a more detailed analysis for each location that allow for a preliminary comparative analysis and prioritization of these sites.

Hopkins

90 Hopkins St. (COB owned) (9 acres)
40 Hopkins St. (LRQ) (8 acres)
South Buffalo BOA

Access

Skyway
Hopkins St.
S. Park Ave.
Ridge Rd.
Tift St.

Context

Schools:

South Buffalo Charter School

Retail & Entertainment:

Outer Harbor

Parks & Recreation:

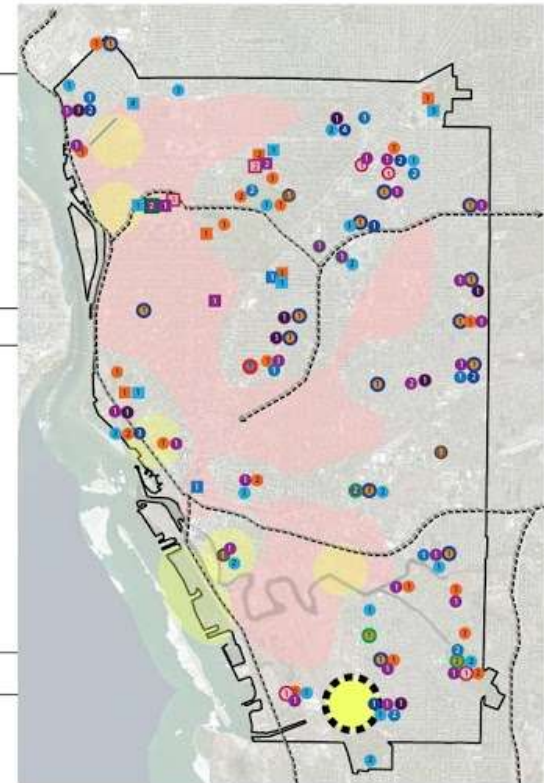
Durant park (1 Prac. Soccer, 1 BBall)

Okell park (1 Football, 2 Hardball, 1 Softball, 1 L.L., 1 Tball, 1BBall)

Tift / Hartmann Field (1 Football, 1 Soccer, 1 L.L.)

South park (2 Softball)

Botanical Gardens



Outer Harbor

ESD property
Buffalo Harbor BOA
120 acres

Access

Skyway 190 Furhmann Blvd. Ohio St. Michigan S. Park Ave. Boat harbor	Bus route: 74 Outer Harbor/ Tift Bike Trail
--	--

Context

Schools:

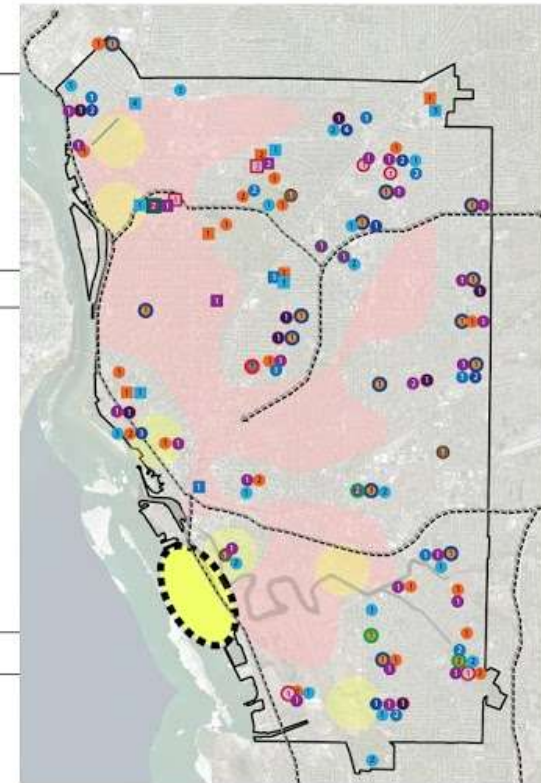
Southside Elementary School

Retail & Entertainment:

Silo City
Downtown
Casino

Parks & Recreation:

First Niagara Center
Coca Cola Field
Tift / Hartmann (1 Football, 1 Soccer, 1 L.L.)
Conway park (1 Football, 2 Softball)
Times Beach & Wilkenson Point



Elk St.

Buffalo Color (South Buffalo Development Co., 85 Lee, 98 Maurice, 42 Elk)
ExxonMobil- 503 Elk
Buffalo River BOA
15-49 acres

Access

190
S. Park Ave.
Bailey Ave.
Elk St.
Babcock St.
Seneca St.
Clinton St.
Filmore

Context

Schools:

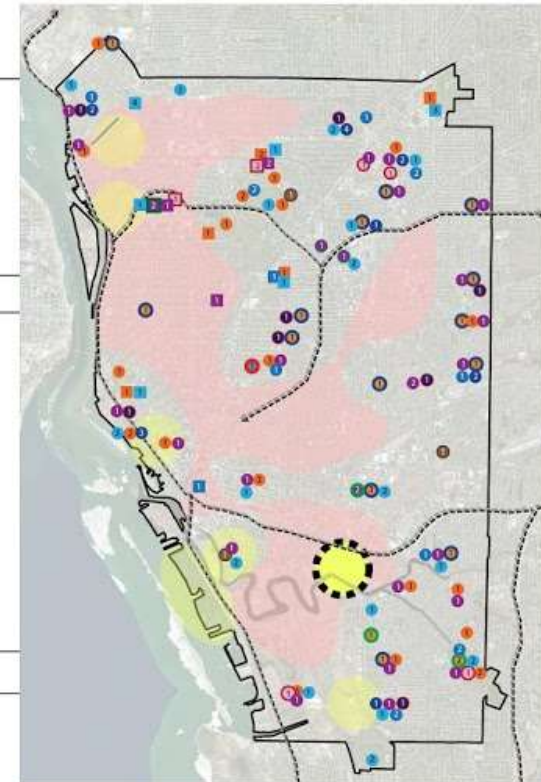
Southside Elementary School

Retail & Entertainment:

Larkinville

Parks & Recreation:

Houghton park (1 Football, 1 Soccer, 1 Softball, 3 BBall, 4 Tennis)
Franczyk park (3 Prac. Soccer, 2 Softball, 1 BBall, 2 Half-BBall)
Boone park (1 Softaball, 1 BBall)
Tift / Hartmann (1 Football, 1 Soccer, 1 L.L.)
Southside Elementary School Field (1 Football/ Soccer)



Tee-to-Green

189, 191, 205 Tonawanda St. (25 acres)
69 Dearborn (7 acres)
Tonawanda Corridor BOA
1 owner

Access

190
198
Tonawanda St.
Amherst St.
Niagara St.
Forest Ave.
Grant St.

Bus Routes: 5, 32, 40
Scajaquada Bike Trail

Context

Schools:

Buffalo State College
McKinley H.S.
Math & Science Prep School

Parks & Recreation:

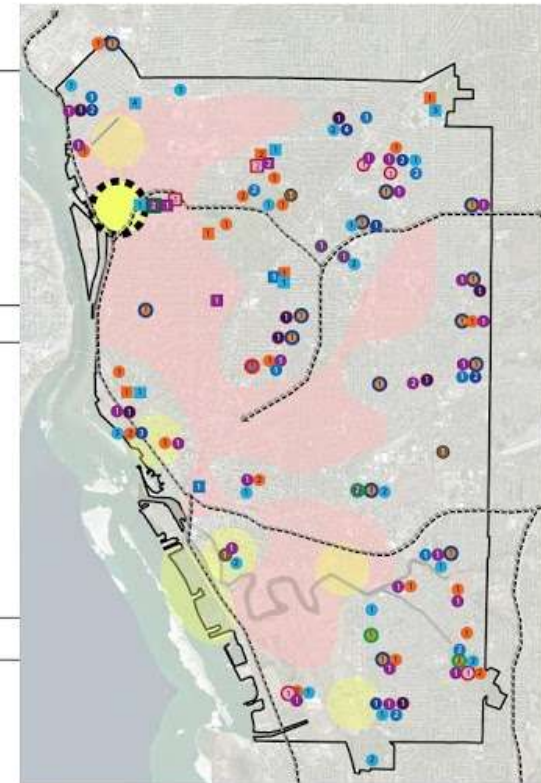
Squaw Island

Retail & Entertainment:

Wegmans
Regal Movie Theatre
Elmwood Ave.

Buffalo State Fields (1 Softball, 1 Football, 1 Prac.)

Delaware park (1 football, 5 soccer, 2 hardball, 1 soft-
ball, 4 BBall, 17 tennis)



Black Rock Yard

300 Hertel Ave.
Tonawanda Corridor BOA
28.6 acres
1 owner

Access

Hertel Ave.
190
198
Niagara St.
Amherst St.

Tonawanda St.
Bus Routes: 5, 23

Context

Schools:

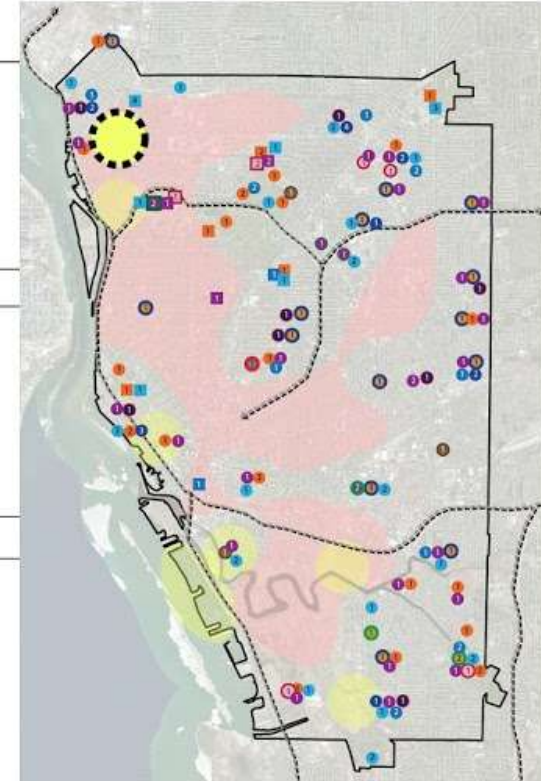
McKinley H.S.
Riverside H.S.
Math & Science Prep School
Buffalo State College

Parks & Recreation:

Private Softball fields (4)
Riverside H.S. Field (1 Football/Soccer)
Buffalo State Fields (1 Softball, 1 Football, 2 Prac.)
Delaware park (1 football, 5 soccer, 2 hardball, 1 softball, 4 BBall, 17 tennis)
Riverside park (1 Football, 1 hardball, 1 softball, 2 L.L., 1 T-ball, 2 BBall, 2 Tennis)

Retail & Entertainment:

Wegmans
Regal Movie Theatre
Elmwood Ave.
Hertel Ave.



Waterfront

43 Carolina
Buffalo Harbor BOA
15+ acres

Access

190	Peace Bridge
33	Virginia St.
Skyway	Subway
Delaware Ave.	Bus Routes: 1, 2, 4
Niagara St.	Close to Riverwalk Bike Trail
Elmwood Ave.	
Division St.	

Context

Schools:

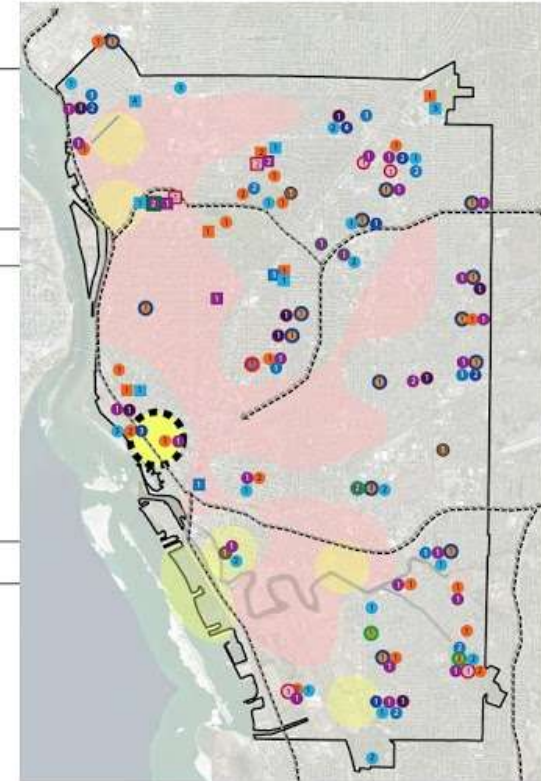
Hutch Tech.
Waterfront School
ECC
D'Youville

Parks & Recreation:

Harbor Center
Erie Basin Marina
Naval park
Coca Cola field
Times Beach & Wilkenson Point
Front park (1 soccer)
JFK park (1 football, 2 soccer, 1 softball, 3 BBall, 4 tennis)
Waterfront park (1 football, 2 soccer, 1 softball backstop)
LaSalle park (1 football, 2 soccer, 3 softball, 3 L.L., 1 T-ball)

Retail & Entertainment:

Downtown
Dipson Market Arcade
Theatre District
Chippewa
Kleinhans



1070 Seneca St.

90 Hopkins St. (COB owned) (9 acres)
40 Hopkins St. (LRQ) (8 acres)
21.5 acres
[City Engineering facilities at 1120 Seneca, potential 6 acres]

Access

190
Seneca St.
Clinton St.
Smith St.
Bailey Ave.

Bus routes: 6, 15, 103

Context

Schools:

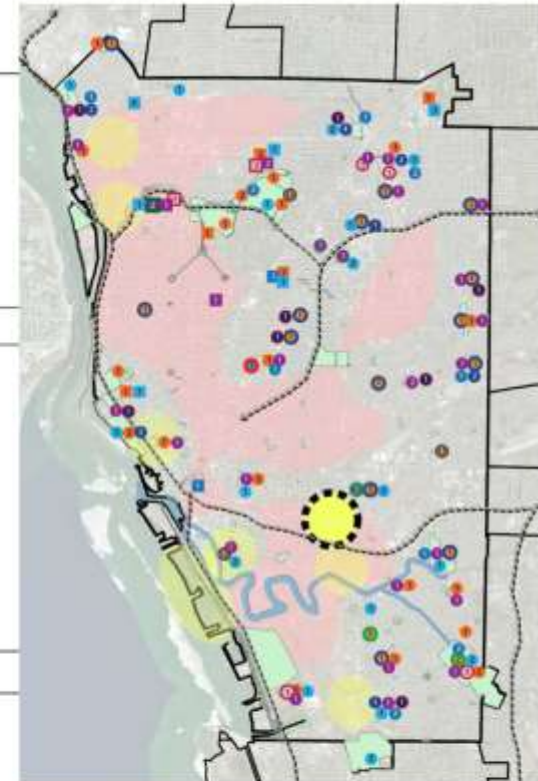
PS 26
Bilingual Center

Retail & Entertainment:

Babcock Boys and Girls Club
Larkinville

Parks & Recreation:

Red Jacket River Front Park
Franczyk Park (1 Football prac., 2 Soccer, 1 Softball, 3 BBall, 4 Tennis)



Kensington Heights

1827 Fillmore Ave.
Owned by BMHA
17 acres
Unused ECMC parking lot (1825 Fillmore Ave.) 4.5 acres

Access

33 Bus routes: 6, 23, 102, 111
Fillmore Ave.
Delevan Ave.
Humboldt Pkwy.

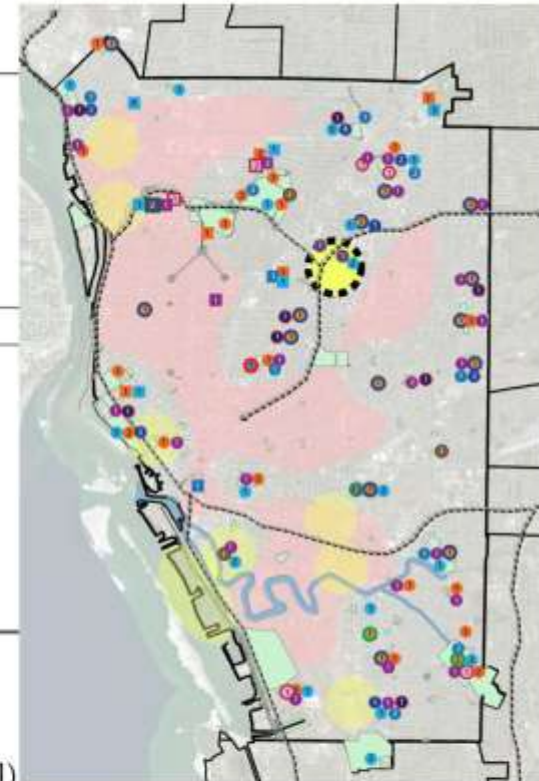
Context

Schools:

Canisius College
St. Marys School for the Deaf
Dr. Lynda T Wright School
PS 84
Seneca HS
Burgard Vocational HS
UB School of Medicine

Parks & Recreation:

Trinidad Park (1 short Football, 2 BBall)
Glenny Park (1 Football, 2 Softball, 2 BBall)
Dewey Park (1 Soccer prac., 1 Softball, 1 L.L., 3 BBall)



Buffalo Forge

490 Broadway
Adjacent parking at 498 Broadway and 213, 187 and 233 Mortimer
8 acres (plus additional 4 acres with adjacent parking)
Single owner (Buffalo Forge/Howden Fan)

Access

33
Broadway
Jefferson Ave.
Sycamore St.
Genesee St.
William St.

Bus routes: 4, 6, 18, 19

Context

Schools:

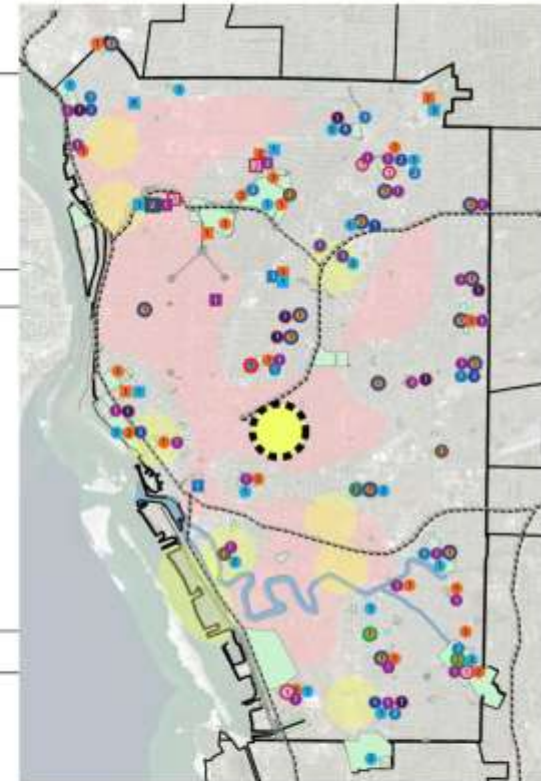
PS 41
PS 12
Bryant Stratton College

Parks & Recreation:

Willert Park (2 BBall)
JFK Park (1 Football, 2 Soccer, 1 Softball, 3 BBall, 4 Tennis)

Retail & Entertainment:

Buffalo & Erie Public Library
Downtown



Village Farms/Hydroponics/Pork Pie

1176 S. Park Ave. (Owned by city-sponsored development corp.)
1216 S. Park Ave.
33 acres

Access

South Park Ave.
Tift St.
190
Bailey Ave.

Bus routes: 14, 16, 23, 101, 111

Context

Schools:

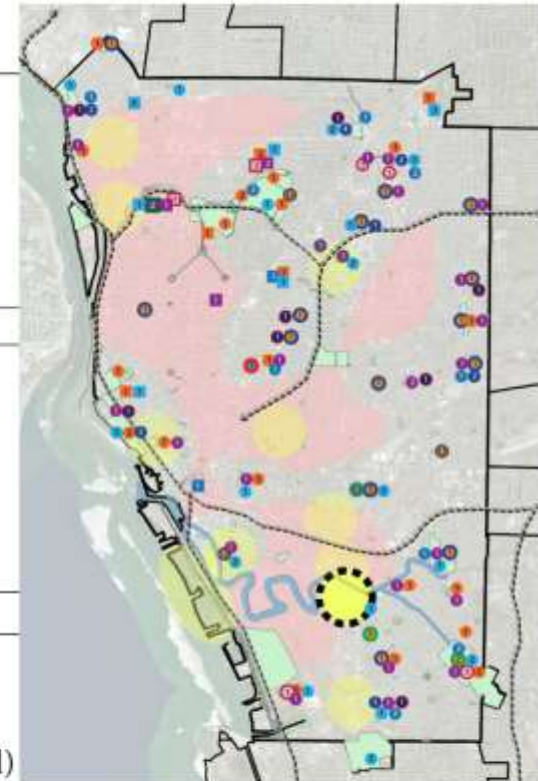
Bilingual Center

Retail & Entertainment:

Outer Harbor
Tift Nature Preserve
Larkinville

Parks & Recreation:

Boone park (1 Softball, 1 BBall)
Durant park (1 small Soccer, 1 BBall)
Red Jacket River Front Park



American Axle

1001 E. Delevan Ave.
5-8 acres

Access

Bailey Ave. Bus routes: 19, 26, 102
33
E. Delevan Ave.
E. Ferry St.
Genesee St.

Context

Schools:

PS 23
Seneca HS
East HS
PS 84
Dr. Lynda T Wright School

Parks & Recreation:

MLK Jr. Park (2 BBall, 4 Tennis)
Walden Park (1 Football, 1 Soccer prac., 1 Hardball, 2 L.L.)
Dewey Park (1 Soccer prac., 1 Softball, 1 L.L., 4 BBall)
Schiller Park (1 Football, 1 Soccer prac., 1 B-Ball)

Retail & Entertainment:

Bailey Ave.

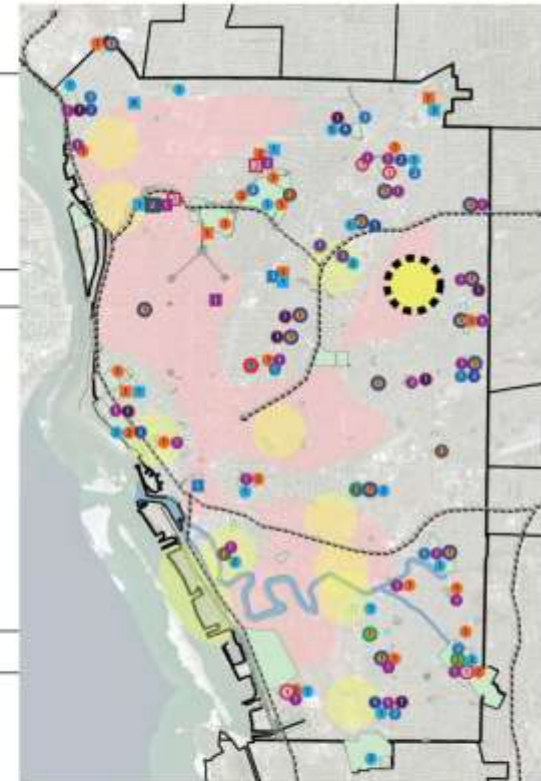


Table Fourteen is completed using high-medium-low designations so as to allow for a standardized comparison of the 11 individual locations.

Table Fourteen: Target Location Comparative Analysis

	Primary Criteria								Secondary Criteria		
	Massable Acreage Available	Major Street Access	Existing Traffic Controls	Vehicular Traffic Visibility	Proximity to Complementary Development	High-Volume Vehicle Capability	High Noise Level Ability	Ability to Secure Property Perimeter	Proximity to Shareable Public Property	Ability to Install Outdoor Lights	Proximity to Safe/Walkable Parking
1. 90 Hopkins Street	Med	High	Med	Low	Med	High	High	High	Low	High	Med
2. Outer Harbor	High	High	High	High	High	High	High	Med	Med	High	Med
3. Elk Street	High	High	High	Med	High	High	High	High	Low	High	Low
4. Emerson Young Park	Med	High	High	High	Low	High	Low	Med	High	Low	High
5. Tee-to-Green	High	High	High	Med	Low	High	High	High	Low	High	Low
6. Black Rock Yard	High	High	High	Low	Low	High	High	High	Low	High	Low
7. 1070 Seneca Street	High	High	High	Med	Low	High	High	High	Low	High	Low
8. Kensington Heights	High	High	High	High	Med	High	High	High	High	High	High
9. Buffalo Forge	Low	High	High	Med	Low	High	Med	Med	Med	Med	Low
10. Village Farms	High	High	High	Med	Med	High	High	Med	Med	High	Med
11. American Axle	Low	Med	High	Med	Low	Med	Med	Med	Low	Low	Low

Source: Paradigm Economics

Table Fourteen would indicate that with respect to the key primary location criteria of massing ability of necessary acreage, seven of the 11 target locations (Outer Harbor, Elk Street, Tee-to-Green, Black Rock Yard, 1070 Seneca Street, Kensington Heights, and Village Farms) have enough of a footprint so as to allow for both initial facility development, as well as expandability of the indoor-outdoor complex should marketability and operating characteristics of a new facility indicate that business operation expansion is appropriate.

IX. CONSTRUCTION COST ESTIMATION

Based on the demand, market, and comparables findings articulated in earlier sections of this study, the Paradigm study group endeavored to generate a set of preliminary construction cost estimates based on the indoor-outdoor turf field complex facility type that was elevated to priority status within the new facility type option evaluation.

In this effort, Spicer Group, general construction and construction management specialists, was given a set of facility parameters that represented a **base case** construction project for a new indoor-outdoor turf field complex. As a *base case* project, the parameters established and provided to Spicer Group address a conservative construction scenario, and one that allows for either a phased or some other form of future expansion to either the indoor and/or outdoor facility component based on demonstrated and validated user group demand and revenue-generating capability.

Base Case Facility Parameters

Based on predominant user group needs, recommendations, and requirements that were generated through the market supply and demand sections interview process, a set of preliminary base case facility parameters were developed that reflected the indoor, outdoor, and support space construction specifications that would support a conservative construction scenario within the indoor-outdoor turf field facility type. These parameters were transferred to Spicer Group for construction cost estimating purposes, and are articulated as follows:

- One (1) 330'x210' indoor turf field surface;
- Two (2) 180'x300' outdoor field surfaces;
- Two (2) 240'x360' outdoor field surfaces;
- Paved parking for 200 vehicles (@325 SF/space);
- Interior support space that includes retail, administration, food service, lavatories, and storage;
- Adequate interior circulation space;
- Basic Butler building-type metal clad structure and materials;
- HVAC system that allows for year-round utilization of indoor spaces;
- 50' ceiling height over indoor playing surface;
- Security fencing around the footprint perimeter.

Construction Cost Methodology and Calculations

Spicer Group developed their facility cost estimates using separate CSI division designations. A 15% contingency cost was included in the overall cost at this preliminary pricing stage; this contingency number would be reduced as more accurate numbers became available through an actual facility design process.

The Spicer Group estimates also include some facility equipment (i.e. rolling grill for concessions, goal frames and nets) as well as some safety protection (pole padding, spectator netting), all of which would be typically included in an inventory of FF&E (furniture, fixtures, and equipment), which is not included in this estimate.

A cost of \$26.00 per SF was utilized for the building structure, and bathrooms, HVAC, and electrical work and materials are priced so as to meet local building codes.

A complete preliminary construction cost estimation is provided below as Table Fifteen.

Table Fifteen: Preliminary Construction Cost Estimation

		Subcontract	Material	Labor	Equipment	Total
	General Conditions @5%	476,303				476,303
	Architectural Design	90,000				90,000
	Engineering & SWPP	60,000				60,000
	Infrastructure	67,500				67,500
	Site work incl. 2 small grass fields	436,500				436,500
	Fencing (4,120 LF @6' Chain Link + 2-24' Gates)	39,140				39,140
	Pavement and Walks	253,750				253,750
	AstroPlay Surface for 3 Fields	2,042,400				2,042,400
	Concrete Reinforcing	664,766				664,766
	Masonry Work	33,958				33,958
	Millwork	8,750				8,750
	Interior Plywood Liner	64,350				64,350
	Door Frames & Hardware	11,000				11,000
	Aluminum Storefronts	8,050				8,050
	Metal Studs-Drywall and Acoustic	30,500				30,500
	Floor Covering	5,500				5,500
	Painting	21,000				21,000
	Ceramic Tile	14,700				14,700
	Toilet Accessories and Partitions	2,450				2,450
	Rolling Grill (s) for Snack/Retail Area	3,000				3,000
	Sports Equipment (Frames and nets)	42,900				42,900
	Bleachers (8 sets of 4 rows by 21' long)	28,000				28,000
	Metal Building w/ Erection	2,355,000				2,355,000
	Spectator Netting	54,000				54,000
	Plumbing	54,000				54,000
	HVC	285,000				285,000
	Pole Padding	18,600				18,600
	Electrical	480,000				480,000
	Landscape Allowance	40,000				40,000
	Bond				88,507	88,507
	Subcontractor Bonds					
	Tax					
29641	Insurance Requirements	29,641				29,641
	Contingency 15%	1,574,802				1,574,802
A	Subtotal	9,437,560			88,507	9,526,067
B	Overhead (Percentage)	3.00%	3.00%	3.00%	3.00%	
B	Overhead (Amount)	283,127			2,655	285,782
C	Profit (Percentage)	7.00%	7.00%	7.00%	7.00%	
C	Profit (Amount)	680,448			6,381	686,829
B+C	Totals (Percentage)	10.21%	10.21%	10.21%	10.21%	
B+C	Totals (Amount)	963,575			9,037	972,611
A+B+C	Totals (bond included)	\$9,720,687			\$91,162	\$10,498,678

Source: Spicer Group

Table Fifteen indicates that a total construction cost for the indoor-outdoor turf field facility is estimated to be \$10,498,678, which includes some soft costs (design, engineering), insurance, bonding, as well as some equipment costs.

Geographic Footprint for Indoor-Outdoor Turf Field Complex

The size/dimension for the layout of the preliminary facility complex that includes an indoor building, parking areas, and four (4) outdoor fields is estimated to be a rectangle of 21 acres.

The 21-acre total includes approximately 13 acres for the building, parking lots, and outdoor fields, and an additional eight acres of outdoor circulation, landscaping, and auxiliary space.

Facility Expansion Opportunity and Considerations

Consideration was given in the facility construction to potential expansion of the indoor space so as to include over time additional turf areas. Addition of auxiliary indoor space could be accommodated in a second phase of construction, on either the long or short side of the primary indoor facility.

Consideration of additional construction would need to be applied in the first construction phase in determining a final layout of indoor and outdoor spaces on the geographic footprint, so as to allow for the most efficient attachment of a new space to the existing building. This would also impact the size and dimension of the geographic property footprint on which the original construction project takes place.

X. FINANCIAL OPERATIONS ANALYSIS

Based on the design program selected for the proposed indoor-outdoor turf and field sport center (one full-sized indoor turf field, four outdoor turf and natural grass fields), a set of assumptions were generated that provided the basis for a preliminary financial performance analysis for the proposed facility operation that is indicative of financial performance expectation using one set of key assumptions and operational expectations. Consistently-apparent characteristics of indoor facilities both inside and outside of Western New York were kept top of mind in developing the financial performance model and strategy. A summary of these key characteristics includes but is not limited to the following:

- A private legal structure and operation (either for-profit or not-for-profit) is preferred based on the almost exclusive appearance of this legal structure in other markets throughout the state, as well as in Western New York;
- The business operation essentially has a 6-month revenue period (November-April), with limited revenue generation occurring during the seasonal market's outdoor/warm weather period (May-October);
- As is the case with indoor field sports activity projects, and unlike indoor ice rink operations, the facility will be required to internally develop, market, and administer a variety of leagues and programs including but not limited to youth and adult soccer, flag football, and similar.

Other key characteristics for the cash flow model have been preliminarily selected for illustrative purposes, and are described as follows:

- Indoor utilization reflects a 90% utilization of available prime time hours;
- Not-for-profit legal status has been selected and applied, which allows for solicitation of grants, donations, and pledges. This also allows the facility to forego property tax payments and good and services taxes, eliminating those line items from the expense budget, which offers relief to the overall annual operating budget;
- A management company line item is included in the expense budget, which reflects the opportunity for experienced indoor/outdoor recreation facility operators to oversee day-to-day facility operation for ownership on a contract basis;

- Indoor field utilization is expected to include a combination of league and tournament play (run by the facility) and straight rentals by outside user groups. Also expected is high-to-low utilization volume with soccer as the high-volume sport, followed by lacrosse, field hockey, flag football, kickball, and softball training; and
- An 80% loan over 25 years on a construction budget of \$10,498,678 at 6.5% has been factored in as an expense.

Cash Flow Model Summary

The preliminary cash flow model includes revenues from indoor and outdoor field utilization (“Total Usage Revenue”), as well as non-rental revenues that include concessions revenues (net), field sponsorship rights, revenues from grants, donations, and pledges, and sponsorship package revenues (“Ancillary Revenues”).

The expense side of the cash flow model includes expense line items such as payroll (facility management, sports coordinators), utilities, management company fee, telephone/internet, insurance, building/grounds maintenance, equipment replacement fund, office expenses and supplies, contract services, legal and accounting fees, and marketing.

Total revenues are aligned against total expenses to generate a net cash flow figure. This net cash flow figure represents the cash that is available to the facility owner to make loan/mortgage payments that are incurred to purchase property and for building development/construction. For purposes of this financial performance modeling exercise, those payment obligations have not been estimated or included as line items in the expense side of the cash flow model.

Table 16 provides a summary of the facility’s preliminary cash flow estimation. A full articulation of the 12-month cash flow model can be found in the report Appendix.

Table 16 – Summary – Preliminary Cash Flow Model

Revenue	
Indoor Fields	\$686,098
Outdoor Fields	\$396,000
Other Uses	\$20,000
Ancillary Revenues	\$72,000
Total Revenues =	\$1,174,098
Expenses	
Total Expenses =	\$1,099,172
Net Cash Flow =	\$74,926

XI. ECONOMIC IMPACT ANALYSIS

Projected economic impact for a geographically-defined community can be an important consideration in the decision-making process utilized to consider the making of a significant economic development investment in a live entertainment/sports tourism-based development project and its long-term operation. At the funding stage of a proposed indoor sports-recreation facility development effort, a strategic objective expressed by the BUDC is to specifically ascertain the quantifiable benefits of the project, as determined by rigorous input-output economic impact analysis.

In that effort, Paradigm has undertaken a comprehensive analysis of the overall regional economic impact that a new indoor sports-recreation facility development/operations project might generate, so that this estimation could be integrated and measured against the estimation of projected economic self-sufficiency determined of the development and its ongoing operations.

Key Areas and Assumptions Test

The assessment of overall economic impact generated by a new development project and its operation contained the following key elements:

- Determination of economic impact generated by construction, operations, and generation of incremental visitors to the market; and
- Measurement of direct, indirect, and induced effects generated by the project.

Introduction and Impact Summary

Any economic impact generated by the proposed development project and business operation can be attributed to two distinct occurrences:

1. Construction – a one-time only event that we are assuming for purposes of this calculation would take place within the next 1-2 year period; and
2. Operation of the facility – ongoing business operation at relatively stabilized levels (i.e. consistent revenues, expenses).

Method of Analysis

The input-output multiplier approach was used to estimate the economic benefits related to the construction and operation of the proposed indoor sports-recreation facility. In performing these analyses, direct spending in the relevant economy (defined as Erie

County) was estimated. Then factors were used to estimate the multiplied effects of this spending on output and employment in the defined geographic economy. Economic impact or benefits are traditionally expressed in terms of increases in sales volume, employment, income and fiscal revenues.

The economic impacts estimated in this report consist of construction (temporary), operating (permanent), and on-going visitation (permanent) impact. For purposes of definition, economic *output* is the spending in the economy related to the proposed facility's operations and development. This measure of economic activity includes direct spending plus re-spending generated through the multiplier effect. Jobs created in the economy, measured in full-time equivalent jobs (FTEs), as a result of the economic output directly related to the proposed facility's stabilized operations and construction and indirectly related through the multiplier effect is *employment* impact. *Labor income* impact represents both employee salaries and wages plus business bonuses and commissions and the like.

Limitations of Input-Output Models

To quantify economic impact in each case, we utilized IMPLAN, an industry-accepted input-output model, to derive multipliers (see Appendix One). There are two fundamental limitations of input-output models:

- It is generally assumed that no substitution across expenditure categories occurs, when in fact, substitution does occur. If residents would otherwise have spent dollars on other local activities versus in association with the proposed facility, it could be argued that a facility would not be responsible for any increase in local spending.

Conversely, if "facility dollars" spent by local residents would otherwise have been used for activities outside the local area, then these dollars do not merely represent displaced spending, but without the proposed facility, the area would continue to lose these funds. In other words, it is assumed that none of the spending amounts used as inputs for the models represent "displaced spending" or that without the proposed development, incremental business activity generated from events utilizing a new facility would take place outside of the State.

- Second, it is assumed that excess capacity in business employment does not exist. In other words, if area enterprises employ sufficient staff to accommodate a larger volume of sales, it is unlikely that a higher level of sales will cause additional employment.

Impact Levels

Economic impact is typically measured on three levels. As defined by the IMPLAN model, these are:

Direct Effects – the impacts (e.g. changes in employment) for the expenditures and/or production values specified as direct final demand changes;

Indirect Effects – the impacts caused by the iteration of industries purchasing from industries resulting from direct final demand changes; and

Induced Effects – the impacts on all local industries caused by the expenditures of new household income generated by the direct and indirect effects resulting from direct final demand changes. Induced effects may also reflect government or investment expenditures.”

Economic impacts or benefits are traditionally expressed in terms of increases in sales volume, employment and income resulting from the “export” of goods and services from and the “import” of new spending into an economy.

Economic output is the spending in the economy related to the proposed facility’s development and operations. It represents changes in sales volume or increases in a region’s local aggregate economic activity resulting from new dollars “imported” into an economy. In other words, it is the total dollar flow of the major economic sectors (wholesale, retail, manufacturing and service) and is generally equivalent to the gross product of a given area. This measure of economic activity includes direct spending plus re-spending generated through the multiplier effect.

Because of the changes in sales volume, local enterprises, depending on their excess capacity, may need to hire additional employees. Jobs created in the economy, measured in full-time equivalent jobs (FTEs), as a result of the economic output directly related to facility operations and construction and indirectly related through the multiplier effect is employment impact.

Labor impact (often referred to as “Personal Income”) represents changes in County residents’ earnings resulting from increased employment and spending due to the “import” of new dollars into an economy.

The Multiplier Effect

Economic impacts from operations of the proposed indoor sports-recreation facility are defined as total expenditures generated from facility visitors (“direct spending”) and the indirect benefits which result as these dollars are re-spent within the area. These indirect

benefits that result from subsequent rounds of spending are often referred to as the “multiplier” effect. All attendees to the subject facility are considered to generate economic impact.

The multiplier concept recognizes that income is spent in successive rounds within a community and that these “chain reactions” create an economic impact in excess of the original expenditure and employment levels. For example, each dollar collected by the proposed facility will eventually recycle, or multiply itself, creating many levels of economic activity in an area. As a prospective employer, the proposed race track facility pays wages; these wage earners, in turn, make purchases from local businesses. As taxpayers, all businesses and individuals benefiting from or adding incremental revenue to the economy also confer revenue to the community in terms of taxes. As a consumer, the proposed track project would buy goods and services from area businesses. Hence, the multiplier concept represents multi-level economic activity.

The multiplier effect is directly related to a region’s geographic size, population and diversity of its industrial and commercial base. A larger population is generally able to support a more diverse economic base, and more products are likely to be manufactured and purchased locally rather than imported. Therefore, money injected into the economy is re-spent more often, causing greater changes in local business volume. In the case of the subject area, Erie County, the multiplier effects are somewhat more limited in that a significant portion of the impact might be felt by areas outside the County. For example, it is likely that, in large measure, the furniture, fixtures and equipment to be utilized for the proposed facility will be manufactured and shipped from areas outside of Erie County.

CALCULATIONS OF DIRECT AND INDIRECT IMPACT

Construction Impact

Significant non-recurring benefits will be generated by the construction of the facility due to major expenditures for labor and materials. Facility project development and construction cost documentation generated by Spicer Group estimates that total construction costs for the project (including site preparation, soft costs, but not land purchase) will be approximately \$10,498,678 (\$7,417,760 for construction, and \$3,080,918 for bonding, soft costs and certain non-building equipment purchases).

The direct expenditures of \$7,417,760 cause a “ripple” or “spin-off” effect, generating additional economic activity to numerous industries throughout the County. Using economic multipliers supplied by the federal government’s Bureau of Economic Analysis, and an input-output model derived by the IMPLAN Development and Applications (alternatively referred to as “Minnesota Implan Group”, abbreviated MIG), the total economic impact, which includes the “ripple” or “spin-off” effect from direct expenditures resulting from the development of the proposed facility was quantified. Multipliers were developed for every industry; the degree of impact within each sector is affected by its relationship and synergy with the economic impactor.

Applying the output, earnings and employment multipliers for the new construction expenditures across the various sectors of the Erie County economy yields the total direct and indirect impacts of the construction phase as shown in the table below.

IMPACT OF SITE PREP & CONSTRUCTION

Impact Summary

Impact Type	Employment	Labor Income	Output
Direct Effect	66.8	\$3,196,756	\$7,417,760
Indirect Effect	13.5	\$772,878	\$1,964,339
Induced Effect	21.0	\$896,164	\$2,651,473
Total Effect	101.3	\$4,865,797	\$12,033,572

Employment =	Jobs
Labor Income =	Employee Compensation + Proprietor Income (does not include benefits)
Output =	Revenue (cost of consumption plus value added)

Notes

- These are annual figures. (Construction impacts would need to be adjusted to reflect the duration of the project if it was longer or shorter than a year).
- Site prep and construction were run as two separate models then aggregated. Sale/purchase of land was not included in construction model.
- Employment and income for the direct effect of the construction model are estimates derived by the program calculated from the project cost of \$7,206,815 (does not include soft costs, i.e. bonding, contingencies, profit, other). If more accurate figures are available the model could be further refined.
- Site prep is considered separately, as it only generates indirect and induced impacts since it is essentially service and not product oriented.

Construction Impact Summary

- Based on the estimated hard construction project cost of \$7,417,760 (including \$436,500 in site prep), IMPLAN estimated the site prep and construction project will employ 66.8 FTEs, with a payroll of \$3,196,756 (**direct effects**).
- Multiplied many times through levels of the supply chain, the site prep and construction creates a demand of \$1,964,339 worth of goods/services from the county economy. This requires 13.5 FTEs receiving a payroll of \$772,878 (**indirect effects**).
- The spending from the direct & indirect FTEs' payroll creates a demand of \$2,651,473 of goods and services from the local economy. This demand requires 21.0 FTEs, receiving a payroll of \$896,164 (**induced effects**).
- The construction/site prep will have job impact of 101.3 FTEs with a payroll of \$4,865,797 creating \$12,033,572 of economic impact in Erie County (**total impact**).

Facility Operations Impact

Our calculation of impact related to operation of the facility was based, in large measure, upon the projected financial performance of the facility in operating year one as calculated by the Paradigm project team. Based on these financial projections, it was estimated that the facility would generate total revenues of \$1,174,098 (expressed in current value dollars) in operating year one of the business operation. Output from the IMPLAN model based on these projections is as follows:

IMPACT OF FACILITY OPERATIONS

Impact Summary			
Impact Type	Employment	Labor Income	Output
Direct Effect	6.0	\$146,500	\$1,174,098
Indirect Effect	2.1	\$110,093	\$314,420
Induced Effect	1.4	\$57,729	\$170,796
Total Effect	9.4	\$317,322	\$1,659,313

Facility Impact Summary

- The facility itself will employ 6.0 FTEs, with a payroll of \$146,500. These employees create \$1,174,098 worth of goods/services (**direct effects**).
- Multiplied through many times through levels of the supply chain, the facility creates a demand of \$314,420 worth of goods/services from the county economy. This requires 2.1 FTEs receiving a payroll of \$110,093 (**indirect effects**).
- The spending from the direct & indirect FTEs' payroll creates a demand of \$170,796 of goods and services from the local economy. This demand requires 1.4 FTEs, receiving a payroll of \$57,729 (**induced effects**).

- The facility will have job impact of 9.4 FTEs with a payroll of \$317,322 creating a \$1,659,313 economic impact in Erie County **(total impact)**.

Non-Local Visitor Spending Impact

The area where additional economic impact can be expected will be related to “sports tourism” visitor spending if and as the existence of the facility draws new visitors to Erie County. Calculations of economic impact in this area would tie directly to the number of users estimated for the proposed facility, the percentage of those users who are likely to be from outside Erie County and the number of those who would be visiting the county with the proposed new facility as their primary destination.

Generated economic impact would result from the import of new dollars which are spent and retained locally. Spending by local residents would not be considered since it represents displaced spending.

As gathering of spending data from prospective outside users was not a component of this project scope, a “sports tourism” visitor spending impact calculation was not generated as a function of the overall project economic impact analyses. However, the project team did want to make known that this third area of economic impact exists that could be calculated once the proposed facility was up and running, and when spending habit details from non-local users and visitors could be determined.

XII. APPENDIX

A. Existing Conditions/Supply Analysis – Mapping Analysis

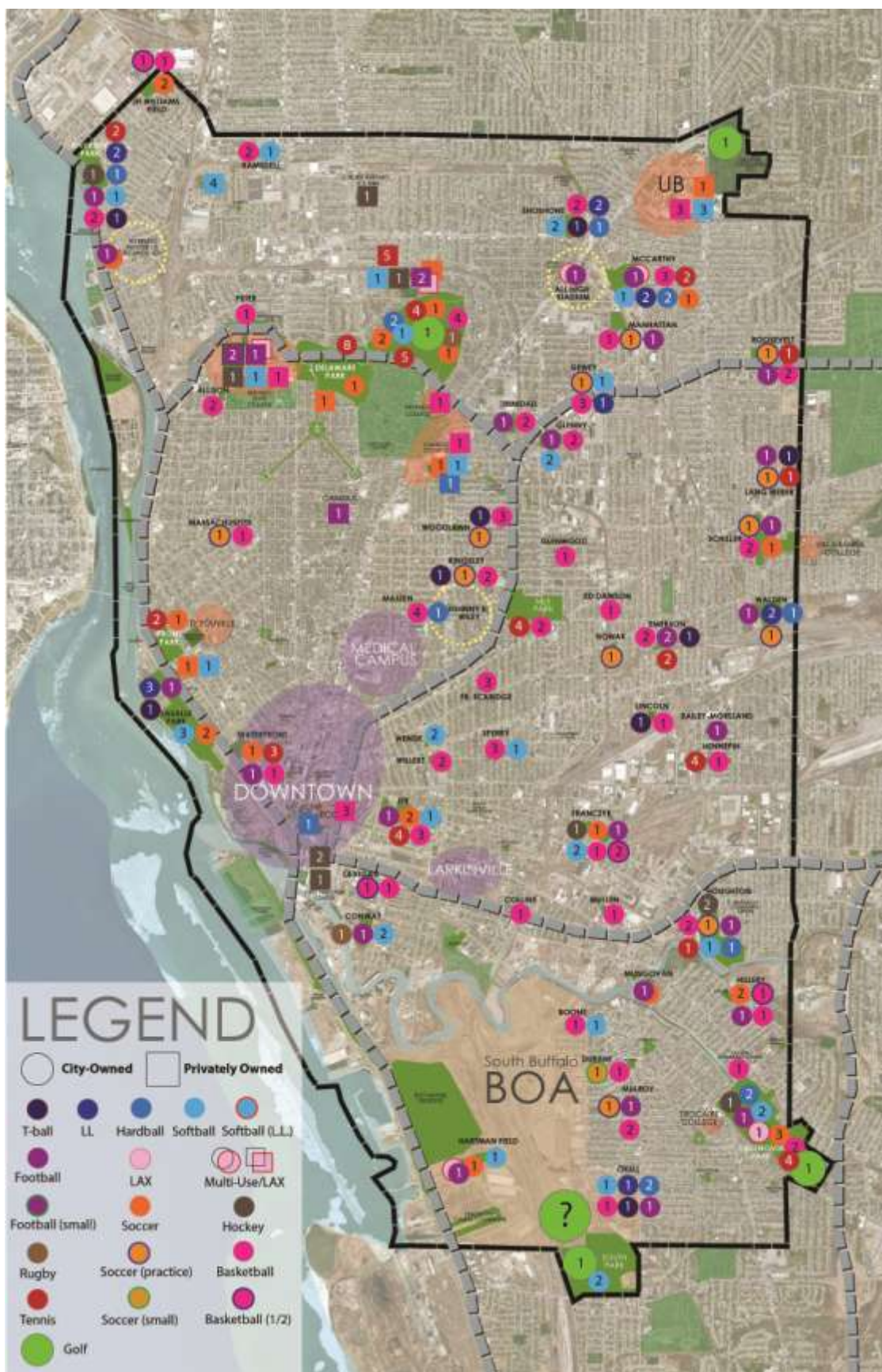
B. Cash Flow Model

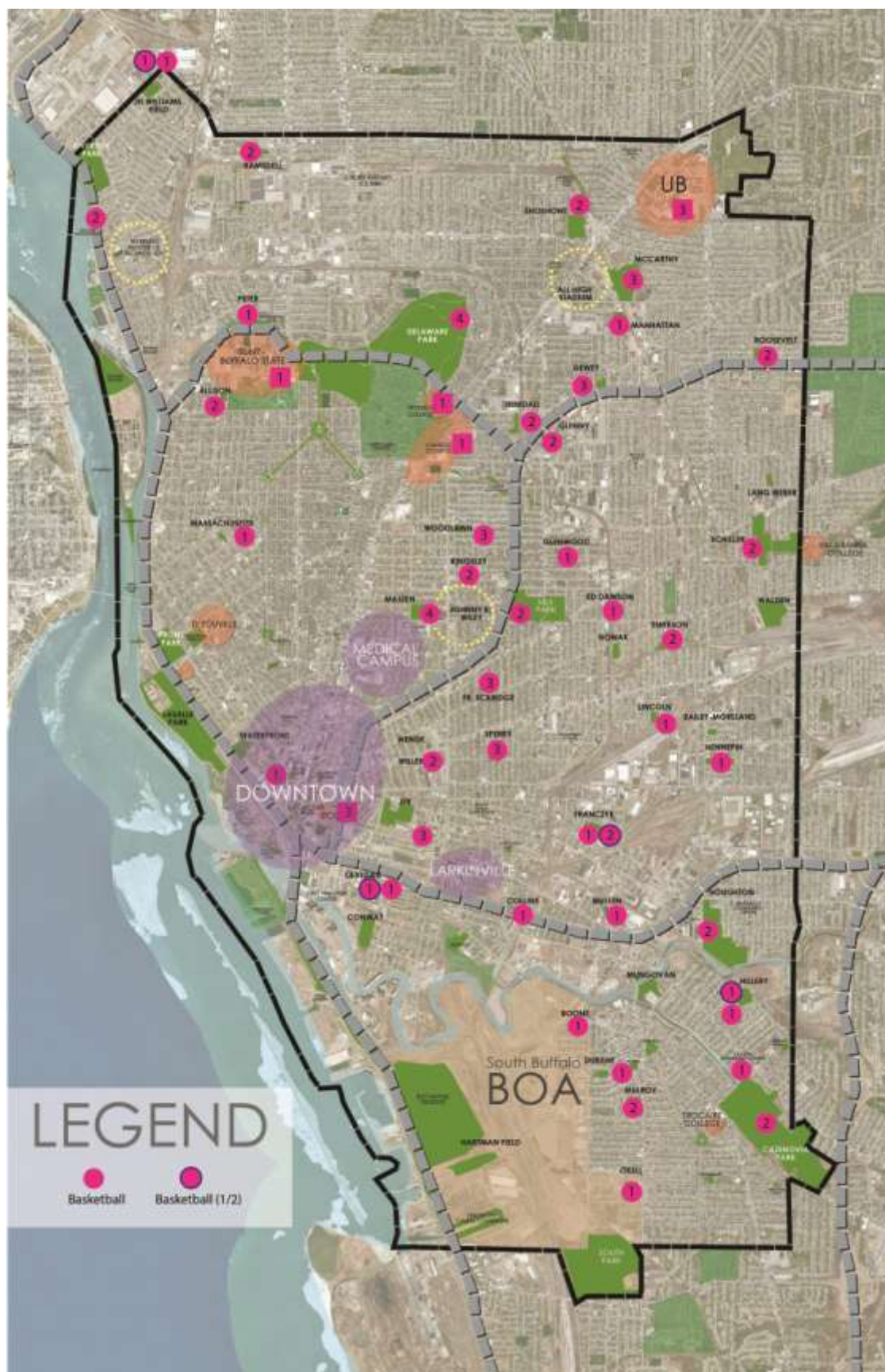
C. Economic Impact Analysis – Methodology Detail

E. Youth-Adult Soccer Field Requirements

D. Project Research – Information Source Summary

Appendix A. – Existing Conditions/Supply Analysis – Mapping Analysis









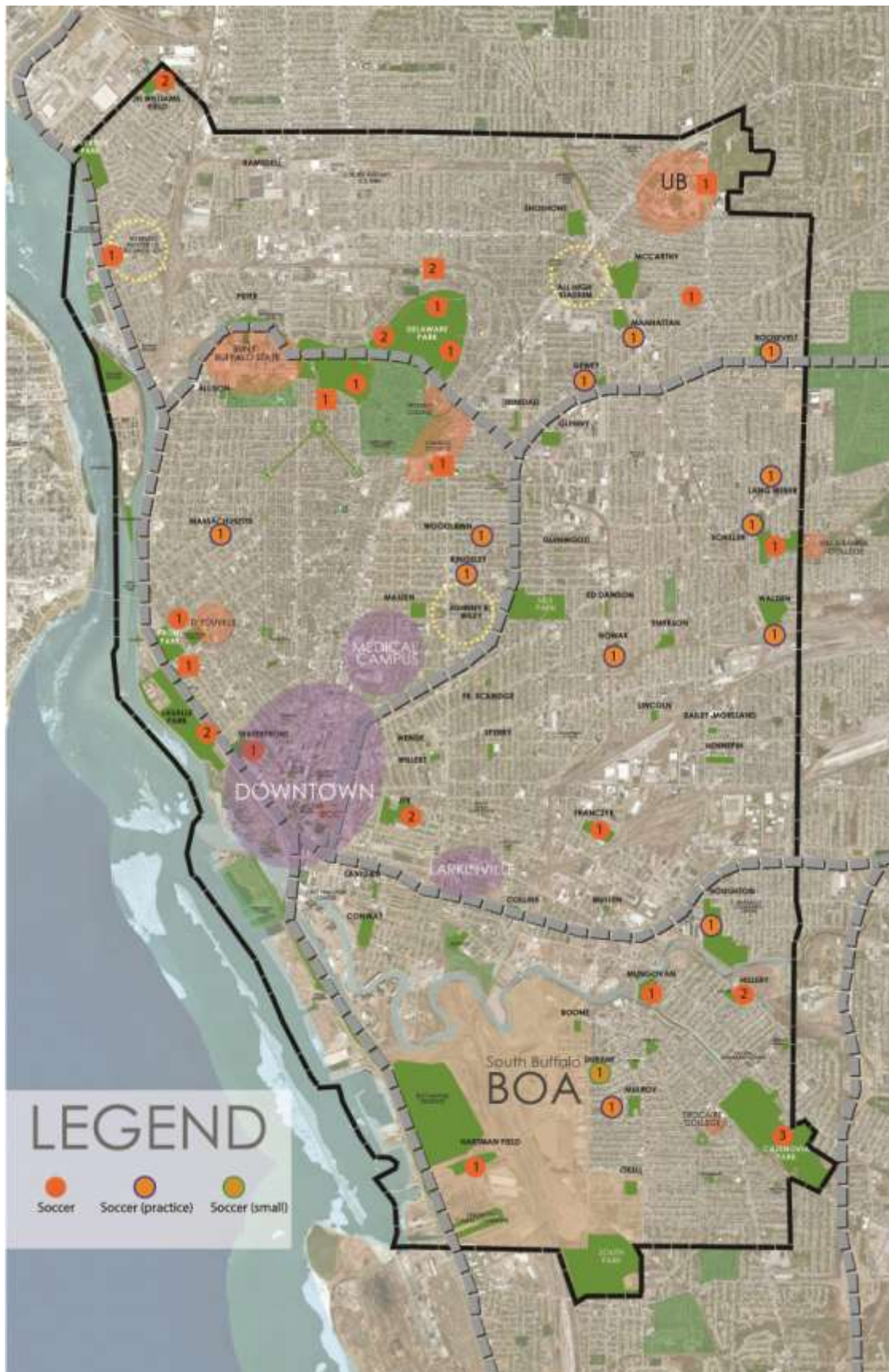


















Appendix B. – Cash Flow Model

COB Turf Field Complex - Indicative Financial Performance Model

	Hours	Qty	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
IN SEASON:						OFF SEASON:		
Weekday Offtime (8-5)	9		20%			10%		
Weekday Primetime (5-11)	6		85%			25%		
Weekend (Sa 8-11, Su 8-6)	25		90%			25%		
Rates:								
Indoor Field Offtime	\$80	3						
Indoor Field Primetime	\$135							
Full Field	\$275							
Cage	\$25	4						

CASH FLOW MODEL - YEAR 1

REVENUE	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	TOTAL
Indoor Fields													
Weekday Primetime Usage	44,718	44,718	44,718	44,718	44,718	44,718	13,152	13,152	13,152	13,152	13,152	13,152	347,223
Weekday Offtime Usage	9,353	9,353	9,353	9,353	9,353	9,353	4,676	4,676	4,676	4,676	4,676	4,676	84,175
Weekend Usage	36,450	36,450	36,450	36,450	36,450	36,450	6,000	6,000	6,000	6,000	6,000	6,000	254,700
Outdoor Fields													
Weekday Usage	22,000	0	0	0	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	198,000
Weekend Usage	22,000				22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	198,000
Clinics	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
Special Events	0	0	0	0	0	0	0	0	0	0	0	0	0
Summer Camps	0	0	0	0	0	0	0	0	4,000	4,000	0	0	8,000
TOTAL USAGE REVENUE	135,521	91,521	91,521	91,521	135,521	135,521	68,829	68,829	72,829	72,829	68,829	68,829	1,102,098
Net Food Concessions	4,000	4,000	4,000	4,000	4,000	4,000	0	0	0	0	0	0	24,000
Field Sponsorship Rights	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
Grants/Donations/Pledges	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
Sponsorship Packages	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
TOTAL REVENUE	143,521	99,521	99,521	99,521	143,521	143,521	72,829	72,829	76,829	76,829	72,829	72,829	1,174,098

**SBBOA Recreation Needs Assessment
Buffalo Urban Development Corporation**

EXPENSES

Payroll - Facility Management	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	11,458	137,500
Payroll - Sports Coordinators	750	750	750	750	750	750	750	750	750	750	750	750	750	9,000
Management Company Fee	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	30,000
Utilities	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	150,000
Telephone/Internet	300	300	300	300	300	300	300	300	300	300	300	300	300	3,600
Insurance	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	30,000
Building/Grounds Maintenance	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	18,000
Equipment Replacement Fund	833	833	833	833	833	833	833	833	833	833	833	833	833	10,000
Office Expense/Supplies	300	300	300	300	300	300	300	300	300	300	300	300	300	3,600
Contract Services	750	750	750	750	750	750	750	750	750	750	750	750	750	9,000
Legal/Accounting Fees	500	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Marketing	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
Loan Repayment - Construction (1)	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	56,706	680,472
TOTAL EXPENSES	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	91,598	1,099,172
 NET CASH FLOW	 51,923	 7,923	 7,923	 7,923	 51,923	 51,923	 (18,769)	 (18,769)	 (14,769)	 (14,769)	 (18,769)	 (18,769)	 (18,769)	 74,926

(1) Assumes 80% of \$10,498,000 at 6.5% over 25 years

Appendix C. – Economic Impact Analysis – Methodology Detail

The economic impact analysis estimating the economic and fiscal impacts of the CNYRP study was completed using the IMPLAN economic impact (or input-output) model. The IMPLAN model is used by more than 500 universities and government agencies to estimate the economic and fiscal impacts of investments and/or changes in industry, to forecast tax revenue and employment generation, and to conduct economic comparison studies of two or more geographic locations.

IMPLAN Economic Impact Analysis Description

IMPLAN is an input-output model. Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added, and imports are equal to the value of the commodities produced.

An IMPLAN impact analysis involves specifying a series of expenditures and applying them to the region's economic multipliers. The expenditures are identified in terms of (1) the sectoring scheme for the model, (2) in producer prices, and (3) in historical dollars with the current year used as a base year. Only the dollars spent within the regional are multiplied to the model.

The notion of a multiplier rests upon the difference between the initial effect of a change in final demand and the total effects of that change. Total effects can be calculated either as direct and indirect effects, or as a combination of direct, indirect, and induced effects.

Direct effects are production changes associated with the immediate effects or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries (for example, additional purchases to produce additional output). Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects.

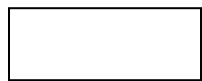
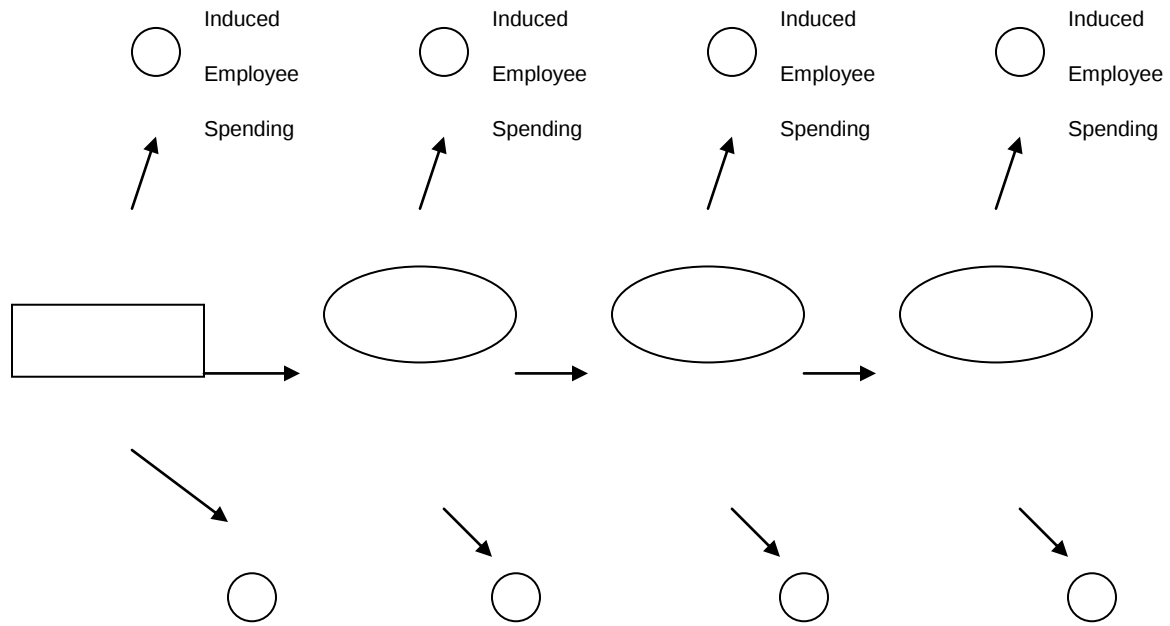
Purchases for final use (i.e. final demand) drive the model. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakage from the region (imports and value added) stops the cycle.

These indirect and induced effects (i.e. the effects of household spending) can be mathematically derived. The resulting sets of multipliers describe the change of output for each and every regional industry caused by a one dollar change in final demand for any given industry.

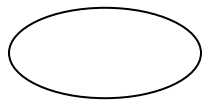
Creating a regional input-output model requires a tremendous amount of data. The costs of surveying industries within each region to derive a list of commodity purchases (i.e. production functions) are prohibitive. IMPLAN was developed as a cost-effective means to develop regional input-output models. The IMPLAN data accounts closely follow the accounting conventions used in the “Input-Output Study of the U.S. Economy” by the Bureau of Economic Analysis (1980) and also the rectangular formula recommended by the United Nations.

To establish useful definitions, “economic impact” is also referred to as “economic output” or spending. This value represents all sales of goods or services either at the intermediate or final product (i.e. retail) level. Diagram One provides a graphical representation how direct spending, indirect spending, and induced spending occur as spent dollars flow through a designated geographic economy, and how jobs are created from this spending.

Diagram One



= Direct Spending and Effects



= Indirect Spending and Effects



= Induced Spending and Effects

Appendix D. – Youth-Adult Soccer Field Requirements

Adult Soccer Field Dimensions: The optimum size is 75 yards (68.58m) by 120 yards (109.73m).

Rules: The field of play shall be rectangular. Width shall not exceed the length. The width shall not be more than 80 yards (73.15M) nor less than 65 yards (59.44m)

The length shall not be more than 120 yards (109.72m) nor less than 110 yards (100.58m).

US Youth Soccer Field Dimensions

Age	Field Width	Field Length
Youth	Min - Maximum	Min - Maximum
U6 - U7	(15 - 20 yards)	(25 - 30 yards)
U8	(20 - 25 yards)	(30 - 40 yards)
U9	(30 - 35 yards)	(40 - 50 yards)
U10	(40 - 50 yards)	(60 - 70 yards)
U11	(40 - 50 yards)	(70 - 80 yards)
U12	(40 - 55 yards)	(100 - 105 yards)
U13	(50 - 60 yards)	(100 - 110 yards)
Adult	(65 - 80 yards)	(110 - 120 yards)
International	(70 - 80 yards)	(110 - 120 yards)

Source: The Soccer Institute

Appendix E. - Project Research – Information Source Summary

1. Primary Research

- ***Public Sector Entities***

Buffalo Urban Development Corporation
City of Buffalo – Division of Parks & Recreation
City of Buffalo - Office of Strategic Planning
Empire State Development Corporation
Erie Canal Harbor Development Corporation
Erie County – Department of Planning
New York State

- ***Colleges and Private Schools***

Buffalo State College
Canisius College
Canisius High School
Daemen College
D'Youville College
Erie Community College
Medaille College
Nichols School
Tapestry Charter School

- ***Youth/Adult Recreational Sports***

Blackwatch Premier
Buffalo District Soccer League
Buffalo Soccer Council
Buffalo Social Club
Buffalo WNY Junior Soccer League
Delaware Soccer Club
Empire United
English Pork Pie Company
Fellowship of Christian Athletes/Niagara Power Baseball
FC Buffalo
Game On
M/ilesports

New York Premier Soccer
Police Athletic League (PAL)
Queen City Softball
Soccer Shots
South Buffalo Softball
UB Track
West Side Soccer
Youth Box Lacrosse

- ***Other***

The Buffalo Legacy Project/Pierce Field at Mulroy Park
Visit Buffalo Niagara/Greater Buffalo Sports Commission
The Wellness Institute

2. Secondary Research

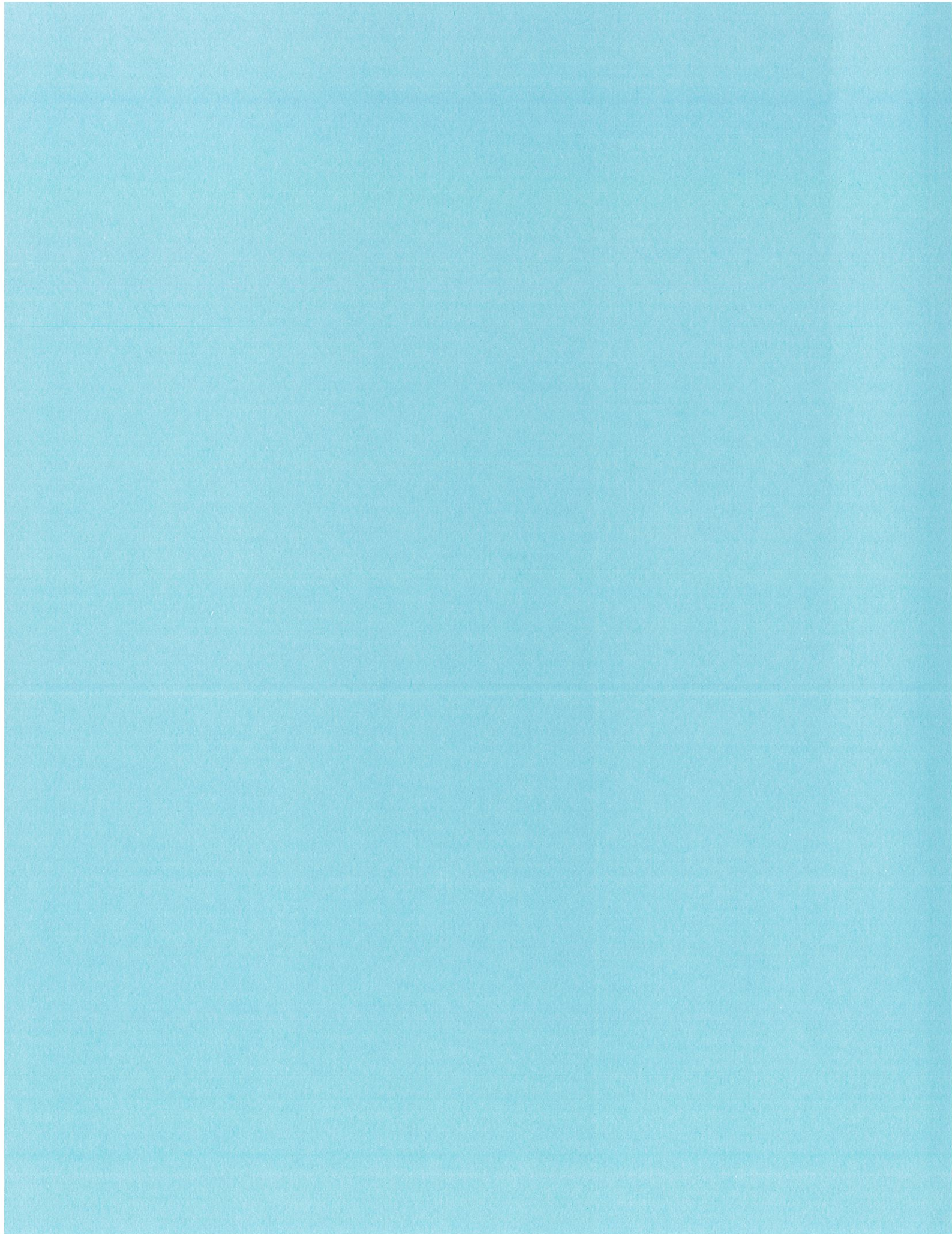
- ***Documentation***

“American Fitness Index” (American College of Sports Medicine);
“City-Wide Parks Improvements Court Assessments”
(Nussbaumer & Clarkee, Inc., 2012);
Lewiston (NY) Recreation & Senior Center – Program Plan;
“Park, Recreation, Open Space and Greenway Guidelines”
(National Recreation and Park Association);
“Parks and Recreation National Database Report – 2012”
(National Recreation and Park Association);
“Parks and Recreation National Database Report – 2014”
(National Recreation and Park Association);
“Recreation, Park and Open Space Standards and Guidelines –
1983” (National Recreation and Park Association);
“Special Park District National Database Report “ (National
Recreation and Park Association);
“The Trust for Public Land, Center for City Park Excellence: 2014
City Park Facts”;
“Time to Act: Investing in the Health of Our Children and
Communities (Robert Wood Johnson Foundation, 2013);

○ **Websites**

**American Fitness Index
Athletic Business
Buffalo District Soccer League
The Buffalo Legacy Project
The Buffalo News
Buffalo Rising
Buffalo School of Baseball
Buffalo Soccer Club
Buffalo Soccer Council
Buffalo State College
Buffalo Storm AAU Basketball
Buffalo Titans Basketball
Buffalo Wings Travel Baseball
Buffalo and WNY Junior Soccer League
Canisius High School
Canisius College
City of Buffalo (GIS maps section)
City-Data (City Top Lists)
City Parks Alliance
Daemen College
D'Youville College
Delaware Soccer Club
Empire United SA
Epic Center
Erie Canal Harbor Development Corporation
Erie Community College
Erie County
Go Bike Buffalo
Greater Buffalo Track Club
Medaille College
M/ilesports
National Recreation and Park Association
New Era Park
NYS West Youth Soccer Association
Nichols School
Pierce Field@Mulroy Park
Sahlens Sports Park
ShareRanks**

**Soccer Institute
SPIRE Sports Academy
Sport Center 481
Sports Performance Park
Tapestry Charter School
Total Sports Experience
Tournament Town (Brooklyn USA)
The Trust for Public Land
Visit Buffalo Niagara
Wallet Hub (2014 Best & Worst Cities for Recreation)
Wellness Institute**



Section III

Property's Environmental History

Figure III-A – Site Sampling Locations

Figure III-B – VOC in Soil

Figure III-C – SVOC in Soil

Figure III-D – Metals in Soil

Figure III-E – Groundwater Concentrations

Table III-A – VOC Soil Analytical Testing Results

Table III-B – SVOC Soil Analytical Testing Results

Table III-C – Metals and PCB Soil Analytical Testing Results

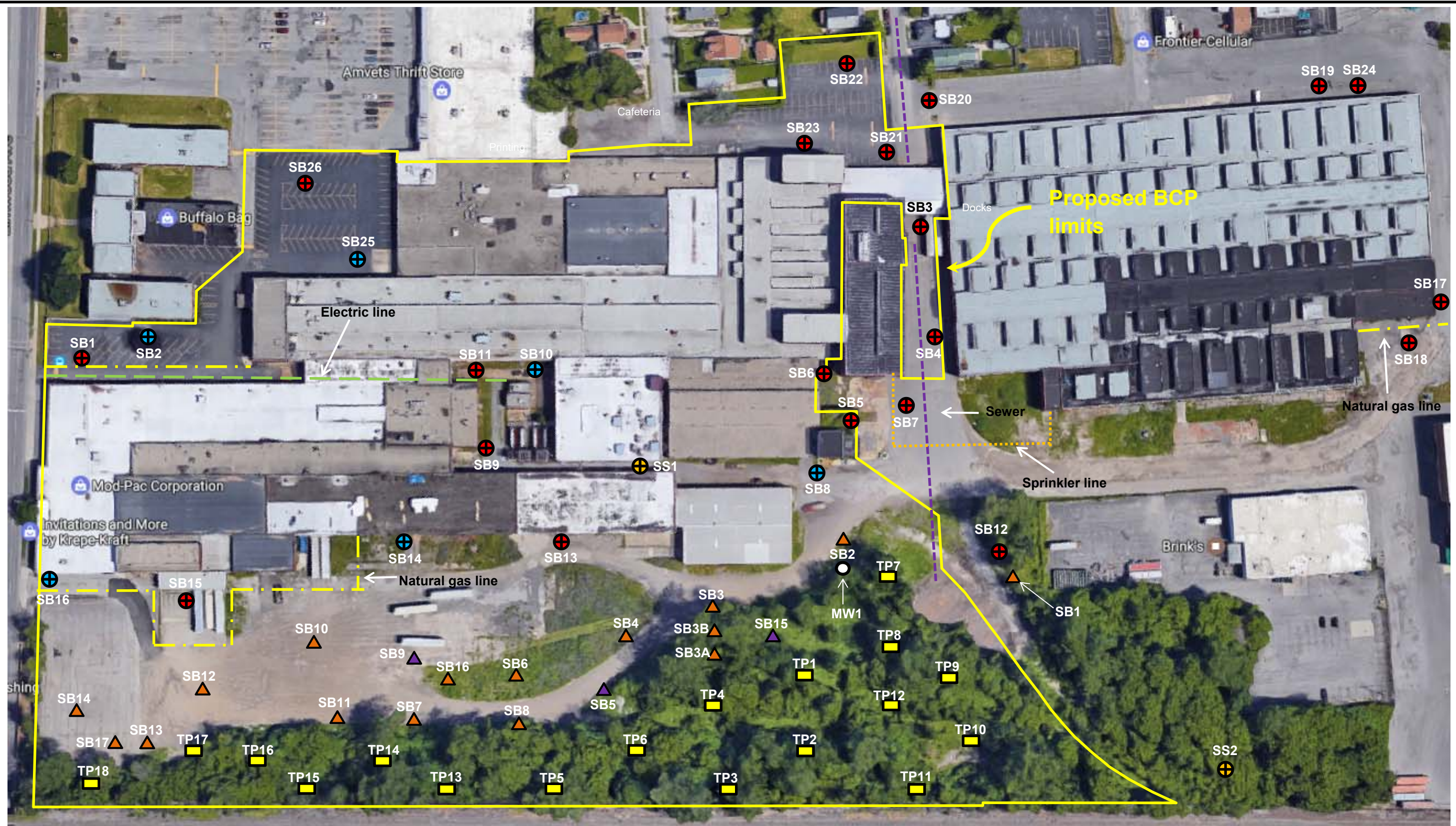
Table III-D – Groundwater Analytical Testing Results

Soil Boring and Test Pit Logs – October 2015 Locations

Soil Boring Logs – December 2016 Locations

Analytical Testing Results – October 2015 Locations

Analytical Testing Results – December 2016 Locations



KEY

- | | |
|---|---|
| Soil Boring Locations (12/21-12/23/16) | Soil Boring & Micro Well Locations (10/15-10/16/15) |
| Soil Boring & Piezometer Locations (12/21-12/23/16) | Test Pit Locations (10/15-10/16/15) |
| Surface Soil Locations (12/21-12/23/16) | MW1 – Existing Monitoring Well |

HAZARD EVALUATIONS, INC.

Phase I/II Audits – Site Investigations – Facility Inspections

Site Sampling Locations MOD-PAC CORP.

1801 ELMWOOD AVENUE
BUFFALO, NEW YORK

DRAWN BY: LSH

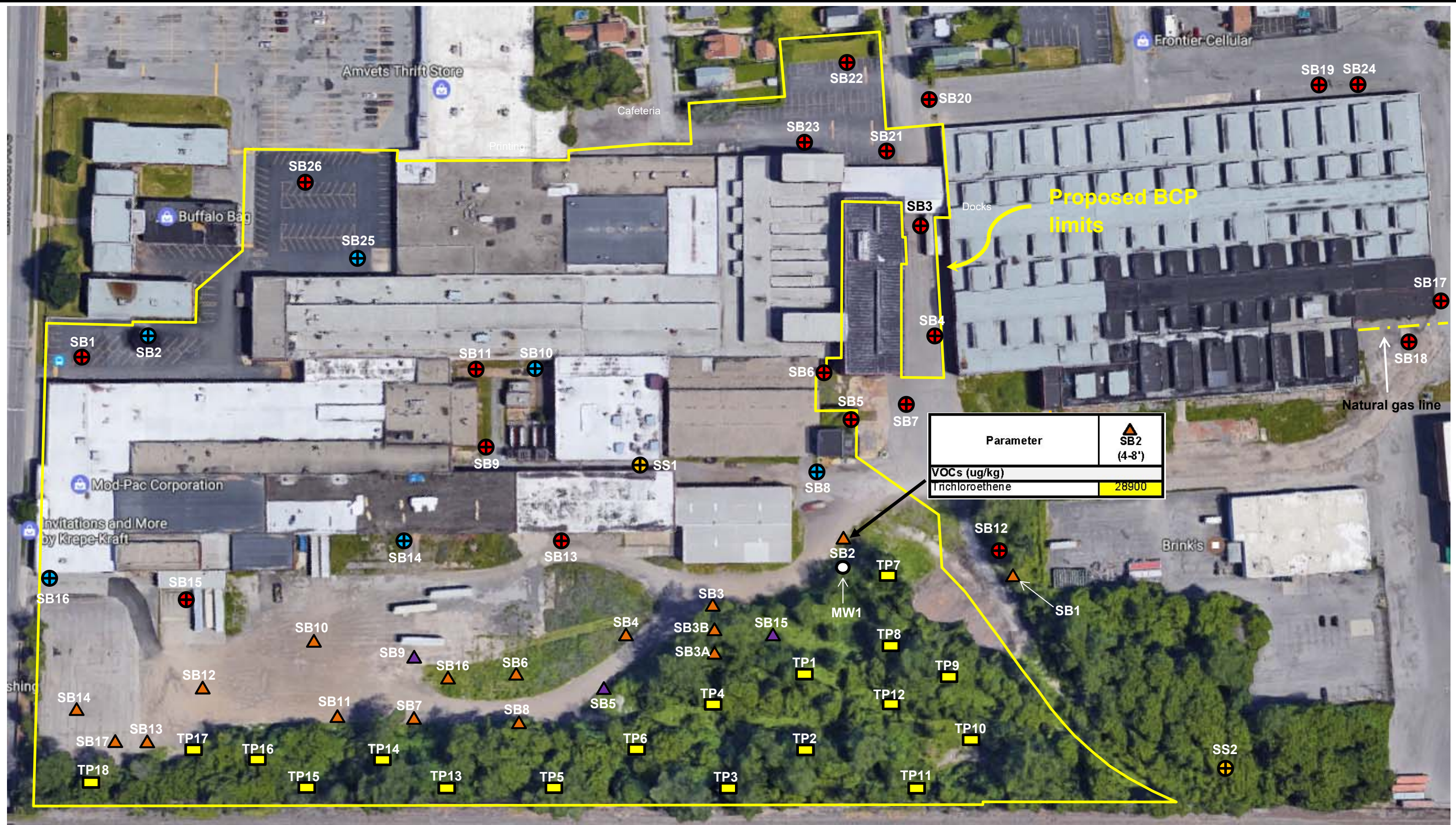
SCALE: NOT TO SCALE

PROJECT: e1605

CHECKED BY: MMW

DATE: 2/17

FIGURE NO: III-A



Notes:

1 – Detected concentrations for VOCs, SVOCs and PCB in ppb;
metals in ppm

2 - Proposed Cleanup Standards = Restricted Residential in Southern
Portion and Commercial in Central/Northern Portion

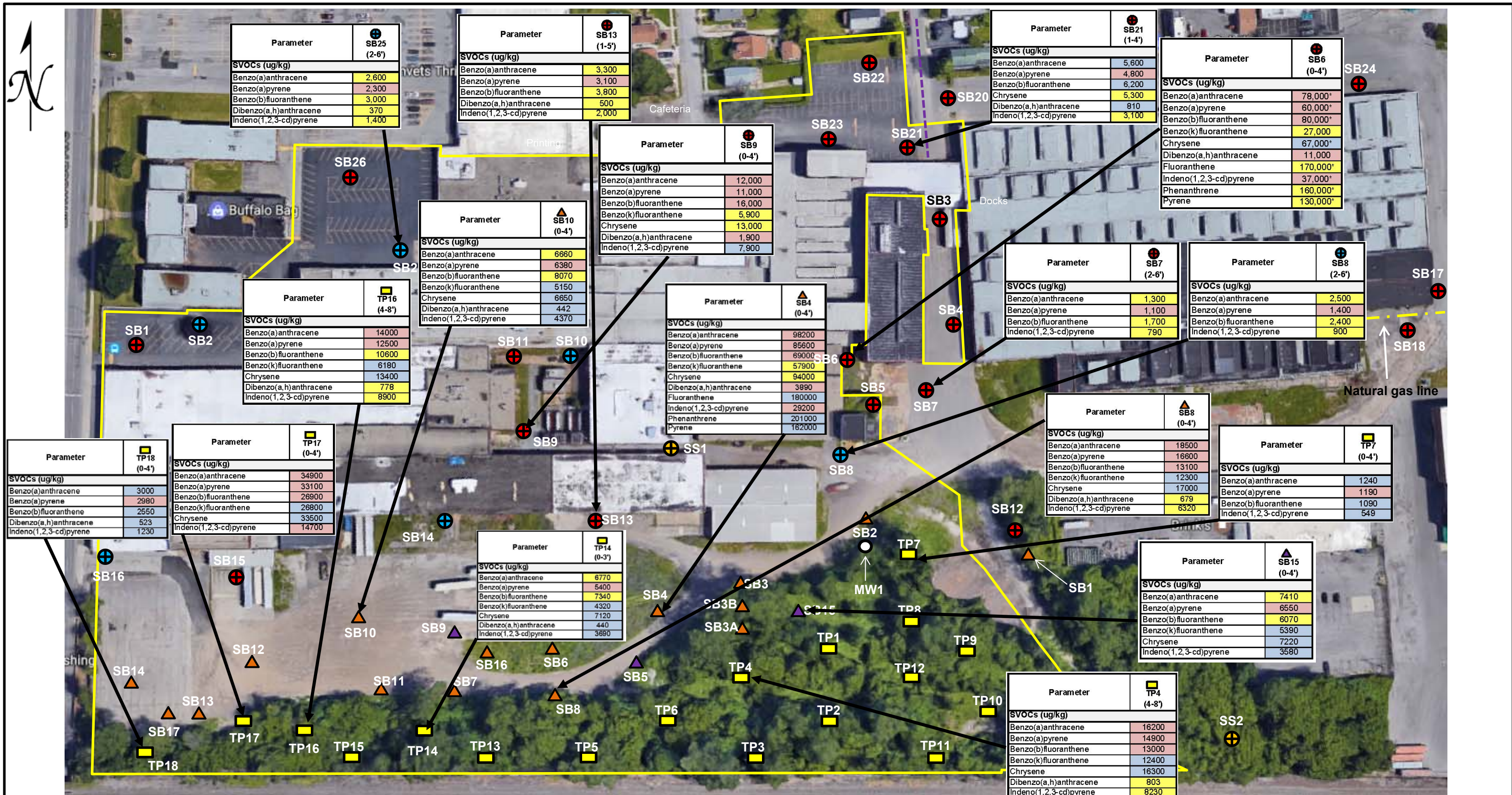
= exceeds Restricted Residential SCO

= exceeds Commercial SCO

= exceeds Industrial SCO

KEY	
Soil Boring Locations (12/21-12/23/16)	Soil Boring & Micro Well Locations (10/15-10/16/15)
Soil Boring & Piezometer Locations (12/21-12/23/16)	Soil Boring Locations (10/15-10/16/15)
Surface Soil Locations (12/21-12/23/16)	Test Pit Locations (10/15-10/16/15)
	MW1 – Existing Monitoring Well

HAZARD EVALUATIONS, INC.		
Phase I/II Audits – Site Investigations – Facility Inspections		
VOCs in Soil		
MOD-PAC CORP.		
1801 ELMWOOD AVENUE		
BUFFALO, NEW YORK		
DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: e1605
CHECKED BY: MMW	DATE: 2/17	FIGURE NO: III-B



Notes:

1 – Detected concentrations for VOCs, SVOCs and PCB in ppb;
metals in ppm

2 - Proposed Cleanup Standards = Restricted Residential in Southern
Portion and Commercial in Central/Northern Portion

= exceeds Restricted Residential SCO

= exceeds Commercial SCO

= exceeds Industrial SCO

KEY

⊕ Soil Boring Locations (12/21-12/23/16)

⊕ Soil Boring & Piezometer Locations (12/21-12/23/16)

⊕ Surface Soil Locations (12/21-12/23/16)

▲ Soil Boring & Micro Well Locations (10/15-10/16/15)

▲ Soil Boring Locations (10/15-10/16/15)

Test Pit Locations (10/15-10/16/15)

MW1 – Existing Monitoring Well

HAZARD EVALUATIONS, INC.

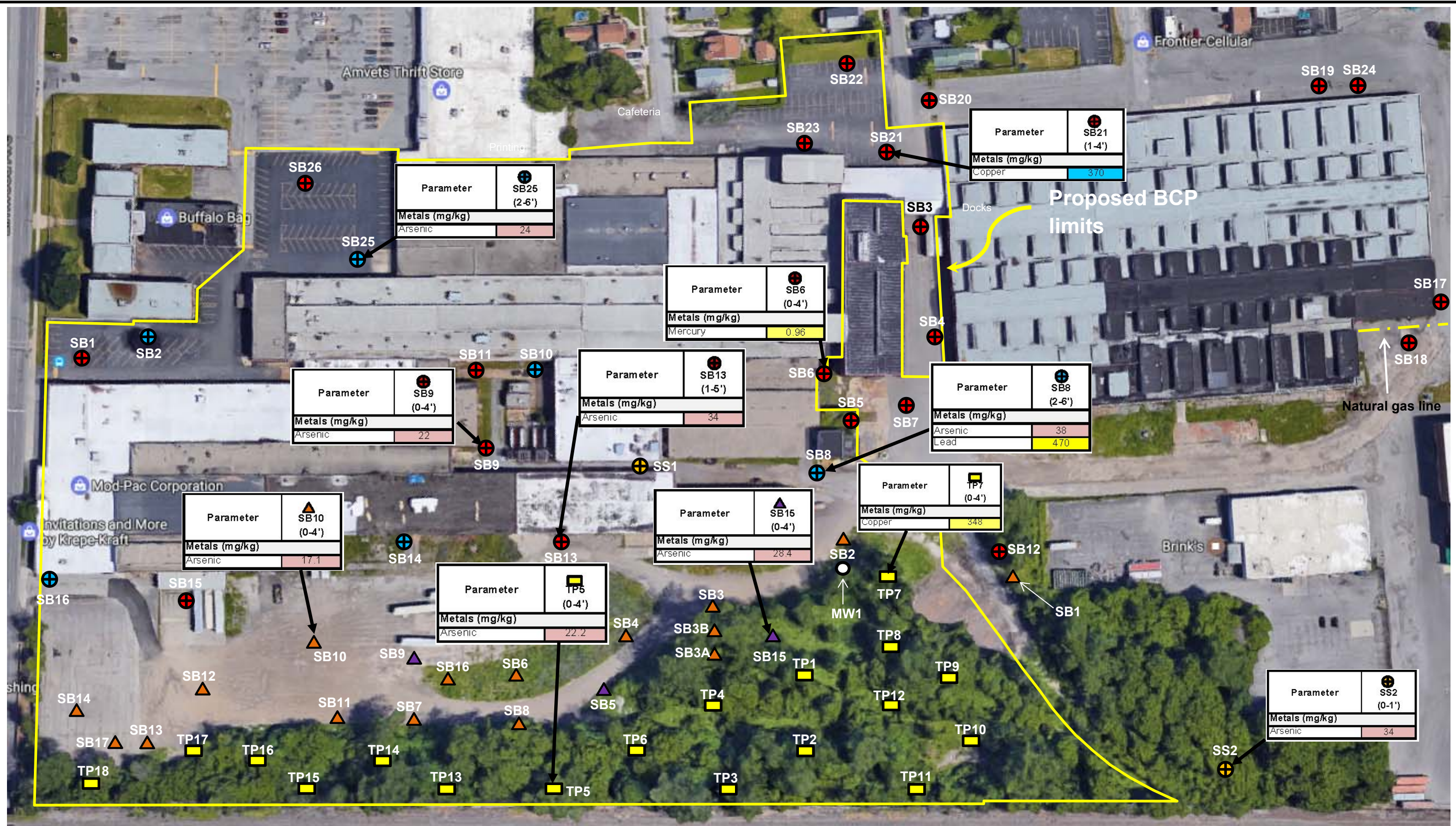
Phase I/II Audits – Site Investigations – Facility Inspections

SVOCs in Soil

MOD-PAC CORP.

1801 ELMWOOD AVENUE
BUFFALO, NEW YORK

DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: e1605
CHECKED BY: MMW	DATE: 2/17	FIGURE NO: III-C



Notes:

1 – Detected concentrations for VOCs, SVOCs and PCB in ppb;
metals in ppm

2 - Proposed Cleanup Standards = Restricted Residential in Southern
Portion and Commercial in Central/Northern Portion

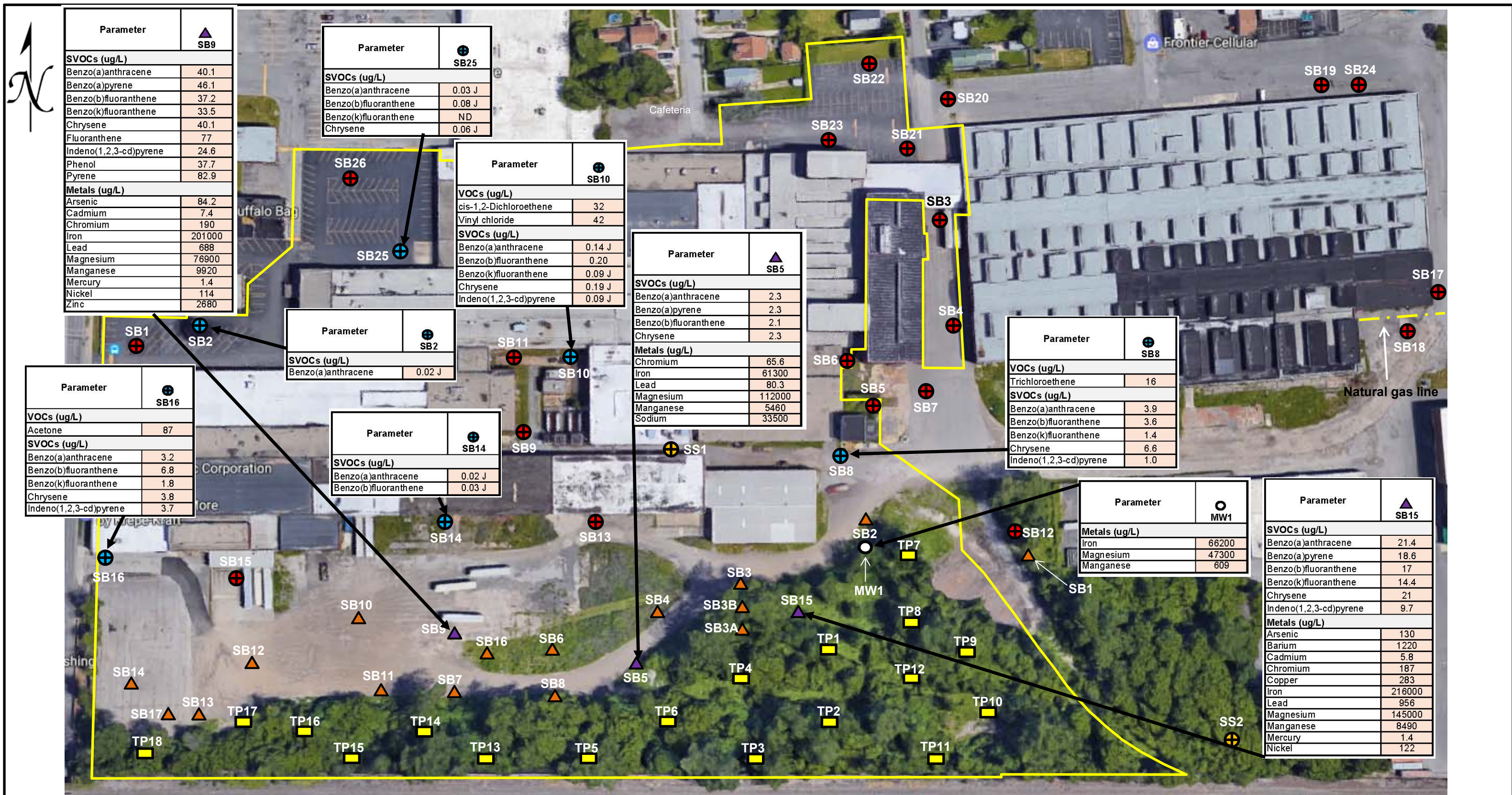
= exceeds Restricted Residential SCO

= exceeds Commercial SCO

= exceeds Industrial SCO

KEY	
	Soil Boring Locations (12/21-12/23/16)
	Soil Boring & Piezometer Locations (12/21-12/23/16)
	Surface Soil Locations (12/21-12/23/16)
	Soil Boring & Micro Well Locations (10/15-10/16/15)
	Soil Boring Locations (10/15-10/16/15)
	Test Pit Locations (10/15-10/16/15)
	MW1 – Existing Monitoring Well

HAZARD EVALUATIONS, INC.		
Phase I/II Audits – Site Investigations – Facility Inspections		
Metals in Soil		
MOD-PAC CORP.		
1801 ELMWOOD AVENUE		
BUFFALO, NEW YORK		
DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: e1605
CHECKED BY: MMW	DATE: 2/17	FIGURE NO: III-D



Notes:

- 1 – Detected concentrations for VOCs, SVOCs and metals in ppb;
2 - Proposed Cleanup Standards = Restricted Residential in Southern Portion and Commercial in Central/Northern Portion
= exceeds Groundwater Criteria

KEY

- Soil Boring Locations (12/21-12/23/16)
- Soil Boring & Piezometer Locations (12/21-12/23/16)
- Surface Soil Locations (12/21-12/23/16)
- Soil Boring & Micro Well Locations (10/15-10/16/15)
- Soil Boring Locations (10/15-10/16/15)
- Test Pit Locations (10/15-10/16/15)
- MW1 – Existing Monitoring Well

HAZARD EVALUATIONS, INC.

Phase I/II Audits – Site Investigations – Facility Inspections

Groundwater Concentrations
MOD-PAC CORP.

1801 ELMWOOD AVENUE
BUFFALO, NEW YORK

DRAWN BY: LSH	SCALE: NOT TO SCALE	PROJECT: e1605
CHECKED BY: MMW	DATE: 1/17	FIGURE NO: III-E

Table III-A
Volatile Organic Compound - Soil Analytical Testing Results Summary
1801 Elmwood Avenue Buffalo, New York

	October 2015																						
Parameter	 SB1 (0-4')	 SB2 (4-8')	 SB4 (0-4')	 SB8 (0-4')	 SB10 (0-4')	 SB12 (0-4')	 SB14 (0-4')	 SB15 (0-4')	 TP4 (4-8')	 TP4 (9-12')	 TP5 (0-4')	 TP7 (0-4')	 TP10 (4-8')	 TP11 (0-4')	 TP14 (0-3')	 TP16 (4-8')	 TP17 (0-4')	 TP18 (0-4')	UUSCO	RRUSCO	CUSCO	IUSCO	
GC/MS Volatiles 8260C Analysis (ug/kg)																							
1,2,4-Trimethylbenzene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	3,600	52,000	190,000	380,000
1,3,5-Trimethylbenzene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	8,400	52,000	190,000	380,000
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	219	ND	ND	95.5	NT	ND	ND	ND	ND	ND	50	100,000	500,000	1,000,000
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	60	4,800	44,000	89,000
2-Butanone (MEK)	ND	833	ND	ND	ND	ND	ND	ND	ND	28.1	ND	ND	ND	NT	ND	ND	ND	ND	ND	120	100,000	500,000	1,000,000
cis-1,2-Dichloroethene	ND	10200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	250	100,000	500,000	1,000,000
trans-1,2-Dichloroethene	ND	788	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	190	100,000	500,000	1,000,000
Ethylbenzene	ND	ND	ND	ND	6.2	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	1,000	41,000	390,000	780,000
Isopropylbenzene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	NV	NV	NV	NV
Methylene chloride	17.2	ND	ND	4.7 B	6.6	3.8 B	1.8	3.7 B	4.4	ND	8.0	ND	11.2	NT	ND	ND	ND	ND	ND	50	100,000	500,000	1,000,000
n-Butylbenzene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	12,000	100,000	500,000	1,000,000
n-Propylbenzene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	3,900	100,000	500,000	1,000,000
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	12,000	100,000	500,000	1,000,000
o-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	260	100,000	500,000	1,000,000
p-Isopropyltoluene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	NV	NV	NV	NV
p/m-Xylene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NT	NR	NR	NR	NR	NR	260	100,000	500,000	1,000,000
sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	11,000	100,000	500,000	1,000,000
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	4.7	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	1,300	19,000	150,000	300,000
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	700	100,000	500,000	1,000,000
Trichloroethene	ND	28900	ND	ND	ND	ND	ND	4.3	3.8	ND	2.2	ND	ND	NT	ND	ND	ND	ND	ND	470	21,000	200,000	400,000
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	ND	20	900	13,000	27,000
Xylene (total)	ND	ND	ND	ND	47.1	ND	ND	ND	2.0	ND	ND	ND	ND	NT	519	ND	ND	ND	ND	260	100,000	500,000	1,000,000

	December 2016																			
Parameter	 SB1 (2-6')	 SB6 (0-4')	 SB7 (2-6')	 SB8 (2-6')	 SB9 (0-2')	 SB9 (0-4')	 SB10 (1-3')	 SB11 (1-3')	 SB13 (1-5')	 SB14 (0-4')	 SB16 (.5-4.5')	 SB21 (1-4')	 SB25 (2-6')	 SS1 (0-1')	 SS2 (0-1')	UUSCO	RRUSCO	CUSCO	IUSCO	
GC/MS Volatiles 8260C Analysis (ug/kg)																				
1,2,4-Trimethylbenzene	NT	2.3 J	6.3	290 J	NT	1.9 J	NT	NT	13	NT	15	8.0	18	NT	NT		3,600	52,000	190,000	380,000
1,3,5-Trimethylbenzene	NT	4.6 J	2.4 J	79 J	NT	6.9	NT	NT	3.5 J	NT	4.2 J	2.6 J	6.4	NT	NT		8,400	52,000	190,000	380,000
Acetone	NT	4.0 J	14	ND	NT	2.7 J	NT	NT	6.1 J	NT	3.6 J	13	4.7 J	NT	NT		50	100,000	500,000	1,000,000
Benzene	NT	0.19 J	0.16 J	ND	NT	0.19 J	NT	NT	0.18 J	NT	ND	0.20 J	0.28 J	NT	NT		60	4,800	44,000	89,000
2-Butanone (MEK)	NT	ND	ND	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	NT	NT		120	100,000	500,000	1,000,000
cis-1,2-Dichloroethene	NT	ND	2.1	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	NT		250	100,000	500,000	1,000,000
trans-1,2-Dichloroethene	NT	ND	ND	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	NT	NT		190	100,000	500,000	1,000,000
Ethylbenzene	NT	6.0	3.2	78	NT	11	NT	NT	5.1	NT	7.0	4.5	8.4	NT	NT		1,000	41,000	390,000	780,000
Isopropylbenzene	NT	0.46 J	0.30 J	9.9 J	NT	0.75 J	NT	NT	0.41 J	NT	0.52 J	0.38 J	0.88 J	NT	NT		NV	NV	NV	NV
Methylene chloride	NT	ND	ND	ND	ND	ND	NT	NT	ND	NT	ND	ND	ND	NT	NT		50	100,000	500,000	1,000,000
n-Butylbenzene	NT	0.62 J	0.17 J	31 J	NT	1.0 J	NT	NT	0.35 J	NT	0.33 J	0.16 J	0.50 J	NT	NT		12,000	100,000	500,000	1,000,000
n-Propylbenzene	NT	2.7	0.93 J	46 J	NT	6.0	NT	NT	2.0	NT	2.5	1.3	3.5	NT	NT		3,900	100,000	500,000	1,000,000
Naphthalene	NT	6.2	0.49 J	170 J	NT	3.4 J	NT	NT	0.74 J	NT	0.65 J	0.77 J	0.43 J	NT	NT		12,000	100,000	500,000	1,000,000
o-Xylene	NT	ND	ND	ND	NT	0.66 J	NT	NT	0.39 J	NT	0.40 J	ND	ND	NT	NT		260	100,000	500,000	1,000,000
p-Isopropyltoluene	NT	0.17 J	ND	ND	NT	0.17 J	NT	NT	ND	NT	ND	ND	0.15 J	NT	NT		NV	NV	NV	NV
p/m-Xylene	NT	2.9	12	340	NT	1.8 J	NT	NT	22	NT	32	18	36	NT	NT		260	100,000	500,000	1,000,000
sec-Butylbenzene	NT	0.14 J	ND	31 J	NT	0.17 J	NT	NT	ND	NT	ND	ND	0.18 J	NT	NT		11,000	100,000	500,000	1,000,000
Tetrachloroethene	NT	0.49 J	ND	ND	NT	11	NT	NT	ND	NT	0.50 J	ND	ND	NT	NT		1,300	19,000	150,000	300,000
Toluene	NT	0.35 J	ND	ND	NT	0.36 J	NT	NT	0.59 J	NT	0.45 J	ND	0.45 J	NT	NT		700	100,000	500,000	1,000,000
Trichloroethene	NT	8.5	2.5	3,300	NT	0.58 J	NT	NT	0.20 J	NT	0.49 J	ND	0.37 J	NT	NT		470	21,000	200,000	400,000
Vinyl chloride	NT	ND	0.25 J	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	NT		20	900	13,000	27,000
Xylene (total)	NT	2.9	12	340	NT	2.46	NT	NT	22.39	NT	32.4	18	36	NT	NT		260	100,000	500,000	1,000,000

Notes:

- 1.October 2015 sample analysis completed by Accutest Laboratories; December 2016 sample analysis completed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/Kg = parts per billion; mg/kg= parts per million.
3. ND = not detected; NT= not tested; NV= no value; NR = not reported
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. Shading indicates:

exceeds UUSCO - Unrestriced Use Soil Cleanup Objective

exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objective

exceeds CUSCO - Commercial Use Soil Cleanup Objective

exceeds IUSCO - Industrial Use Soil Cleanup Objective

-  Soil Boring & Micro Well Locations (10/15-10/16/16)
-  Soil Boring Locations (12/21-12/23/16)
-  Surface Soil Locations (12/21-12/23/16)
-  Test Pit Locations (10/15-10/16/16)
-  Soil Boring & Piezometer Locations (12/21-12/23/16)

Table III-B
Semi-Volatile Organic Compounds - Soil Analytical Testing Results Summary
1801 Elmwood Avenue Buffalo, New York

	October 2015																						
Parameter	 SB1 (0-4')	 SB2 (4-8')	 SB4 (0-4')	 SB8 (0-4')	 SB10 (0-4')	 SB12 (0-4')	 SB14 (0-4')	 SB15 (0-4')	 TP4 (4-8')	 TP4 (9-12')	 TP5 (0-4')	 TP7 (0-4')	 TP10 (4-8')	 TP11 (0-4')	 TP14 (0-3')	 TP16 (4-8')	 TP17 (0-4')	 TP18 (0-4')	UUSCO	RRUSCO	CUSCO	IUSCO	
GC/MS Semi-volatiles 8270D Analysis (ug/kg)																							
2-Methylnaphthalene	565	ND	27600	1690	375	ND	ND	1010	1730	189	ND	ND	184	NT	2490	704	ND	ND	NV	NV	NV	NV	
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	330	100,000	500,000	1,000,000	
Acenaphthene	ND	ND	14200	2970	859	ND	ND	964	2960	ND	143	265	132	NT	1450	1720	2980	246	20,000	100,000	500,000	1,000,000	
Acenaphthylene	ND	ND	12900	2800	402	ND	ND	574	884	ND	ND	ND	ND	NT	248	593	2540	255	100,000	100,000	500,000	1,000,000	
Acetophenone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NV	NV	NV	NV	
Anthracene	ND	ND	66400	11100	3210	121	ND	3330	7700	155	381	515	337	NT	3210	6570	11200	1020	100,000	100,000	500,000	1,000,000	
Benzo(a)anthracene	196	ND	98200	18500	6660	403	ND	7410	16200	582	891	1240	637	NT	6770	14000	34900	3000	1,000	1,000	5,600	11,000	
Benzo(a)pyrene	175	ND	85600	16600	6380	389	ND	6550	14900	444	842	1190	681	NT	5400	12500	33100	2980	1,000	1,000	1,000	1,100	
Benzo(b)fluoranthene	222	ND	69000	13100	8070	324	ND	6070	13000	389	730	1090	600	NT	7340	10600	26900	2550	1,000	1,000	5,600	11,000	
Benzo(g,h,i)perylene	ND	ND	32100	7090	4950	207	ND	3690	8700	256	514	629	499	NT	3390	9040	14200	1400	100,000	100,000	500,000	1,000,000	
Benzo(k)fluoranthene	155	ND	57900	12300	5150	303	ND	5390	12400	313	704	916	433	NT	4320	6180	26800	2330	800	3,900	56,000	110,000	
Butyl benzyl phthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	518	ND	NT	ND	ND	ND	1200	NV	NV	NV	NV	
Biphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NV	NV	NV	NV	
Carbazole	ND	ND	21300	3840	1520	ND	ND	1490	4010	ND	200	275	168	NT	1830	2440	3960	432	NV	NV	NV	NV	
Chrysene	239	ND	94000	17000	6650	393	ND	7220	16300	710	881	1270	724	NT	7120	13400	33500	2880	1,000	3,900	56,000	110,000	
Dibenzo(a,h)anthracene	ND	ND	3890	679	442	ND	ND	ND	803	ND	ND	ND	ND	NT	440	778	ND	523	330	330	560	1,100	
Dibenzofuran	165	ND	19300	3440	870	ND	ND	1140	2700	ND	ND	158	165	NT	1540	1410	ND	183	7,000	59,000	350,000	1,000,000	
Fluoranthene	352	ND	180000	46000	15000	723	170	15000	37500	863	1880	2860	1580	NT	16400	28100	69800	7140	100,000	100,000	500,000	1,000,000	
Fluorene	ND	ND	32800	4240	1130	ND	ND	1430	3890	ND	156	245	159	NT	1460	2040	3210	282	30,000	100,000	500,000	1,000,000	
Indeno(1,2,3-cd)pyrene	ND	ND	29200	6320	4370	211	ND	3580	8230	221	471	549	298	NT	3690	8900	14700	1230	500	500	5,600	11,000	
2-Methylnaphthalene	565	ND	27600	1690	375	ND	ND	1010	1730	189	ND	ND	184	NT	2490	704	ND	ND	NV	NV	NV	NV	
Naphthalene	362	ND	33500	3230	597	ND	ND	991	3540	ND	ND	ND	203	NT	2680	1310	ND	ND	12,000	100,000	500,000	1,000,000	
Phenanthrene	427	ND	201000	43400	13100	452	124	12300	32400	661	1440	2390	1490	NT	15100	22000	38000	3820	100,000	100,000	500,000	1,000,000	
Pyrene	346	ND	162000	41800	13100	706	162	13300	32400	817	1600	2540	1650	NT	14000	23400	63500	6020	100,000	100,000	500,000	1,000,000	

December 2016																			
Parameter	 SB1 (2-6')	 SB6 (0-4')	 SB7 (2-6')	 SB8 (2-6')	 SB9 (0-2')	 SB9 (0-4')	 SB10 (1-3')	 SB11 (1-3')	 SB13 (1-5')	 SB14 (0-4')	 SB16 (.5-4.5')	 SB21 (1-4')	 SB25 (2-6')	 SS1 (0-1')	 SS2 (0-1')	UUSCO	RRUSCO	CUSCO	IUSCO
GC/MS Semi-volatiles 8270D Analysis (ug/kg)																			
2-Methylnaphthalene	50 J	2,300	120 J	440	NT	700 J	NT	NT	80 J	NT	ND	450	250	NT	1,200	NV	NV	NV	NV
3&4-Methylphenol	ND	ND	ND	ND	NT	ND	NT	NT	ND	NT	ND	57 J	ND	NT	ND	330	100,000	500,000	1,000,000
Acenaphthene	ND	28,000	74 J	1,400	NT	2,800	NT	NT	580	NT	ND	980	290	NT	140 J	20,000	100,000	500,000	1,000,000
Acenaphthylene	ND	860	56 J	ND	NT	320 J	NT	NT	56 J	NT	ND	210	110 J	NT	98 J	100,000	100,000	500,000	1,000,000
Acetophenone	ND	ND	ND	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	200	NV	NV	NV	NV
Anthracene	40 J	53,000*	210	2,200	NT	5,100	NT	NT	1,300	NT	ND	2,600	780	NT	280	100,000	100,000	500,000	1,000,000
Benzo(a)anthracene	140	78,000*	1,300	2,500	NT	12,000	NT	NT	3,300	NT	29 J	5,600	2,600	NT	610	1,000	1,000	5,600	11,000
Benzo(a)pyrene	150	60,000*	1,100	1,400	NT	11,000	NT	NT	3,100	NT	150	4,800	2,300	NT	540	1,000	1,000	1,000	1,100
Benzo(b)fluoranthene	230	80,000*	1,700	2,400	NT	16,000	NT	NT	3,800	NT	ND	6,200	3,000	NT	810	1,000	1,000	5,600	11,000
Benzo(g,h,i)perylene	140	32,000*	720	910	NT	6,500	NT	NT	1,800	NT	ND	2,700	1,200	NT	370	100,000	100,000	500,000	1,000,000
Benzo(k)fluoranthene	72 J	27,000	600	720	NT	5,900	NT	NT	1,200	NT	ND	2,300	980	NT	260	800	3,900	56,000	110,000
Butyl benzyl phthalate	ND	ND	ND	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	ND	NV	NV	NV	NV
Biphenyl	ND	920 J	ND	ND	NT	ND	NT	NT	ND	NT	ND	90 J	49 J	NT	110 J	NV	NV	NV	NV
Carbazole	30 J	14,000	110 J	ND	NT	3,900	NT	NT	650	NT	ND	1,100	360	NT	160 J	NV	NV	NV	NV
Chrysene	180	67,000*	1,400	3,000	NT	13,000	NT	NT	3,400	NT	26 J	5,300	2,700	NT	710	1,000	3,900	56,000	110,000
Dibenzo(a,h)anthracene	32 J	11,000	180	300	NT	1,900	NT	NT	500	NT	ND	810	370	NT	110 J	330	330	560	1,100
Dibenzofuran	21 J	13,000	55 J	950	NT	1,600	NT	NT	300	NT	ND	610	180 J	NT	420	7,000	59,000	350,000	1,000,000
Fluoranthene	400	170,000*	2,800	6,800	NT	29,000	NT	NT	6,000	NT	55 J	13,000*	4,900	NT	1,200	100,000	100,000	500,000	1,000,000
Fluorene	ND	26,000	56 J	2,700	NT	2,600	NT	NT	540	NT	ND	1,000	290	NT	ND	30,000	100,000	500,000	1,000,000
Indeno(1,2,3-cd)pyrene	130 J	37,000*	790	900	NT	7,900	NT	NT	2,000	NT	ND	3,100	1,400	NT	380	500	500	5,600	11,000
2-Methylnaphthalene	ND	ND	ND	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	ND	NV	NV	NV	NV
Naphthalene	80 J	1,500	140 J	350	NT	2,100	NT	NT	140 J	NT	ND	470	260	NT	910	12,000	100,000	500,000	1,000,000
Phenanthrene	190	160,000*	800	8,900*	NT	24,000	NT	NT	5,100	NT	47 J	9,600*	3,800	NT	1,500	100,000	100,000	500,000	1,000,000
Pyrene	320	130,000*	2,300	6,500	NT	21,000	NT	NT	5,300	NT	46 J	10,000*	4,300	NT	1,100	100,000	100,000	500,000	1,000,000

Notes:

- 1.October 2015 sample analysis completed by Accutest Laboratories; December 2016 sample analysis completed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/Kg = parts per billion; mg/kg= parts per million.
3. ND = not detected; NT= not tested; NV= no value; NR = not reported
4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.
5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.
6. Shading indicates:

exceeds UUSCO - Unrestricted Use Soil Cleanup Objectiveexceeds CUSCO - Commercial Use Soil Cleanup Objective

exceeds RRUSCO - Restricted Residential Use Soil Cleanup Objectiveexceeds IUSCO - Industrial Use Soil Cleanup Objective

-  Soil Boring & Micro Well Locations (10/15-10/16/16)
-  Soil Boring Locations (12/21-12/23/16)
-  Surface Soil Locations (12/21-12/23/16)
-  Test Pit Locations (10/15-10/16/16)
-  Soil Boring & Piezometer Locations (12/21-12/23/16)

Table III-C
Metals and PCB - Soil Analytical Testing Results Summary
1801 Elmwood Avenue Buffalo, New York

	October 2015																					
Parameter	 SB1 (0-4')	 SB2 (4-8')	 SB4 (0-4')	 SB8 (0-4')	 SB10 (0-4')	 SB12 (0-4')	 SB14 (0-4')	 SB15 (0-4')	 TP4 (4-8')	 TP4 (9-12')	 TP5 (0-4')	 TP7 (0-4')	 TP10 (4-8')	 TP11 (0-4')	 TP14 (0-3')	 TP16 (4-8')	 TP17 (0-4')	 TP18 (0-4')	UUSCO	RRUSCO	CUSCO	IUSCO
Metals Analysis (mg/kg)																						
Aluminum	9780	5350	3080	19200	5780	3770	3420	9520	5610	23300	12500	5740	10000	NT	9010	7450	9860	5630	NV	NV	NV	NV
Antimony	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	1.7	ND	ND	NT	ND	1.1	ND	ND	NV	NV	NV	NV
Arsenic	8.7	1.9	4.5	5.4	17.1	2.5	5.9	28.4	12.4	4.4	22.2	7.1	8.6	NT	11.1	14.9	8.6	6.1	13	16	16	16
Barium	68.9	19.7	32.5	207	93.4	19	17.4	144	85	162	131	139	55.1	NT	63.2	243	145	47.9	350	400	400	10,000
Beryllium	1.1	ND	ND	2.7	0.35	ND	ND	0.67	ND	1.2	1.1	0.42	0.42	NT	0.45	0.42	0.66	ND	7.2	72	590	2,700
Cadmium	ND	ND	ND	ND	0.65	ND	ND	1.7	0.46	0.4	0.93	1.2	ND	NT	0.64	0.9	0.54	0.4	2.5	4.3	9.3	60
Calcium	56300	34800	17700	104000	86400	39200	70900	29000	34600	2370	24700	72700	22200	NT	7050	48700	85700	47000	NV	NV	NV	NV
Chromium	10.7	4.8	16	9.9	18.5	6.9	25.3	41	11.3	25.9	20	27.4	11	NT	12.6	20.9	16.2	8.7	30	180	1,500	6,800
Cobalt	ND	ND	ND	ND	5.9	ND	ND	6.1	4.4	14.2	9.9	ND	ND	NT	6.4	6.5	7.4	5.4	NV	NV	NV	NV
Copper	16.1	2.7	15.3	8.1	43.1	4.9	4.4	73	23.1	20.6	66.6	348	24.2	NT	22	42.9	47.4	30.8	50	270	270	10,000
Cyanide, Total	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	27	27	27	10,000
Iron	28500	6510	10200	12200	56100	12800	21100	30100	30500	35000	33000	11200	18800	NT	58000	56400	27800	15200	NV	NV	NV	NV
Lead	32.8	11.7	31.4	52.1	63.2	99.4	101	190	95	15.9	156	159	87.7	NT	164	330	107	66.2	63	400	1,000	3,900
Magnesium	6950	4360	3470	10900	20400	4030	3810	6230	3890	5950	5470	17000	2630	NT	1210	6440	22800	7740	NV	NV	NV	NV
Manganese	1130	116	155	1820	520	478	278	921	486	444	561	313	1140	NT	891	605	441	331	1,600	2,000	10,000	10,000
Mercury	ND	ND	ND	0.045	0.045	ND	ND	ND	0.056	ND	0.18	0.081	ND	NT	0.28	0.26	0.21	0.043	0.18	0.81	2.8	5.7
Nickel	8.8	4.0	4.5	4.9	11.5	3.5	4.6	17.4	9.0	30.1	31.3	11.5	7.3	NT	12.8	21.4	19.2	18.9	30	310	310	10,000
Potassium	921	545	ND	1230	994	533	ND	1350	805	2790	1770	908	1550	NT	1350	1390	2160	950	NV	NV	NV	NV
Selenium	1.3	ND	ND	1.9	ND	ND	ND	ND	ND	2.3	ND	ND	ND	NT	ND	ND	ND	ND	3.9	180	1500	6800
Sodium	ND	ND	ND	525	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NV	NV	NV	NV
Vanadium	18.7	10.4	13.2	12.7	40.7	16	16.1	26.2	17.4	33.9	28.4	13.4	21.8	NT	23.8	32.1	23.1	13.3	NV	NV	NV	NV
Zinc	55.4	16	44.6	48.4	146	18.3	10.5	270	150	108	277	198	141	NT	242	267	196	124	109	10,000	10,000	10,000
PCBs Analysis (ug/kg)																						
Aroclor 1254	NT	ND	NT	ND	NT	NT	NT	56.5	NT	ND	NT	NT	NT	NT	NT	NT	ND	NT	100	1,000	1,000	25,000
Aroclor 1260	NT	ND	NT	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	NT	NT	ND	NT	100	1,000	1,000	25,000
Aroclor 1268	NT	ND	NT	ND	NT	NT	NT	ND	NT	ND	NT	NT	NT	NT	NT	NT	ND	NT	100	1,000	1,000	25,000
Total PCBs	NT	ND	NT	ND	NT	NT	NT	56.5	NT	ND	NT	NT	NT	NT	NT	NT	ND	NT	100	1,000	1,000	25,000
Herbicides Analysis (ug/kg)																						
Total Herbicides	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	ND	NT	NT	ND	NT	NT	NT	NT	-	-	-	-

	December 2016																		
Parameter	 SB1 (2-6')	 SB6 (0-4')	 SB7 (2-6')	 SB8 (2-6')	 SB9 (0-2')	 SB9 (0-4')	 SB10 (1-3')	 SB11 (1-3')	 SB13 (1-5')	 SB14 (0-4')	 SB16 (.5-4.5')	 SB21 (1-4')	 SB25 (2-6')	 SS1 (0-1')	 SS2 (0-1')	UUSCO	RRUSCO	CUSCO	IUSCO
Metals Analysis (mg/kg)																			
Aluminum	7,300	5,300	4,400	4,900	NT	5,800	NT	NT	4,100	NT	2,300	14,000	5,200	NT	5,400	NV	NV	NV	NV
Antimony	ND	ND	1.6 J	0.64 J	NT	1.0 J	NT	NT	ND	NT	ND	3.3 J	0.36 J	NT	3.8 J	NV	NV	NV	NV
Arsenic	4.8	6.3	5.9	38	NT	22	NT	NT	34	NT	2.2	12	24	NT	34	13	16	16	16
Barium	41	33	40	33	NT	79	NT	NT	41	NT	15	77	78	NT	80	350	400	400	10,000
Beryllium	0.84	0.23 J	0.26 J	0.22 J	NT	0.46	NT	NT	0.23 J	NT	0.10 J	0.48 J	1.2	NT	0.44	7.2	72	590	2,700
Cadmium	ND	ND	ND	ND	NT	0.60 J	NT	NT	ND	NT	ND	ND	0.27 J	NT	ND	2.5	4.3	9.3	60
Calcium	40,000	28,000	110,000	22,000	NT	27,000	NT	NT	33,000	NT	38,000	8,600	19,000	NT	7,200	NV	NV	NV	NV
Chromium	7.1	8.4	9.8	6.8	NT	19	NT	NT	60	NT	2.7	15	7.0	NT	16	30	180	1,500	6,800
Cobalt	2.4	3.3	2.2	3.3	NT	5.6	NT	NT	14	NT	1.3 J	6.2	4.4	NT	6.8	NV	NV	NV	NV
Copper	12	15	24	11	NT	130	NT	NT	42	NT	2.2	370	39	NT	66	50	270	270	10,000
Cyanide, Total	0.35 J	0.36 J	0.29 J	0.49 J	NT	0.44 J	NT	NT	0.33 J	NT	ND	2.8	2.1	NT	0.53 J	27	27	27	10,000
Iron	10,000	15,000	16,000	35,000	NT	40,000	NT	NT	180,000	NT	5,200	37,000	16,000	NT	56,000	NV	NV	NV	NV
Lead	22	50	35	470	NT	250	NT	NT	31	NT	130	200	78	NT	160	63	400	1,000	3,900
Magnesium	7,100	3,200	44,000	2,700	NT	3,600	NT	NT	2,800	NT	4,600	3,300	1,800	NT	1,100	NV	NV	NV	NV
Manganese	390	290	740	400	NT	660	NT	NT	1,400	NT	150	570	340	NT	860	1,600	2,000	10,000	10,000
Mercury	ND	0.96	0.03 J	ND	NT	0.12	NT	NT	0.31	NT	ND	0.04 J	0.077 J	NT	0.26	0.18	0.81	2.8	5.7
Nickel	5.2	7.4	6.3	6.8	NT	19	NT	NT	24	NT	2.3	18	9.8	NT	27	30	310	310	10,000
Potassium	740	380	420	500	NT	510	NT	NT	390	NT	180 J	770	500	NT	660	NV	NV	NV	NV
Selenium	ND	ND	ND	ND	NT	ND	NT	NT	ND	NT	ND	ND	ND	NT	ND	3.9	180	1500	6800
Sodium	380	74 J	170 J	170 J	NT	140 J	NT	NT	120 J	NT	90 J	280	300	NT	100 J	NV	NV	NV	NV
Vanadium	13	18	10	15	NT	24	NT	NT	95	NT	6.0	24	14	NT	20	NV	NV	NV	NV
Zinc	29	88	61	50	NT	180	NT	NT	37	NT	11	170	77	NT	130	109	10,000	10,000	10,000
PCBs Analysis (ug/kg)																			
Aroclor 1254	NT	NT	NT	ND	ND	NT	ND	19.8 J	NT	ND	NT	NT	NT	10.9 J	NT	100	1,000	1,000	25,000
Aroclor 1260	NT	NT	NT	3.72 J	11.7 J	NT	69.5	28.8 J	NT	ND	NT	NT	NT	17.9 J	NT	100	1,000	1,000	25,000
Aroclor 1268	NT	NT	NT	ND	ND	NT	97.0	ND	NT	ND	NT	NT	NT	ND	NT	100	1,000	1,000	25,000
Total PCBs	NT	NT	NT	3.72 J	11.7 J	NT	167	48.6 J	NT	ND	NT	NT	NT	28.8 J	NT	100	1,000	1,000	25,000
Herbicides Analysis (ug/kg)																			
Total Herbicides	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	-	-	-	-

Notes:

1.October 2015 sample analysis completed by Accutest Laboratories; December 2016 sample analysis completed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.

2. ug/Kg = parts per billion; mg/kg= parts per million.

3. ND = not detected; NT= not tested; NV= no value; NR = not reported

4. Analytical results compared to NYSDEC Part 375-6; Remedial Program Soil Cleanup Objectives, Table 375-(a) Unrestricted Use Soil Cleanup Objective; and Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

5. * = Concentration of analyte exceeded range of the calibration curve, which required a re-analysis at a higher dilution factor.

6. Shading indicates:  exceeds UUS

Table III-D
Groundwater Analytical Testing Results Summary
1801 Elmwood Avenue Buffalo, New York
January 2017

	October 2015				December 2016						Class GA Criteria (ug/L)
Parameter	 SB5	 SB9	 SB15	 MW1	 SB2	 SB8	 SB10	 SB14	 SB16	 SB25	
Volatile Organic Compounds EPA Method 8260C TCL + STARS (ug/L)											
Acetone	ND	ND	ND	ND	16	3.5 J	ND	ND	87	21	50
Benzene	ND	ND	ND	ND	ND	0.24 J	ND	ND	ND	ND	1
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	32	ND	ND	ND	5
Methyl cyclohexane	ND	ND	ND	ND	ND	0.43 J	ND	ND	ND	ND	NV
Trichloroethene	ND	ND	ND	ND	ND	16	0.22 J	ND	ND	ND	5
Vinyl chloride	ND	ND	ND	1.5	ND	0.74 J	42	ND	ND	ND	2
Xylene (total)	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	5
Semi Volatile Organic Compounds EPA Method TCL (ug/L)											
2-Methylnaphthalene	ND	ND	ND	ND	ND	0.51 J	ND	ND	0.41	0.06 J	NV
Acenaphthene	ND	3.9	2.8	ND	ND	4.0	ND	ND	0.83	0.50	20
Acenaphthylene	ND	6.2	ND	ND	ND	0.95 J	ND	ND	0.54	0.05 J	NV
Anthracene	ND	11.9	9.7	ND	ND	3.0	0.05 J	ND	1.3	0.08 J	50
Benzo(a)anthracene	2.3	40.1	21.4	ND	0.02 J	3.9	0.14 J	0.02 J	3.2	0.03 J	0.002
Benzo(a)pyrene	2.3	46.1	18.6	ND	ND	2.3	0.13 J	ND	3.0	ND	ND
Benzo(b)fluoranthene	2.1	37.2	17	ND	ND	3.6	0.20	0.03 J	6.8	0.08 J	0.002
Benzo(ghi)perylene	ND	27.3	10.5	ND	ND	1.1	0.09 J	ND	4.2	0.05 J	NV
Benzo(k)fluoranthene	ND	33.5	14.4	ND	ND	1.4	0.09 J	ND	1.8	ND	0.002
Carbazole	ND	2.7	3.7	ND	ND	ND	ND	ND	1.3 J	ND	NV
Chrysene	2.3	40.1	21	ND	ND	6.6	0.19 J	ND	3.8	0.06 J	0.002
Dibenzo(a,h)anthracene	ND	8.8	4	ND	ND	0.40 J	ND	ND	1.2	ND	NV
Dibenzofuran	ND	2.6	2.2	ND	ND	ND	ND	ND	1.0 J	ND	NV
Fluoranthene	4.3	77	41.5	ND	ND	11	0.32	ND	7.7	0.25	50
Fluorene	ND	4.2	4	ND	ND	6.9	ND	ND	1.2	0.20	50
Indeno(1,2,3-cd)pyrene	ND	24.6	9.7	ND	ND	1.0	0.09 J	ND	3.7	ND	0.002
Naphthalene	ND	2.2	2.4	ND	ND	0.70 J	ND	ND	1.4	0.11 J	10
Phenanthrene	2.1	33.8	35.5	ND	0.02 J	ND	0.20	ND	6.8	0.48	50
Phenol	ND	37.7	ND	ND	ND	ND	ND	ND	ND	ND	1
Pyrene	4	82.9	37.8	ND	ND	12	0.28	ND	6.3	0.15 J	50
Metals Analysis (ug/L)											
Aluminum	53300	80300	129000	777	NT	NT	NT	NT	NT	NT	-
Antimony	<6.0	<6.0	<6.0	<6.0	NT	NT	NT	NT	NT	NT	3
Arsenic	12.2	84.2	130	18.5	NT	NT	NT	NT	NT	NT	25
Barium	403	819	1220	107	NT	NT	NT	NT	NT	NT	1,000
Beryllium	ND	ND	4.9	ND	NT	NT	NT	NT	NT	NT	-
Cadmium	ND	7.4	5.8	ND	NT	NT	NT	NT	NT	NT	5
Calcium	244000	1050000	899000	185000	NT	NT	NT	NT	NT	NT	-
Chromium	65.6	190	187	ND	NT	NT	NT	NT	NT	NT	50
Cobalt	ND	58.5	63.5	ND	NT	NT	NT	NT	NT	NT	-
Copper	59.9	198	283	ND	NT	NT	NT	NT	NT	NT	200
Iron	61300	201000	216000	66200	NT	NT	NT	NT	NT	NT	300
Lead	80.3	688	956	5	NT	NT	NT	NT	NT	NT	25
Magnesium	112000	76900	145000	47300	NT	NT	NT	NT	NT	NT	35,000
Manganese	5460	9920	8490	609	NT	NT	NT	NT	NT	NT	300
Mercury	0.23	1.4	1.4	ND	NT	NT	NT	NT	NT	NT	0.7
Nickel	69.7	114	122	ND	NT	NT	NT	NT	NT	NT	100
Potassium	8470	11800	21200	6450	NT	NT	NT	NT	NT	NT	-
Selenium	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	10
Silver	<5.0	<5.0	<5.0	<5.0	NT	NT	NT	NT	NT	NT	50
Sodium	33500	18600	11500	14500	NT	NT	NT	NT	NT	NT	20,000
Thallium	<5.0	<5.0	<5.0	<5.0	NT	NT	NT	NT	NT	NT	-
Vanadium	88	169	256	ND	NT	NT	NT	NT	NT	NT	-
Zinc	273	2680	1050	ND	NT	NT	NT	NT	NT	NT	2,000

Notes:

1. October 2015 sample analysis completed by Accutest Laboratories; December 2016 sample analysis completed by Alpha Analytical. Compounds detected in one or more samples are presented in this table. Refer to Appendix for the full analytical report.
2. ug/L = 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.

 Soil Boring & Micro Well Locations (10/15-10/16/16)

 MW1 – Existing Monitoring Well

 Soil Boring & Piezometer Locations (12/21-12/23/16)

Soil Boring and Test Pit Logs – October 2015 Locations

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	5.0'	Drilling Contractor		Matrix 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	1	0-4	30	Brown f/c Sand and Gravel, trace Silt, moist (FILL)	ND
2					
3				Grades to ... Black, some Slag, trace Gravel	3.2
4				Grades to trace Slag, wet	5.8
	2	4-8	40	Dark gray Clay & Silt, trace Gravel, trace f/c Sand, trace Wood, wet (FILL)	
5				Grades to ... saturated	
6				Red/Brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8					
	3	8-12	48		ND
9					
10					
11					
12					ND
13				Bottom of boring 12' bgs	
14				Microwell installed to 12' bgs	
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	7.0'	Drilling Contractor		Matrix 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	1	0-4	12	Brown Clayey Silt, some f/c Sand, trace Gravel, moist (FILL)	ND
2				Grades to ... and f/c Sand	ND
3				Black f/c Sand, trace Slag, moist (FILL)	ND
4	2	4-8	48		ND
5					
6				Grades to wet	ND
7					
8	3	8-12	48	Grades to ... saturated	ND
9					
10					0.1
11				Dark gray Clay & Silt, some Gravel, trace f/c Sand, saturated (FILL)	
12	4	12-16	48	Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
13					
14					
15					
16				Bottom of boring 16' bgs	ND
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD	Drilling Contractor		Matrix 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	1	0-4	24	Gravel	ND
				Brown f/c Sand, some Gravel, little Brick, trace Slag, moist (FILL)	
2				Grades to ... black, little Slag, little Concrete, Brick	ND
3					
4					
	2	4-6	10		
5					
6				Grades to ... and Concrete	
				Refusal encountered at 6' bgs	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

SB3A and SB3B were completed in the wooded area. Spoon refusal was encountered at 3' bgs.
SB3 third attempt completed 40 feet North.

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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD			Drilling Contractor	Matrix 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	1	0-4	30	Brown Topsoil, little Brick, trace Slag, moist (FILL) Red Brick and Concrete (FILL)	ND
2				Brown Clay & Silt, little Slag, trace Brick, trace Gravel, moist (FILL)	
3				Grades to some Slag, some Concrete	ND
4				Dark brown f/c Sand, trace Gravel, moist (FILL)	
	2	4-8	40		ND
5					
6					
7					
8					
	3	8-12	48		
9				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
10					
11					
12				Bottom of boring 12' bgs	ND
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	5.0'	Drilling Contractor		Matrix Env.	
GW Depth at Completion	3.5'	Sampler Type:		MC	

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	30	Dark brown Clay & Silt, little Gravel, trace Brick, trace f/c Sand, moist (FILL)	ND
2				Grades to... and f/c Sand, some Brick, trace Gravel	
3				Grades to ... Red/brown, trace f/c Sand, trace Brick	
4	2	4-8	40		ND
5				Grades to ... gray, little f/c Sand, trace Organic Matter, wet	
6				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	
7					
8	3	8-12	48		ND
9					
10					
11					
12				Bottom of boring 12' bgs	ND
13				Microwell installed 11' bgs	
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	3.5'	Drilling Contractor		Matrix 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	1	0-4	40	Dark brown Clay & Silt, some Slag, little Brick, trace Gravel, trace f/c Sand, moist (FILL)	ND
2				Grades to ... and Brick	
3				Black f/c Sand, wet	
4				Red/brown Clay & Silt, trace Gravel, trace f/c Sand, wet (FILL)	ND
	2	4-8	40		ND
5					
6				-----	
				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8					
	3	8-12	40		ND
9					
10					
11					
12					ND
				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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD			Drilling Contractor	Matrix 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	1	0-4	18	Gray Concrete and Brick, little Slag, little Asphalt, dry (FILL)	ND
2				Grades to ... trace Slag, trace Asphalt	ND
3				Grades to ... trace Concrete	
4	2	4-8	36	Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)	ND
5				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
6					
7					
8	3	8-12	48		ND
9					
10					
11					ND
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative: <u>EB</u>	
Project Number:	<u>e1459</u>			
Start Date	<u>10/15/2015</u>	End Date	<u>10/15/2015</u>	Type of Drill Rig <u>Track Mounted Geoprobe Rig</u>
GW Depth While Drilling	<u>6.0'</u>			Drilling Contractor <u>Matrix Env.</u>
GW Depth at Completion	NWAC		Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	18	Dark brown Clay & Silt, little Slag, little f/c Sand, trace Wood, moist (FILL)	ND
2				Grades to ... and Slag, some Brick	ND
3				Grades to ... and Brick	
4				Black f/c Sand, some Clay & Silt, trace Gravel, trace Brick, moist (FILL)	
5	2	4-8	36		ND
6				Grades to ... wet	ND
7					
8	3	8-12	48	Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist	
9					ND
10					
11					
12				Bottom of boring 12' bgs	ND
13					
14					
15					
16					
18					
20					
22					
24					

Notes:	Slag/brick layer at 2-3' bgs
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	

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/15/2015	End Date	10/15/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	7.0'	Drilling Contractor		Matrix Env.	
GW Depth at Completion	5.8'	Sampler Type:		MC	

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	24	Concrete	ND
				Black f/c Sand, and Slag, little Silt, trace Gravel, moist (FILL)	
2					
3				Grades to ... light brown, little Brick, trace Slag	
4	2	4-8	24	Grades to ... black, trace Brick	ND
5					
6					
7				Grades to ... some Gravel, wet	
8	3	8-12	48	Red/brown CLAY & SILT, trace Gravel, f/c Sand, wet	ND
9					
10				Grades to ... moist	
11					
12				Bottom of boring 12' bgs	
13				Microwell installed to 9' bgs	
14					
15					
16					
18					
20					
22					
24					

Notes:

Slag and Brick layer (2-3') bgs

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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	8.5'	Drilling Contractor		Matrix 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	1	0-4	30	Brown f/c Sand, some Gravel, trace Silt, moist (FILL)	2.5
2				Grades to ... and Gravel	ND
3				Red/brown Clay & Silt, some f/c Sand, little Slag, little Brick, trace Gravel, moist (FILL)	
4				Grades to ... and Concrete	
4				Dark brown f/c Sand, some Brick, some Slag, trace Gravel, moist (FILL)	
	2	4-8	12		ND
5					
6					
7					
8					
8	3	8-11	12	Grades to ... wet	
9				Grades to ... and Gravel, little Brick	
10					ND
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD	Drilling Contractor		Matrix 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	1	0-4	40	Brown f/c Sand, some Gravel, trace Slag, trace Concrete, moist (FILL)	ND
2				Grades to ... little Slag	
3				Grades to black, trace Gravel	ND
4				Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)	
5	2	4-8	48	Grades to ... trace Brick	ND
6				Red CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8	3	8-12	48		ND
9					
10					
11					
12				Bottom of boring 12' bgs	
13					
14					
15					
16					
18					
20					
22					
24					

Notes:

First 3 attempts resulted in refusal at 1' bgs.
Moved 10 ft to the west to reach native soil.

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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	3.5'	Drilling Contractor		Matrix 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	1	0-4	30	Brown f/c Sand, some Gravel, little Silt, moist (FILL)	0.7
2				Grades to ... black, little Slag, moist	0.7
3				Grades to wet	
4	2	4-8	40		ND
5				Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)	
6				-----	ND
7				Red CLAY & SILT, trace Gravel, trace f/c Sand, moist	
8	3	8-12	48		ND
9					
10					
11					
12				Bottom of boring 12' bgs	
13				Microwell installed to 9' bgs	
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD	Drilling Contractor		Matrix 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	1	0-4	24	Brown f/c Sand, some Silt, some Gravel, moist (FILL)	ND
2				Grades to ... little Brick	
3				Grades to ... and Concrete	ND
4				Grades to wet	
4	2	4-8	48	Grades to ... black, trace Slag	0.1
5				Red/brown Clay & Silt, trace Gravel, trace Brick, trace f/c Sand, moist (FILL)	ND
6					
6				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					ND
8					
8	3	8-12	48		ND
9					
10					
11					
12					
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD		Drilling Contractor	Matrix 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	1	0-4	18	Asphalt	
				Gravel sub base, moist (FILL)	ND
				Dark brown f/c Sand, trace Slag, trace Gravel, moist (FILL)	ND
2					
3				Red/brown Silt & Clay, trace Gravel, trace f/c Sand, moist (FILL)	
4					
	2	4-8	48		ND
5					
6				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8					
	3	8-12	48		ND
9					
10					
11					
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB
Project Number:	e1459			
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig
GW Depth While Drilling	12.0'			Track Mounted Geoprobe Rig
GW Depth at Completion	12.3'			Drilling Contractor
				Matrix Env.
				Sampler Type:
				MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Topsoil, moist	ND
				Dark brown f/c Sand, little Slag, little Gravel, trace Brick, moist (FILL)	
2				Grades to ... some Brick	ND
				Grades to ... and Concrete	
3				Dark brown Clay & Silt, trace Brick, trace Gravel, trace f/c Sand, moist (FILL)	ND
4	2	4-8	30	Brown f/c Sand, little Brick, little Gravel, trace Slag, moist (FILL)	ND
5					
6				Grades to ... and Brick, trace Gravel	ND
7					
				Grades to ... trace Brick	
8	3	8-12	48	Grades to ... some Brick	0.2
9					
10				Grades to ... black, some Slag	
11					0.2
12	4	12-16	48	Grades to ... trace Slag, saturated	
13					
14				Grades to ... wet	
15					
16				Bottom of boring 16' bgs	
18				Microwell installed to 15' bgs	
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB	
Project Number:	e1459				
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig	Track Mounted Geoprobe Rig
GW Depth While Drilling	NWWD			Drilling Contractor	Matrix 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	1	0-4	30	Topsoil	ND
				Brown Clayey Silt, some f/c Sand, little Slag, trace Brick, moist (FILL)	
2				Grades to ... some Brick, some Wood	ND
3				Black f/c Sand, trace Slag, moist (FILL)	
4				Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)	
	2	4-8	40		ND
5					
6				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8					
	3	8-12	48		ND
9					
10					
11					
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

Project Name & Location	1801 Elmwood Avenue; Donation Parcel		HEI Representative:	EB
Project Number:	e1459			
Start Date	10/16/2015	End Date	10/16/2015	Type of Drill Rig
GW Depth While Drilling	NWWD			Track Mounted Geoprobe Rig
GW Depth at Completion	NWAC			Drilling Contractor
				Matrix Env.
				Sampler Type:
				MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Asphalt Gravel sub base	ND
2				Light brown f/c Sand, some Brick, some Slag, little Gravel, moist (FILL)	
3				Grades to ... dark brown, trace Brick, trace Slag, trace Gravel	0.7
4				Grades to ... some Concrete	
	2	4-8	40	Red/brown Clay & Silt, little Slag, little Gravel, little f/c Sand, moist (FILL)	
5					
6				Grades to trace Slag, trace Gravel, trace f/c Sand	
				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist	ND
7					
8					
	3	8-12	48		ND
9					
10					
11					
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

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
	1	0-3	2.6	Dark brown f/c Sand, little fine gravel size Slag, staining, moist (FILL)
1				
2				
3				Grades to... and boulder size Concrete
4				Refusal encountered at 3' bgs
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVN Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	1.5	Dark gray f/c Sand, little sand size Slag, little gravel size Brick, trace Gravel, staining, moist (FILL)
2				Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)
3				
4	2	4-6.5'	0.5	Gray f/c Sand, and full size Brick, little Gravel, moist (FILL)
5				
6				Grades to... and boulder size Concrete
7				Refusal encountered at 6.5 ft bgs
8				
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	0.2	Red/brown Clay & Silt, little Gravel, trace f/c Sand, moist (FILL)
2				
3				
4				Black f/c Sand, some gravel size Brick, trace Gravel, trace sand size Slag, staining, moist (FILL)
4	2	4-8	0.8	Red/brown Clay & Silt, trace Gravel, trace Silt, moist (FILL)
5				Red/brown f/c Sand, some sand size Slag, trace Gravel, moist (FILL)
6				----- Red/brown CLAY & SILT, trace Gravel, trace Silt, moist
7				
8				Bottom of excavation 8' bgs
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVN Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Black f/c Sand, little Gravel, little f gravel size Slag, little full and gravel size Brick, trace gravel size Concrete, trace Organic Matter, moist (FILL)
2				
3				Grades to... trace metal strips
4	2	4-8	ND	Grades to ... some full size Brick
5				
6				Grades to... little full size Brick
7				
8	3	8-9	4.6	Red Clay & Silt, trace Gravel, trace Silt, moist
9	4	9-12	51	Grades to ... gray, staining, odor detected
10				
11				
12				Bottom of excavation 12' bgs
13				
14				
15				

Notes: Increase in brick quantity from 4-8' bgs.
Metal strips generally 4 to 6 inch wide pieces of metal that were 5-10 feet long.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVN Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	0.6	Red/brown Clay & Silt, little f/c Sand, little Gravel, moist (FILL)
2				
3				
4				Black f/c Sand, moist (FILL)
5	2	4-8	1.5	Red/brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)
6				
7				Grades to ... and f/c Sand
8				Grades to ... trace f/c Sand
9	3	8-12	ND	Brown CLAY & SILT, trace f/c Sand, trace Gravel, moist
10				
11				
12				
13				Bottom of excavation 12' bgs
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	3.2	Black f/c Sand, little gravel size Brick, little Gravel, trace Silt, moist (FILL)
				Brown Clay & Silt, f/c Sand, trace Gravel, moist (FILL)
2				
3				Grades to ... little f/c Sand
4	2	4-6	0.8	
5	3	5-6	3.2	Black f/c Sand and Slag, some metal pieces, trace Gravel, moist (FILL)
6				Refusal encountered at 6' bgs
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: During the first attempt, a metal plate was encountered at 3' bgs; the extent of the metal piece was not identified. The test pit was moved 10' north. Refusal was encountered at 6' bgs due to buried metal pieces.
The metal pieces generally included several 3-5 inch wide pieces; however the length of the pieces were not identified.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OMV Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Black f/c Sand, trace Gravel, moist (FILL)
				Grades to ... light brown, little Gravel
2				Grades to ... some full size Brick
3				Concrete slab
4				Black f/c Sand and Fly Ash, trace Gravel (FILL)
	2	4-8	ND	
5				
6				Grades to ... dark brown, trace Fly Ash
7				
8				
	3	8-10	ND	Red/brown CLAY & SILT, trace f/c Sand, trace Gravel, moist
9				
10				
				Bottom of excavation 10' bgs
11				
12				
13				
14				
15				

Notes: At 3 ft. bgs. excavator was used to break through concrete slab. The concrete slab was approximately 6 inches thick. The extent of the slab was not determined.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/13/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Black f/c Sand, trace Gravel, trace Silt, moist (FILL)
2				Grades to ... light brown
3				Red/brown Clay & Silt, trace Gravel, trace Silt, moist (FILL)
4	2	4-8	ND	Red/brown CLAY & SILT, trace Gravel, trace Silt, moist
5				
6				
7				
8				Bottom of excavation 8' bgs
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OMV Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)
2				
3				Black f/c Sand, little gravel size Brick, trace Gravel, moist (FILL)
4				Red/brown Clay & Silt, little Gravel, trace f/c Sand, moist (FILL)
5	2	4-6	ND	
6				Black f/c Sand, trace Gravel, trace Silt, moist (FILL)
7	3	6-9	ND	Red/brown CLAY & SILT, trace Gravel, trace Silt, moist
8				
9				Bottom of excavation 9' bgs
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)

				Asphalt

2				Gravel sub base (FILL)
3				Red/brown f/c Sand, little Silt, trace Gravel, moist (FILL)
4				
	2	4-8	ND	
5				
				Grades to ... and cobble size Slag, some gravel and sand size Slag
6				
				Grades to ... Gray, wet
7				
				Grades to ... Black, trace gravel and sand size Slag
8				Gray Clay & Silt, trace f/c Sand, trace Wood, moist (FILL)
	3	8-11	ND	
9				-----
				Gray CLAY & SILT, trace f/c Sand, trace Gravel, moist
10				
11				Bottom of excavation 11' bgs
12				
13				
14				
15				

Notes: Excavator was used to break through the asphalt layer at 1' bgs.

General
Notes:

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2 - Groundwater (GW) depths approximate at time of test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OMV Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown Clay & Silt, little Gravel, trace f/c Sand, moist (FILL)
2				
3				Black f/c Sand, moist (FILL)
4				Grades to brown
				Brown Clay & Silt, some gravel size Brick, little gravel size Concrete, trace f/c Sand, moist (FILL)
	2	4-6	ND	
5				Grades to ... trace gravel size Brick, trace Concrete
6				-----
				Gray CLAY & SILT, trace Gravel, trace f/c Sand, wet
	3	6-8	ND	
7				
				Grades to ... saturated
8				
				Bedrock encountered at 8' bgs
9				
10				
11				
12				
13				
14				
15				

Notes: A historical building foundation slab was located north of test pit location.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown Clay & Silt, some gravel size Brick, little Gravel, trace f/c Sand, moist (FILL)
				Grades to ... some f/c Sand, little Slag
2				
3				Concrete slab
				Sub base gravel (FILL)
4	2	4-7	ND	Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, moist
5				
6				
7				
8				Bottom of excavation 7' bgs
9				
10				
11				
12				
13				
14				
15				

Notes: A 6 inch thick concrete slab was encountered at 2.5 feet bgs. HEI broke through concrete to access soil below, however only a small area of concrete could be broken which restricted the depth of excavation.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	0.3	Dark brown Topsoil, trace gravel size Brick, moist (FILL)
				Brown f/c Sand, trace Gravel, trace Silt, moist (FILL)
2				Grades to ... light brown
				Red/brown CLAY & SILT, trace Gravel, trace f/c Sand, trace Organic matter, moist
3				
4	2	4-8	ND	
5				Grades to gray
6				
7				
8				Bottom of excacation 8' bgs
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-3	ND	Topsoil and roofing shingles, little full to gravel size Brick, moist (FILL)
				Light brown f/c Sand, little full to gravel size Brick, trace Gravel to sand size Slag (FILL)
2				
3				Grades to ... gray, some full to gravel size Brick, little gravel to sand size Slag, little Cinders
				Unknown metal plate
4				Refusal at 3' bgs
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes: Pockets of slag/cinders at 2.5'-3' bgs
Railroad rail encountered at 2.5' bgs; (6 inches above the unknown metal plate)
Unknown metal plate <10 feet long encountered at 3' bgs

General
Notes:

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2 - Groundwater (GW) depths approximate at time of test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OMV Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-2	0.1	Brown Clay & Silt, trace f/c Sand, trace full gravel size Brick, moist (FILL)
				Brown f/c Sand, little full size Brick, little f gravel size Slag, trace Gravel, moist (FILL)
2				
	2	2-4	ND	
				Grades to ... and full size Brick (fire brick, white color)
3				
				Grades to ... trace gravel size Brick
	3	4-8	ND	
4				
				Brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)

5				Brown/gray CLAY & SILT, trace Silt, trace Gravel, moist
6				
7				
8				Bottom of excavation 8' bgs
9				
10				
11				
12				
13				
14				
15				

Notes:

Excavator refusal encountered during first attempt at 3' bgs due to a buried concrete slab. Moved 10' north to complete excavation.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/13/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OM Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown Clay & Silt, trace Gravel, trace f/c Sand, moist (FILL)
				Brown f/c Sand, little Brick, trace f gravel size Slag, moist (FILL)
2				
3				Concrete tunnel; filled with full size Brick
4	2	4-8	ND	
5				
6				
7				
8				Bottom of excavation 8' bgs
9				
10				
11				
12				
13				
14				
15				

Notes: Concrete tunnel encountered at 3' bgs. TP 16 was excavated at the southern extent of the tunnel. The tunnel appeared to extend in a north to south direction.
Excavation was stop due to the brick within the tunnel would collapse after each bucket scoop.
Concrete tunnel appeared to be approximately 2.5 feet wide by 5 feet high.

General
Notes:

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- 3 - f=fine; m=medium; c=coarse
- 4 - and (36-50%); some (21-35%); little (11-20%); trace (1-10%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVN Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Brown f/c Sand, little Gravel, trace sand size Slag, moist (FILL)
2				Concrete slab or possible tunnel
3				Black f/c Sand, little f gravel Slag, little Gravel, little Silt, little gravel size Brick, moist
4	2	4-8	ND	
5				Red/brown Clay & Silt, little f gravel size Slag, trace f/c Sand, trace gravel size Brick, moist (FILL)
6				Grades to ... trace f gravel size Slag
7				
8				Iron pipe
9				Refusal at 8' bgs
10				
11				
12				
13				
14				
15				

Notes: A concrete slab was encountered at 2' bgs. Excavator broke through the slab and encountered various fill material. Unknown if the slab was possibly an historical tunnel.
6 inch iron pipe encountered in a east to west orientation.

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 test pit completion. 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%)

Project Name & Location 1801 Elmwood Avenue; Donation Parcel HEI Representative: EB
Project Number: e1459
Start Date 10/14/2015 End Date 10/14/2015 Type of Excavator: Track mounted
Contractor: DirtWorks
Sampler Type: Bucket

Test Pit Depth (ft)	Sample No.	Sample Interval (feet)	OVN Reading (ppm)	SAMPLE DESCRIPTION
1	1	0-4	ND	Light brown f/c Sand, some Gravel, little full and gravel size Brick, moist (FILL)
2				
3				Grades to ... black, some f gravel size Slag, little f gravel size Cinders
4	2	4-8	ND	
5				
6				
7				Red/brown CLAY & SILT, trace Gravel, trace Silt, moist
8				Bottom of excavation 8' bgs
9				
10				
11				
12				
13				
14				
15				

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 test pit completion. 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%)

Soil Boring Logs – December 2016 Locations

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold
Project Number:	e1609			
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig
GW Depth While Drilling	8.5'			Truck Mount Geoprobe
GW Depth at Completion	NWAC			Drilling Contractor
				TREC Env.
				Sampler Type:
				MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	40	Asphalt	
				Sub-base Gravel, moist. (FILL)	0
				Brown f/c Sand, some Silt, little Gravel, little Slag, moist. (FILL)	
2				Grades to... and Concrete.	0
				Grades to... Dk. Brown, tr. Concrete, tr. Gravel, tr. Slag.	
3					0
4	2	4-8	48		0
5					0
6					0
7					0
				Grades to... little Brick, wet.	
8	3	8-12	40		0
				Grades to... tr. Brick, saturated.	
9					0
10					0
11					0
				Grades to... some Slag.	
12	4	12-15.5	40		0
				Grades to... tr. Slag.	
13					0
14					0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
15					0
16				Refusal encountered at 15.5' bgs	
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

Project Name & Location Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY HEI Representative: E. Betzold

Project Number: e1609

Start Date 11/29/2016 End Date 11/29/2016 Type of Drill Rig Truck Mount Geoprobe

GW Depth While Drilling 7' Drilling Contractor TREC Env.

GW Depth at Completion 6.1' Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	30	Brown Clay & Silt, little Gravel, tr. f/c Sand, moist. (FILL)	0
2				-----	0
3				Dk. Brown f/c Sand, some Silt, tr. Slag, tr. Gravel, moist. (FILL)	0
4	2	4-8	40		0
5					0
6				Grades to... tr. Tree roots, wet.	0
7					0
8	3	8-12	40	Grades to... saturated.	0
9					0
10					0
11					0
12	4	12-14.5	40	Grades to... some Slag.	0
13				Grades to... little Slag.	0
14				Grades to... some Slag.	0
15				-----	0
16				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
17					
18				Refusal encountered at 14.5' bgs	
19				Temporary well installed to 14' bgs	
20					
21					
22					
23					
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	36	Asphalt	
				Sub-base Gravel, tr Slag, moist. (FILL)	0
				Brown Clay & Silt, some Gravel, tr. f/c Sand, tr. Concrete, moist. (FILL)	
2					0
				Red/Brown CLAY & SILT, some Gravel, tr. f/c Sand, tr. Concrete, moist.	
3					0
4	2	4-8	48		0
5					0
6					0
7					0
8					0
				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	36	Asphalt	0
				Sub-base Gravel, tr. Slag, moist. (FILL)	
				Brown Clay & Silt, some Gravel, tr. f/c Sand, tr. Concrete, moist. (FILL)	
2					0
3				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
4	2	4-8	48		0
5					0
6					0
7					0
8					0
9				Bottom of Boring 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	5.5'	Drilling Contractor		TREC 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	1	0-4	36	Brown f/c Sand, some Silt, little Brick, little Gravel, tr. Slag, moist. (FILL)	0
				Grades to... some Brick.	0
2				Grades to... Dk. Brown, tr. Brick, tr. Gravel.	0
3					0
4	2	4-8	48	Grades to... wet.	0
5				Grades to... saturated.	0
6				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
7				Red/Brown CLAY & SILT, 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	5'	Drilling Contractor		TREC 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	1	0-4	40	Brown f/c Sand, some Silt, little Slag, little Concrete, little Gravel, moist. (FILL)	0
2				Grades to... tr. Slag, tr. Concrete, tr. Gravel.	0
3					0
4	2	4-8	48	Grades to... some Slag.	0
5				Grades to... tr. Slag.	0
6				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
7					0
8				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
9					0
10				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/21/2016	End Date	12/21/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	5'	Drilling Contractor		TREC 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	1	0-4	40	Asphalt	0
				Sub-base Gravel and Concrete, wet. (FILL)	0
2				Brown f/c Sand, little Gravel, tr. Slag, tr. Concrete, moist. (FILL)	0
3				Grades to... Dk. Brown, tr. Gravel.	0.3
4	2	4-8	48	Grades to... and Brick.	0
5				Grades to... some Slag, tr. Brick, wet.	0
6				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
7				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
8				Bottom of Boring 8' bgs	0
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	5.5'	Drilling Contractor		TREC Env.	
GW Depth at Completion	5'	Sampler Type:		MC	

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	40	Asphalt	
				Sub-base Gravel, moist. (FILL)	0
				Brown f/c Sand, some Gravel, little Silt, little Slag, tr. Brick, moist. (FILL)	
2				Grades to... Dk. Brown.	0.3
3				Grades to... some Slag.	0.5
4	2	4-8	48	Grades to... tr. Slag.	0.5
				Grades to... odor, wet.	3
				Grades to... sheen, saturated.	
6				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist, odor. (FILL)	8
7				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0.5
8					0
9				Bottom of Boring 8' bgs	
				Temporary Well installed to 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY	HEI Representative:	E. Betzold
Project Number:	e1609		
Start Date	12/22/2016	End Date	12/22/2016
GW Depth While Drilling	6'	Type of Drill Rig	Truck Mount Geoprobe
GW Depth at Completion	NWAC	Drilling Contractor	TREC Env.
		Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	30	Brown f/c Sand, some Gravel, little Slag, tr. Concrete, moist. (FILL)	0
					0
2				Grades to... Dk. Brown, some Slag, tr. Gravel.	0.2
3				Grades to... some Brick, tr. Slag.	0.2
4	2	4-8	30	Grades to... Brown, some Gravel.	0
5				Grades to... wet.	0
6				Dk. Brown Silt & Clay, little f/c Sand, little Gravel, saturated. (FILL)	0.2
7					0
8	3	8-9.5	20	Grades to... and f/c Sand.	0
9				Grades to... little f/c Sand.	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	

Project Name & Location Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY HEI Representative: E. Betzold

Project Number: e1609

Start Date 12/22/2016 End Date 12/22/2016 Type of Drill Rig Truck Mount Geoprobe

GW Depth While Drilling 5.5' Drilling Contractor TREC Env.

GW Depth at Completion 5.5' Sampler Type: MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Brown Topsoil, moist.	0
				Dk. Brown f/c Sand, some Silt, little Slag, tr. Gravel, moist. (FILL)	0
2					0
3					0
4	2	4-8	30	Grades to... and Slag, wet.	0
5				Grades to... saturated.	0
6					0
7					0.5
8	3	8-12	12	Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0.5
9					0.5
10					0
11					0
12	4	12-15	40	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
13					0
14					0
15				Refusal encountered at 15' bgs	
16				Temporary well installed to 14.5' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	6.5'	Drilling Contractor		TREC 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	1	0-4	36	Brown Topsoil, moist.	0
				Brown f/c Sand, some Silt, little Gravel, tr. Slag, tr. Concrete, moist. (FILL)	0
2				Grades to... Dk. Brown, little Slag.	0
3				Grades to... tr. Slag, tr. Gravel.	0
4	2	4-8	40		0
5					0
6				Grades to... wet.	0
7				Grades to... saturated.	0
8	3	8-12	48		0
9				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
10				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	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

Project Name & Location Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY HEI Representative: E. Betzold

Project Number: e1609

Start Date 12/22/2016 End Date 12/22/2016 Type of Drill Rig Truck Mount Geoprobe

GW Depth While Drilling 6.5' Drilling Contractor TREC 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	1	0-4	36	Brown Clay & Silt, little Gravel, tr. f/c Sand, tr. Concrete, moist. (FILL)	0
2				Grades to... some Gravel.	0
3				Grades to... some Concrete, little Gravel.	0
4	2	4-8	40		0
5				Brown f/c Sand, little Slag, little Silt, tr. Gravel, moist. (FILL)	0
6				Grades to... Dk. Brown, some Slag, wet.	0
7				Grades to... tr. Slag, saturated.	0
8	3	8-12	48	Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
9				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
10					0
11				Refusal encountered at 10.5' bgs	0
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

Project Name & Location Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY HEI Representative: E. Betzold
 Project Number: e1609
 Start Date 12/22/2016 End Date 12/22/2016 Type of Drill Rig Truck Mount Geoprobe
 GW Depth While Drilling 6' Drilling Contractor TREC 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	1	0-4	36	Asphalt	0
				Sub-base Gravel, moist. (FILL)	
				Brown f/c Sand, little Silt, little Gravel, tr. Brick, tr. Concrete, moist. (FILL)	0
2				Grades to... Dk. Brown, tr. Slag.	0.5
3				Grades to... little Slag, slight odor.	0.7
4	2	4-8	40	Grades to... Brown, some Slag.	0
5					0
6				Grades to... wet.	
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
7				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
8				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	7.5'			Drilling Contractor	TREC Env.
GW Depth at Completion	8.2'			Sampler Type:	MC

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	40	Brown f/c Sand, some Slag, little Silt, little Gravel, moist. (FILL)	0
2				Grades to... Dk. Brown, little Slag, tr. Gravel.	0
3				Grades to... Some Brick, tr. Slag.	0
4	2	4-8	30	Grades to... little Slag, tr. Brick.	0.5
5				Grades to... some Slag.	1.5
6				Grades to... wet.	2
7				Grades to... saturated.	0.5
8	3	8-12	48		0
9				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
10				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
11					0
12				Bottom of Boring 12' bgs	
13				Temporary well installed to 11.5' bgs	
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	

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	40	Asphalt	0
				Sub-base Gravel, moist. (FILL)	
				Brown f/c Sand, some Gravel, tr. Silt, wet. (FILL)	
2					0
3				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
4	2	4-8	40		0
5					0
6					0
7					0
8					0
9				Bottom of Boring 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	4'	Drilling Contractor		TREC Env.	
GW Depth at Completion	3.1'	Sampler Type:		MC	

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	36	Gravel	
				Dk. Brown f/c Sand, little Silt, tr. Gravel, moist. (FILL)	0
2					0
3					0
				Grades to... wet.	
4	2	4-8	40		0
				Grades to... saturated.	
5				Gray Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
6				Grades to... Brown	0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
7					0
8					0
				Bottom of Boring 8' bgs	
9				Temporary well installed to 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor			TREC 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	0-0.5	0	Asphalt	
1				Refusal encountered at 0.5' bgs	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:	SB17A was completed 5' north. Refusal was encountered at 0.5' bgs.
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	

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	40	Gravel	
				Brown f/c Sand, some Gravel, little Silt, tr. Slag, moist. (FILL)	0
2				Grades to... Dk. Brown, little Slag.	0
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	
3					0
4	2	4-8	40	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
5					0
6					0
7					0
8					0
				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/22/2016	End Date	12/22/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	0	Asphalt	
1				Refusal encountered at 0.5' bgs	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
18					
20					
22					
24					

Notes:	SB19A was completed 5' north. Refusal was encountered at 0.5' bgs.
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	

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	36	Asphalt	
				Sub-base Gravel, moist. (FILL)	0
				Brown f/c Sand, some Gravel, little Silt, moist. (FILL)	
2				Grades to... wet.	0
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	
3					0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
4	2	4-8	40		0
5					0
6					0
7					0
8					0
				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	36	Asphalt	
				Sub-base Gravel, moist (FILL)	0
				Brown Clay & Silt, some Gravel, tr. f/c Sand, tr. Slag, moist. (FILL)	
2				Grades to... some f/c Sand, little Gravel, little Slag, wet.	0
3				Grades to... little Brick, tr. f/c Sand, tr. Gravel, moist.	0
4	2	4-8	40	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
5					0
6					0
7					0
8					0
9				Bottom of Boring 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	40	Asphalt	
				Brown Clay & Silt, little Gravel, tr. f/c Sand, moist. (FILL)	0
				Grades to... some Gravel.	
2				Grades to... little Slag.	0
3					0
4	2	4-8	48	Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
5					0
6					0
7					0
8					0
9				Bottom of Boring 8' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD	Drilling Contractor		TREC 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	1	0-4	36	Asphalt	
				Sub-base Gravel, moist. (FILL)	0
				Brown f/c Sand, some Gravel, little Slag, moist. (FILL)	
2				Grades to... some Slag.	0
				Grades to... Dk. Brown, little Slag.	
3					0
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	
4	2	4-8	40		0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
5					0
6					0
7					0
8					0
				Bottom of Boring 8' 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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	NWWD			Drilling Contractor	TREC 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				Asphalt	0
				Concrete	
2	1	2-4	36		0
				Red/Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	
3					0
4	2	4-8	48		0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
5					0
6					0
7					0
8					0
				Bottom of Boring 8' 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	

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative:	E. Betzold	
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	5.5'	Drilling Contractor		TREC Env.	
GW Depth at Completion	4.75'	Sampler Type:		MC	

Sample Depth (ft)	Sample No.	Sample Interval (feet)	Recovery (inches)	SAMPLE DESCRIPTION	OVM Reading (ppm)
1	1	0-4	40	Asphalt	0
				Sub-base Gravel, moist (FILL)	
				Brown f/c Sand, some Gravel, tr. Slag, moist. (FILL)	
2				Grades to... Dk. Brown, little Slag.	0
3					0
4	2	4-8	48	Grades to... tr. Slag.	0
5				Grades to... wet.	0
				Grades to... saturated.	
6				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
7					0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	
8	3	8-12	24		0
9					0
10					0
11					0
12					0
				Bottom of Boring 12' bgs	
13				Temporary well installed to 11.5' bgs	
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

Project Name & Location	Mod-Pac Phase II 1801 Elmwood Ave. Buffalo, NY		HEI Representative: E. Betzold		
Project Number:	e1609				
Start Date	12/23/2016	End Date	12/23/2016	Type of Drill Rig	Truck Mount Geoprobe
GW Depth While Drilling	3.5'			Drilling Contractor	TREC 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	1	0-4	30	Asphalt	0
				Sub-base Gravel, moist. (FILL)	
				Brown f/c Sand, some Slag, little Gravel, moist. (FILL)	
2					0
3				Grades to... wet.	0
4	2	4-8	36		0
				Brown Clay & Silt, tr. f/c Sand, tr. Gravel, moist. (FILL)	0
5					0
				Red/Brown CLAY & SILT, tr. f/c Sand, tr. Gravel, moist.	0
6					0
7					0
8					0
				Bottom of Boring 8' 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	

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

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

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
GW Depth While Drilling	NWWD		Type of Drill Rig Hand Auger
GW Depth at Completion	1.5'		Drilling Contractor HEI
			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	0
1				Brown Silt & Clay, some Concrete, little Gravel, moist. (FILL) 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

Analytical Testing Results – October 2015 Locations



10/29/15

Technical Report for

Hazard Evaluations, Inc.

Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

E1459

Accutest Job Number: MC42297

Sampling Dates: 10/13/15 - 10/16/15

Report to:

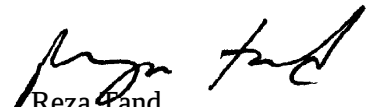
Hazard Evaluations Inc
3752 N. Buffalo Rd.
Orchard Park, NY 14127
mwittman@hazardevaluations.com; ebetzold@hazardevaluations.com

ATTN: Michele Wittman

Total number of pages in report: **160**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.


Reza Fand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136, SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	5
Section 3: Sample Results	22
3.1: MC42297-1: TP4 (9-12')	23
3.2: MC42297-2: SB2 (4-8')	30
3.3: MC42297-3: TP4 (4-8')	37
3.4: MC42297-4: SB1 (0-4')	43
3.5: MC42297-5: TP11 (0-4')	50
3.6: MC42297-6: TP5 (0-4')	51
3.7: MC42297-7: SB15 (0-4')	58
3.8: MC42297-8: TP10 (4-8')	65
3.9: MC42297-9: TP7 (0-4')	71
3.10: MC42297-10: TP14 (0-3')	77
3.11: MC42297-11: TP16 (4-8')	83
3.12: MC42297-12: TP18 (0-4')	89
3.13: MC42297-13: SB4 (0-4')	95
3.14: MC42297-14: TP17 (0-4')	101
3.15: MC42297-15: SB10 (0-4')	108
3.16: MC42297-16: SB14 (0-4')	114
3.17: MC42297-17: SB8 (0-4')	120
3.18: MC42297-18: SB12 (0-4')	127
3.19: MC42297-19: MW1	133
3.20: MC42297-20: SB5	139
3.21: MC42297-21: SB9	145
3.22: MC42297-22: SB15	151
Section 4: Misc. Forms	157
4.1: Chain of Custody	158

Sample Summary

Hazard Evaluations, Inc.

Job No: MC42297

Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Project No: E1459

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC42297-1	10/13/15	11:45 EB	10/20/15	SO	Soil	TP4 (9-12')
MC42297-2	10/15/15	09:45 EB	10/20/15	SO	Soil	SB2 (4-8')
MC42297-3	10/13/15	11:45 EB	10/20/15	SO	Soil	TP4 (4-8')
MC42297-4	10/15/15	08:50 EB	10/20/15	SO	Soil	SB1 (0-4')
MC42297-5	10/14/15	09:10 EB	10/20/15	SO	Soil	TP11 (0-4')
MC42297-6	10/13/15	13:20 EB	10/20/15	SO	Soil	TP5 (0-4')
MC42297-7	10/16/15	12:00 EB	10/20/15	SO	Soil	SB15 (0-4')
MC42297-8	10/14/15	08:45 EB	10/20/15	SO	Soil	TP10 (4-8')
MC42297-9	10/13/15	14:40 EB	10/20/15	SO	Soil	TP7 (0-4')
MC42297-10	10/14/15	13:10 EB	10/20/15	SO	Soil	TP14 (0-3')
MC42297-11	10/14/15	14:30 EB	10/20/15	SO	Soil	TP16 (4-8')
MC42297-12	10/14/15	15:30 EB	10/20/15	SO	Soil	TP18 (0-4')
MC42297-13	10/15/15	11:15 EB	10/20/15	SO	Soil	SB4 (0-4')

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary

(continued)

Hazard Evaluations, Inc.

Job No: MC42297

Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Project No: E1459

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
MC42297-14	10/14/15	15:15	EB	10/20/15	SO	Soil	TP17 (0-4')
MC42297-15	10/16/15	08:45	EB	10/20/15	SO	Soil	SB10 (0-4')
MC42297-16	10/16/15	10:30	EB	10/20/15	SO	Soil	SB14 (0-4')
MC42297-17	10/15/15	14:30	EB	10/20/15	SO	Soil	SB8 (0-4')
MC42297-18	10/16/15	10:00	EB	10/20/15	SO	Soil	SB12 (0-4')
MC42297-19	10/16/15	15:15	EB	10/20/15	AQ	Ground Water	MW1
MC42297-20	10/15/15	16:15	EB	10/20/15	AQ	Ground Water	SB5
MC42297-21	10/15/15	15:45	EB	10/20/15	AQ	Ground Water	SB9
MC42297-22	10/16/15	15:00	EB	10/20/15	AQ	Ground Water	SB15

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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MC42297-1 TP4 (9-12')

Acetone	219	13		ug/kg	SW846 8260C
2-Butanone (MEK)	28.1	13		ug/kg	SW846 8260C
Anthracene	155	130		ug/kg	SW846 8270D
Benzo(a)anthracene	582	130		ug/kg	SW846 8270D
Benzo(a)pyrene	444	130		ug/kg	SW846 8270D
Benzo(b)fluoranthene	389	130		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	256	130		ug/kg	SW846 8270D
Benzo(k)fluoranthene	313	130		ug/kg	SW846 8270D
Chrysene	710	130		ug/kg	SW846 8270D
Fluoranthene	863	130		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	221	130		ug/kg	SW846 8270D
2-Methylnaphthalene	189	130		ug/kg	SW846 8270D
Phenanthrene	661	130		ug/kg	SW846 8270D
Pyrene	817	130		ug/kg	SW846 8270D
Aluminum	23300	20		mg/kg	SW846 6010C
Arsenic	4.4	1.0		mg/kg	SW846 6010C
Barium	162	5.0		mg/kg	SW846 6010C
Beryllium	1.2	0.40		mg/kg	SW846 6010C
Cadmium	0.40	0.40		mg/kg	SW846 6010C
Calcium	2370	500		mg/kg	SW846 6010C
Chromium	25.9	1.0		mg/kg	SW846 6010C
Cobalt	14.2	5.0		mg/kg	SW846 6010C
Copper	20.6	2.5		mg/kg	SW846 6010C
Iron	35000	10		mg/kg	SW846 6010C
Lead	15.9	1.0		mg/kg	SW846 6010C
Magnesium	5950	500		mg/kg	SW846 6010C
Manganese	444	1.5		mg/kg	SW846 6010C
Nickel	30.1	4.0		mg/kg	SW846 6010C
Potassium	2790	500		mg/kg	SW846 6010C
Vanadium	33.9	1.0		mg/kg	SW846 6010C
Zinc	108	2.0		mg/kg	SW846 6010C

MC42297-2 SB2 (4-8')

2-Butanone (MEK)	833	780		ug/kg	SW846 8260C
cis-1,2-Dichloroethene	10200	160		ug/kg	SW846 8260C
trans-1,2-Dichloroethene	788	160		ug/kg	SW846 8260C
Trichloroethene	28900	160		ug/kg	SW846 8260C
Aluminum	5350	18		mg/kg	SW846 6010C
Arsenic	1.9	0.89		mg/kg	SW846 6010C
Barium	19.7	4.5		mg/kg	SW846 6010C
Calcium	34800	450		mg/kg	SW846 6010C
Chromium	4.8	0.89		mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Copper		2.7	2.2		mg/kg	SW846 6010C
Iron		6510	8.9		mg/kg	SW846 6010C
Lead		11.7	0.89		mg/kg	SW846 6010C
Magnesium		4360	450		mg/kg	SW846 6010C
Manganese		116	1.3		mg/kg	SW846 6010C
Nickel		4.0	3.6		mg/kg	SW846 6010C
Potassium		545	450		mg/kg	SW846 6010C
Vanadium		10.4	0.89		mg/kg	SW846 6010C
Zinc		16.0	1.8		mg/kg	SW846 6010C

MC42297-3 TP4 (4-8')

Methylene chloride	4.4	2.0		ug/kg	SW846 8260C
Trichloroethene	3.8	2.0		ug/kg	SW846 8260C
Xylene (total)	2.0	2.0		ug/kg	SW846 8260C
Acenaphthene	2960	540		ug/kg	SW846 8270D
Acenaphthylene	884	540		ug/kg	SW846 8270D
Anthracene	7700	540		ug/kg	SW846 8270D
Benzo(a)anthracene	16200	540		ug/kg	SW846 8270D
Benzo(a)pyrene	14900	540		ug/kg	SW846 8270D
Benzo(b)fluoranthene	13000	540		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	8700	540		ug/kg	SW846 8270D
Benzo(k)fluoranthene	12400	540		ug/kg	SW846 8270D
Carbazole	4010	540		ug/kg	SW846 8270D
Chrysene	16300	540		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	803	540		ug/kg	SW846 8270D
Dibenzofuran	2700	540		ug/kg	SW846 8270D
Fluoranthene	37500	540		ug/kg	SW846 8270D
Fluorene	3890	540		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	8230	540		ug/kg	SW846 8270D
2-Methylnaphthalene	1730	540		ug/kg	SW846 8270D
Naphthalene	3540	540		ug/kg	SW846 8270D
Phenanthrene	32400	540		ug/kg	SW846 8270D
Pyrene	32400	540		ug/kg	SW846 8270D
Aluminum	5610	17		mg/kg	SW846 6010C
Arsenic	12.4	0.85		mg/kg	SW846 6010C
Barium	85.0	4.2		mg/kg	SW846 6010C
Cadmium	0.46	0.34		mg/kg	SW846 6010C
Calcium	34600	420		mg/kg	SW846 6010C
Chromium	11.3	0.85		mg/kg	SW846 6010C
Cobalt	4.4	4.2		mg/kg	SW846 6010C
Copper	23.1	2.1		mg/kg	SW846 6010C
Iron	30500	8.5		mg/kg	SW846 6010C
Lead	95.0	0.85		mg/kg	SW846 6010C
Magnesium	3890	420		mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Manganese		486	1.3		mg/kg	SW846 6010C
Mercury		0.056	0.032		mg/kg	SW846 7471B
Nickel		9.0	3.4		mg/kg	SW846 6010C
Potassium		805	420		mg/kg	SW846 6010C
Vanadium		17.4	0.85		mg/kg	SW846 6010C
Zinc		150	1.7		mg/kg	SW846 6010C

MC42297-4 SB1 (0-4')

Methylene chloride	17.2	2.7	ug/kg	SW846 8260C
Benzo(a)anthracene	196	120	ug/kg	SW846 8270D
Benzo(a)pyrene	175	120	ug/kg	SW846 8270D
Benzo(b)fluoranthene	222	120	ug/kg	SW846 8270D
Benzo(k)fluoranthene	155	120	ug/kg	SW846 8270D
Chrysene	239	120	ug/kg	SW846 8270D
Dibenzofuran	165	120	ug/kg	SW846 8270D
Fluoranthene	352	120	ug/kg	SW846 8270D
2-Methylnaphthalene	565	120	ug/kg	SW846 8270D
Naphthalene	362	120	ug/kg	SW846 8270D
Phenanthrene	427	120	ug/kg	SW846 8270D
Pyrene	346	120	ug/kg	SW846 8270D
Aluminum	9780	19	mg/kg	SW846 6010C
Arsenic	8.7	0.95	mg/kg	SW846 6010C
Barium	68.9	4.7	mg/kg	SW846 6010C
Beryllium	1.1	0.38	mg/kg	SW846 6010C
Calcium	56300	2400	mg/kg	SW846 6010C
Chromium	10.7	0.95	mg/kg	SW846 6010C
Copper	16.1	2.4	mg/kg	SW846 6010C
Iron	28500	9.5	mg/kg	SW846 6010C
Lead	32.8	0.95	mg/kg	SW846 6010C
Magnesium	6950	470	mg/kg	SW846 6010C
Manganese	1130	1.4	mg/kg	SW846 6010C
Nickel	8.8	3.8	mg/kg	SW846 6010C
Potassium	921	470	mg/kg	SW846 6010C
Selenium	1.3	0.95	mg/kg	SW846 6010C
Vanadium	18.7	0.95	mg/kg	SW846 6010C
Zinc	55.4	1.9	mg/kg	SW846 6010C

MC42297-5 TP11 (0-4')

No hits reported in this sample.

MC42297-6 TP5 (0-4')

Methylene chloride	8.0	2.2	ug/kg	SW846 8260C
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Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Trichloroethene		2.2	2.2		ug/kg	SW846 8260C
Acenaphthene		143	110		ug/kg	SW846 8270D
Anthracene		381	110		ug/kg	SW846 8270D
Benzo(a)anthracene		891	110		ug/kg	SW846 8270D
Benzo(a)pyrene		842	110		ug/kg	SW846 8270D
Benzo(b)fluoranthene		730	110		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		514	110		ug/kg	SW846 8270D
Benzo(k)fluoranthene		704	110		ug/kg	SW846 8270D
Carbazole		200	110		ug/kg	SW846 8270D
Chrysene		881	110		ug/kg	SW846 8270D
Fluoranthene		1880	110		ug/kg	SW846 8270D
Fluorene		156	110		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		471	110		ug/kg	SW846 8270D
Phenanthrene		1440	110		ug/kg	SW846 8270D
Pyrene		1600	110		ug/kg	SW846 8270D
Aluminum		12500	18		mg/kg	SW846 6010C
Antimony		1.7	0.92		mg/kg	SW846 6010C
Arsenic		22.2	0.92		mg/kg	SW846 6010C
Barium		131	4.6		mg/kg	SW846 6010C
Beryllium		1.1	0.37		mg/kg	SW846 6010C
Cadmium		0.93	0.37		mg/kg	SW846 6010C
Calcium		24700	460		mg/kg	SW846 6010C
Chromium		20.0	0.92		mg/kg	SW846 6010C
Cobalt		9.9	4.6		mg/kg	SW846 6010C
Copper		66.6	2.3		mg/kg	SW846 6010C
Iron		33000	9.2		mg/kg	SW846 6010C
Lead		156	0.92		mg/kg	SW846 6010C
Magnesium		5470	460		mg/kg	SW846 6010C
Manganese		561	1.4		mg/kg	SW846 6010C
Mercury		0.18	0.035		mg/kg	SW846 7471B
Nickel		31.3	3.7		mg/kg	SW846 6010C
Potassium		1770	460		mg/kg	SW846 6010C
Selenium		2.3	0.92		mg/kg	SW846 6010C
Vanadium		28.4	0.92		mg/kg	SW846 6010C
Zinc		277	1.8		mg/kg	SW846 6010C

MC42297-7 SB15 (0-4')

Methylene chloride	3.7 B	2.3	ug/kg	SW846 8260C
Tetrachloroethene	4.7	2.3	ug/kg	SW846 8260C
Trichloroethene	4.3	2.3	ug/kg	SW846 8260C
Acenaphthene	964	560	ug/kg	SW846 8270D
Acenaphthylene	574	560	ug/kg	SW846 8270D
Anthracene	3330	560	ug/kg	SW846 8270D
Benzo(a)anthracene	7410	560	ug/kg	SW846 8270D

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Benzo(a)pyrene		6550	560		ug/kg	SW846 8270D
Benzo(b)fluoranthene		6070	560		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		3690	560		ug/kg	SW846 8270D
Benzo(k)fluoranthene		5390	560		ug/kg	SW846 8270D
Carbazole		1490	560		ug/kg	SW846 8270D
Chrysene		7220	560		ug/kg	SW846 8270D
Dibenzofuran		1140	560		ug/kg	SW846 8270D
Fluoranthene		15000	560		ug/kg	SW846 8270D
Fluorene		1430	560		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		3580	560		ug/kg	SW846 8270D
2-Methylnaphthalene		1010	560		ug/kg	SW846 8270D
Naphthalene		991	560		ug/kg	SW846 8270D
Phenanthrene		12300	560		ug/kg	SW846 8270D
Pyrene		13300	560		ug/kg	SW846 8270D
Aroclor 1254		56.5	36		ug/kg	SW846 8082A
Aluminum		9520	18		mg/kg	SW846 6010C
Antimony		1.3	0.90		mg/kg	SW846 6010C
Arsenic		28.4	0.90		mg/kg	SW846 6010C
Barium		144	4.5		mg/kg	SW846 6010C
Beryllium		0.67	0.36		mg/kg	SW846 6010C
Cadmium		1.7	0.36		mg/kg	SW846 6010C
Calcium		29000	450		mg/kg	SW846 6010C
Chromium		41.0	0.90		mg/kg	SW846 6010C
Cobalt		6.1	4.5		mg/kg	SW846 6010C
Copper		73.0	2.2		mg/kg	SW846 6010C
Iron		30100	9.0		mg/kg	SW846 6010C
Lead		190	0.90		mg/kg	SW846 6010C
Magnesium		6230	450		mg/kg	SW846 6010C
Manganese		921	1.3		mg/kg	SW846 6010C
Nickel		17.4	3.6		mg/kg	SW846 6010C
Potassium		1350	450		mg/kg	SW846 6010C
Vanadium		26.2	0.90		mg/kg	SW846 6010C
Zinc		270	1.8		mg/kg	SW846 6010C

MC42297-8 TP10 (4-8')

Acetone	95.5	12	ug/kg	SW846 8260C
Methylene chloride	11.2	2.5	ug/kg	SW846 8260C
Acenaphthene	132	120	ug/kg	SW846 8270D
Anthracene	337	120	ug/kg	SW846 8270D
Benzo(a)anthracene	637	120	ug/kg	SW846 8270D
Benzo(a)pyrene	681	120	ug/kg	SW846 8270D
Benzo(b)fluoranthene	600	120	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	499	120	ug/kg	SW846 8270D
Benzo(k)fluoranthene	433	120	ug/kg	SW846 8270D

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Carbazole		168	120		ug/kg	SW846 8270D
Chrysene		724	120		ug/kg	SW846 8270D
Dibenzofuran		165	120		ug/kg	SW846 8270D
Fluoranthene		1580	120		ug/kg	SW846 8270D
Fluorene		159	120		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		298	120		ug/kg	SW846 8270D
2-Methylnaphthalene		184	120		ug/kg	SW846 8270D
Naphthalene		203	120		ug/kg	SW846 8270D
Phenanthrene		1490	120		ug/kg	SW846 8270D
Pyrene		1650	120		ug/kg	SW846 8270D
Aluminum		10000	19		mg/kg	SW846 6010C
Arsenic		8.6	0.97		mg/kg	SW846 6010C
Barium		55.1	4.9		mg/kg	SW846 6010C
Beryllium		0.42	0.39		mg/kg	SW846 6010C
Calcium		22200	490		mg/kg	SW846 6010C
Chromium		11.0	0.97		mg/kg	SW846 6010C
Copper		24.2	2.4		mg/kg	SW846 6010C
Iron		18800	9.7		mg/kg	SW846 6010C
Lead		87.7	0.97		mg/kg	SW846 6010C
Magnesium		2630	490		mg/kg	SW846 6010C
Manganese		1140	1.5		mg/kg	SW846 6010C
Nickel		7.3	3.9		mg/kg	SW846 6010C
Potassium		1550	490		mg/kg	SW846 6010C
Vanadium		21.8	0.97		mg/kg	SW846 6010C
Zinc		141	1.9		mg/kg	SW846 6010C

MC42297-9 TP7 (0-4')

Acenaphthene	265	110	ug/kg	SW846 8270D
Anthracene	515	110	ug/kg	SW846 8270D
Benzo(a)anthracene	1240	110	ug/kg	SW846 8270D
Benzo(a)pyrene	1190	110	ug/kg	SW846 8270D
Benzo(b)fluoranthene	1090	110	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	629	110	ug/kg	SW846 8270D
Benzo(k)fluoranthene	916	110	ug/kg	SW846 8270D
Butyl benzyl phthalate	518	270	ug/kg	SW846 8270D
Carbazole	275	110	ug/kg	SW846 8270D
Chrysene	1270	110	ug/kg	SW846 8270D
Dibenzofuran	158	110	ug/kg	SW846 8270D
Fluoranthene	2860	110	ug/kg	SW846 8270D
Fluorene	245	110	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	549	110	ug/kg	SW846 8270D
Phenanthrene	2390	110	ug/kg	SW846 8270D
Pyrene	2540	110	ug/kg	SW846 8270D
Aluminum	5740	17	mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Arsenic		7.1	0.87		mg/kg	SW846 6010C
Barium		139	4.3		mg/kg	SW846 6010C
Beryllium		0.42	0.35		mg/kg	SW846 6010C
Cadmium		1.2	0.35		mg/kg	SW846 6010C
Calcium		72700	2200		mg/kg	SW846 6010C
Chromium		27.4	0.87		mg/kg	SW846 6010C
Copper		348	2.2		mg/kg	SW846 6010C
Iron		11200	8.7		mg/kg	SW846 6010C
Lead		159	0.87		mg/kg	SW846 6010C
Magnesium		17000	430		mg/kg	SW846 6010C
Manganese		313	1.3		mg/kg	SW846 6010C
Mercury		0.081	0.035		mg/kg	SW846 7471B
Nickel		11.5	3.5		mg/kg	SW846 6010C
Potassium		908	430		mg/kg	SW846 6010C
Vanadium		13.4	0.87		mg/kg	SW846 6010C
Zinc		198	1.7		mg/kg	SW846 6010C

MC42297-10 TP14 (0-3')

Xylene (total)	519	110	ug/kg	SW846 8260C
Acenaphthene	1450	100	ug/kg	SW846 8270D
Acenaphthylene	248	100	ug/kg	SW846 8270D
Anthracene	3210	100	ug/kg	SW846 8270D
Benzo(a)anthracene	6770	100	ug/kg	SW846 8270D
Benzo(a)pyrene	5400	100	ug/kg	SW846 8270D
Benzo(b)fluoranthene	7340	100	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	3390	100	ug/kg	SW846 8270D
Benzo(k)fluoranthene	4320	100	ug/kg	SW846 8270D
Carbazole	1830	100	ug/kg	SW846 8270D
Chrysene	7120	100	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	440	100	ug/kg	SW846 8270D
Dibenzofuran	1540	100	ug/kg	SW846 8270D
Fluoranthene	16400	2100	ug/kg	SW846 8270D
Fluorene	1460	100	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	3690	100	ug/kg	SW846 8270D
2-Methylnaphthalene	2490	100	ug/kg	SW846 8270D
Naphthalene	2680	100	ug/kg	SW846 8270D
Phenanthrene	15100	2100	ug/kg	SW846 8270D
Pyrene	14000	2100	ug/kg	SW846 8270D
Aluminum	9010	17	mg/kg	SW846 6010C
Arsenic	11.1	0.85	mg/kg	SW846 6010C
Barium	63.2	4.2	mg/kg	SW846 6010C
Beryllium	0.45	0.34	mg/kg	SW846 6010C
Cadmium	0.64	0.34	mg/kg	SW846 6010C
Calcium	7050	420	mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chromium		12.6	0.85		mg/kg	SW846 6010C
Cobalt		6.4	4.2		mg/kg	SW846 6010C
Copper		22.0	2.1		mg/kg	SW846 6010C
Iron		58000	85		mg/kg	SW846 6010C
Lead		164	0.85		mg/kg	SW846 6010C
Magnesium		1210	420		mg/kg	SW846 6010C
Manganese		891	1.3		mg/kg	SW846 6010C
Mercury		0.28	0.035		mg/kg	SW846 7471B
Nickel		12.8	3.4		mg/kg	SW846 6010C
Potassium		1350	420		mg/kg	SW846 6010C
Vanadium		23.8	0.85		mg/kg	SW846 6010C
Zinc		242	1.7		mg/kg	SW846 6010C

MC42297-11 TP16 (4-8')

Acenaphthene	1720	110		ug/kg	SW846 8270D
Acenaphthylene	593	110		ug/kg	SW846 8270D
Anthracene	6570	110		ug/kg	SW846 8270D
Benzo(a)anthracene	14000	2300		ug/kg	SW846 8270D
Benzo(a)pyrene	12500	2300		ug/kg	SW846 8270D
Benzo(b)fluoranthene	10600	2300		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	9040	110		ug/kg	SW846 8270D
Benzo(k)fluoranthene	6180	110		ug/kg	SW846 8270D
Carbazole	2440	110		ug/kg	SW846 8270D
Chrysene	13400	2300		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	778	110		ug/kg	SW846 8270D
Dibenzofuran	1410	110		ug/kg	SW846 8270D
Fluoranthene	28100	2300		ug/kg	SW846 8270D
Fluorene	2040	110		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	8900	110		ug/kg	SW846 8270D
2-Methylnaphthalene	704	110		ug/kg	SW846 8270D
Naphthalene	1310	110		ug/kg	SW846 8270D
Phenanthrene	22000	2300		ug/kg	SW846 8270D
Pyrene	23400	2300		ug/kg	SW846 8270D
Aluminum	7450	18		mg/kg	SW846 6010C
Antimony	1.1	0.89		mg/kg	SW846 6010C
Arsenic	14.9	0.89		mg/kg	SW846 6010C
Barium	243	4.4		mg/kg	SW846 6010C
Beryllium	0.42	0.35		mg/kg	SW846 6010C
Cadmium	0.90	0.35		mg/kg	SW846 6010C
Calcium	48700	2200		mg/kg	SW846 6010C
Chromium	20.9	0.89		mg/kg	SW846 6010C
Cobalt	6.5	4.4		mg/kg	SW846 6010C
Copper	42.9	2.2		mg/kg	SW846 6010C
Iron	56400	44		mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead		330	0.89		mg/kg	SW846 6010C
Magnesium		6440	440		mg/kg	SW846 6010C
Manganese		605	1.3		mg/kg	SW846 6010C
Mercury		0.26	0.036		mg/kg	SW846 7471B
Nickel		21.4	3.5		mg/kg	SW846 6010C
Potassium		1390	440		mg/kg	SW846 6010C
Vanadium		32.1	0.89		mg/kg	SW846 6010C
Zinc		267	1.8		mg/kg	SW846 6010C

MC42297-12 TP18 (0-4')

Acenaphthene	246	110		ug/kg	SW846 8270D
Acenaphthylene	255	110		ug/kg	SW846 8270D
Anthracene	1020	110		ug/kg	SW846 8270D
Benzo(a)anthracene	3000	110		ug/kg	SW846 8270D
Benzo(a)pyrene	2980	110		ug/kg	SW846 8270D
Benzo(b)fluoranthene	2550	110		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	1400	110		ug/kg	SW846 8270D
Benzo(k)fluoranthene	2330	110		ug/kg	SW846 8270D
Butyl benzyl phthalate	1200	280		ug/kg	SW846 8270D
Carbazole	432	110		ug/kg	SW846 8270D
Chrysene	2880	110		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	523	110		ug/kg	SW846 8270D
Dibenzofuran	183	110		ug/kg	SW846 8270D
Fluoranthene	7140	110		ug/kg	SW846 8270D
Fluorene	282	110		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	1230	110		ug/kg	SW846 8270D
Phenanthrene	3820	110		ug/kg	SW846 8270D
Pyrene	6020	110		ug/kg	SW846 8270D
Aluminum	5630	18		mg/kg	SW846 6010C
Arsenic	6.1	0.89		mg/kg	SW846 6010C
Barium	47.9	4.4		mg/kg	SW846 6010C
Cadmium	0.40	0.35		mg/kg	SW846 6010C
Calcium	47000	2200		mg/kg	SW846 6010C
Chromium	8.7	0.89		mg/kg	SW846 6010C
Cobalt	5.4	4.4		mg/kg	SW846 6010C
Copper	30.8	2.2		mg/kg	SW846 6010C
Iron	15200	8.9		mg/kg	SW846 6010C
Lead	66.2	0.89		mg/kg	SW846 6010C
Magnesium	7740	440		mg/kg	SW846 6010C
Manganese	331	1.3		mg/kg	SW846 6010C
Mercury	0.043	0.034		mg/kg	SW846 7471B
Nickel	18.9	3.5		mg/kg	SW846 6010C
Potassium	950	440		mg/kg	SW846 6010C
Vanadium	13.3	0.89		mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Zinc		124	1.8		mg/kg	SW846 6010C
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MC42297-13 SB4 (0-4')

Acenaphthene	14200	2100		ug/kg	SW846 8270D
Acenaphthylene	12900	2100		ug/kg	SW846 8270D
Anthracene	66400	2100		ug/kg	SW846 8270D
Benzo(a)anthracene	98200	2100		ug/kg	SW846 8270D
Benzo(a)pyrene	85600	2100		ug/kg	SW846 8270D
Benzo(b)fluoranthene	69000	2100		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	32100	2100		ug/kg	SW846 8270D
Benzo(k)fluoranthene	57900	2100		ug/kg	SW846 8270D
Carbazole	21300	2100		ug/kg	SW846 8270D
Chrysene	94000	2100		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	3890	2100		ug/kg	SW846 8270D
Dibenzofuran	19300	2100		ug/kg	SW846 8270D
Fluoranthene	180000	10000		ug/kg	SW846 8270D
Fluorene	32800	2100		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	29200	2100		ug/kg	SW846 8270D
2-Methylnaphthalene	27600	2100		ug/kg	SW846 8270D
Naphthalene	33500	2100		ug/kg	SW846 8270D
Phenanthrene	201000	10000		ug/kg	SW846 8270D
Pyrene	162000	10000		ug/kg	SW846 8270D
Aluminum	3080	16		mg/kg	SW846 6010C
Arsenic	4.5	0.80		mg/kg	SW846 6010C
Barium	32.5	4.0		mg/kg	SW846 6010C
Calcium	17700	400		mg/kg	SW846 6010C
Chromium	16.0	0.80		mg/kg	SW846 6010C
Copper	15.3	2.0		mg/kg	SW846 6010C
Iron	10200	8.0		mg/kg	SW846 6010C
Lead	31.4	0.80		mg/kg	SW846 6010C
Magnesium	3470	400		mg/kg	SW846 6010C
Manganese	155	1.2		mg/kg	SW846 6010C
Nickel	4.5	3.2		mg/kg	SW846 6010C
Vanadium	13.2	0.80		mg/kg	SW846 6010C
Zinc	44.6	1.6		mg/kg	SW846 6010C

MC42297-14 TP17 (0-4')

Acenaphthene	2980	2300		ug/kg	SW846 8270D
Acenaphthylene	2540	2300		ug/kg	SW846 8270D
Anthracene	11200	2300		ug/kg	SW846 8270D
Benzo(a)anthracene	34900	2300		ug/kg	SW846 8270D
Benzo(a)pyrene	33100	2300		ug/kg	SW846 8270D
Benzo(b)fluoranthene	26900	2300		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Benzo(g,h,i)perylene		14200	2300		ug/kg	SW846 8270D
Benzo(k)fluoranthene		26800	2300		ug/kg	SW846 8270D
Carbazole		3960	2300		ug/kg	SW846 8270D
Chrysene		33500	2300		ug/kg	SW846 8270D
Fluoranthene		69800	2300		ug/kg	SW846 8270D
Fluorene		3210	2300		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		14700	2300		ug/kg	SW846 8270D
Phenanthrene		38000	2300		ug/kg	SW846 8270D
Pyrene		63500	2300		ug/kg	SW846 8270D
Aluminum		9860	18		mg/kg	SW846 6010C
Arsenic		8.6	0.91		mg/kg	SW846 6010C
Barium		145	4.5		mg/kg	SW846 6010C
Beryllium		0.66	0.36		mg/kg	SW846 6010C
Cadmium		0.54	0.36		mg/kg	SW846 6010C
Calcium		85700	2300		mg/kg	SW846 6010C
Chromium		16.2	0.91		mg/kg	SW846 6010C
Cobalt		7.4	4.5		mg/kg	SW846 6010C
Copper		47.4	2.3		mg/kg	SW846 6010C
Iron		27800	9.1		mg/kg	SW846 6010C
Lead		107	0.91		mg/kg	SW846 6010C
Magnesium		22800	450		mg/kg	SW846 6010C
Manganese		441	1.4		mg/kg	SW846 6010C
Mercury		0.21	0.035		mg/kg	SW846 7471B
Nickel		19.2	3.6		mg/kg	SW846 6010C
Potassium		2160	450		mg/kg	SW846 6010C
Vanadium		23.1	0.91		mg/kg	SW846 6010C
Zinc		196	1.8		mg/kg	SW846 6010C

MC42297-15 SB10 (0-4')

Ethylbenzene	6.2	2.3	ug/kg	SW846 8260C
Methylene chloride	6.6	2.3	ug/kg	SW846 8260C
Xylene (total)	47.1	2.3	ug/kg	SW846 8260C
Acenaphthene	859	100	ug/kg	SW846 8270D
Acenaphthylene	402	100	ug/kg	SW846 8270D
Anthracene	3210	100	ug/kg	SW846 8270D
Benzo(a)anthracene	6660	100	ug/kg	SW846 8270D
Benzo(a)pyrene	6380	100	ug/kg	SW846 8270D
Benzo(b)fluoranthene	8070	100	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	4950	100	ug/kg	SW846 8270D
Benzo(k)fluoranthene	5150	100	ug/kg	SW846 8270D
Carbazole	1520	100	ug/kg	SW846 8270D
Chrysene	6650	100	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	442	100	ug/kg	SW846 8270D
Dibenzofuran	870	100	ug/kg	SW846 8270D

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Fluoranthene		15000	2100		ug/kg	SW846 8270D
Fluorene		1130	100		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		4370	100		ug/kg	SW846 8270D
2-Methylnaphthalene		375	100		ug/kg	SW846 8270D
Naphthalene		597	100		ug/kg	SW846 8270D
Phenanthrene		13100	2100		ug/kg	SW846 8270D
Pyrene		13100	2100		ug/kg	SW846 8270D
Aluminum		5780	17		mg/kg	SW846 6010C
Arsenic		17.1	0.86		mg/kg	SW846 6010C
Barium		93.4	4.3		mg/kg	SW846 6010C
Beryllium		0.35	0.34		mg/kg	SW846 6010C
Cadmium		0.65	0.34		mg/kg	SW846 6010C
Calcium		86400	4300		mg/kg	SW846 6010C
Chromium		18.5	0.86		mg/kg	SW846 6010C
Cobalt		5.9	4.3		mg/kg	SW846 6010C
Copper		43.1	2.1		mg/kg	SW846 6010C
Iron		56100	86		mg/kg	SW846 6010C
Lead		63.2	0.86		mg/kg	SW846 6010C
Magnesium		20400	430		mg/kg	SW846 6010C
Manganese		520	1.3		mg/kg	SW846 6010C
Mercury		0.045	0.032		mg/kg	SW846 7471B
Nickel		11.5	3.4		mg/kg	SW846 6010C
Potassium		994	430		mg/kg	SW846 6010C
Vanadium		40.7	0.86		mg/kg	SW846 6010C
Zinc		146	1.7		mg/kg	SW846 6010C

MC42297-16 SB14 (0-4')

Methylene chloride	1.8	1.4	ug/kg	SW846 8260C
Fluoranthene	170	100	ug/kg	SW846 8270D
Phenanthrene	124	100	ug/kg	SW846 8270D
Pyrene	162	100	ug/kg	SW846 8270D
Aluminum	3420	17	mg/kg	SW846 6010C
Arsenic	5.9	0.87	mg/kg	SW846 6010C
Barium	17.4	4.3	mg/kg	SW846 6010C
Calcium	70900	4300	mg/kg	SW846 6010C
Chromium	25.3	0.87	mg/kg	SW846 6010C
Copper	4.4	2.2	mg/kg	SW846 6010C
Iron	21100	8.7	mg/kg	SW846 6010C
Lead	101	0.87	mg/kg	SW846 6010C
Magnesium	3810	430	mg/kg	SW846 6010C
Manganese	278	1.3	mg/kg	SW846 6010C
Nickel	4.6	3.5	mg/kg	SW846 6010C
Vanadium	16.1	0.87	mg/kg	SW846 6010C
Zinc	10.5	1.7	mg/kg	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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MC42297-17 SB8 (0-4')

Methylene chloride	4.7 B	2.6	ug/kg	SW846 8260C
Acenaphthene	2970	530	ug/kg	SW846 8270D
Acenaphthylene	2800	530	ug/kg	SW846 8270D
Anthracene	11100	530	ug/kg	SW846 8270D
Benzo(a)anthracene	18500	530	ug/kg	SW846 8270D
Benzo(a)pyrene	16600	530	ug/kg	SW846 8270D
Benzo(b)fluoranthene	13100	530	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	7090	530	ug/kg	SW846 8270D
Benzo(k)fluoranthene	12300	530	ug/kg	SW846 8270D
Carbazole	3840	530	ug/kg	SW846 8270D
Chrysene	17000	530	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	679	530	ug/kg	SW846 8270D
Dibenzofuran	3440	530	ug/kg	SW846 8270D
Fluoranthene	46000	5300	ug/kg	SW846 8270D
Fluorene	4240	530	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	6320	530	ug/kg	SW846 8270D
2-Methylnaphthalene	1690	530	ug/kg	SW846 8270D
Naphthalene	3230	530	ug/kg	SW846 8270D
Phenanthrene	43400	5300	ug/kg	SW846 8270D
Pyrene	41800	530	ug/kg	SW846 8270D
Aluminum	19200	17	mg/kg	SW846 6010C
Arsenic	5.4	0.86	mg/kg	SW846 6010C
Barium	207	4.3	mg/kg	SW846 6010C
Beryllium	2.7	0.35	mg/kg	SW846 6010C
Calcium	104000	4300	mg/kg	SW846 6010C
Chromium	9.9	0.86	mg/kg	SW846 6010C
Copper	8.1	2.2	mg/kg	SW846 6010C
Iron	12200	8.6	mg/kg	SW846 6010C
Lead	52.1	0.86	mg/kg	SW846 6010C
Magnesium	10900	430	mg/kg	SW846 6010C
Manganese	1820	13	mg/kg	SW846 6010C
Mercury	0.045	0.035	mg/kg	SW846 7471B
Nickel	4.9	3.5	mg/kg	SW846 6010C
Potassium	1230	430	mg/kg	SW846 6010C
Selenium	1.9	0.86	mg/kg	SW846 6010C
Sodium	525	430	mg/kg	SW846 6010C
Vanadium	12.7	0.86	mg/kg	SW846 6010C
Zinc	48.4	1.7	mg/kg	SW846 6010C

MC42297-18 SB12 (0-4')

Methylene chloride	3.8 B	2.2	ug/kg	SW846 8260C
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Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Anthracene		121	110		ug/kg	SW846 8270D
Benzo(a)anthracene		403	110		ug/kg	SW846 8270D
Benzo(a)pyrene		389	110		ug/kg	SW846 8270D
Benzo(b)fluoranthene		324	110		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		207	110		ug/kg	SW846 8270D
Benzo(k)fluoranthene		303	110		ug/kg	SW846 8270D
Chrysene		393	110		ug/kg	SW846 8270D
Fluoranthene		723	110		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		211	110		ug/kg	SW846 8270D
Phenanthrene		452	110		ug/kg	SW846 8270D
Pyrene		706	110		ug/kg	SW846 8270D
Aluminum		3770	15		mg/kg	SW846 6010C
Arsenic		2.5	0.74		mg/kg	SW846 6010C
Barium		19.0	3.7		mg/kg	SW846 6010C
Calcium		39200	3700		mg/kg	SW846 6010C
Chromium		6.9	0.74		mg/kg	SW846 6010C
Copper		4.9	1.9		mg/kg	SW846 6010C
Iron		12800	7.4		mg/kg	SW846 6010C
Lead		99.4	0.74		mg/kg	SW846 6010C
Magnesium		4030	370		mg/kg	SW846 6010C
Manganese		478	1.1		mg/kg	SW846 6010C
Nickel		3.5	3.0		mg/kg	SW846 6010C
Potassium		533	370		mg/kg	SW846 6010C
Vanadium		16.0	0.74		mg/kg	SW846 6010C
Zinc		18.3	1.5		mg/kg	SW846 6010C
MC42297-19 MW1						
Vinyl chloride		1.5	1.0		ug/l	SW846 8260C
Aluminum		777	200		ug/l	SW846 6010C
Arsenic		18.5	4.0		ug/l	SW846 6010C
Barium		107	50		ug/l	SW846 6010C
Calcium		185000	5000		ug/l	SW846 6010C
Iron		66200	100		ug/l	SW846 6010C
Lead		5.0	5.0		ug/l	SW846 6010C
Magnesium		47300	5000		ug/l	SW846 6010C
Manganese		609	15		ug/l	SW846 6010C
Potassium		6450	5000		ug/l	SW846 6010C
Sodium		14500	5000		ug/l	SW846 6010C
MC42297-20 SB5						
Benzo(a)anthracene		2.3	2.0		ug/l	SW846 8270D
Benzo(a)pyrene		2.3	2.0		ug/l	SW846 8270D
Benzo(b)fluoranthene		2.1	2.0		ug/l	SW846 8270D

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chrysene		2.3	2.0		ug/l	SW846 8270D
Fluoranthene		4.3	2.0		ug/l	SW846 8270D
Phenanthrene		2.1	2.0		ug/l	SW846 8270D
Pyrene		4.0	2.0		ug/l	SW846 8270D
Aluminum		53300	200		ug/l	SW846 6010C
Arsenic		12.2	4.0		ug/l	SW846 6010C
Barium		403	50		ug/l	SW846 6010C
Calcium		244000	5000		ug/l	SW846 6010C
Chromium		65.6	10		ug/l	SW846 6010C
Copper		59.9	25		ug/l	SW846 6010C
Iron		61300	100		ug/l	SW846 6010C
Lead		80.3	5.0		ug/l	SW846 6010C
Magnesium		112000	5000		ug/l	SW846 6010C
Manganese		5460	15		ug/l	SW846 6010C
Mercury		0.23	0.20		ug/l	SW846 7470A
Nickel		69.7	40		ug/l	SW846 6010C
Potassium		8470	5000		ug/l	SW846 6010C
Sodium		33500	5000		ug/l	SW846 6010C
Vanadium		88.0	10		ug/l	SW846 6010C
Zinc		273	20		ug/l	SW846 6010C

MC42297-21 SB9

Xylene (total)	1.3	1.0	ug/l	SW846 8260C
3&4-Methylphenol	12.0	11	ug/l	SW846 8270D
Phenol	37.7	5.3	ug/l	SW846 8270D
Acenaphthene	3.9	2.1	ug/l	SW846 8270D
Acenaphthylene	6.2	2.1	ug/l	SW846 8270D
Anthracene	11.9	2.1	ug/l	SW846 8270D
Benzo(a)anthracene	40.1	2.1	ug/l	SW846 8270D
Benzo(a)pyrene	46.1	2.1	ug/l	SW846 8270D
Benzo(b)fluoranthene	37.2	2.1	ug/l	SW846 8270D
Benzo(g,h,i)perylene	27.3	2.1	ug/l	SW846 8270D
Benzo(k)fluoranthene	33.5	2.1	ug/l	SW846 8270D
Carbazole	2.7	2.1	ug/l	SW846 8270D
Chrysene	40.1	2.1	ug/l	SW846 8270D
Dibenzo(a,h)anthracene	8.8	2.1	ug/l	SW846 8270D
Dibenzofuran	2.6	2.1	ug/l	SW846 8270D
Fluoranthene	77.0	2.1	ug/l	SW846 8270D
Fluorene	4.2	2.1	ug/l	SW846 8270D
Indeno(1,2,3-cd)pyrene	24.6	2.1	ug/l	SW846 8270D
Naphthalene	2.2	2.1	ug/l	SW846 8270D
Phenanthrene	33.8	2.1	ug/l	SW846 8270D
Pyrene	82.9	2.1	ug/l	SW846 8270D
Aluminum	80300	200	ug/l	SW846 6010C

Summary of Hits

Job Number: MC42297

Account: Hazard Evaluations, Inc.

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Collected: 10/13/15 thru 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Arsenic		84.2	4.0		ug/l	SW846 6010C
Barium		819	50		ug/l	SW846 6010C
Cadmium		7.4	4.0		ug/l	SW846 6010C
Calcium		1050000	25000		ug/l	SW846 6010C
Chromium		190	10		ug/l	SW846 6010C
Cobalt		58.5	50		ug/l	SW846 6010C
Copper		198	25		ug/l	SW846 6010C
Iron		201000	100		ug/l	SW846 6010C
Lead		688	5.0		ug/l	SW846 6010C
Magnesium		76900	5000		ug/l	SW846 6010C
Manganese		9920	15		ug/l	SW846 6010C
Mercury		1.4	0.20		ug/l	SW846 7470A
Nickel		114	40		ug/l	SW846 6010C
Potassium		11800	5000		ug/l	SW846 6010C
Sodium		18600	5000		ug/l	SW846 6010C
Vanadium		169	10		ug/l	SW846 6010C
Zinc		2680	20		ug/l	SW846 6010C

MC42297-22 SB15

Acenaphthene	2.8	2.0	ug/l	SW846 8270D
Anthracene	9.7	2.0	ug/l	SW846 8270D
Benzo(a)anthracene	21.4	2.0	ug/l	SW846 8270D
Benzo(a)pyrene	18.6	2.0	ug/l	SW846 8270D
Benzo(b)fluoranthene	17.0	2.0	ug/l	SW846 8270D
Benzo(g,h,i)perylene	10.5	2.0	ug/l	SW846 8270D
Benzo(k)fluoranthene	14.4	2.0	ug/l	SW846 8270D
Carbazole	3.7	2.0	ug/l	SW846 8270D
Chrysene	21.0	2.0	ug/l	SW846 8270D
Dibenzo(a,h)anthracene	4.0	2.0	ug/l	SW846 8270D
Dibenzofuran	2.2	2.0	ug/l	SW846 8270D
Fluoranthene	41.5	2.0	ug/l	SW846 8270D
Fluorene	4.0	2.0	ug/l	SW846 8270D
Indeno(1,2,3-cd)pyrene	9.7	2.0	ug/l	SW846 8270D
Naphthalene	2.4	2.0	ug/l	SW846 8270D
Phenanthrene	35.5	2.0	ug/l	SW846 8270D
Pyrene	37.8	2.0	ug/l	SW846 8270D
Aluminum	129000	200	ug/l	SW846 6010C
Arsenic	130	4.0	ug/l	SW846 6010C
Barium	1220	50	ug/l	SW846 6010C
Beryllium	4.9	4.0	ug/l	SW846 6010C
Cadmium	5.8	4.0	ug/l	SW846 6010C
Calcium	899000	10000	ug/l	SW846 6010C
Chromium	187	10	ug/l	SW846 6010C
Cobalt	63.5	50	ug/l	SW846 6010C

Summary of Hits

Job Number: MC42297
Account: Hazard Evaluations, Inc.
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY
Collected: 10/13/15 thru 10/16/15

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
Copper		283	25		ug/l	SW846 6010C
Iron		216000	100		ug/l	SW846 6010C
Lead		956	5.0		ug/l	SW846 6010C
Magnesium		145000	5000		ug/l	SW846 6010C
Manganese		8490	15		ug/l	SW846 6010C
Mercury		1.4	0.20		ug/l	SW846 7470A
Nickel		122	40		ug/l	SW846 6010C
Potassium		21200	5000		ug/l	SW846 6010C
Sodium		11500	5000		ug/l	SW846 6010C
Vanadium		256	10		ug/l	SW846 6010C
Zinc		1050	20		ug/l	SW846 6010C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TP4 (9-12')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-1	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43270.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2							

	Initial Weight	Final Volume
Run #1	4.85 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	219	13	ug/kg	
71-43-2	Benzene	ND	0.67	ug/kg	
75-27-4	Bromodichloromethane	ND	2.7	ug/kg	
75-25-2	Bromoform	ND	2.7	ug/kg	
74-83-9	Bromomethane	ND	2.7	ug/kg	
78-93-3	2-Butanone (MEK)	28.1	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.7	ug/kg	
108-90-7	Chlorobenzene	ND	2.7	ug/kg	
75-00-3	Chloroethane	ND	6.7	ug/kg	
67-66-3	Chloroform	ND	2.7	ug/kg	
74-87-3	Chloromethane	ND	6.7	ug/kg	
124-48-1	Dibromochloromethane	ND	2.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.7	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.7	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.7	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	ug/kg	
100-41-4	Ethylbenzene	ND	2.7	ug/kg	
591-78-6	2-Hexanone	ND	13	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.7	ug/kg	
75-09-2	Methylene chloride	ND	2.7	ug/kg	
100-42-5	Styrene	ND	6.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	ug/kg	
127-18-4	Tetrachloroethene	ND	2.7	ug/kg	
108-88-3	Toluene	ND	6.7	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.7	ug/kg	
79-01-6	Trichloroethene	ND	2.7	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (9-12')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-1	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.7	ug/kg	
1330-20-7	Xylene (total)	ND	2.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		65-141%
2037-26-5	Toluene-D8	101%		65-129%
460-00-4	4-Bromofluorobenzene	109%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (9-12')		
Lab Sample ID:	MC42297-1	Date Sampled:	10/13/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8270D SW846 3546	Percent Solids:	76.7
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24505.D	1	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	320	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	650	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	650	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	650	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	650	ug/kg	
95-48-7	2-Methylphenol	ND	650	ug/kg	
	3&4-Methylphenol	ND	650	ug/kg	
88-75-5	2-Nitrophenol	ND	650	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	650	ug/kg	
108-95-2	Phenol	ND	320	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	650	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	650	ug/kg	
83-32-9	Acenaphthene	ND	130	ug/kg	
208-96-8	Acenaphthylene	ND	130	ug/kg	
120-12-7	Anthracene	155	130	ug/kg	
56-55-3	Benzo(a)anthracene	582	130	ug/kg	
50-32-8	Benzo(a)pyrene	444	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	389	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	256	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	313	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	320	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	320	ug/kg	
91-58-7	2-Chloronaphthalene	ND	320	ug/kg	
106-47-8	4-Chloroaniline	ND	650	ug/kg	
86-74-8	Carbazole	ND	130	ug/kg	
218-01-9	Chrysene	710	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	320	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	320	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	320	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	320	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (9-12')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-1	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	320	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	650	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	650	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	320	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	130	ug/kg	
132-64-9	Dibenzofuran	ND	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	320	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	320	ug/kg	
84-66-2	Diethyl phthalate	ND	320	ug/kg	
131-11-3	Dimethyl phthalate	ND	320	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	320	ug/kg	
206-44-0	Fluoranthene	863	130	ug/kg	
86-73-7	Fluorene	ND	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	320	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	650	ug/kg	
67-72-1	Hexachloroethane	ND	320	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	221	130	ug/kg	
78-59-1	Isophorone	ND	320	ug/kg	
91-57-6	2-Methylnaphthalene	189	130	ug/kg	
88-74-4	2-Nitroaniline	ND	650	ug/kg	
99-09-2	3-Nitroaniline	ND	650	ug/kg	
100-01-6	4-Nitroaniline	ND	650	ug/kg	
91-20-3	Naphthalene	ND	130	ug/kg	
98-95-3	Nitrobenzene	ND	320	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	320	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	320	ug/kg	
85-01-8	Phenanthrene	661	130	ug/kg	
129-00-0	Pyrene	817	130	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		24-110%
4165-62-2	Phenol-d5	68%		30-114%
118-79-6	2,4,6-Tribromophenol	86%		20-139%
4165-60-0	Nitrobenzene-d5	64%		27-112%
321-60-8	2-Fluorobiphenyl	69%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (9-12')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-1	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	86%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (9-12')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-1	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8082A SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK52585.D	1	10/26/15	NK	10/21/15	OP45099	GBK1645
Run #2							

	Initial Weight	Final Volume
Run #1	15.1 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	43	ug/kg	
11104-28-2	Aroclor 1221	ND	43	ug/kg	
11141-16-5	Aroclor 1232	ND	43	ug/kg	
53469-21-9	Aroclor 1242	ND	43	ug/kg	
12672-29-6	Aroclor 1248	ND	43	ug/kg	
11097-69-1	Aroclor 1254	ND	43	ug/kg	
11096-82-5	Aroclor 1260	ND	43	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		35-136%
877-09-8	Tetrachloro-m-xylene	83%		35-136%
2051-24-3	Decachlorobiphenyl	117%		24-171%
2051-24-3	Decachlorobiphenyl	95%		24-171%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP4 (9-12')

Lab Sample ID: MC42297-1

Matrix: SO - Soil

Date Sampled: 10/13/15

Date Received: 10/20/15

Percent Solids: 76.7

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	23300	20	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	< 1.0	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	4.4	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	162	5.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	1.2	0.40	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	0.40	0.40	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	2370	500	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	25.9	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	14.2	5.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	20.6	2.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	35000	10	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	15.9	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	5950	500	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	444	1.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	30.1	4.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	2790	500	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 1.0	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.50	0.50	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 500	500	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 1.0	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	33.9	1.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	108	2.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB2 (4-8')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-2	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	79.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K92070.D	1	10/26/15	KD	n/a	n/a	MSK2848
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.67 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	780	ug/kg	
71-43-2	Benzene	ND	39	ug/kg	
75-27-4	Bromodichloromethane	ND	160	ug/kg	
75-25-2	Bromoform	ND	160	ug/kg	
74-83-9	Bromomethane	ND	160	ug/kg	
78-93-3	2-Butanone (MEK)	833	780	ug/kg	
75-15-0	Carbon disulfide	ND	390	ug/kg	
56-23-5	Carbon tetrachloride	ND	160	ug/kg	
108-90-7	Chlorobenzene	ND	160	ug/kg	
75-00-3	Chloroethane	ND	390	ug/kg	
67-66-3	Chloroform	ND	160	ug/kg	
74-87-3	Chloromethane	ND	390	ug/kg	
124-48-1	Dibromochloromethane	ND	160	ug/kg	
75-34-3	1,1-Dichloroethane	ND	160	ug/kg	
107-06-2	1,2-Dichloroethane	ND	160	ug/kg	
75-35-4	1,1-Dichloroethene	ND	160	ug/kg	
156-59-2	cis-1,2-Dichloroethene	10200	160	ug/kg	
156-60-5	trans-1,2-Dichloroethene	788	160	ug/kg	
78-87-5	1,2-Dichloropropane	ND	160	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	160	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	160	ug/kg	
100-41-4	Ethylbenzene	ND	160	ug/kg	
591-78-6	2-Hexanone	ND	780	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	390	ug/kg	
75-09-2	Methylene chloride	ND	160	ug/kg	
100-42-5	Styrene	ND	390	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	160	ug/kg	
127-18-4	Tetrachloroethene	ND	160	ug/kg	
108-88-3	Toluene	ND	390	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	160	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	160	ug/kg	
79-01-6	Trichloroethene	28900	160	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB2 (4-8')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-2	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	79.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	160	ug/kg	
1330-20-7	Xylene (total)	ND	160	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	96%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB2 (4-8')		
Lab Sample ID:	MC42297-2	Date Sampled:	10/15/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8270D SW846 3546	Percent Solids:	79.5
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24506.D	1	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	630	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	630	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	630	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	630	ug/kg	
95-48-7	2-Methylphenol	ND	630	ug/kg	
	3&4-Methylphenol	ND	630	ug/kg	
88-75-5	2-Nitrophenol	ND	630	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	630	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	630	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	630	ug/kg	
83-32-9	Acenaphthene	ND	130	ug/kg	
208-96-8	Acenaphthylene	ND	130	ug/kg	
120-12-7	Anthracene	ND	130	ug/kg	
56-55-3	Benzo(a)anthracene	ND	130	ug/kg	
50-32-8	Benzo(a)pyrene	ND	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	630	ug/kg	
86-74-8	Carbazole	ND	130	ug/kg	
218-01-9	Chrysene	ND	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	310	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB2 (4-8')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-2	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	79.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	630	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	630	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	130	ug/kg	
132-64-9	Dibenzofuran	ND	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg	
84-66-2	Diethyl phthalate	ND	310	ug/kg	
131-11-3	Dimethyl phthalate	ND	310	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg	
206-44-0	Fluoranthene	ND	130	ug/kg	
86-73-7	Fluorene	ND	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	310	ug/kg	
87-68-3	Hexachlorobutadiene	ND	310	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	630	ug/kg	
67-72-1	Hexachloroethane	ND	310	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	130	ug/kg	
78-59-1	Isophorone	ND	310	ug/kg	
91-57-6	2-Methylnaphthalene	ND	130	ug/kg	
88-74-4	2-Nitroaniline	ND	630	ug/kg	
99-09-2	3-Nitroaniline	ND	630	ug/kg	
100-01-6	4-Nitroaniline	ND	630	ug/kg	
91-20-3	Naphthalene	ND	130	ug/kg	
98-95-3	Nitrobenzene	ND	310	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg	
85-01-8	Phenanthrene	ND	130	ug/kg	
129-00-0	Pyrene	ND	130	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%		24-110%
4165-62-2	Phenol-d5	70%		30-114%
118-79-6	2,4,6-Tribromophenol	84%		20-139%
4165-60-0	Nitrobenzene-d5	63%		27-112%
321-60-8	2-Fluorobiphenyl	67%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB2 (4-8')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-2	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	79.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	79%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB2 (4-8')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-2	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	79.5
Method:	SW846 8082A SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK52586.D	1	10/26/15	NK	10/21/15	OP45099	GBK1645
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	40	ug/kg	
11104-28-2	Aroclor 1221	ND	40	ug/kg	
11141-16-5	Aroclor 1232	ND	40	ug/kg	
53469-21-9	Aroclor 1242	ND	40	ug/kg	
12672-29-6	Aroclor 1248	ND	40	ug/kg	
11097-69-1	Aroclor 1254	ND	40	ug/kg	
11096-82-5	Aroclor 1260	ND	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		35-136%
877-09-8	Tetrachloro-m-xylene	88%		35-136%
2051-24-3	Decachlorobiphenyl	107%		24-171%
2051-24-3	Decachlorobiphenyl	106%		24-171%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB2 (4-8')
Lab Sample ID: MC42297-2
Matrix: SO - Soil

Date Sampled: 10/15/15
Date Received: 10/20/15
Percent Solids: 79.5

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	5350	18	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	1.9	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	19.7	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	< 0.36	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	< 0.36	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	34800	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	4.8	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	< 4.5	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	2.7	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	6510	8.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	11.7	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	4360	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	116	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	< 0.035	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	4.0	3.6	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	545	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.45	0.45	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 450	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	10.4	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	16.0	1.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP4 (4-8')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-3	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43253.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43266.D	1	10/22/15	JT	n/a	n/a	MSV1570

	Initial Weight	Final Volume
Run #1	5.32 g	5.0 ml
Run #2	5.16 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/kg	
71-43-2	Benzene	ND	0.51	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.1	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.1	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.1	ug/kg	
75-09-2	Methylene chloride	4.4	2.0	ug/kg	
100-42-5	Styrene	ND	5.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	5.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	3.8	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (4-8')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-3	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	2.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	110%	65-141%
2037-26-5	Toluene-D8	96%	96%	65-129%
460-00-4	4-Bromofluorobenzene	134%	100%	63-137%

(a) Confirmation run for internal standard areas.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (4-8')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-3	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24507.D	5	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	1300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	2700	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	2700	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	2700	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	5400	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	2700	ug/kg	
95-48-7	2-Methylphenol	ND	2700	ug/kg	
	3&4-Methylphenol	ND	2700	ug/kg	
88-75-5	2-Nitrophenol	ND	2700	ug/kg	
100-02-7	4-Nitrophenol	ND	5400	ug/kg	
87-86-5	Pentachlorophenol	ND	2700	ug/kg	
108-95-2	Phenol	ND	1300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	2700	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	2700	ug/kg	
83-32-9	Acenaphthene	2960	540	ug/kg	
208-96-8	Acenaphthylene	884	540	ug/kg	
120-12-7	Anthracene	7700	540	ug/kg	
56-55-3	Benzo(a)anthracene	16200	540	ug/kg	
50-32-8	Benzo(a)pyrene	14900	540	ug/kg	
205-99-2	Benzo(b)fluoranthene	13000	540	ug/kg	
191-24-2	Benzo(g,h,i)perylene	8700	540	ug/kg	
207-08-9	Benzo(k)fluoranthene	12400	540	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	1300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	1300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	1300	ug/kg	
106-47-8	4-Chloroaniline	ND	2700	ug/kg	
86-74-8	Carbazole	4010	540	ug/kg	
218-01-9	Chrysene	16300	540	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	1300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	1300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	1300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (4-8')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-3	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	1300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	2700	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	2700	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	1300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	803	540	ug/kg	
132-64-9	Dibenzofuran	2700	540	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	1300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	1300	ug/kg	
84-66-2	Diethyl phthalate	ND	1300	ug/kg	
131-11-3	Dimethyl phthalate	ND	1300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1300	ug/kg	
206-44-0	Fluoranthene	37500	540	ug/kg	
86-73-7	Fluorene	3890	540	ug/kg	
118-74-1	Hexachlorobenzene	ND	1300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	2700	ug/kg	
67-72-1	Hexachloroethane	ND	1300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	8230	540	ug/kg	
78-59-1	Isophorone	ND	1300	ug/kg	
91-57-6	2-Methylnaphthalene	1730	540	ug/kg	
88-74-4	2-Nitroaniline	ND	2700	ug/kg	
99-09-2	3-Nitroaniline	ND	2700	ug/kg	
100-01-6	4-Nitroaniline	ND	2700	ug/kg	
91-20-3	Naphthalene	3540	540	ug/kg	
98-95-3	Nitrobenzene	ND	1300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	1300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	1300	ug/kg	
85-01-8	Phenanthrene	32400	540	ug/kg	
129-00-0	Pyrene	32400	540	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	78%		24-110%
4165-62-2	Phenol-d5	86%		30-114%
118-79-6	2,4,6-Tribromophenol	91%		20-139%
4165-60-0	Nitrobenzene-d5	87%		27-112%
321-60-8	2-Fluorobiphenyl	91%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP4 (4-8')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-3	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	109%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP4 (4-8')
Lab Sample ID: MC42297-3
Matrix: SO - Soil

Date Sampled: 10/13/15
Date Received: 10/20/15
Percent Solids: 92.2

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	5610	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	12.4	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	85.0	4.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	< 0.34	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	0.46	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	34600	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	11.3	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	4.4	4.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	23.1	2.1	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	30500	8.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	95.0	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	3890	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	486	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	0.056	0.032	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	9.0	3.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	805	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.42	0.42	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 420	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	17.4	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	150	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB1 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-4	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	84.6
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43254.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43267.D	1	10/22/15	JT	n/a	n/a	MSV1570

	Initial Weight	Final Volume
Run #1	4.38 g	5.0 ml
Run #2	4.90 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	14	ug/kg	
71-43-2	Benzene	ND	0.68	ug/kg	
75-27-4	Bromodichloromethane	ND	2.7	ug/kg	
75-25-2	Bromoform	ND	2.7	ug/kg	
74-83-9	Bromomethane	ND	2.7	ug/kg	
78-93-3	2-Butanone (MEK)	ND	14	ug/kg	
75-15-0	Carbon disulfide	ND	6.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.7	ug/kg	
108-90-7	Chlorobenzene	ND	2.7	ug/kg	
75-00-3	Chloroethane	ND	6.8	ug/kg	
67-66-3	Chloroform	ND	2.7	ug/kg	
74-87-3	Chloromethane	ND	6.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.7	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.7	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.7	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.7	ug/kg	
100-41-4	Ethylbenzene	ND	2.7	ug/kg	
591-78-6	2-Hexanone	ND	14	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.8	ug/kg	
75-09-2	Methylene chloride	17.2	2.7	ug/kg	
100-42-5	Styrene	ND	6.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.7	ug/kg	
127-18-4	Tetrachloroethene	ND	2.7	ug/kg	
108-88-3	Toluene	ND	6.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.7	ug/kg	
79-01-6	Trichloroethene	ND	2.7	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB1 (0-4')	
Lab Sample ID: MC42297-4	Date Sampled: 10/15/15
Matrix: SO - Soil	Date Received: 10/20/15
Method: SW846 8260C	Percent Solids: 84.6
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.7	ug/kg	
1330-20-7	Xylene (total)	ND	2.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	130%	131%	65-141%
2037-26-5	Toluene-D8	92%	94%	65-129%
460-00-4	4-Bromofluorobenzene	139% ^b	143% ^b	63-137%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-analysis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB1 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-4	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	84.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24508.D	1	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
56-55-3	Benzo(a)anthracene	196	120	ug/kg	
50-32-8	Benzo(a)pyrene	175	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	222	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	155	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	239	120	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB1 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-4	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	84.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	165	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	352	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	565	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	362	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	427	120	ug/kg	
129-00-0	Pyrene	346	120	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	76%		24-110%
4165-62-2	Phenol-d5	86%		30-114%
118-79-6	2,4,6-Tribromophenol	68%		20-139%
4165-60-0	Nitrobenzene-d5	79%		27-112%
321-60-8	2-Fluorobiphenyl	83%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB1 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-4	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	84.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	104%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB1 (0-4')						
Lab Sample ID:	MC42297-4					Date Sampled:	10/15/15
Matrix:	SO - Soil					Date Received:	10/20/15
Method:	SW846 8151 SW846 3550B					Percent Solids:	84.6
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ95259.D	1	10/27/15	NK	10/21/15	OP45101	GYZ7845
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	Units	Q
94-75-7	2,4-D	ND	23	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	23	ug/kg	
93-76-5	2,4,5-T	ND	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	64%		12-200%
19719-28-9	2,4-DCAA	70%		12-200%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB1 (0-4')
Lab Sample ID: MC42297-4
Matrix: SO - Soil

Date Sampled: 10/15/15
Date Received: 10/20/15
Percent Solids: 84.6

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	9780	19	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.95	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	8.7	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	68.9	4.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	1.1	0.38	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	< 0.38	0.38	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	56300	2400	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	10.7	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	< 4.7	4.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	16.1	2.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	28500	9.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	32.8	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	6950	470	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	1130	1.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	< 0.038	0.038	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	8.8	3.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	921	470	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	1.3	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.47	0.47	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 470	470	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.95	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	18.7	0.95	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	55.4	1.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP11 (0-4')						
Lab Sample ID:	MC42297-5					Date Sampled:	10/14/15
Matrix:	SO - Soil					Date Received:	10/20/15
Method:	SW846 8151 SW846 3550B					Percent Solids:	93.0
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ95260.D	1	10/27/15	NK	10/21/15	OP45101	GYZ7845
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	Units	Q
94-75-7	2,4-D	ND	21	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	21	ug/kg	
93-76-5	2,4,5-T	ND	21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	68%		12-200%
19719-28-9	2,4-DCAA	83%		12-200%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-6	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43255.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43268.D	1	10/22/15	JT	n/a	n/a	MSV1570

	Initial Weight	Final Volume
Run #1	5.33 g	5.0 ml
Run #2	4.15 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	11	ug/kg	
71-43-2	Benzene	ND	0.54	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	ug/kg	
75-25-2	Bromoform	ND	2.2	ug/kg	
74-83-9	Bromomethane	ND	2.2	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	ug/kg	
75-15-0	Carbon disulfide	ND	5.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.4	ug/kg	
67-66-3	Chloroform	ND	2.2	ug/kg	
74-87-3	Chloromethane	ND	5.4	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	ug/kg	
591-78-6	2-Hexanone	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.4	ug/kg	
75-09-2	Methylene chloride	8.0	2.2	ug/kg	
100-42-5	Styrene	ND	5.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ug/kg	
127-18-4	Tetrachloroethene	ND	2.2	ug/kg	
108-88-3	Toluene	ND	5.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ug/kg	
79-01-6	Trichloroethene	2.2	2.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-6	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%	120%	65-141%
2037-26-5	Toluene-D8	95%	98%	65-129%
460-00-4	4-Bromofluorobenzene	135%	134%	63-137%

(a) Confirmation run.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-6	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24509.D	1	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	550	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	550	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	550	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	550	ug/kg	
95-48-7	2-Methylphenol	ND	550	ug/kg	
	3&4-Methylphenol	ND	550	ug/kg	
88-75-5	2-Nitrophenol	ND	550	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	550	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	550	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	550	ug/kg	
83-32-9	Acenaphthene	143	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
120-12-7	Anthracene	381	110	ug/kg	
56-55-3	Benzo(a)anthracene	891	110	ug/kg	
50-32-8	Benzo(a)pyrene	842	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	730	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	514	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	704	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	550	ug/kg	
86-74-8	Carbazole	200	110	ug/kg	
218-01-9	Chrysene	881	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-6	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	550	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	550	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	ND	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg	
84-66-2	Diethyl phthalate	ND	280	ug/kg	
131-11-3	Dimethyl phthalate	ND	280	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg	
206-44-0	Fluoranthene	1880	110	ug/kg	
86-73-7	Fluorene	156	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	280	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	550	ug/kg	
67-72-1	Hexachloroethane	ND	280	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	471	110	ug/kg	
78-59-1	Isophorone	ND	280	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	550	ug/kg	
99-09-2	3-Nitroaniline	ND	550	ug/kg	
100-01-6	4-Nitroaniline	ND	550	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	280	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg	
85-01-8	Phenanthrene	1440	110	ug/kg	
129-00-0	Pyrene	1600	110	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	72%		24-110%
4165-62-2	Phenol-d5	83%		30-114%
118-79-6	2,4,6-Tribromophenol	92%		20-139%
4165-60-0	Nitrobenzene-d5	76%		27-112%
321-60-8	2-Fluorobiphenyl	80%		35-115%

ND = Not detected

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B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-6	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	96%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP5 (0-4')		
Lab Sample ID:	MC42297-6	Date Sampled:	10/13/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8151 SW846 3550B	Percent Solids:	86.7
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ95261.D	1	10/27/15	NK	10/21/15	OP45101	GYZ7845
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	Units	Q
94-75-7	2,4-D	ND	23	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	23	ug/kg	
93-76-5	2,4,5-T	ND	23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	99%		12-200%
19719-28-9	2,4-DCAA	107%		12-200%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP5 (0-4')
Lab Sample ID: MC42297-6
Matrix: SO - Soil

Date Sampled: 10/13/15
Date Received: 10/20/15
Percent Solids: 86.7

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	12500	18	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Antimony	1.7	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Arsenic	22.2	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Barium	131	4.6	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Beryllium	1.1	0.37	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Cadmium	0.93	0.37	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Calcium	24700	460	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Chromium	20.0	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Cobalt	9.9	4.6	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Copper	66.6	2.3	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Iron	33000	9.2	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Lead	156	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Magnesium	5470	460	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Manganese	561	1.4	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Mercury	0.18	0.035	mg/kg	1	10/26/15	10/26/15	EC	SW846 7471B ² SW846 7471B ⁴
Nickel	31.3	3.7	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Potassium	1770	460	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Selenium	2.3	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Silver	< 0.46	0.46	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Sodium	< 460	460	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Thallium	< 0.92	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Vanadium	28.4	0.92	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³
Zinc	277	1.8	mg/kg	1	10/23/15	10/24/15	EC	SW846 6010C ¹ SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43256.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43269.D	1	10/22/15	JT	n/a	n/a	MSV1570

	Initial Weight	Final Volume
Run #1	4.88 g	5.0 ml
Run #2	5.54 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.8	ug/kg	
75-09-2	Methylene chloride	3.7	2.3	ug/kg	B
100-42-5	Styrene	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	4.7	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	4.3	2.3	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%	115%	65-141%
2037-26-5	Toluene-D8	93%	98%	65-129%
460-00-4	4-Bromofluorobenzene	135%	115%	63-137%

(a) Confirmation run.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24510.D	5	10/26/15	NE	10/21/15	OP45098	MSW1026
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	1400	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	2800	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	2800	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	2800	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	5600	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	2800	ug/kg	
95-48-7	2-Methylphenol	ND	2800	ug/kg	
	3&4-Methylphenol	ND	2800	ug/kg	
88-75-5	2-Nitrophenol	ND	2800	ug/kg	
100-02-7	4-Nitrophenol	ND	5600	ug/kg	
87-86-5	Pentachlorophenol	ND	2800	ug/kg	
108-95-2	Phenol	ND	1400	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	2800	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	2800	ug/kg	
83-32-9	Acenaphthene	964	560	ug/kg	
208-96-8	Acenaphthylene	574	560	ug/kg	
120-12-7	Anthracene	3330	560	ug/kg	
56-55-3	Benzo(a)anthracene	7410	560	ug/kg	
50-32-8	Benzo(a)pyrene	6550	560	ug/kg	
205-99-2	Benzo(b)fluoranthene	6070	560	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3690	560	ug/kg	
207-08-9	Benzo(k)fluoranthene	5390	560	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	1400	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	1400	ug/kg	
91-58-7	2-Chloronaphthalene	ND	1400	ug/kg	
106-47-8	4-Chloroaniline	ND	2800	ug/kg	
86-74-8	Carbazole	1490	560	ug/kg	
218-01-9	Chrysene	7220	560	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	1400	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	1400	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1400	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	1400	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	1400	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1400	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1400	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	2800	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	2800	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	1400	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	560	ug/kg	
132-64-9	Dibenzofuran	1140	560	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	1400	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	1400	ug/kg	
84-66-2	Diethyl phthalate	ND	1400	ug/kg	
131-11-3	Dimethyl phthalate	ND	1400	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1400	ug/kg	
206-44-0	Fluoranthene	15000	560	ug/kg	
86-73-7	Fluorene	1430	560	ug/kg	
118-74-1	Hexachlorobenzene	ND	1400	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1400	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	2800	ug/kg	
67-72-1	Hexachloroethane	ND	1400	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	3580	560	ug/kg	
78-59-1	Isophorone	ND	1400	ug/kg	
91-57-6	2-Methylnaphthalene	1010	560	ug/kg	
88-74-4	2-Nitroaniline	ND	2800	ug/kg	
99-09-2	3-Nitroaniline	ND	2800	ug/kg	
100-01-6	4-Nitroaniline	ND	2800	ug/kg	
91-20-3	Naphthalene	991	560	ug/kg	
98-95-3	Nitrobenzene	ND	1400	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	1400	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	1400	ug/kg	
85-01-8	Phenanthrene	12300	560	ug/kg	
129-00-0	Pyrene	13300	560	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1400	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%		24-110%
4165-62-2	Phenol-d5	80%		30-114%
118-79-6	2,4,6-Tribromophenol	85%		20-139%
4165-60-0	Nitrobenzene-d5	77%		27-112%
321-60-8	2-Fluorobiphenyl	83%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	98%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-7	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.5
Method:	SW846 8082A SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK52588.D	1	10/26/15	NK	10/21/15	OP45099	GBK1645
Run #2							

	Initial Weight	Final Volume
Run #1	15.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	36	ug/kg	
11104-28-2	Aroclor 1221	ND	36	ug/kg	
11141-16-5	Aroclor 1232	ND	36	ug/kg	
53469-21-9	Aroclor 1242	ND	36	ug/kg	
12672-29-6	Aroclor 1248	ND	36	ug/kg	
11097-69-1	Aroclor 1254	56.5	36	ug/kg	
11096-82-5	Aroclor 1260	ND	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	82%		35-136%
877-09-8	Tetrachloro-m-xylene	72%		35-136%
2051-24-3	Decachlorobiphenyl	94%		24-171%
2051-24-3	Decachlorobiphenyl	83%		24-171%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB15 (0-4')

Lab Sample ID: MC42297-7

Matrix: SO - Soil

Date Sampled: 10/16/15

Date Received: 10/20/15

Percent Solids: 88.5

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	9520	18	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	1.3	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	28.4	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	144	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	0.67	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	1.7	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	29000	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	41.0	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	6.1	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	73.0	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	30100	9.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	190	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	6230	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	921	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	< 0.035	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	17.4	3.6	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	1350	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 0.90	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.45	0.45	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 450	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 0.90	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	26.2	0.90	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	270	1.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP10 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-8	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	81.8
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43280.D	1	10/23/15	JT	n/a	n/a	MSV1571
Run #2							

	Initial Weight	Final Volume
Run #1	4.90 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	95.5	12	ug/kg	
71-43-2	Benzene	ND	0.62	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	ug/kg	
75-25-2	Bromoform	ND	2.5	ug/kg	
74-83-9	Bromomethane	ND	2.5	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	ug/kg	
75-00-3	Chloroethane	ND	6.2	ug/kg	
67-66-3	Chloroform	ND	2.5	ug/kg	
74-87-3	Chloromethane	ND	6.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.5	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	ug/kg	
100-41-4	Ethylbenzene	ND	2.5	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.2	ug/kg	
75-09-2	Methylene chloride	11.2	2.5	ug/kg	
100-42-5	Styrene	ND	6.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	ug/kg	
127-18-4	Tetrachloroethene	ND	2.5	ug/kg	
108-88-3	Toluene	ND	6.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	ug/kg	
79-01-6	Trichloroethene	ND	2.5	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP10 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-8	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	81.8
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.5	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	147% ^a		63-137%

(a) Outside control limits due to possible matrix interference.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP10 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-8	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	81.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07558.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	600	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	132	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
120-12-7	Anthracene	337	120	ug/kg	
56-55-3	Benzo(a)anthracene	637	120	ug/kg	
50-32-8	Benzo(a)pyrene	681	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	600	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	499	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	433	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
86-74-8	Carbazole	168	120	ug/kg	
218-01-9	Chrysene	724	120	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP10 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-8	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	81.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	165	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	1580	120	ug/kg	
86-73-7	Fluorene	159	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	298	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	184	120	ug/kg	
88-74-4	2-Nitroaniline	ND	600	ug/kg	
99-09-2	3-Nitroaniline	ND	600	ug/kg	
100-01-6	4-Nitroaniline	ND	600	ug/kg	
91-20-3	Naphthalene	203	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	1490	120	ug/kg	
129-00-0	Pyrene	1650	120	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		24-110%
4165-62-2	Phenol-d5	57%		30-114%
118-79-6	2,4,6-Tribromophenol	98%		20-139%
4165-60-0	Nitrobenzene-d5	51%		27-112%
321-60-8	2-Fluorobiphenyl	74%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP10 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-8	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	81.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	106%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP10 (4-8')

Lab Sample ID: MC42297-8

Matrix: SO - Soil

Date Sampled: 10/14/15

Date Received: 10/20/15

Percent Solids: 81.8

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	10000	19	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	< 0.97	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	8.6	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	55.1	4.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	0.42	0.39	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	< 0.39	0.39	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	22200	490	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	11.0	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	< 4.9	4.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	24.2	2.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	18800	9.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	87.7	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	2630	490	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	1140	1.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	7.3	3.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	1550	490	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 0.97	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.49	0.49	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 490	490	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 0.97	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	21.8	0.97	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	141	1.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP7 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-9	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43258.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2							

	Initial Weight	Final Volume
Run #1	5.60 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	9.9	ug/kg	
71-43-2	Benzene	ND	0.49	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.9	ug/kg	
75-15-0	Carbon disulfide	ND	4.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	4.9	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	4.9	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone	ND	9.9	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.9	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	4.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	4.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP7 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-9	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	119%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP7 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-9	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07559.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	540	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	265	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
120-12-7	Anthracene	515	110	ug/kg	
56-55-3	Benzo(a)anthracene	1240	110	ug/kg	
50-32-8	Benzo(a)pyrene	1190	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	1090	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	629	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	916	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	518	270	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
86-74-8	Carbazole	275	110	ug/kg	
218-01-9	Chrysene	1270	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP7 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-9	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	158	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	270	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	2860	110	ug/kg	
86-73-7	Fluorene	245	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	270	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg	
67-72-1	Hexachloroethane	ND	270	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	549	110	ug/kg	
78-59-1	Isophorone	ND	270	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	540	ug/kg	
99-09-2	3-Nitroaniline	ND	540	ug/kg	
100-01-6	4-Nitroaniline	ND	540	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	270	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg	
85-01-8	Phenanthrene	2390	110	ug/kg	
129-00-0	Pyrene	2540	110	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	76%		24-110%
4165-62-2	Phenol-d5	81%		30-114%
118-79-6	2,4,6-Tribromophenol	110%		20-139%
4165-60-0	Nitrobenzene-d5	85%		27-112%
321-60-8	2-Fluorobiphenyl	95%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP7 (0-4')	Date Sampled:	10/13/15
Lab Sample ID:	MC42297-9	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	115%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP7 (0-4')
Lab Sample ID: MC42297-9
Matrix: SO - Soil

Date Sampled: 10/13/15
Date Received: 10/20/15
Percent Solids: 90.3

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	5740	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	7.1	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	139	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	0.42	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	1.2	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	72700	2200	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	27.4	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	< 4.3	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	348	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	11200	8.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	159	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	17000	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	313	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.081	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	11.5	3.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	908	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.43	0.43	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 430	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	13.4	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	198	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP14 (0-3')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-10	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K92071.D	1	10/26/15	KD	n/a	n/a	MSK2848
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.7 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	560	ug/kg	
71-43-2	Benzene	ND	28	ug/kg	
75-27-4	Bromodichloromethane	ND	110	ug/kg	
75-25-2	Bromoform	ND	110	ug/kg	
74-83-9	Bromomethane	ND	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	560	ug/kg	
75-15-0	Carbon disulfide	ND	280	ug/kg	
56-23-5	Carbon tetrachloride	ND	110	ug/kg	
108-90-7	Chlorobenzene	ND	110	ug/kg	
75-00-3	Chloroethane	ND	280	ug/kg	
67-66-3	Chloroform	ND	110	ug/kg	
74-87-3	Chloromethane	ND	280	ug/kg	
124-48-1	Dibromochloromethane	ND	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	ug/kg	
78-87-5	1,2-Dichloropropane	ND	110	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	110	ug/kg	
100-41-4	Ethylbenzene	ND	110	ug/kg	
591-78-6	2-Hexanone	ND	560	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	280	ug/kg	
75-09-2	Methylene chloride	ND	110	ug/kg	
100-42-5	Styrene	ND	280	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	110	ug/kg	
127-18-4	Tetrachloroethene	ND	110	ug/kg	
108-88-3	Toluene	ND	280	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	110	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	110	ug/kg	
79-01-6	Trichloroethene	ND	110	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP14 (0-3')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-10	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	110	ug/kg	
1330-20-7	Xylene (total)	519	110	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	98%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP14 (0-3')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-10	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07560.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2	W24528.D	20	10/27/15	NE	10/21/15	OP45098	MSW1027

	Initial Weight	Final Volume
Run #1	21.0 g	1.0 ml
Run #2	21.0 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	260	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	520	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	520	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	520	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	520	ug/kg	
95-48-7	2-Methylphenol	ND	520	ug/kg	
	3&4-Methylphenol	ND	520	ug/kg	
88-75-5	2-Nitrophenol	ND	520	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	ug/kg	
87-86-5	Pentachlorophenol	ND	520	ug/kg	
108-95-2	Phenol	ND	260	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	520	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	520	ug/kg	
83-32-9	Acenaphthene	1450	100	ug/kg	
208-96-8	Acenaphthylene	248	100	ug/kg	
120-12-7	Anthracene	3210	100	ug/kg	
56-55-3	Benzo(a)anthracene	6770	100	ug/kg	
50-32-8	Benzo(a)pyrene	5400	100	ug/kg	
205-99-2	Benzo(b)fluoranthene	7340	100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3390	100	ug/kg	
207-08-9	Benzo(k)fluoranthene	4320	100	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	520	ug/kg	
86-74-8	Carbazole	1830	100	ug/kg	
218-01-9	Chrysene	7120	100	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	260	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	260	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	260	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	260	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP14 (0-3')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-10	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	260	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	260	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	520	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	520	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	260	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	440	100	ug/kg	
132-64-9	Dibenzofuran	1540	100	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	260	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	260	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	260	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	16400 ^a	2100	ug/kg	
86-73-7	Fluorene	1460	100	ug/kg	
118-74-1	Hexachlorobenzene	ND	260	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	520	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	3690	100	ug/kg	
78-59-1	Isophorone	ND	260	ug/kg	
91-57-6	2-Methylnaphthalene	2490	100	ug/kg	
88-74-4	2-Nitroaniline	ND	520	ug/kg	
99-09-2	3-Nitroaniline	ND	520	ug/kg	
100-01-6	4-Nitroaniline	ND	520	ug/kg	
91-20-3	Naphthalene	2680	100	ug/kg	
98-95-3	Nitrobenzene	ND	260	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	260	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	260	ug/kg	
85-01-8	Phenanthrene	15100 ^a	2100	ug/kg	
129-00-0	Pyrene	14000 ^a	2100	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%	71%	24-110%
4165-62-2	Phenol-d5	69%	79%	30-114%
118-79-6	2,4,6-Tribromophenol	92%	76%	20-139%
4165-60-0	Nitrobenzene-d5	75%	72%	27-112%
321-60-8	2-Fluorobiphenyl	77%	89%	35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP14 (0-3')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-10	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.3
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	87%	109%	48-136%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP14 (0-3')
Lab Sample ID: MC42297-10
Matrix: SO - Soil

Date Sampled: 10/14/15
Date Received: 10/20/15
Percent Solids: 91.3

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	9010	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	11.1	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	63.2	4.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	0.45	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	0.64	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	7050	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Chromium	12.6	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	6.4	4.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	22.0	2.1	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	58000	85	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Lead	164	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	1210	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	891	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.28	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	12.8	3.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	1350	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.42	0.42	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 420	420	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.85	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	23.8	0.85	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	242	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP16 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-11	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.1
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43259.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43281.D	1	10/23/15	JT	n/a	n/a	MSV1571

	Initial Weight	Final Volume
Run #1	5.06 g	5.0 ml
Run #2	5.51 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	11	ug/kg	
71-43-2	Benzene	ND	0.56	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	ug/kg	
75-25-2	Bromoform	ND	2.2	ug/kg	
74-83-9	Bromomethane	ND	2.2	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	ug/kg	
75-15-0	Carbon disulfide	ND	5.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.6	ug/kg	
67-66-3	Chloroform	ND	2.2	ug/kg	
74-87-3	Chloromethane	ND	5.6	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	ug/kg	
591-78-6	2-Hexanone	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.6	ug/kg	
75-09-2	Methylene chloride	ND	2.2	ug/kg	
100-42-5	Styrene	ND	5.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ug/kg	
127-18-4	Tetrachloroethene	ND	2.2	ug/kg	
108-88-3	Toluene	ND	5.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ug/kg	
79-01-6	Trichloroethene	ND	2.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP16 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-11	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.1
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	110%	65-141%
2037-26-5	Toluene-D8	98%	97%	65-129%
460-00-4	4-Bromofluorobenzene	116%	119%	63-137%

(a) Confirmation run for internal standard areas.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP16 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-11	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.1
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07550.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2	W24529.D	20	10/27/15	NE	10/21/15	OP45098	MSW1027

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2	20.1 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	570	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	570	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	570	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	570	ug/kg	
95-48-7	2-Methylphenol	ND	570	ug/kg	
	3&4-Methylphenol	ND	570	ug/kg	
88-75-5	2-Nitrophenol	ND	570	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	570	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	570	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	570	ug/kg	
83-32-9	Acenaphthene	1720	110	ug/kg	
208-96-8	Acenaphthylene	593	110	ug/kg	
120-12-7	Anthracene	6570	110	ug/kg	
56-55-3	Benzo(a)anthracene	14000 ^a	2300	ug/kg	
50-32-8	Benzo(a)pyrene	12500 ^a	2300	ug/kg	
205-99-2	Benzo(b)fluoranthene	10600 ^a	2300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	9040	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	6180	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	570	ug/kg	
86-74-8	Carbazole	2440	110	ug/kg	
218-01-9	Chrysene	13400 ^a	2300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP16 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-11	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.1
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	570	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	570	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	778	110	ug/kg	
132-64-9	Dibenzofuran	1410	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg	
84-66-2	Diethyl phthalate	ND	280	ug/kg	
131-11-3	Dimethyl phthalate	ND	280	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg	
206-44-0	Fluoranthene	28100 ^a	2300	ug/kg	
86-73-7	Fluorene	2040	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	280	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	570	ug/kg	
67-72-1	Hexachloroethane	ND	280	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	8900	110	ug/kg	
78-59-1	Isophorone	ND	280	ug/kg	
91-57-6	2-Methylnaphthalene	704	110	ug/kg	
88-74-4	2-Nitroaniline	ND	570	ug/kg	
99-09-2	3-Nitroaniline	ND	570	ug/kg	
100-01-6	4-Nitroaniline	ND	570	ug/kg	
91-20-3	Naphthalene	1310	110	ug/kg	
98-95-3	Nitrobenzene	ND	280	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg	
85-01-8	Phenanthrene	22000 ^a	2300	ug/kg	
129-00-0	Pyrene	23400 ^a	2300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%	54%	24-110%
4165-62-2	Phenol-d5	58%	74%	30-114%
118-79-6	2,4,6-Tribromophenol	94%	69%	20-139%
4165-60-0	Nitrobenzene-d5	62%	53%	27-112%
321-60-8	2-Fluorobiphenyl	74%	82%	35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP16 (4-8')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-11	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	88.1
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	80%	90%	48-136%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP16 (4-8')	Date Sampled: 10/14/15
Lab Sample ID: MC42297-11	Date Received: 10/20/15
Matrix: SO - Soil	Percent Solids: 88.1
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	7450	18	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	1.1	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	14.9	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	243	4.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	0.42	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	0.90	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	48700	2200	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	20.9	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	6.5	4.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	42.9	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	56400	44	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Lead	330	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	6440	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	605	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.26	0.036	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	21.4	3.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	1390	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.44	0.44	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 440	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	32.1	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	267	1.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP18 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-12	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.2
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43260.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2							

	Initial Weight	Final Volume
Run #1	4.59 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	0.60	ug/kg	
75-27-4	Bromodichloromethane	ND	2.4	ug/kg	
75-25-2	Bromoform	ND	2.4	ug/kg	
74-83-9	Bromomethane	ND	2.4	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
75-15-0	Carbon disulfide	ND	6.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	ug/kg	
75-00-3	Chloroethane	ND	6.0	ug/kg	
67-66-3	Chloroform	ND	2.4	ug/kg	
74-87-3	Chloromethane	ND	6.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.4	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.4	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.4	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.4	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	ug/kg	
100-41-4	Ethylbenzene	ND	2.4	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.0	ug/kg	
75-09-2	Methylene chloride	ND	2.4	ug/kg	
100-42-5	Styrene	ND	6.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	ug/kg	
127-18-4	Tetrachloroethene	ND	2.4	ug/kg	
108-88-3	Toluene	ND	6.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	ug/kg	
79-01-6	Trichloroethene	ND	2.4	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP18 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-12	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.2
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.4	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	112%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP18 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-12	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07551.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	280	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	550	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	550	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	550	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	550	ug/kg	
95-48-7	2-Methylphenol	ND	550	ug/kg	
	3&4-Methylphenol	ND	550	ug/kg	
88-75-5	2-Nitrophenol	ND	550	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	550	ug/kg	
108-95-2	Phenol	ND	280	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	550	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	550	ug/kg	
83-32-9	Acenaphthene	246	110	ug/kg	
208-96-8	Acenaphthylene	255	110	ug/kg	
120-12-7	Anthracene	1020	110	ug/kg	
56-55-3	Benzo(a)anthracene	3000	110	ug/kg	
50-32-8	Benzo(a)pyrene	2980	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	2550	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1400	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	2330	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	280	ug/kg	
85-68-7	Butyl benzyl phthalate	1200	280	ug/kg	
91-58-7	2-Chloronaphthalene	ND	280	ug/kg	
106-47-8	4-Chloroaniline	ND	550	ug/kg	
86-74-8	Carbazole	432	110	ug/kg	
218-01-9	Chrysene	2880	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	280	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	280	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	280	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP18 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-12	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	280	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	280	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	280	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	550	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	550	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	280	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	523	110	ug/kg	
132-64-9	Dibenzofuran	183	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	280	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	280	ug/kg	
84-66-2	Diethyl phthalate	ND	280	ug/kg	
131-11-3	Dimethyl phthalate	ND	280	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	280	ug/kg	
206-44-0	Fluoranthene	7140	110	ug/kg	
86-73-7	Fluorene	282	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	280	ug/kg	
87-68-3	Hexachlorobutadiene	ND	280	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	550	ug/kg	
67-72-1	Hexachloroethane	ND	280	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1230	110	ug/kg	
78-59-1	Isophorone	ND	280	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	550	ug/kg	
99-09-2	3-Nitroaniline	ND	550	ug/kg	
100-01-6	4-Nitroaniline	ND	550	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	280	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	280	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	280	ug/kg	
85-01-8	Phenanthrene	3820	110	ug/kg	
129-00-0	Pyrene	6020	110	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	280	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	53%		24-110%
4165-62-2	Phenol-d5	61%		30-114%
118-79-6	2,4,6-Tribromophenol	103%		20-139%
4165-60-0	Nitrobenzene-d5	61%		27-112%
321-60-8	2-Fluorobiphenyl	73%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP18 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-12	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	90.2
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	96%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP18 (0-4')
Lab Sample ID: MC42297-12
Matrix: SO - Soil

Date Sampled: 10/14/15
Date Received: 10/20/15
Percent Solids: 90.2

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	5630	18	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	6.1	0.89	mg/kg	1	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Barium	47.9	4.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	< 0.35	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	0.40	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	47000	2200	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	8.7	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	5.4	4.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	30.8	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	15200	8.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	66.2	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	7740	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	331	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.043	0.034	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	18.9	3.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	950	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.44	0.44	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 440	440	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.89	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	13.3	0.89	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	124	1.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB4 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-13	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K92072.D	1	10/26/15	KD	n/a	n/a	MSK2848
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.0 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	590	ug/kg	
71-43-2	Benzene	ND	29	ug/kg	
75-27-4	Bromodichloromethane	ND	120	ug/kg	
75-25-2	Bromoform	ND	120	ug/kg	
74-83-9	Bromomethane	ND	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	590	ug/kg	
75-15-0	Carbon disulfide	ND	290	ug/kg	
56-23-5	Carbon tetrachloride	ND	120	ug/kg	
108-90-7	Chlorobenzene	ND	120	ug/kg	
75-00-3	Chloroethane	ND	290	ug/kg	
67-66-3	Chloroform	ND	120	ug/kg	
74-87-3	Chloromethane	ND	290	ug/kg	
124-48-1	Dibromochloromethane	ND	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	ug/kg	
78-87-5	1,2-Dichloropropane	ND	120	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	120	ug/kg	
100-41-4	Ethylbenzene	ND	120	ug/kg	
591-78-6	2-Hexanone	ND	590	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	290	ug/kg	
75-09-2	Methylene chloride	ND	120	ug/kg	
100-42-5	Styrene	ND	290	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	ug/kg	
127-18-4	Tetrachloroethene	ND	120	ug/kg	
108-88-3	Toluene	ND	290	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	120	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	120	ug/kg	
79-01-6	Trichloroethene	ND	120	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB4 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-13	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	120	ug/kg	
1330-20-7	Xylene (total)	ND	120	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB4 (0-4')		
Lab Sample ID:	MC42297-13	Date Sampled:	10/15/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8270D SW846 3546	Percent Solids:	91.8
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07552.D	20	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2	W24532.D	100	10/27/15	NE	10/21/15	OP45098	MSW1027

	Initial Weight	Final Volume
Run #1	21.0 g	1.0 ml
Run #2	21.0 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5200	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	10000	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	10000	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	10000	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	21000	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	10000	ug/kg	
95-48-7	2-Methylphenol	ND	10000	ug/kg	
	3&4-Methylphenol	ND	10000	ug/kg	
88-75-5	2-Nitrophenol	ND	10000	ug/kg	
100-02-7	4-Nitrophenol	ND	21000	ug/kg	
87-86-5	Pentachlorophenol	ND	10000	ug/kg	
108-95-2	Phenol	ND	5200	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	10000	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	10000	ug/kg	
83-32-9	Acenaphthene	14200	2100	ug/kg	
208-96-8	Acenaphthylene	12900	2100	ug/kg	
120-12-7	Anthracene	66400	2100	ug/kg	
56-55-3	Benzo(a)anthracene	98200	2100	ug/kg	
50-32-8	Benzo(a)pyrene	85600	2100	ug/kg	
205-99-2	Benzo(b)fluoranthene	69000	2100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	32100	2100	ug/kg	
207-08-9	Benzo(k)fluoranthene	57900	2100	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	5200	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	5200	ug/kg	
91-58-7	2-Chloronaphthalene	ND	5200	ug/kg	
106-47-8	4-Chloroaniline	ND	10000	ug/kg	
86-74-8	Carbazole	21300	2100	ug/kg	
218-01-9	Chrysene	94000	2100	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	5200	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	5200	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5200	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5200	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB4 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-13	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5200	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5200	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5200	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	10000	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	10000	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	5200	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	3890	2100	ug/kg	
132-64-9	Dibenzofuran	19300	2100	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	5200	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	5200	ug/kg	
84-66-2	Diethyl phthalate	ND	5200	ug/kg	
131-11-3	Dimethyl phthalate	ND	5200	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5200	ug/kg	
206-44-0	Fluoranthene	180000 ^a	10000	ug/kg	
86-73-7	Fluorene	32800	2100	ug/kg	
118-74-1	Hexachlorobenzene	ND	5200	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5200	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	10000	ug/kg	
67-72-1	Hexachloroethane	ND	5200	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	29200	2100	ug/kg	
78-59-1	Isophorone	ND	5200	ug/kg	
91-57-6	2-Methylnaphthalene	27600	2100	ug/kg	
88-74-4	2-Nitroaniline	ND	10000	ug/kg	
99-09-2	3-Nitroaniline	ND	10000	ug/kg	
100-01-6	4-Nitroaniline	ND	10000	ug/kg	
91-20-3	Naphthalene	33500	2100	ug/kg	
98-95-3	Nitrobenzene	ND	5200	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	5200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	5200	ug/kg	
85-01-8	Phenanthrene	201000 ^a	10000	ug/kg	
129-00-0	Pyrene	162000 ^a	10000	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	78%	62%	24-110%
4165-62-2	Phenol-d5	82%	62%	30-114%
118-79-6	2,4,6-Tribromophenol	531% ^b	59%	20-139%
4165-60-0	Nitrobenzene-d5	88%	63%	27-112%
321-60-8	2-Fluorobiphenyl	94%	86%	35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB4 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-13	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	111%	94%	48-136%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference. Sample results confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB4 (0-4')
Lab Sample ID: MC42297-13
Matrix: SO - Soil

Date Sampled: 10/15/15
Date Received: 10/20/15
Percent Solids: 91.8

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	3080	16	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Antimony	< 0.80	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Arsenic	4.5	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Barium	32.5	4.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Beryllium	< 0.32	0.32	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cadmium	< 0.32	0.32	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Calcium	17700	400	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Chromium	16.0	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Cobalt	< 4.0	4.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Copper	15.3	2.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Iron	10200	8.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Lead	31.4	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Magnesium	3470	400	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Manganese	155	1.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Mercury	< 0.033	0.033	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁴
Nickel	4.5	3.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Potassium	< 400	400	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Selenium	< 0.80	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Silver	< 0.40	0.40	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Sodium	< 400	400	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Thallium	< 0.80	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Vanadium	13.2	0.80	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³
Zinc	44.6	1.6	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ³

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Prep QC Batch: MP25349

(4) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K92073.D	1	10/26/15	KD	n/a	n/a	MSK2848
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.19 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	690	ug/kg	
71-43-2	Benzene	ND	35	ug/kg	
75-27-4	Bromodichloromethane	ND	140	ug/kg	
75-25-2	Bromoform	ND	140	ug/kg	
74-83-9	Bromomethane	ND	140	ug/kg	
78-93-3	2-Butanone (MEK)	ND	690	ug/kg	
75-15-0	Carbon disulfide	ND	350	ug/kg	
56-23-5	Carbon tetrachloride	ND	140	ug/kg	
108-90-7	Chlorobenzene	ND	140	ug/kg	
75-00-3	Chloroethane	ND	350	ug/kg	
67-66-3	Chloroform	ND	140	ug/kg	
74-87-3	Chloromethane	ND	350	ug/kg	
124-48-1	Dibromochloromethane	ND	140	ug/kg	
75-34-3	1,1-Dichloroethane	ND	140	ug/kg	
107-06-2	1,2-Dichloroethane	ND	140	ug/kg	
75-35-4	1,1-Dichloroethene	ND	140	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	140	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	140	ug/kg	
78-87-5	1,2-Dichloropropane	ND	140	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	140	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	140	ug/kg	
100-41-4	Ethylbenzene	ND	140	ug/kg	
591-78-6	2-Hexanone	ND	690	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg	
75-09-2	Methylene chloride	ND	140	ug/kg	
100-42-5	Styrene	ND	350	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	140	ug/kg	
127-18-4	Tetrachloroethene	ND	140	ug/kg	
108-88-3	Toluene	ND	350	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	140	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	140	ug/kg	
79-01-6	Trichloroethene	ND	140	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	140	ug/kg	
1330-20-7	Xylene (total)	ND	140	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	99%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07553.D	20	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5700	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	11000	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	11000	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	11000	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	23000	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	11000	ug/kg	
95-48-7	2-Methylphenol	ND	11000	ug/kg	
	3&4-Methylphenol	ND	11000	ug/kg	
88-75-5	2-Nitrophenol	ND	11000	ug/kg	
100-02-7	4-Nitrophenol	ND	23000	ug/kg	
87-86-5	Pentachlorophenol	ND	11000	ug/kg	
108-95-2	Phenol	ND	5700	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	11000	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	11000	ug/kg	
83-32-9	Acenaphthene	2980	2300	ug/kg	
208-96-8	Acenaphthylene	2540	2300	ug/kg	
120-12-7	Anthracene	11200	2300	ug/kg	
56-55-3	Benzo(a)anthracene	34900	2300	ug/kg	
50-32-8	Benzo(a)pyrene	33100	2300	ug/kg	
205-99-2	Benzo(b)fluoranthene	26900	2300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	14200	2300	ug/kg	
207-08-9	Benzo(k)fluoranthene	26800	2300	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	5700	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	5700	ug/kg	
91-58-7	2-Chloronaphthalene	ND	5700	ug/kg	
106-47-8	4-Chloroaniline	ND	11000	ug/kg	
86-74-8	Carbazole	3960	2300	ug/kg	
218-01-9	Chrysene	33500	2300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	5700	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	5700	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5700	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5700	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5700	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5700	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5700	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	11000	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	11000	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	5700	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	2300	ug/kg	
132-64-9	Dibenzofuran	ND	2300	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	5700	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	5700	ug/kg	
84-66-2	Diethyl phthalate	ND	5700	ug/kg	
131-11-3	Dimethyl phthalate	ND	5700	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5700	ug/kg	
206-44-0	Fluoranthene	69800	2300	ug/kg	
86-73-7	Fluorene	3210	2300	ug/kg	
118-74-1	Hexachlorobenzene	ND	5700	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5700	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	11000	ug/kg	
67-72-1	Hexachloroethane	ND	5700	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	14700	2300	ug/kg	
78-59-1	Isophorone	ND	5700	ug/kg	
91-57-6	2-Methylnaphthalene	ND	2300	ug/kg	
88-74-4	2-Nitroaniline	ND	11000	ug/kg	
99-09-2	3-Nitroaniline	ND	11000	ug/kg	
100-01-6	4-Nitroaniline	ND	11000	ug/kg	
91-20-3	Naphthalene	ND	2300	ug/kg	
98-95-3	Nitrobenzene	ND	5700	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	5700	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	5700	ug/kg	
85-01-8	Phenanthrene	38000	2300	ug/kg	
129-00-0	Pyrene	63500	2300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5700	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	87%		24-110%
4165-62-2	Phenol-d5	89%		30-114%
118-79-6	2,4,6-Tribromophenol	530% ^a		20-139%
4165-60-0	Nitrobenzene-d5	93%		27-112%
321-60-8	2-Fluorobiphenyl	103%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	118%		48-136%

(a) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TP17 (0-4')	Date Sampled:	10/14/15
Lab Sample ID:	MC42297-14	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8082A SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK52589.D	1	10/27/15	NK	10/21/15	OP45099	GBK1645
Run #2							

	Initial Weight	Final Volume
Run #1	15.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	38	ug/kg	
11104-28-2	Aroclor 1221	ND	38	ug/kg	
11141-16-5	Aroclor 1232	ND	38	ug/kg	
53469-21-9	Aroclor 1242	ND	38	ug/kg	
12672-29-6	Aroclor 1248	ND	38	ug/kg	
11097-69-1	Aroclor 1254	ND	38	ug/kg	
11096-82-5	Aroclor 1260	ND	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		35-136%
877-09-8	Tetrachloro-m-xylene	78%		35-136%
2051-24-3	Decachlorobiphenyl	101%		24-171%
2051-24-3	Decachlorobiphenyl	95%		24-171%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TP17 (0-4')
Lab Sample ID: MC42297-14
Matrix: SO - Soil

Date Sampled: 10/14/15
Date Received: 10/20/15
Percent Solids: 87.4

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	9860	18	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.91	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	8.6	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	145	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	0.66	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	0.54	0.36	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	85700	2300	mg/kg	5	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	16.2	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	7.4	4.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	47.4	2.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	27800	9.1	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	107	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	22800	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	441	1.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.21	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	19.2	3.6	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	2160	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.91	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.45	0.45	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 450	450	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.91	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	23.1	0.91	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	196	1.8	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB10 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-15	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43261.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2 ^a	V43282.D	1	10/23/15	JT	n/a	n/a	MSV1571

	Initial Weight	Final Volume
Run #1	4.66 g	5.0 ml
Run #2	4.81 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	6.2	2.3	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.8	ug/kg	
75-09-2	Methylene chloride	6.6	2.3	ug/kg	
100-42-5	Styrene	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	ND	2.3	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB10 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-15	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.5
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	47.1	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%	108%	65-141%
2037-26-5	Toluene-D8	96%	98%	65-129%
460-00-4	4-Bromofluorobenzene	142% ^b	141% ^b	63-137%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB10 (0-4')		
Lab Sample ID:	MC42297-15	Date Sampled:	10/16/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8270D SW846 3546	Percent Solids:	92.5
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07554.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2	W24533.D	20	10/27/15	NE	10/21/15	OP45098	MSW1027

	Initial Weight	Final Volume
Run #1	20.7 g	1.0 ml
Run #2	20.7 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	260	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	520	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	520	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	520	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	520	ug/kg	
95-48-7	2-Methylphenol	ND	520	ug/kg	
	3&4-Methylphenol	ND	520	ug/kg	
88-75-5	2-Nitrophenol	ND	520	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	ug/kg	
87-86-5	Pentachlorophenol	ND	520	ug/kg	
108-95-2	Phenol	ND	260	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	520	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	520	ug/kg	
83-32-9	Acenaphthene	859	100	ug/kg	
208-96-8	Acenaphthylene	402	100	ug/kg	
120-12-7	Anthracene	3210	100	ug/kg	
56-55-3	Benzo(a)anthracene	6660	100	ug/kg	
50-32-8	Benzo(a)pyrene	6380	100	ug/kg	
205-99-2	Benzo(b)fluoranthene	8070	100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	4950	100	ug/kg	
207-08-9	Benzo(k)fluoranthene	5150	100	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	520	ug/kg	
86-74-8	Carbazole	1520	100	ug/kg	
218-01-9	Chrysene	6650	100	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	260	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	260	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	260	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	260	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB10 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-15	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	260	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	260	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	520	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	520	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	260	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	442	100	ug/kg	
132-64-9	Dibenzofuran	870	100	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	260	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	260	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	260	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	15000 ^a	2100	ug/kg	
86-73-7	Fluorene	1130	100	ug/kg	
118-74-1	Hexachlorobenzene	ND	260	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	520	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	4370	100	ug/kg	
78-59-1	Isophorone	ND	260	ug/kg	
91-57-6	2-Methylnaphthalene	375	100	ug/kg	
88-74-4	2-Nitroaniline	ND	520	ug/kg	
99-09-2	3-Nitroaniline	ND	520	ug/kg	
100-01-6	4-Nitroaniline	ND	520	ug/kg	
91-20-3	Naphthalene	597	100	ug/kg	
98-95-3	Nitrobenzene	ND	260	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	260	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	260	ug/kg	
85-01-8	Phenanthrene	13100 ^a	2100	ug/kg	
129-00-0	Pyrene	13100 ^a	2100	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	57%	57%	24-110%
4165-62-2	Phenol-d5	71%	73%	30-114%
118-79-6	2,4,6-Tribromophenol	54%	29%	20-139%
4165-60-0	Nitrobenzene-d5	76%	71%	27-112%
321-60-8	2-Fluorobiphenyl	83%	87%	35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB10 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-15	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.5
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	95%	103%	48-136%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB10 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-15	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.5
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	5780	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.86	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	17.1	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	93.4	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	0.35	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	0.65	0.34	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	86400	4300	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	18.5	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	5.9	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	43.1	2.1	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	56100	86	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Lead	63.2	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	20400	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	520	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	0.045	0.032	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	11.5	3.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	994	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 1.7	1.7	mg/kg	2	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Silver	< 0.43	0.43	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 430	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.86	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	40.7	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	146	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43283.D	1	10/23/15	JT	n/a	n/a	MSV1571
Run #2							

	Initial Weight	Final Volume
Run #1	8.03 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	6.8	ug/kg	
71-43-2	Benzene	ND	0.34	ug/kg	
75-27-4	Bromodichloromethane	ND	1.4	ug/kg	
75-25-2	Bromoform	ND	1.4	ug/kg	
74-83-9	Bromomethane	ND	1.4	ug/kg	
78-93-3	2-Butanone (MEK)	ND	6.8	ug/kg	
75-15-0	Carbon disulfide	ND	3.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	1.4	ug/kg	
75-00-3	Chloroethane	ND	3.4	ug/kg	
67-66-3	Chloroform	ND	1.4	ug/kg	
74-87-3	Chloromethane	ND	3.4	ug/kg	
124-48-1	Dibromochloromethane	ND	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.4	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.4	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	1.4	ug/kg	
591-78-6	2-Hexanone	ND	6.8	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	3.4	ug/kg	
75-09-2	Methylene chloride	1.8	1.4	ug/kg	
100-42-5	Styrene	ND	3.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.4	ug/kg	
127-18-4	Tetrachloroethene	ND	1.4	ug/kg	
108-88-3	Toluene	ND	3.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.4	ug/kg	
79-01-6	Trichloroethene	ND	1.4	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.4	ug/kg	
1330-20-7	Xylene (total)	ND	1.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	107%		63-137%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07555.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.9 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	260	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	520	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	520	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	520	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	520	ug/kg	
95-48-7	2-Methylphenol	ND	520	ug/kg	
	3&4-Methylphenol	ND	520	ug/kg	
88-75-5	2-Nitrophenol	ND	520	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	ug/kg	
87-86-5	Pentachlorophenol	ND	520	ug/kg	
108-95-2	Phenol	ND	260	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	520	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	520	ug/kg	
83-32-9	Acenaphthene	ND	100	ug/kg	
208-96-8	Acenaphthylene	ND	100	ug/kg	
120-12-7	Anthracene	ND	100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	100	ug/kg	
50-32-8	Benzo(a)pyrene	ND	100	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	100	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	100	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	260	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	260	ug/kg	
91-58-7	2-Chloronaphthalene	ND	260	ug/kg	
106-47-8	4-Chloroaniline	ND	520	ug/kg	
86-74-8	Carbazole	ND	100	ug/kg	
218-01-9	Chrysene	ND	100	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	260	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	260	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	260	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	260	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	260	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	260	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	260	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	520	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	520	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	260	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	100	ug/kg	
132-64-9	Dibenzofuran	ND	100	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	260	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	260	ug/kg	
84-66-2	Diethyl phthalate	ND	260	ug/kg	
131-11-3	Dimethyl phthalate	ND	260	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	260	ug/kg	
206-44-0	Fluoranthene	170	100	ug/kg	
86-73-7	Fluorene	ND	100	ug/kg	
118-74-1	Hexachlorobenzene	ND	260	ug/kg	
87-68-3	Hexachlorobutadiene	ND	260	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	520	ug/kg	
67-72-1	Hexachloroethane	ND	260	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	100	ug/kg	
78-59-1	Isophorone	ND	260	ug/kg	
91-57-6	2-Methylnaphthalene	ND	100	ug/kg	
88-74-4	2-Nitroaniline	ND	520	ug/kg	
99-09-2	3-Nitroaniline	ND	520	ug/kg	
100-01-6	4-Nitroaniline	ND	520	ug/kg	
91-20-3	Naphthalene	ND	100	ug/kg	
98-95-3	Nitrobenzene	ND	260	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	260	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	260	ug/kg	
85-01-8	Phenanthrene	124	100	ug/kg	
129-00-0	Pyrene	162	100	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	260	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		24-110%
4165-62-2	Phenol-d5	68%		30-114%
118-79-6	2,4,6-Tribromophenol	97%		20-139%
4165-60-0	Nitrobenzene-d5	70%		27-112%
321-60-8	2-Fluorobiphenyl	78%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	94%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB14 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-16	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.6
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	3420	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	5.9	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	17.4	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	< 0.35	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	< 0.35	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	70900	4300	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	25.3	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	< 4.3	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	4.4	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	21100	8.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	101	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	3810	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	278	1.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	< 0.035	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	4.6	3.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	< 430	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.43	0.43	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 430	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.87	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	16.1	0.87	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	10.5	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB8 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-17	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43263.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2							

	Initial Weight	Final Volume
Run #1	4.24 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	13	ug/kg	
71-43-2	Benzene	ND	0.64	ug/kg	
75-27-4	Bromodichloromethane	ND	2.6	ug/kg	
75-25-2	Bromoform	ND	2.6	ug/kg	
74-83-9	Bromomethane	ND	2.6	ug/kg	
78-93-3	2-Butanone (MEK)	ND	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
108-90-7	Chlorobenzene	ND	2.6	ug/kg	
75-00-3	Chloroethane	ND	6.4	ug/kg	
67-66-3	Chloroform	ND	2.6	ug/kg	
74-87-3	Chloromethane	ND	6.4	ug/kg	
124-48-1	Dibromochloromethane	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.6	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.6	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.6	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.6	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.6	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	ug/kg	
100-41-4	Ethylbenzene	ND	2.6	ug/kg	
591-78-6	2-Hexanone	ND	13	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.4	ug/kg	
75-09-2	Methylene chloride	4.7	2.6	ug/kg	B
100-42-5	Styrene	ND	6.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	ug/kg	
127-18-4	Tetrachloroethene	ND	2.6	ug/kg	
108-88-3	Toluene	ND	6.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.6	ug/kg	
79-01-6	Trichloroethene	ND	2.6	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB8 (0-4')	
Lab Sample ID: MC42297-17	Date Sampled: 10/15/15
Matrix: SO - Soil	Date Received: 10/20/15
Method: SW846 8260C	Percent Solids: 91.8
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.6	ug/kg	
1330-20-7	Xylene (total)	ND	2.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		65-141%
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	120%		63-137%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB8 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-17	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07556.D	5	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2	W24553.D	50	10/28/15	NE	10/21/15	OP45098	MSW1028

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2	20.5 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	1300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	2700	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	2700	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	2700	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	5300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	2700	ug/kg	
95-48-7	2-Methylphenol	ND	2700	ug/kg	
	3&4-Methylphenol	ND	2700	ug/kg	
88-75-5	2-Nitrophenol	ND	2700	ug/kg	
100-02-7	4-Nitrophenol	ND	5300	ug/kg	
87-86-5	Pentachlorophenol	ND	2700	ug/kg	
108-95-2	Phenol	ND	1300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	2700	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	2700	ug/kg	
83-32-9	Acenaphthene	2970	530	ug/kg	
208-96-8	Acenaphthylene	2800	530	ug/kg	
120-12-7	Anthracene	11100	530	ug/kg	
56-55-3	Benzo(a)anthracene	18500	530	ug/kg	
50-32-8	Benzo(a)pyrene	16600	530	ug/kg	
205-99-2	Benzo(b)fluoranthene	13100	530	ug/kg	
191-24-2	Benzo(g,h,i)perylene	7090	530	ug/kg	
207-08-9	Benzo(k)fluoranthene	12300	530	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	1300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	1300	ug/kg	
91-58-7	2-Chloronaphthalene	ND	1300	ug/kg	
106-47-8	4-Chloroaniline	ND	2700	ug/kg	
86-74-8	Carbazole	3840	530	ug/kg	
218-01-9	Chrysene	17000	530	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	1300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	1300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	1300	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB8 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-17	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	1300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	2700	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	2700	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	1300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	679	530	ug/kg	
132-64-9	Dibenzofuran	3440	530	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	1300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	1300	ug/kg	
84-66-2	Diethyl phthalate	ND	1300	ug/kg	
131-11-3	Dimethyl phthalate	ND	1300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1300	ug/kg	
206-44-0	Fluoranthene	46000 ^a	5300	ug/kg	
86-73-7	Fluorene	4240	530	ug/kg	
118-74-1	Hexachlorobenzene	ND	1300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	1300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	2700	ug/kg	
67-72-1	Hexachloroethane	ND	1300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	6320	530	ug/kg	
78-59-1	Isophorone	ND	1300	ug/kg	
91-57-6	2-Methylnaphthalene	1690	530	ug/kg	
88-74-4	2-Nitroaniline	ND	2700	ug/kg	
99-09-2	3-Nitroaniline	ND	2700	ug/kg	
100-01-6	4-Nitroaniline	ND	2700	ug/kg	
91-20-3	Naphthalene	3230	530	ug/kg	
98-95-3	Nitrobenzene	ND	1300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	1300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	1300	ug/kg	
85-01-8	Phenanthrene	43400 ^a	5300	ug/kg	
129-00-0	Pyrene	41800	530	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	1300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	75%	79%	24-110%
4165-62-2	Phenol-d5	80%	92%	30-114%
118-79-6	2,4,6-Tribromophenol	183% ^b	80%	20-139%
4165-60-0	Nitrobenzene-d5	85%	84%	27-112%
321-60-8	2-Fluorobiphenyl	90%	95%	35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB8 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-17	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	106%	110%	48-136%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB8 (0-4')	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-17	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	91.8
Method:	SW846 8082A SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK52590.D	1	10/27/15	NK	10/21/15	OP45099	GBK1645
Run #2							

	Initial Weight	Final Volume
Run #1	15.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	35	ug/kg	
11104-28-2	Aroclor 1221	ND	35	ug/kg	
11141-16-5	Aroclor 1232	ND	35	ug/kg	
53469-21-9	Aroclor 1242	ND	35	ug/kg	
12672-29-6	Aroclor 1248	ND	35	ug/kg	
11097-69-1	Aroclor 1254	ND	35	ug/kg	
11096-82-5	Aroclor 1260	ND	35	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	98%		35-136%
877-09-8	Tetrachloro-m-xylene	85%		35-136%
2051-24-3	Decachlorobiphenyl	102%		24-171%
2051-24-3	Decachlorobiphenyl	100%		24-171%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB8 (0-4')
Lab Sample ID: MC42297-17
Matrix: SO - Soil

Date Sampled: 10/15/15

Date Received: 10/20/15

Percent Solids: 91.8

Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	19200	17	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.86	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	5.4	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	207	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	2.7	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	< 0.35	0.35	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	104000	4300	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	9.9	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	< 4.3	4.3	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	8.1	2.2	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	12200	8.6	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	52.1	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	10900	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	1820	13	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Mercury	0.045	0.035	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	4.9	3.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	1230	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	1.9	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.43	0.43	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	525	430	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.86	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	12.7	0.86	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	48.4	1.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB12 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-18	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V43264.D	1	10/22/15	JT	n/a	n/a	MSV1570
Run #2							

	Initial Weight	Final Volume
Run #1	5.03 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	11	ug/kg	
71-43-2	Benzene	ND	0.54	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	ug/kg	
75-25-2	Bromoform	ND	2.2	ug/kg	
74-83-9	Bromomethane	ND	2.2	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	ug/kg	
75-15-0	Carbon disulfide	ND	5.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.4	ug/kg	
67-66-3	Chloroform	ND	2.2	ug/kg	
74-87-3	Chloromethane	ND	5.4	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	ug/kg	
591-78-6	2-Hexanone	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.4	ug/kg	
75-09-2	Methylene chloride	3.8	2.2	ug/kg	B
100-42-5	Styrene	ND	5.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ug/kg	
127-18-4	Tetrachloroethene	ND	2.2	ug/kg	
108-88-3	Toluene	ND	5.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ug/kg	
79-01-6	Trichloroethene	ND	2.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB12 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-18	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	105%		63-137%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB12 (0-4')		
Lab Sample ID:	MC42297-18	Date Sampled:	10/16/15
Matrix:	SO - Soil	Date Received:	10/20/15
Method:	SW846 8270D SW846 3546	Percent Solids:	92.1
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X07557.D	1	10/26/15	MR	10/21/15	OP45098	MSX234
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	540	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	ND	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
120-12-7	Anthracene	121	110	ug/kg	
56-55-3	Benzo(a)anthracene	403	110	ug/kg	
50-32-8	Benzo(a)pyrene	389	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	324	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	207	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	303	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
86-74-8	Carbazole	ND	110	ug/kg	
218-01-9	Chrysene	393	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB12 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-18	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	ND	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	270	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	723	110	ug/kg	
86-73-7	Fluorene	ND	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	270	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg	
67-72-1	Hexachloroethane	ND	270	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	211	110	ug/kg	
78-59-1	Isophorone	ND	270	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	540	ug/kg	
99-09-2	3-Nitroaniline	ND	540	ug/kg	
100-01-6	4-Nitroaniline	ND	540	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	270	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg	
85-01-8	Phenanthrene	452	110	ug/kg	
129-00-0	Pyrene	706	110	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	58%		24-110%
4165-62-2	Phenol-d5	59%		30-114%
118-79-6	2,4,6-Tribromophenol	89%		20-139%
4165-60-0	Nitrobenzene-d5	65%		27-112%
321-60-8	2-Fluorobiphenyl	71%		35-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB12 (0-4')	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-18	Date Received:	10/20/15
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8270D SW846 3546		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	99%		48-136%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB12 (0-4')	Date Sampled: 10/16/15
Lab Sample ID: MC42297-18	Date Received: 10/20/15
Matrix: SO - Soil	Percent Solids: 92.1
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	3770	15	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Antimony	< 0.74	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Arsenic	2.5	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Barium	19.0	3.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Beryllium	< 0.30	0.30	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cadmium	< 0.30	0.30	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Calcium	39200	3700	mg/kg	10	10/23/15	10/27/15 EAL	SW846 6010C ³	SW846 3050B ⁴
Chromium	6.9	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Cobalt	< 3.7	3.7	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Copper	4.9	1.9	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Iron	12800	7.4	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Lead	99.4	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Magnesium	4030	370	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Manganese	478	1.1	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Mercury	< 0.033	0.033	mg/kg	1	10/26/15	10/26/15 EC	SW846 7471B ²	SW846 7471B ⁵
Nickel	3.5	3.0	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Potassium	533	370	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Selenium	< 0.74	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Silver	< 0.37	0.37	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Sodium	< 370	370	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Thallium	< 0.74	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Vanadium	16.0	0.74	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴
Zinc	18.3	1.5	mg/kg	1	10/23/15	10/24/15 EC	SW846 6010C ¹	SW846 3050B ⁴

(1) Instrument QC Batch: MA18598

(2) Instrument QC Batch: MA18601

(3) Instrument QC Batch: MA18603

(4) Prep QC Batch: MP25349

(5) Prep QC Batch: MP25360

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW1	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-19	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U33329.D	1	10/28/15	AD	n/a	n/a	MSU1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-19	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	1.5	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		79-127%
2037-26-5	Toluene-D8	104%		80-116%
460-00-4	4-Bromofluorobenzene	102%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1		
Lab Sample ID:	MC42297-19	Date Sampled:	10/16/15
Matrix:	AQ - Ground Water	Date Received:	10/20/15
Method:	SW846 8270D SW846 3510C	Percent Solids:	n/a
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24461.D	1	10/23/15	NE	10/21/15	OP45111	MSW1025
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.4	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	ND	2.2	ug/l	
208-96-8	Acenaphthylene	ND	2.2	ug/l	
120-12-7	Anthracene	ND	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	ND	2.2	ug/l	
218-01-9	Chrysene	ND	2.2	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-19	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.4	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.4	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.2	ug/l	
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	ug/l	
84-66-2	Diethyl phthalate	ND	5.4	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
206-44-0	Fluoranthene	ND	2.2	ug/l	
86-73-7	Fluorene	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	ND	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	ug/l	
85-01-8	Phenanthrene	ND	2.2	ug/l	
129-00-0	Pyrene	ND	2.2	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%		10-80%
4165-62-2	Phenol-d5	36%		10-72%
118-79-6	2,4,6-Tribromophenol	121%		42-134%
4165-60-0	Nitrobenzene-d5	93%		25-117%
321-60-8	2-Fluorobiphenyl	85%		24-112%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-19	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	124%		48-133%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW1	Date Sampled: 10/16/15
Lab Sample ID: MC42297-19	Date Received: 10/20/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	777	200	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Antimony	< 6.0	6.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Arsenic	18.5	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Barium	107	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Beryllium	< 4.0	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Calcium	185000	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cobalt	< 50	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Copper	< 25	25	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Iron	66200	100	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Lead	5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Magnesium	47300	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Manganese	609	15	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	10/27/15	10/27/15 EC	SW846 7470A ²	SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Potassium	6450	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Sodium	14500	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Thallium	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Vanadium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Zinc	< 20	20	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA18599

(2) Instrument QC Batch: MA18602

(3) Prep QC Batch: MP25350

(4) Prep QC Batch: MP25365

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB5	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-20	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U33330.D	1	10/28/15	AD	n/a	n/a	MSU1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB5	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-20	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%
2037-26-5	Toluene-D8	105%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB5		
Lab Sample ID:	MC42297-20	Date Sampled:	10/15/15
Matrix:	AQ - Ground Water	Date Received:	10/20/15
Method:	SW846 8270D SW846 3510C	Percent Solids:	n/a
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24462.D	1	10/23/15	NE	10/21/15	OP45111	MSW1025
Run #2	W24530.D	1	10/27/15	NE	10/21/15	OP45111	MSW1027

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2	990 ml	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
95-48-7	2-Methylphenol	ND	10	ug/l	
	3&4-Methylphenol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
83-32-9	Acenaphthene	ND	2.0	ug/l	
208-96-8	Acenaphthylene	ND	2.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	2.3	2.0	ug/l	
50-32-8	Benzo(a)pyrene	2.3	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	2.1	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	ug/l	
106-47-8	4-Chloroaniline	ND	10	ug/l	
86-74-8	Carbazole	ND	2.0	ug/l	
218-01-9	Chrysene	2.3	2.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB5	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-20	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.1	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l	
132-64-9	Dibenzofuran	ND	2.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	ug/l	
206-44-0	Fluoranthene	4.3	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
67-72-1	Hexachloroethane	ND	5.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	ug/l	
99-09-2	3-Nitroaniline	ND	10	ug/l	
100-01-6	4-Nitroaniline	ND	10	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	ug/l	
85-01-8	Phenanthrene	2.1	2.0	ug/l	
129-00-0	Pyrene	4.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%	52%	10-80%
4165-62-2	Phenol-d5	38%	37%	10-72%
118-79-6	2,4,6-Tribromophenol	137% ^a	127%	42-134%
4165-60-0	Nitrobenzene-d5	106%	96%	25-117%
321-60-8	2-Fluorobiphenyl	97%	97%	24-112%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB5	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-20	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	131%	136% ^a	48-133%

(a) Outside control limits due to possible matrix interference. Sample results confirmed by reanalysis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB5	Date Sampled: 10/15/15
Lab Sample ID: MC42297-20	Date Received: 10/20/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	53300	200	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Antimony	< 6.0	6.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Arsenic	12.2	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Barium	403	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Beryllium	< 4.0	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Calcium	244000	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Chromium	65.6	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cobalt	< 50	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Copper	59.9	25	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Iron	61300	100	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Lead	80.3	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Magnesium	112000	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Manganese	5460	15	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Mercury	0.23	0.20	ug/l	1	10/27/15	10/27/15 EC	SW846 7470A ²	SW846 7470A ⁴
Nickel	69.7	40	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Potassium	8470	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Sodium	33500	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Thallium	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Vanadium	88.0	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Zinc	273	20	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA18599

(2) Instrument QC Batch: MA18602

(3) Prep QC Batch: MP25350

(4) Prep QC Batch: MP25365

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U33331.D	1	10/28/15	AD	n/a	n/a	MSU1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	1.3	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%
2037-26-5	Toluene-D8	93%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24463.D	1	10/23/15	NE	10/21/15	OP45111	MSW1025
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.3	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	12.0	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	21	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	37.7	5.3	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	3.9	2.1	ug/l	
208-96-8	Acenaphthylene	6.2	2.1	ug/l	
120-12-7	Anthracene	11.9	2.1	ug/l	
56-55-3	Benzo(a)anthracene	40.1	2.1	ug/l	
50-32-8	Benzo(a)pyrene	46.1	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	37.2	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	27.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	33.5	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	2.7	2.1	ug/l	
218-01-9	Chrysene	40.1	2.1	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.3	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	ug/l	
53-70-3	Dibenzo(a,h)anthracene	8.8	2.1	ug/l	
132-64-9	Dibenzofuran	2.6	2.1	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	ug/l	
84-66-2	Diethyl phthalate	ND	5.3	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	ug/l	
206-44-0	Fluoranthene	77.0	2.1	ug/l	
86-73-7	Fluorene	4.2	2.1	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.3	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.3	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	24.6	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	2.2	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	ug/l	
85-01-8	Phenanthrene	33.8	2.1	ug/l	
129-00-0	Pyrene	82.9	2.1	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		10-80%
4165-62-2	Phenol-d5	25%		10-72%
118-79-6	2,4,6-Tribromophenol	115%		42-134%
4165-60-0	Nitrobenzene-d5	107%		25-117%
321-60-8	2-Fluorobiphenyl	90%		24-112%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	121%		48-133%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB9	Date Sampled:	10/15/15
Lab Sample ID:	MC42297-21	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	80300	200	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Antimony	< 6.0	6.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Arsenic	84.2	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Barium	819	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Beryllium	< 4.0	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cadmium	7.4	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Calcium	1050000	25000	ug/l	5	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Chromium	190	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cobalt	58.5	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Copper	198	25	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Iron	201000	100	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Lead	688	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Magnesium	76900	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Manganese	9920	15	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Mercury	1.4	0.20	ug/l	1	10/27/15	10/27/15 EC	SW846 7470A ²	SW846 7470A ⁴
Nickel	114	40	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Potassium	11800	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Sodium	18600	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Thallium	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Vanadium	169	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Zinc	2680	20	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA18599

(2) Instrument QC Batch: MA18602

(3) Prep QC Batch: MP25350

(4) Prep QC Batch: MP25365

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB15	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-22	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U33332.D	1	10/28/15	AD	n/a	n/a	MSU1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-22	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-127%
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	95%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15	
Lab Sample ID:	MC42297-22	Date Sampled: 10/16/15
Matrix:	AQ - Ground Water	Date Received: 10/20/15
Method:	SW846 8270D SW846 3510C	Percent Solids: n/a
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W24464.D	1	10/23/15	NE	10/21/15	OP45111	MSW1025
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-57-8	2-Chlorophenol	ND	5.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
95-48-7	2-Methylphenol	ND	10	ug/l	
	3&4-Methylphenol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
83-32-9	Acenaphthene	2.8	2.0	ug/l	
208-96-8	Acenaphthylene	ND	2.0	ug/l	
120-12-7	Anthracene	9.7	2.0	ug/l	
56-55-3	Benzo(a)anthracene	21.4	2.0	ug/l	
50-32-8	Benzo(a)pyrene	18.6	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	17.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	10.5	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	14.4	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	ug/l	
106-47-8	4-Chloroaniline	ND	10	ug/l	
86-74-8	Carbazole	3.7	2.0	ug/l	
218-01-9	Chrysene	21.0	2.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-22	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.1	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	4.0	2.0	ug/l	
132-64-9	Dibenzofuran	2.2	2.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	ug/l	
206-44-0	Fluoranthene	41.5	2.0	ug/l	
86-73-7	Fluorene	4.0	2.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
67-72-1	Hexachloroethane	ND	5.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	9.7	2.0	ug/l	
78-59-1	Isophorone	ND	5.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	ug/l	
99-09-2	3-Nitroaniline	ND	10	ug/l	
100-01-6	4-Nitroaniline	ND	10	ug/l	
91-20-3	Naphthalene	2.4	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	ug/l	
85-01-8	Phenanthrene	35.5	2.0	ug/l	
129-00-0	Pyrene	37.8	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%		10-80%
4165-62-2	Phenol-d5	36%		10-72%
118-79-6	2,4,6-Tribromophenol	128%		42-134%
4165-60-0	Nitrobenzene-d5	98%		25-117%
321-60-8	2-Fluorobiphenyl	84%		24-112%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB15	Date Sampled:	10/16/15
Lab Sample ID:	MC42297-22	Date Received:	10/20/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1718-51-0	Terphenyl-d14	128%		48-133%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SB15	Date Sampled: 10/16/15
Lab Sample ID: MC42297-22	Date Received: 10/20/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Donation Parcel Investigation, 1801 Elmwood Avenue, Buffalo, NY	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	129000	200	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Antimony	< 6.0	6.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Arsenic	130	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Barium	1220	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Beryllium	4.9	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cadmium	5.8	4.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Calcium	899000	10000	ug/l	2	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Chromium	187	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Cobalt	63.5	50	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Copper	283	25	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Iron	216000	100	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Lead	956	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Magnesium	145000	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Manganese	8490	15	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Mercury	1.4	0.20	ug/l	1	10/27/15	10/27/15 EC	SW846 7470A ²	SW846 7470A ⁴
Nickel	122	40	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Potassium	21200	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Selenium	< 10	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Sodium	11500	5000	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Thallium	< 5.0	5.0	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Vanadium	256	10	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³
Zinc	1050	20	ug/l	1	10/23/15	10/26/15 EC	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA18599

(2) Instrument QC Batch: MA18602

(3) Prep QC Batch: MP25350

(4) Prep QC Batch: MP25365

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Client / Reporting Information Company Name: Hazard Evaluations Inc Street Address: 3752 N. Buffalo Road City: Orchard Park NY State: 14127 Zip: 14127 Project Contact: Michele Wittman E-mail: m.wittman@hazardevaluations.com Phone #: 716-667-3130 Fax #: 716-667-3130 Sampler(s) Name(s): Eric Betzold Phone #: 716-667-3130		Project Information Project Name: Donation Parcel Phase II Street: Elmwood Ave. City: Buffalo, NY Project #: E1459 Client POB: Michele Wittman Attention: POB		Requested Analysis (see TEST CODE sheet) VOC via Method 8260 TCL SVOC via Method 8270 TCL PCBs via Method 8082 Metals - TAL Herbicides via Method 8151										Matrix Codes DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Accutest Sample # Field ID / Point of Collection MECH/DI Val #		Collection Date Time Sampled By Matrix # of bottles		Number of preserved Bottles HCl HNO3 HNO3 H2SO4 DI Water MECH ENCORE Brulene										LAB USE ONLY	
-1 TP4 (9-12')		10/13/15 11:45am EB SO 2		X X X X											
-2 SB2 (4-8')		10/13/15 9:45am EB 2		X X X X											
-3 TP4 (4-8')		10/13/15 11:45am EB 2		X X X X											
-4 SB1 (0-4')		10/13/15 8:50am EB 2		X X X X											
-5 TP11 (0-4')		10/14/15 9:10am EB 1		X X X X										12D	
-6 TP5 (0-4')		10/13/15 1:20pm EB 3		X X X X											
-7 SB15 (0-4')		10/16/15 12:00pm EB 2		X X X X											
-8 TP10 (4-8')		10/14/15 8:45am EB 2		X X X X											
-9 TP7 (0-4')		10/13/15 2:40pm EB 2		X X X X											
-10 TP14 (0-3')		10/14/15 1:10pm EB 2		X X X X											
-11 TP16 (4-8')		10/14/15 2:30pm EB 2		X X X X											
-12 TP18 (0-4')		10/14/15 3:30pm EB 2		X X X X											
Data Deliverable Information Turnaround Time (Business days) ☐ Std. 10 Business Days ☒ Std. 5 Business Days (By Contract only) ☐ 5 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY Approved By (Accutest PM): / Date: _____ Commercial "A" (Level 1) ☒ Commercial "B" (Level 2) ☐ FULLT (Level 3+4) ☐ CT RCP ☐ MA MCP Commercial "A" = Results Only Commercial "B" = Results + QC Summary NYASP Category A ☐ NYASP Category B ☐ State Forms ☐ EDD Format ☐ Other _____															
Comments / Special Instructions ACCUTEST SYRACUSE SC															
Sample Custody must be documented below each time samples change possession, including courier delivery.															
Relinquished by Sampler: Em (10/15/15) Relinquished by Sampler: FX Relinquished by: _____		Date Time: 10/19/15 1330 Date Time: 9:15 Date Time: 10-20-15		Received By: [Signature] Received By: [Signature] Received By: _____		Date Time: _____ Date Time: _____ Date Time: _____		Relinquished By: _____ Relinquished By: _____ Relinquished By: _____		Date Time: _____ Date Time: _____ Date Time: _____		Received By: 2 Received By: _____ Received By: _____			
Custody Seal # _____ WTS ☐ Not intact ☐		Preserved where applicable ☐		On Ice ☐ Cooler Temp. 1.0°C 0.2°C											

4.1
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MC42297: Chain of Custody

Page 1 of 3

Client / Reporting Information Company Name: <u>Hazard Evaluations Inc.</u> Street Address: _____ City: <u>see page</u> State: _____ Zip: _____ Project Contact: _____ E-mail: _____ Phone #: _____ Fax #: _____ Sampler(s) Name(s): _____ Phone #: _____		Project Information Project Name: _____ Street: _____ Billing Information (If different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Client PO#: _____ Project Manager: _____ Attention: _____ PO#: _____		Requested Analysis (see TEST CODE sheet) VOC via Method 8260 TCL SubC via Method 8270 TCL PCBs via Method 8082 Metals TAL Herbicides via Method 8151		Matrix Codes DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank											
Accutest Sample #	Field ID / Point of Collection	MECH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HQ	NOH	HQ3	HQ34	NONE	DI Water	MEQ	ENCORE	Beutelle	LAB USE ONLY
-13	SB4 (0-4')		10/15/15	11:15am	EB	SD	2					2					
-14	TP17 (0-4')		10/14/15	3:15pm	EB		2					2					
-15	SB10 (0-4')		10/16/15	8:45am	EB		2					2					
-16	SB14 (0-4')		10/16/15	10:30am	EB		2					2					
-17	SB8 (0-4')		10/15/15	2:30pm	EB		2					2					
-18	SB12 (0-4')		10/16/15	10:00am	EB		2					2					
-19	MW1		10/16/15	3:15pm	EB	WA	4	2	1	1							
-20	SB5		10/15/15	4:50pm	EB	WA	4	2	1	1							
-21	SB9		10/15/15	3:45pm	EB	WA	5	3	1	1							12D
-22	SB15		10/16/15	3:00pm	EB	WA	4	2	1	1							
Data Deliverable Information Turnaround Time (Business days): ☐ Std. 10 Business Days ☒ Std. 5 Business Days (By Contract only) ☐ 5 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY Approved By (Accutest PM): / Date: _____ ☒ Commercial "A" (Level 1) ☐ NYASP Category A ☐ Commercial "B" (Level 2) ☐ NYASP Category B ☐ FULLT1 (Level 3+4) ☐ State Forms ☐ CT RCP ☐ EDD Format ☐ MA MCP ☐ Other _____ Commercial "A" = Results Only Commercial "B" = Results + QC Summary																	
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished by: <u>[Signature]</u> Date Time: <u>10/19/15 1330</u>		Received By: <u>[Signature]</u> Date Time: <u>9/15</u>		Relinquished by: <u>[Signature]</u> Date Time: <u>10-20-15</u>		Received By: <u>[Signature]</u> Date Time: _____		Relinquished by: _____ Date Time: _____		Received By: _____ Date Time: _____		Relinquished by: _____ Date Time: _____		Received By: _____ Date Time: _____		Custody Seal # _____ ☐ Intact ☐ Preserved where applicable ☐ Not intact	
On Ice ☒ Cooler Temp. <u>10°C 0.28</u>																	

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MC42297: Chain of Custody

Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42297 **Client:** HAZARD ENV **Project:** _____
Date / Time Received: 10/20/2015 9:15:00 AM **Delivery Method:** _____ **Airbill #'s:** _____
Cooler Temps (Initial/Adjusted): #: (0.2/0.2); #1: (1/1);

Cooler Security

	Y	or	N		Y	or	N
1. Custody Seals Present:	☒		☐	3. COC Present:	☒		☐
2. Custody Seals Intact:	☒		☐	4. Smpl Dates/Time OK	☒		☐

Cooler Temperature

	Y	or	N
1. Temp criteria achieved:	☒		☐
2. Thermometer ID:	G1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation

	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☒	☐
2. Trip Blank listed on COC:	☐		☒	☐
3. Samples preserved properly:	☒		☐	
4. VOCs headspace free:	☒		☐	☐

Sample Integrity - Documentation

	Y	or	N
1. Sample labels present on bottles:	☒		☐
2. Container labeling complete:	☒		☐
3. Sample container label / COC agree:	☒		☐

Sample Integrity - Condition

	Y	or	N
1. Sample recvd within HT:	☒		☐
2. All containers accounted for:	☒		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions

	Y	or	N	N/A
1. Analysis requested is clear:	☒		☐	
2. Bottles received for unspecified tests	☐		☒	
3. Sufficient volume recvd for analysis:	☒		☐	
4. Compositing instructions clear:	☐		☐	☒
5. Filtering instructions clear:	☐		☐	☒

Comments

Analytical Testing Results – December 2016 Locations



ANALYTICAL REPORT

Lab Number:	L1642311
Client:	Hazard Evaluations, Inc. 3752 North Buffalo Road Orchard Park, NY 14127
ATTN:	Michele Wittman
Phone:	(716) 667-3130
Project Name:	BCP PH. II ESA
Project Number:	E1609
Report Date:	01/05/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1642311-01	SB2	WATER	MPC BUFFALO, NY	12/21/16 12:00	12/28/16
L1642311-02	SB8	WATER	MPC BUFFALO, NY	12/23/16 13:10	12/28/16
L1642311-03	SB10	WATER	MPC BUFFALO, NY	12/23/16 12:45	12/28/16
L1642311-04	SB14	WATER	MPC BUFFALO, NY	12/23/16 14:15	12/28/16
L1642311-05	SS1 (0-1')	SOIL	MPC BUFFALO, NY	12/23/16 12:30	12/28/16
L1642311-06	SS2 (0-1')	SOIL	MPC BUFFALO, NY	12/23/16 13:35	12/28/16
L1642311-07	SB1 (2-6')	SOIL	MPC BUFFALO, NY	12/21/16 10:30	12/28/16
L1642311-08	SB6 (0-4')	SOIL	MPC BUFFALO, NY	12/21/16 15:00	12/28/16
L1642311-09	SB7 (2-6')	SOIL	MPC BUFFALO, NY	12/21/16 15:30	12/28/16
L1642311-10	SB8 (2-6')	SOIL	MPC BUFFALO, NY	12/22/16 09:05	12/28/16
L1642311-11	SB9 (0-2')	SOIL	MPC BUFFALO, NY	12/23/16 14:15	12/28/16
L1642311-12	SB9 (0-4')	SOIL	MPC BUFFALO, NY	12/22/16 09:30	12/28/16
L1642311-13	SB10 (1-3')	SOIL	MPC BUFFALO, NY	12/22/16 10:30	12/28/16
L1642311-14	SB11 (1-3')	SOIL	MPC BUFFALO, NY	12/22/16 11:00	12/28/16
L1642311-15	SB13 (1-5')	SOIL	MPC BUFFALO, NY	12/22/16 12:30	12/28/16
L1642311-16	SB14 (0-4')	SOIL	MPC BUFFALO, NY	12/22/16 15:50	12/28/16
L1642311-17	SB16 (.5-4.5)	SOIL	MPC BUFFALO, NY	12/22/16 14:15	12/28/16
L1642311-18	SB21 (1-4')	SOIL	MPC BUFFALO, NY	12/23/16 08:30	12/28/16
L1642311-19	SB25 (2-6')	SOIL	MPC BUFFALO, NY	12/23/16 10:15	12/28/16

Project Name: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

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.

Sample Receipt

At the client's request, L1642311-01 was placed on hold.

Volatile Organics

L1642311-08, -09, -10, -12, -15, -17, -18 and -19: 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.

L1642311-10: A methanol dilution was utilized for the analysis.

Semivolatile Organics

L1642311-02: The sample has elevated detection limits due to the dilution required by the sample matrix.

Semivolatile Organics by SIM

L1642311-02: The sample has elevated detection limits due to the dilution required by the sample matrix.

Metals

L1642311-06 through -10, -12, -15, -17, -18 and -19: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

The WG966156-3 MS recoveries for aluminum (448%), calcium (0%), iron (15700%) and manganese (0%), performed on L1642311-06, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG966156-3 MS recoveries, performed on L1642311-06, are outside the acceptance criteria for arsenic (0%), copper (197%) and lead (66%). A post digestion spike was performed and was within acceptance criteria.

Project Name: BCP PH. II ESA
Project Number: E1609

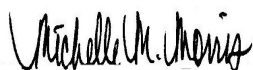
Lab Number: L1642311
Report Date: 01/05/17

Case Narrative (continued)

The WG966156-4 Laboratory Duplicate RPDs, performed on L1642311-06, are outside the acceptance criteria for calcium (44%), chromium (27%), magnesium (29%) and vanadium (37%). The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

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: 01/05/17

ORGANICS

VOLATILES

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-02
 Client ID: SB8
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/03/17 03:05
 Analyst: KD

Date Collected: 12/23/16 13:10
 Date Received: 12/28/16
 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	0.24	J	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	0.74	J	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	16		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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-02
 Client ID: SB8
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 13:10
 Date Received: 12/28/16
 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	3.5	J	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	ND		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	0.43	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	107		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-03
 Client ID: SB10
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/03/17 00:24
 Analyst: KD

Date Collected: 12/23/16 12:45
 Date Received: 12/28/16
 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	42		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	0.22	J	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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-03
 Client ID: SB10
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 12:45
 Date Received: 12/28/16
 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	32		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	ND		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	109		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	111		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-04
 Client ID: SB14
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/03/17 00:47
 Analyst: KD

Date Collected: 12/23/16 14:15
 Date Received: 12/28/16
 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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-04
 Client ID: SB14
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 14:15
 Date Received: 12/28/16
 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	ND		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	109		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	78		70-130
Dibromofluoromethane	111		70-130

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-08
Client ID: SB6 (0-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/04/17 15:16
Analyst: MV
Percent Solids: 86%

Date Collected: 12/21/16 15:00
Date Received: 12/28/16
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	4.1	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	0.49	J	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	0.19	J	ug/kg	1.2	0.14	1
Toluene	0.35	J	ug/kg	1.7	0.23	1
Ethylbenzene	6.0		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	0.37	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.25	1
Trichloroethene	8.5		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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-08
 Client ID: SB6 (0-4')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/21/16 15:00
 Date Received: 12/28/16
 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	2.9		ug/kg	2.3	0.41	1
o-Xylene	ND		ug/kg	2.3	0.39	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.17	1
Styrene	ND		ug/kg	2.3	0.47	1
Dichlorodifluoromethane	ND		ug/kg	12	0.22	1
Acetone	4.0	J	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	0.28	1
2-Hexanone	ND		ug/kg	12	0.78	1
Bromochloromethane	ND		ug/kg	5.8	0.32	1
1,2-Dibromoethane	ND		ug/kg	4.6	0.20	1
n-Butylbenzene	0.62	J	ug/kg	1.2	0.13	1
sec-Butylbenzene	0.14	J	ug/kg	1.2	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.8	0.46	1
Isopropylbenzene	0.46	J	ug/kg	1.2	0.12	1
p-Isopropyltoluene	0.17	J	ug/kg	1.2	0.14	1
Naphthalene	6.2		ug/kg	5.8	0.16	1
n-Propylbenzene	2.7		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	4.6	J	ug/kg	5.8	0.17	1
1,2,4-Trimethylbenzene	2.3	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	96		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-09
Client ID: SB7 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/03/17 16:24
Analyst: MV
Percent Solids: 86%

Date Collected: 12/21/16 15:30
Date Received: 12/28/16
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	0.43	1
Carbon tetrachloride	ND		ug/kg	1.2	0.24	1
1,2-Dichloropropane	ND		ug/kg	4.1	0.27	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.35	1
Tetrachloroethene	ND		ug/kg	1.2	0.16	1
Chlorobenzene	ND		ug/kg	1.2	0.41	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	4.7	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.12	1
Benzene	0.16	J	ug/kg	1.2	0.14	1
Toluene	ND		ug/kg	1.8	0.23	1
Ethylbenzene	3.2		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	0.25	J	ug/kg	2.3	0.14	1
Chloroethane	ND		ug/kg	2.3	0.37	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.25	1
Trichloroethene	2.5		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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-09
 Client ID: SB7 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/21/16 15:30
 Date Received: 12/28/16
 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	12		ug/kg	2.3	0.41	1
o-Xylene	ND		ug/kg	2.3	0.39	1
cis-1,2-Dichloroethene	2.1		ug/kg	1.2	0.17	1
Styrene	ND		ug/kg	2.3	0.47	1
Dichlorodifluoromethane	ND		ug/kg	12	0.22	1
Acetone	14		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	0.28	1
2-Hexanone	ND		ug/kg	12	0.78	1
Bromochloromethane	ND		ug/kg	5.8	0.32	1
1,2-Dibromoethane	ND		ug/kg	4.7	0.20	1
n-Butylbenzene	0.17	J	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	0.30	J	ug/kg	1.2	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.14	1
Naphthalene	0.49	J	ug/kg	5.8	0.16	1
n-Propylbenzene	0.93	J	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	2.4	J	ug/kg	5.8	0.17	1
1,2,4-Trimethylbenzene	6.3		ug/kg	5.8	0.16	1
Methyl Acetate	ND		ug/kg	23	0.32	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	4.7	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	80		70-130
Dibromofluoromethane	100		70-130

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-10 D
Client ID: SB8 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/03/17 16:51
Analyst: MV
Percent Solids: 80%

Date Collected: 12/22/16 09:05
Date Received: 12/28/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	620	69.	1
1,1-Dichloroethane	ND		ug/kg	94	5.3	1
Chloroform	ND		ug/kg	94	23.	1
Carbon tetrachloride	ND		ug/kg	62	13.	1
1,2-Dichloropropane	ND		ug/kg	220	14.	1
Dibromochloromethane	ND		ug/kg	62	9.6	1
1,1,2-Trichloroethane	ND		ug/kg	94	19.	1
Tetrachloroethene	ND		ug/kg	62	8.8	1
Chlorobenzene	ND		ug/kg	62	22.	1
Trichlorofluoromethane	ND		ug/kg	310	24.	1
1,2-Dichloroethane	ND		ug/kg	62	7.1	1
1,1,1-Trichloroethane	ND		ug/kg	62	6.9	1
Bromodichloromethane	ND		ug/kg	62	11.	1
trans-1,3-Dichloropropene	ND		ug/kg	62	7.5	1
cis-1,3-Dichloropropene	ND		ug/kg	62	7.3	1
Bromoform	ND		ug/kg	250	15.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	62	6.3	1
Benzene	ND		ug/kg	62	7.4	1
Toluene	ND		ug/kg	94	12.	1
Ethylbenzene	78		ug/kg	62	8.0	1
Chloromethane	ND		ug/kg	310	18.	1
Bromomethane	ND		ug/kg	120	21.	1
Vinyl chloride	ND		ug/kg	120	7.3	1
Chloroethane	ND		ug/kg	120	20.	1
1,1-Dichloroethene	ND		ug/kg	62	16.	1
trans-1,2-Dichloroethene	ND		ug/kg	94	13.	1
Trichloroethene	3300		ug/kg	62	7.8	1
1,2-Dichlorobenzene	ND		ug/kg	310	9.6	1
1,3-Dichlorobenzene	ND		ug/kg	310	8.4	1
1,4-Dichlorobenzene	ND		ug/kg	310	8.6	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-10 D

Date Collected: 12/22/16 09:05

Client ID: SB8 (2-6')

Date Received: 12/28/16

Sample Location: MPC 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	120	5.3	1
p/m-Xylene	340		ug/kg	120	22.	1
o-Xylene	ND		ug/kg	120	21.	1
cis-1,2-Dichloroethene	ND		ug/kg	62	8.9	1
Styrene	ND		ug/kg	120	25.	1
Dichlorodifluoromethane	ND		ug/kg	620	12.	1
Acetone	ND		ug/kg	620	65.	1
Carbon disulfide	ND		ug/kg	620	69.	1
2-Butanone	ND		ug/kg	620	17.	1
4-Methyl-2-pentanone	ND		ug/kg	620	15.	1
2-Hexanone	ND		ug/kg	620	42.	1
Bromochloromethane	ND		ug/kg	310	17.	1
1,2-Dibromoethane	ND		ug/kg	250	11.	1
n-Butylbenzene	31	J	ug/kg	62	7.2	1
sec-Butylbenzene	31	J	ug/kg	62	7.6	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	310	25.	1
Isopropylbenzene	9.9	J	ug/kg	62	6.5	1
p-Isopropyltoluene	ND		ug/kg	62	7.8	1
Naphthalene	170	J	ug/kg	310	8.6	1
n-Propylbenzene	46	J	ug/kg	62	6.8	1
1,2,3-Trichlorobenzene	ND		ug/kg	310	9.2	1
1,2,4-Trichlorobenzene	ND		ug/kg	310	11.	1
1,3,5-Trimethylbenzene	79	J	ug/kg	310	9.0	1
1,2,4-Trimethylbenzene	290	J	ug/kg	310	8.8	1
Methyl Acetate	ND		ug/kg	1200	17.	1
Cyclohexane	ND		ug/kg	1200	9.1	1
1,4-Dioxane	ND		ug/kg	6200	900	1
Freon-113	ND		ug/kg	1200	17.	1
Methyl cyclohexane	ND		ug/kg	250	9.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	82		70-130
Dibromofluoromethane	98		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12
 Client ID: SB9 (0-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 01/04/17 15:42
 Analyst: MV
 Percent Solids: 86%

Date Collected: 12/22/16 09:30
 Date Received: 12/28/16
 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	11		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	0.19	J	ug/kg	1.2	0.14	1
Toluene	0.36	J	ug/kg	1.7	0.22	1
Ethylbenzene	11		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	0.58	J	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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12
 Client ID: SB9 (0-4')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 09:30
 Date Received: 12/28/16
 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	1.8	J	ug/kg	2.3	0.41	1
o-Xylene	0.66	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	2.7	J	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	1.0	J	ug/kg	1.2	0.13	1
sec-Butylbenzene	0.17	J	ug/kg	1.2	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.8	0.46	1
Isopropylbenzene	0.75	J	ug/kg	1.2	0.12	1
p-Isopropyltoluene	0.17	J	ug/kg	1.2	0.14	1
Naphthalene	3.4	J	ug/kg	5.8	0.16	1
n-Propylbenzene	6.0		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	6.9		ug/kg	5.8	0.16	1
1,2,4-Trimethylbenzene	1.9	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	100		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	100		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-15
 Client ID: SB13 (1-5')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 01/04/17 16:08
 Analyst: MV
 Percent Solids: 89%

Date Collected: 12/22/16 12:30
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	11	1.2	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.10	1
Chloroform	ND		ug/kg	1.7	0.42	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	3.9	0.26	1
Dibromochloromethane	ND		ug/kg	1.1	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.34	1
Tetrachloroethene	ND		ug/kg	1.1	0.16	1
Chlorobenzene	ND		ug/kg	1.1	0.39	1
Trichlorofluoromethane	ND		ug/kg	5.6	0.44	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	1.1	0.12	1
Bromodichloromethane	ND		ug/kg	1.1	0.19	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.1	0.13	1
Bromoform	ND		ug/kg	4.5	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.1	0.11	1
Benzene	0.18	J	ug/kg	1.1	0.13	1
Toluene	0.59	J	ug/kg	1.7	0.22	1
Ethylbenzene	5.1		ug/kg	1.1	0.14	1
Chloromethane	ND		ug/kg	5.6	0.33	1
Bromomethane	ND		ug/kg	2.2	0.38	1
Vinyl chloride	ND		ug/kg	2.2	0.13	1
Chloroethane	ND		ug/kg	2.2	0.36	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.24	1
Trichloroethene	0.20	J	ug/kg	1.1	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	5.6	0.17	1
1,3-Dichlorobenzene	ND		ug/kg	5.6	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	5.6	0.16	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-15
 Client ID: SB13 (1-5')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 12:30
 Date Received: 12/28/16
 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	2.2	0.10	1
p/m-Xylene	22		ug/kg	2.2	0.39	1
o-Xylene	0.39	J	ug/kg	2.2	0.38	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.16	1
Styrene	ND		ug/kg	2.2	0.45	1
Dichlorodifluoromethane	ND		ug/kg	11	0.21	1
Acetone	6.1	J	ug/kg	11	1.2	1
Carbon disulfide	ND		ug/kg	11	1.2	1
2-Butanone	ND		ug/kg	11	0.30	1
4-Methyl-2-pentanone	ND		ug/kg	11	0.27	1
2-Hexanone	ND		ug/kg	11	0.75	1
Bromochloromethane	ND		ug/kg	5.6	0.31	1
1,2-Dibromoethane	ND		ug/kg	4.5	0.20	1
n-Butylbenzene	0.35	J	ug/kg	1.1	0.13	1
sec-Butylbenzene	ND		ug/kg	1.1	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.6	0.44	1
Isopropylbenzene	0.41	J	ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.14	1
Naphthalene	0.74	J	ug/kg	5.6	0.16	1
n-Propylbenzene	2.0		ug/kg	1.1	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	5.6	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	5.6	0.20	1
1,3,5-Trimethylbenzene	3.5	J	ug/kg	5.6	0.16	1
1,2,4-Trimethylbenzene	13		ug/kg	5.6	0.16	1
Methyl Acetate	ND		ug/kg	22	0.30	1
Cyclohexane	ND		ug/kg	22	0.16	1
1,4-Dioxane	ND		ug/kg	110	16.	1
Freon-113	ND		ug/kg	22	0.31	1
Methyl cyclohexane	ND		ug/kg	4.5	0.17	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	101		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-17
 Client ID: SB16 (.5-4.5)
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 01/04/17 16:34
 Analyst: MV
 Percent Solids: 88%

Date Collected: 12/22/16 14:15
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	11	1.3	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.10	1
Chloroform	ND		ug/kg	1.7	0.42	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	4.0	0.26	1
Dibromochloromethane	ND		ug/kg	1.1	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.35	1
Tetrachloroethene	0.50	J	ug/kg	1.1	0.16	1
Chlorobenzene	ND		ug/kg	1.1	0.40	1
Trichlorofluoromethane	ND		ug/kg	5.7	0.44	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	1.1	0.13	1
Bromodichloromethane	ND		ug/kg	1.1	0.20	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.1	0.13	1
Bromoform	ND		ug/kg	4.6	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.1	0.12	1
Benzene	ND		ug/kg	1.1	0.13	1
Toluene	0.45	J	ug/kg	1.7	0.22	1
Ethylbenzene	7.0		ug/kg	1.1	0.14	1
Chloromethane	ND		ug/kg	5.7	0.34	1
Bromomethane	ND		ug/kg	2.3	0.39	1
Vinyl chloride	ND		ug/kg	2.3	0.13	1
Chloroethane	ND		ug/kg	2.3	0.36	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.24	1
Trichloroethene	0.49	J	ug/kg	1.1	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	5.7	0.18	1
1,3-Dichlorobenzene	ND		ug/kg	5.7	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	5.7	0.16	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-17
 Client ID: SB16 (.5-4.5)
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 14:15
 Date Received: 12/28/16
 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	32		ug/kg	2.3	0.40	1
o-Xylene	0.40	J	ug/kg	2.3	0.39	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.16	1
Styrene	ND		ug/kg	2.3	0.46	1
Dichlorodifluoromethane	ND		ug/kg	11	0.22	1
Acetone	3.6	J	ug/kg	11	1.2	1
Carbon disulfide	ND		ug/kg	11	1.2	1
2-Butanone	ND		ug/kg	11	0.31	1
4-Methyl-2-pentanone	ND		ug/kg	11	0.28	1
2-Hexanone	ND		ug/kg	11	0.76	1
Bromochloromethane	ND		ug/kg	5.7	0.32	1
1,2-Dibromoethane	ND		ug/kg	4.6	0.20	1
n-Butylbenzene	0.33	J	ug/kg	1.1	0.13	1
sec-Butylbenzene	ND		ug/kg	1.1	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.7	0.45	1
Isopropylbenzene	0.52	J	ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.14	1
Naphthalene	0.65	J	ug/kg	5.7	0.16	1
n-Propylbenzene	2.5		ug/kg	1.1	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	5.7	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	5.7	0.21	1
1,3,5-Trimethylbenzene	4.2	J	ug/kg	5.7	0.16	1
1,2,4-Trimethylbenzene	15		ug/kg	5.7	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	110	16.	1
Freon-113	ND		ug/kg	23	0.31	1
Methyl cyclohexane	ND		ug/kg	4.6	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	101		70-130

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-18
Client ID: SB21 (1-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/04/17 17:00
Analyst: MV
Percent Solids: 78%

Date Collected: 12/23/16 08:30
Date Received: 12/28/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	13	1.4	1
1,1-Dichloroethane	ND		ug/kg	1.9	0.11	1
Chloroform	ND		ug/kg	1.9	0.47	1
Carbon tetrachloride	ND		ug/kg	1.3	0.27	1
1,2-Dichloropropane	ND		ug/kg	4.5	0.29	1
Dibromochloromethane	ND		ug/kg	1.3	0.20	1
1,1,2-Trichloroethane	ND		ug/kg	1.9	0.39	1
Tetrachloroethene	ND		ug/kg	1.3	0.18	1
Chlorobenzene	ND		ug/kg	1.3	0.44	1
Trichlorofluoromethane	ND		ug/kg	6.4	0.50	1
1,2-Dichloroethane	ND		ug/kg	1.3	0.14	1
1,1,1-Trichloroethane	ND		ug/kg	1.3	0.14	1
Bromodichloromethane	ND		ug/kg	1.3	0.22	1
trans-1,3-Dichloropropene	ND		ug/kg	1.3	0.15	1
cis-1,3-Dichloropropene	ND		ug/kg	1.3	0.15	1
Bromoform	ND		ug/kg	5.1	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.3	0.13	1
Benzene	0.20	J	ug/kg	1.3	0.15	1
Toluene	ND		ug/kg	1.9	0.25	1
Ethylbenzene	4.5		ug/kg	1.3	0.16	1
Chloromethane	ND		ug/kg	6.4	0.38	1
Bromomethane	ND		ug/kg	2.6	0.43	1
Vinyl chloride	ND		ug/kg	2.6	0.15	1
Chloroethane	ND		ug/kg	2.6	0.40	1
1,1-Dichloroethene	ND		ug/kg	1.3	0.34	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.27	1
Trichloroethene	ND		ug/kg	1.3	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	6.4	0.20	1
1,3-Dichlorobenzene	ND		ug/kg	6.4	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	6.4	0.18	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-18
 Client ID: SB21 (1-4')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 08:30
 Date Received: 12/28/16
 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	2.6	0.11	1
p/m-Xylene	18		ug/kg	2.6	0.45	1
o-Xylene	ND		ug/kg	2.6	0.43	1
cis-1,2-Dichloroethene	ND		ug/kg	1.3	0.18	1
Styrene	ND		ug/kg	2.6	0.51	1
Dichlorodifluoromethane	ND		ug/kg	13	0.24	1
Acetone	13		ug/kg	13	1.3	1
Carbon disulfide	ND		ug/kg	13	1.4	1
2-Butanone	ND		ug/kg	13	0.35	1
4-Methyl-2-pentanone	ND		ug/kg	13	0.31	1
2-Hexanone	ND		ug/kg	13	0.85	1
Bromochloromethane	ND		ug/kg	6.4	0.35	1
1,2-Dibromoethane	ND		ug/kg	5.1	0.22	1
n-Butylbenzene	0.16	J	ug/kg	1.3	0.15	1
sec-Butylbenzene	ND		ug/kg	1.3	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.4	0.51	1
Isopropylbenzene	0.38	J	ug/kg	1.3	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.3	0.16	1
Naphthalene	0.77	J	ug/kg	6.4	0.18	1
n-Propylbenzene	1.3		ug/kg	1.3	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.4	0.19	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.4	0.23	1
1,3,5-Trimethylbenzene	2.6	J	ug/kg	6.4	0.18	1
1,2,4-Trimethylbenzene	8.0		ug/kg	6.4	0.18	1
Methyl Acetate	ND		ug/kg	26	0.34	1
Cyclohexane	ND		ug/kg	26	0.19	1
1,4-Dioxane	ND		ug/kg	130	18.	1
Freon-113	ND		ug/kg	26	0.35	1
Methyl cyclohexane	ND		ug/kg	5.1	0.20	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-19
Client ID: SB25 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 01/04/17 17:26
Analyst: MV
Percent Solids: 88%

Date Collected: 12/23/16 10:15
Date Received: 12/28/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	11	1.2	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.10	1
Chloroform	ND		ug/kg	1.7	0.42	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	4.0	0.26	1
Dibromochloromethane	ND		ug/kg	1.1	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.34	1
Tetrachloroethene	ND		ug/kg	1.1	0.16	1
Chlorobenzene	ND		ug/kg	1.1	0.40	1
Trichlorofluoromethane	ND		ug/kg	5.7	0.44	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	1.1	0.13	1
Bromodichloromethane	ND		ug/kg	1.1	0.20	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	1.1	0.13	1
Bromoform	ND		ug/kg	4.6	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.1	0.11	1
Benzene	0.28	J	ug/kg	1.1	0.13	1
Toluene	0.45	J	ug/kg	1.7	0.22	1
Ethylbenzene	8.4		ug/kg	1.1	0.14	1
Chloromethane	ND		ug/kg	5.7	0.33	1
Bromomethane	ND		ug/kg	2.3	0.38	1
Vinyl chloride	ND		ug/kg	2.3	0.13	1
Chloroethane	ND		ug/kg	2.3	0.36	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.24	1
Trichloroethene	0.37	J	ug/kg	1.1	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	5.7	0.17	1
1,3-Dichlorobenzene	ND		ug/kg	5.7	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	5.7	0.16	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-19
 Client ID: SB25 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 10:15
 Date Received: 12/28/16
 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	36		ug/kg	2.3	0.40	1
o-Xylene	ND		ug/kg	2.3	0.38	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.16	1
Styrene	ND		ug/kg	2.3	0.46	1
Dichlorodifluoromethane	ND		ug/kg	11	0.22	1
Acetone	4.7	J	ug/kg	11	1.2	1
Carbon disulfide	ND		ug/kg	11	1.2	1
2-Butanone	ND		ug/kg	11	0.31	1
4-Methyl-2-pentanone	ND		ug/kg	11	0.28	1
2-Hexanone	ND		ug/kg	11	0.76	1
Bromochloromethane	ND		ug/kg	5.7	0.31	1
1,2-Dibromoethane	ND		ug/kg	4.6	0.20	1
n-Butylbenzene	0.50	J	ug/kg	1.1	0.13	1
sec-Butylbenzene	0.18	J	ug/kg	1.1	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.7	0.45	1
Isopropylbenzene	0.88	J	ug/kg	1.1	0.12	1
p-Isopropyltoluene	0.15	J	ug/kg	1.1	0.14	1
Naphthalene	0.43	J	ug/kg	5.7	0.16	1
n-Propylbenzene	3.5		ug/kg	1.1	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	5.7	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	5.7	0.21	1
1,3,5-Trimethylbenzene	6.4		ug/kg	5.7	0.16	1
1,2,4-Trimethylbenzene	18		ug/kg	5.7	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	110	16.	1
Freon-113	ND		ug/kg	23	0.31	1
Methyl cyclohexane	ND		ug/kg	4.6	0.18	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	103		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/02/17 19:27
 Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG966511-5					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/02/17 19:27
 Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG966511-5					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/02/17 19:27
 Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG966511-5					
Methyl cyclohexane	ND		ug/l	10	0.40

Tentatively Identified Compounds

Total TIC Compounds	1.10	J	ug/l
Unknown	1.10	J	ug/l

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	107		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/03/17 09:25
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-10 Batch: WG966762-5					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/03/17 09:25
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-10 Batch: WG966762-5					
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	0.16	J	ug/kg	5.0	0.14
n-Propylbenzene	ND		ug/kg	1.0	0.11
1,2,3-Trichlorobenzene	0.15	J	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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 01/03/17 09:25

Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-10 Batch: WG966762-5					
Methyl cyclohexane	ND		ug/kg	4.0	0.15

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	79		70-130
Dibromofluoromethane	99		70-130

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/04/17 09:34
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08,12,15,17-19 Batch: WG967095-5					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/04/17 09:34
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08,12,15,17-19 Batch: WG967095-5					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 01/04/17 09:34

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 08,12,15,17-19 Batch: WG967095-5					
Methyl cyclohexane	ND		ug/kg	4.0	0.15

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG966511-3 WG966511-4								
Methylene chloride	93		91		70-130	2		20
1,1-Dichloroethane	92		90		70-130	2		20
Chloroform	99		96		70-130	3		20
2-Chloroethylvinyl ether	23	Q	22	Q	70-130	4		20
Carbon tetrachloride	110		110		63-132	0		20
1,2-Dichloropropane	85		84		70-130	1		20
Dibromochloromethane	94		95		63-130	1		20
1,1,2-Trichloroethane	83		82		70-130	1		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	93		93		75-130	0		20
Trichlorofluoromethane	100		98		62-150	2		20
1,2-Dichloroethane	100		98		70-130	2		20
1,1,1-Trichloroethane	110		100		67-130	10		20
Bromodichloromethane	98		96		67-130	2		20
trans-1,3-Dichloropropene	79		78		70-130	1		20
cis-1,3-Dichloropropene	92		89		70-130	3		20
1,1-Dichloropropene	100		98		70-130	2		20
Bromoform	90		89		54-136	1		20
1,1,2,2-Tetrachloroethane	78		77		67-130	1		20
Benzene	94		92		70-130	2		20
Toluene	89		89		70-130	0		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG966511-3 WG966511-4								
Ethylbenzene	93		94		70-130	1		20
Chloromethane	62	Q	64		64-130	3		20
Bromomethane	75		75		39-139	0		20
Vinyl chloride	79		76		55-140	4		20
Chloroethane	98		97		55-138	1		20
1,1-Dichloroethene	100		100		61-145	0		20
trans-1,2-Dichloroethene	100		98		70-130	2		20
Trichloroethene	100		99		70-130	1		20
1,2-Dichlorobenzene	91		91		70-130	0		20
1,3-Dichlorobenzene	93		94		70-130	1		20
1,4-Dichlorobenzene	92		92		70-130	0		20
Methyl tert butyl ether	100		98		63-130	2		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	98		96		70-130	2		20
Dibromomethane	99		93		70-130	6		20
1,2,3-Trichloropropane	84		80		64-130	5		20
Acrylonitrile	90		85		70-130	6		20
Isopropyl Ether	89		87		70-130	2		20
tert-Butyl Alcohol	108		88		70-130	20		20
Styrene	95		95		70-130	0		20

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG966511-3 WG966511-4								
Dichlorodifluoromethane	110		100		36-147	10		20
Acetone	96		80		58-148	18		20
Carbon disulfide	94		92		51-130	2		20
2-Butanone	88		79		63-138	11		20
Vinyl acetate	90		86		70-130	5		20
4-Methyl-2-pentanone	67		65		59-130	3		20
2-Hexanone	61		56	Q	57-130	9		20
Acrolein	66		66		40-160	0		20
Bromochloromethane	110		110		70-130	0		20
2,2-Dichloropropane	110		110		63-133	0		20
1,2-Dibromoethane	92		91		70-130	1		20
1,3-Dichloropropane	84		84		70-130	0		20
1,1,1,2-Tetrachloroethane	98		97		64-130	1		20
Bromobenzene	94		94		70-130	0		20
n-Butylbenzene	90		91		53-136	1		20
sec-Butylbenzene	96		97		70-130	1		20
tert-Butylbenzene	95		96		70-130	1		20
o-Chlorotoluene	90		91		70-130	1		20
p-Chlorotoluene	89		88		70-130	1		20
1,2-Dibromo-3-chloropropane	72		68		41-144	6		20
Hexachlorobutadiene	97		98		63-130	1		20

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG966511-3 WG966511-4								
Isopropylbenzene	96		97		70-130	1		20
p-Isopropyltoluene	86		87		70-130	1		20
Naphthalene	57	Q	54	Q	70-130	5		20
n-Propylbenzene	94		95		69-130	1		20
1,2,3-Trichlorobenzene	73		69	Q	70-130	6		20
1,2,4-Trichlorobenzene	80		77		70-130	4		20
1,3,5-Trimethylbenzene	93		95		64-130	2		20
1,2,4-Trimethylbenzene	94		94		70-130	0		20
Methyl Acetate	87		78		70-130	11		20
Ethyl Acetate	90		84		70-130	7		20
Cyclohexane	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		96		70-130	4		20
Tertiary-Amyl Methyl Ether	92		88		66-130	4		20
1,4-Dioxane	102		76		56-162	29	Q	20
1,1,2-Trichloro-1,2,2-Trifluoroethane	120		110		70-130	9		20
1,4-Diethylbenzene	92		93		70-130	1		20
4-Ethyltoluene	100		100		70-130	0		20
1,2,4,5-Tetramethylbenzene	82		87		70-130	6		20
Tetrahydrofuran	85		76		58-130	11		20
Ethyl ether	83		80		59-134	4		20
trans-1,4-Dichloro-2-butene	67	Q	64	Q	70-130	5		20

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG966511-3 WG966511-4								
Iodomethane	42	Q	47	Q	70-130	11		20
Methyl cyclohexane	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		103		70-130
Toluene-d8	94		94		70-130
4-Bromofluorobenzene	90		90		70-130
Dibromofluoromethane	109		106		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-10 Batch: WG966762-3 WG966762-4								
Methylene chloride	99		100		70-130	1		30
1,1-Dichloroethane	92		92		70-130	0		30
Chloroform	101		101		70-130	0		30
Carbon tetrachloride	113		111		70-130	2		30
1,2-Dichloropropane	90		92		70-130	2		30
Dibromochloromethane	106		106		70-130	0		30
1,1,2-Trichloroethane	96		96		70-130	0		30
Tetrachloroethene	127		125		70-130	2		30
Chlorobenzene	105		105		70-130	0		30
Trichlorofluoromethane	132		131		70-139	1		30
1,2-Dichloroethane	99		100		70-130	1		30
1,1,1-Trichloroethane	108		108		70-130	0		30
Bromodichloromethane	97		97		70-130	0		30
trans-1,3-Dichloropropene	87		87		70-130	0		30
cis-1,3-Dichloropropene	91		91		70-130	0		30
1,1-Dichloropropene	95		95		70-130	0		30
Bromoform	100		100		70-130	0		30
1,1,2,2-Tetrachloroethane	84		82		70-130	2		30
Benzene	96		96		70-130	0		30
Toluene	96		95		70-130	1		30
Ethylbenzene	96		95		70-130	1		30

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-10 Batch: WG966762-3 WG966762-4								
Chloromethane	118		116		52-130	2		30
Bromomethane	138		137		57-147	1		30
Vinyl chloride	101		102		67-130	1		30
Chloroethane	105		106		50-151	1		30
1,1-Dichloroethene	122		117		65-135	4		30
trans-1,2-Dichloroethene	108		107		70-130	1		30
Trichloroethene	107		108		70-130	1		30
1,2-Dichlorobenzene	107		107		70-130	0		30
1,3-Dichlorobenzene	106		107		70-130	1		30
1,4-Dichlorobenzene	106		107		70-130	1		30
Methyl tert butyl ether	61	Q	62	Q	66-130	2		30
p/m-Xylene	102		102		70-130	0		30
o-Xylene	102		102		70-130	0		30
cis-1,2-Dichloroethene	107		108		70-130	1		30
Dibromomethane	107		108		70-130	1		30
Styrene	100		100		70-130	0		30
Dichlorodifluoromethane	110		108		30-146	2		30
Acetone	125		115		54-140	8		30
Carbon disulfide	92		80		59-130	14		30
2-Butanone	98		98		70-130	0		30
Vinyl acetate	94		96		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-10 Batch: WG966762-3 WG966762-4								
4-Methyl-2-pentanone	84		81		70-130	4		30
1,2,3-Trichloropropane	81		78		68-130	4		30
2-Hexanone	82		76		70-130	8		30
Bromochloromethane	127		128		70-130	1		30
2,2-Dichloropropane	92		92		70-130	0		30
1,2-Dibromoethane	107		107		70-130	0		30
1,3-Dichloropropane	90		89		69-130	1		30
1,1,1,2-Tetrachloroethane	108		109		70-130	1		30
Bromobenzene	101		103		70-130	2		30
n-Butylbenzene	86		86		70-130	0		30
sec-Butylbenzene	87		87		70-130	0		30
tert-Butylbenzene	91		91		70-130	0		30
o-Chlorotoluene	81		82		70-130	1		30
p-Chlorotoluene	83		83		70-130	0		30
1,2-Dibromo-3-chloropropane	101		99		68-130	2		30
Hexachlorobutadiene	109		110		67-130	1		30
Isopropylbenzene	84		84		70-130	0		30
p-Isopropyltoluene	93		92		70-130	1		30
Naphthalene	96		96		70-130	0		30
Acrylonitrile	94		89		70-130	5		30
Isopropyl Ether	93		94		66-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-10 Batch: WG966762-3 WG966762-4								
tert-Butyl Alcohol	69	Q	68	Q	70-130	1		30
n-Propylbenzene	82		82		70-130	0		30
1,2,3-Trichlorobenzene	106		106		70-130	0		30
1,2,4-Trichlorobenzene	107		107		70-130	0		30
1,3,5-Trimethylbenzene	85		84		70-130	1		30
1,2,4-Trimethylbenzene	85		86		70-130	1		30
Methyl Acetate	101		101		51-146	0		30
Ethyl Acetate	105		102		70-130	3		30
Acrolein	98		89		70-130	10		30
Cyclohexane	93		92		59-142	1		30
1,4-Dioxane	89		91		65-136	2		30
Freon-113	125		109		50-139	14		30
1,4-Diethylbenzene	91		91		70-130	0		30
4-Ethyltoluene	85		85		70-130	0		30
1,2,4,5-Tetramethylbenzene	86		87		70-130	1		30
Tetrahydrofuran	102		102		66-130	0		30
Ethyl ether	105		104		67-130	1		30
trans-1,4-Dichloro-2-butene	76		76		70-130	0		30
Methyl cyclohexane	103		101		70-130	2		30
Ethyl-Tert-Butyl-Ether	66	Q	67	Q	70-130	2		30
Tertiary-Amyl Methyl Ether	67	Q	66	Q	70-130	2		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-10 Batch: WG966762-3 WG966762-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		90		70-130
Toluene-d8	93		92		70-130
4-Bromofluorobenzene	77		78		70-130
Dibromofluoromethane	105		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,12,15,17-19 Batch: WG967095-3 WG967095-4								
Methylene chloride	102		100		70-130	2		30
1,1-Dichloroethane	114		114		70-130	0		30
Chloroform	115		114		70-130	1		30
Carbon tetrachloride	124		117		70-130	6		30
1,2-Dichloropropane	111		111		70-130	0		30
Dibromochloromethane	112		115		70-130	3		30
2-Chloroethylvinyl ether	91		94		70-130	3		30
1,1,2-Trichloroethane	112		117		70-130	4		30
Tetrachloroethene	115		112		70-130	3		30
Chlorobenzene	111		113		70-130	2		30
Trichlorofluoromethane	118		112		70-139	5		30
1,2-Dichloroethane	123		125		70-130	2		30
1,1,1-Trichloroethane	119		114		70-130	4		30
Bromodichloromethane	115		116		70-130	1		30
trans-1,3-Dichloropropene	114		119		70-130	4		30
cis-1,3-Dichloropropene	115		114		70-130	1		30
1,1-Dichloropropene	119		114		70-130	4		30
Bromoform	114		119		70-130	4		30
1,1,2,2-Tetrachloroethane	108		114		70-130	5		30
Benzene	110		109		70-130	1		30
Toluene	112		110		70-130	2		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,12,15,17-19 Batch: WG967095-3 WG967095-4								
Ethylbenzene	113		114		70-130	1		30
Chloromethane	109		105		52-130	4		30
Bromomethane	69		70		57-147	1		30
Vinyl chloride	102		100		67-130	2		30
Chloroethane	106		101		50-151	5		30
1,1-Dichloroethene	89		103		65-135	15		30
trans-1,2-Dichloroethene	111		108		70-130	3		30
Trichloroethene	113		111		70-130	2		30
1,2-Dichlorobenzene	113		112		70-130	1		30
1,3-Dichlorobenzene	115		114		70-130	1		30
1,4-Dichlorobenzene	114		112		70-130	2		30
Methyl tert butyl ether	108		112		66-130	4		30
p/m-Xylene	115		114		70-130	1		30
o-Xylene	109		114		70-130	4		30
cis-1,2-Dichloroethene	109		109		70-130	0		30
Dibromomethane	110		112		70-130	2		30
Styrene	113		114		70-130	1		30
Dichlorodifluoromethane	161	Q	154	Q	30-146	4		30
Acetone	139		139		54-140	0		30
Carbon disulfide	77		90		59-130	16		30
2-Butanone	117		115		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,12,15,17-19 Batch: WG967095-3 WG967095-4								
Vinyl acetate	121		122		70-130	1		30
4-Methyl-2-pentanone	102		117		70-130	14		30
1,2,3-Trichloropropane	108		114		68-130	5		30
2-Hexanone	102		110		70-130	8		30
Bromochloromethane	116		113		70-130	3		30
2,2-Dichloropropane	121		118		70-130	3		30
1,2-Dibromoethane	111		112		70-130	1		30
1,3-Dichloropropane	112		117		69-130	4		30
1,1,1,2-Tetrachloroethane	114		114		70-130	0		30
Bromobenzene	113		111		70-130	2		30
n-Butylbenzene	121		115		70-130	5		30
sec-Butylbenzene	118		113		70-130	4		30
tert-Butylbenzene	116		112		70-130	4		30
o-Chlorotoluene	114		113		70-130	1		30
p-Chlorotoluene	116		114		70-130	2		30
1,2-Dibromo-3-chloropropane	103		114		68-130	10		30
Hexachlorobutadiene	119		113		67-130	5		30
Isopropylbenzene	116		113		70-130	3		30
p-Isopropyltoluene	116		114		70-130	2		30
Naphthalene	107		109		70-130	2		30
Acrylonitrile	116		122		70-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,12,15,17-19 Batch: WG967095-3 WG967095-4								
Isopropyl Ether	115		115		66-130	0		30
tert-Butyl Alcohol	98		102		70-130	4		30
n-Propylbenzene	117		113		70-130	3		30
1,2,3-Trichlorobenzene	111		114		70-130	3		30
1,2,4-Trichlorobenzene	116		114		70-130	2		30
1,3,5-Trimethylbenzene	118		115		70-130	3		30
1,2,4-Trimethylbenzene	118		116		70-130	2		30
Methyl Acetate	106		111		51-146	5		30
Ethyl Acetate	115		118		70-130	3		30
Acrolein	104		88		70-130	17		30
Cyclohexane	112		108		59-142	4		30
1,4-Dioxane	93		95		65-136	2		30
Freon-113	90		102		50-139	13		30
1,4-Diethylbenzene	115		110		70-130	4		30
4-Ethyltoluene	114		110		70-130	4		30
1,2,4,5-Tetramethylbenzene	113		112		70-130	1		30
Tetrahydrofuran	112		116		66-130	4		30
Ethyl ether	85		98		67-130	14		30
trans-1,4-Dichloro-2-butene	122		124		70-130	2		30
Methyl cyclohexane	107		103		70-130	4		30
Ethyl-Tert-Butyl-Ether	110		112		70-130	2		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 08,12,15,17-19 Batch: WG967095-3 WG967095-4								
Tertiary-Amyl Methyl Ether	107		109		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		107		70-130
Toluene-d8	101		103		70-130
4-Bromofluorobenzene	103		102		70-130
Dibromofluoromethane	103		101		70-130

SEMIVOLATILES

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-02 D
 Client ID: SB8
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/02/17 23:16
 Analyst: KV

Date Collected: 12/23/16 13:10
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	10	3.5	5
3,3'-Dichlorobenzidine	ND		ug/l	26	7.2	5
2,4-Dinitrotoluene	ND		ug/l	26	4.4	5
2,6-Dinitrotoluene	ND		ug/l	26	5.8	5
4-Chlorophenyl phenyl ether	ND		ug/l	10	3.2	5
4-Bromophenyl phenyl ether	ND		ug/l	10	3.8	5
Bis(2-chloroisopropyl)ether	ND		ug/l	10	3.6	5
Bis(2-chloroethoxy)methane	ND		ug/l	26	3.3	5
Hexachlorocyclopentadiene	ND		ug/l	100	41.	5
Isophorone	ND		ug/l	26	3.1	5
Nitrobenzene	ND		ug/l	10	3.9	5
NDPA/DPA	ND		ug/l	10	3.4	5
n-Nitrosodi-n-propylamine	ND		ug/l	26	3.6	5
Bis(2-ethylhexyl)phthalate	ND		ug/l	16	4.7	5
Butyl benzyl phthalate	ND		ug/l	26	6.6	5
Di-n-butylphthalate	ND		ug/l	26	3.6	5
Di-n-octylphthalate	ND		ug/l	26	5.9	5
Diethyl phthalate	ND		ug/l	26	3.3	5
Dimethyl phthalate	ND		ug/l	26	3.4	5
Biphenyl	ND		ug/l	10	3.9	5
4-Chloroaniline	ND		ug/l	26	3.3	5
2-Nitroaniline	ND		ug/l	26	5.9	5
3-Nitroaniline	ND		ug/l	26	6.4	5
4-Nitroaniline	ND		ug/l	26	6.8	5
Dibenzofuran	ND		ug/l	10	3.4	5
1,2,4,5-Tetrachlorobenzene	ND		ug/l	52	3.5	5
Acetophenone	ND		ug/l	26	4.4	5
2,4,6-Trichlorophenol	ND		ug/l	26	3.5	5
p-Chloro-m-cresol	ND		ug/l	10	3.2	5
2-Chlorophenol	ND		ug/l	10	3.3	5

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-02 D

Date Collected: 12/23/16 13:10

Client ID: SB8

Date Received: 12/28/16

Sample Location: MPC 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	26	4.0	5
2,4-Dimethylphenol	ND		ug/l	26	8.5	5
2-Nitrophenol	ND		ug/l	52	7.9	5
4-Nitrophenol	ND		ug/l	52	9.2	5
2,4-Dinitrophenol	ND		ug/l	100	28.	5
4,6-Dinitro-o-cresol	ND		ug/l	52	11.	5
Phenol	ND		ug/l	26	9.8	5
3-Methylphenol/4-Methylphenol	ND		ug/l	26	5.8	5
2,4,5-Trichlorophenol	ND		ug/l	26	3.7	5
Carbazole	ND		ug/l	10	3.3	5
Atrazine	ND		ug/l	52	9.5	5
Benzaldehyde	ND		ug/l	26	5.7	5
Caprolactam	ND		ug/l	52	18.	5
2,3,4,6-Tetrachlorophenol	ND		ug/l	26	4.8	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	88		10-120
4-Terphenyl-d14	83		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-02 D
Client ID: SB8
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/30/16 15:10
Analyst: KL

Date Collected: 12/23/16 13:10
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	4.0		ug/l	0.49	0.17	5
2-Chloronaphthalene	ND		ug/l	0.99	0.17	5
Fluoranthene	11		ug/l	0.99	0.19	5
Hexachlorobutadiene	ND		ug/l	2.5	0.18	5
Naphthalene	0.70	J	ug/l	0.99	0.21	5
Benzo(a)anthracene	3.9		ug/l	0.99	0.09	5
Benzo(a)pyrene	2.3		ug/l	0.99	0.19	5
Benzo(b)fluoranthene	3.6		ug/l	0.99	0.08	5
Benzo(k)fluoranthene	1.4		ug/l	0.99	0.21	5
Chrysene	6.6		ug/l	0.99	0.19	5
Acenaphthylene	0.95	J	ug/l	0.99	0.17	5
Anthracene	3.0		ug/l	0.99	0.17	5
Benzo(ghi)perylene	1.1		ug/l	0.99	0.21	5
Fluorene	6.9		ug/l	0.99	0.18	5
Phenanthrene	ND		ug/l	0.99	0.07	5
Dibenzo(a,h)anthracene	0.40	J	ug/l	0.99	0.19	5
Indeno(1,2,3-cd)pyrene	1.0		ug/l	0.99	0.20	5
Pyrene	12		ug/l	0.99	0.20	5
2-Methylnaphthalene	0.51	J	ug/l	0.99	0.22	5
Pentachlorophenol	ND		ug/l	4.0	1.1	5
Hexachlorobenzene	ND		ug/l	4.0	0.16	5
Hexachloroethane	ND		ug/l	4.0	0.15	5

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-02 D

Date Collected: 12/23/16 13:10

Client ID: SB8

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	88		10-120
4-Terphenyl-d14	93		41-149

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-03
 Client ID: SB10
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/02/17 18:11
 Analyst: KV

Date Collected: 12/23/16 12:45
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-03
 Client ID: SB10
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 12:45
 Date Received: 12/28/16
 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	40		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	51		10-120
4-Terphenyl-d14	71		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-03
Client ID: SB10
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/30/16 15:42
Analyst: KL

Date Collected: 12/23/16 12:45
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	0.32		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.20	0.04	1
Benzo(a)anthracene	0.14	J	ug/l	0.20	0.02	1
Benzo(a)pyrene	0.13	J	ug/l	0.20	0.04	1
Benzo(b)fluoranthene	0.20		ug/l	0.20	0.02	1
Benzo(k)fluoranthene	0.09	J	ug/l	0.20	0.04	1
Chrysene	0.19	J	ug/l	0.20	0.04	1
Acenaphthylene	ND		ug/l	0.20	0.04	1
Anthracene	0.05	J	ug/l	0.20	0.04	1
Benzo(ghi)perylene	0.09	J	ug/l	0.20	0.04	1
Fluorene	ND		ug/l	0.20	0.04	1
Phenanthrene	0.20		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	0.09	J	ug/l	0.20	0.04	1
Pyrene	0.28		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: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-03

Date Collected: 12/23/16 12:45

Client ID: SB10

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	60		10-120
4-Terphenyl-d14	77		41-149

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-04
 Client ID: SB14
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/02/17 18:36
 Analyst: KV

Date Collected: 12/23/16 14:15
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

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: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-04
 Client ID: SB14
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 14:15
 Date Received: 12/28/16
 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	40		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	60		15-120
2,4,6-Tribromophenol	54		10-120
4-Terphenyl-d14	60		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-04
Client ID: SB14
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/30/16 16:14
Analyst: KL

Date Collected: 12/23/16 14:15
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		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	0.03	J	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	ND		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: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-04

Date Collected: 12/23/16 14:15

Client ID: SB14

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	70		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-06
Client ID: SS2 (0-1')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 19:27
Analyst: KV
Percent Solids: 86%

Date Collected: 12/23/16 13:35
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	140	J	ug/kg	150	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	1200		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	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	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	910		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	610		ug/kg	120	22.	1
Benzo(a)pyrene	540		ug/kg	150	47.	1
Benzo(b)fluoranthene	810		ug/kg	120	32.	1
Benzo(k)fluoranthene	260		ug/kg	120	31.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-06
 Client ID: SS2 (0-1')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 13:35
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	710		ug/kg	120	20.	1
Acenaphthylene	98	J	ug/kg	150	30.	1
Anthracene	280		ug/kg	120	37.	1
Benzo(ghi)perylene	370		ug/kg	150	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	1500		ug/kg	120	23.	1
Dibenzo(a,h)anthracene	110	J	ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	380		ug/kg	150	27.	1
Pyrene	1100		ug/kg	120	19.	1
Biphenyl	110	J	ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	420		ug/kg	190	18.	1
2-Methylnaphthalene	1200		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	200		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	36.	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	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	420	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	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	160	J	ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-06

Date Collected: 12/23/16 13:35

Client ID: SS2 (0-1')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	76		30-120
2,4,6-Tribromophenol	71		10-136
4-Terphenyl-d14	75		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-07
Client ID: SB1 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 20:18
Analyst: KV
Percent Solids: 90%

Date Collected: 12/21/16 10:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	19.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	48.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	400		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	80	J	ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	62.	1
Butyl benzyl phthalate	ND		ug/kg	180	45.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	140		ug/kg	110	20.	1
Benzo(a)pyrene	150		ug/kg	140	44.	1
Benzo(b)fluoranthene	230		ug/kg	110	30.	1
Benzo(k)fluoranthene	72	J	ug/kg	110	29.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-07
 Client ID: SB1 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/21/16 10:30
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	180		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	40	J	ug/kg	110	35.	1
Benzo(ghi)perylene	140		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	190		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	32	J	ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	130	J	ug/kg	140	25.	1
Pyrene	320		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	410	42.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	75.	1
Dibenzofuran	21	J	ug/kg	180	17.	1
2-Methylnaphthalene	50	J	ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	22.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	74.	1
2,4-Dinitrophenol	ND		ug/kg	870	84.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	87.	1
Pentachlorophenol	ND		ug/kg	140	40.	1
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	34.	1
Carbazole	30	J	ug/kg	180	18.	1
Atrazine	ND		ug/kg	140	63.	1
Benzaldehyde	ND		ug/kg	240	49.	1
Caprolactam	ND		ug/kg	180	55.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	36.	1

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-07

Date Collected: 12/21/16 10:30

Client ID: SB1 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	89		25-120
Phenol-d6	95		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	83		30-120
2,4,6-Tribromophenol	70		10-136
4-Terphenyl-d14	77		18-120

Project Name: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-08 D2
 Client ID: SB6 (0-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/04/17 18:27
 Analyst: MW
 Percent Solids: 86%

Date Collected: 12/21/16 15:00
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3546
 Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	170000		ug/kg	4600	880	40
Benzo(a)anthracene	78000		ug/kg	4600	870	40
Benzo(a)pyrene	60000		ug/kg	6200	1900	40
Benzo(b)fluoranthene	80000		ug/kg	4600	1300	40
Chrysene	67000		ug/kg	4600	800	40
Anthracene	53000		ug/kg	4600	1500	40
Benzo(ghi)perylene	32000		ug/kg	6200	910	40
Phenanthrene	160000		ug/kg	4600	940	40
Indeno(1,2,3-cd)pyrene	37000		ug/kg	6200	1100	40
Pyrene	130000		ug/kg	4600	770	40

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-08 D
Client ID: SB6 (0-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 20:44
Analyst: KV
Percent Solids: 86%

Date Collected: 12/21/16 15:00
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	28000		ug/kg	620	80.	4
Hexachlorobenzene	ND		ug/kg	460	86.	4
Bis(2-chloroethyl)ether	ND		ug/kg	690	100	4
2-Chloronaphthalene	ND		ug/kg	770	76.	4
3,3'-Dichlorobenzidine	ND		ug/kg	770	200	4
2,4-Dinitrotoluene	ND		ug/kg	770	150	4
2,6-Dinitrotoluene	ND		ug/kg	770	130	4
Fluoranthene	210000	E	ug/kg	460	88.	4
4-Chlorophenyl phenyl ether	ND		ug/kg	770	82.	4
4-Bromophenyl phenyl ether	ND		ug/kg	770	120	4
Bis(2-chloroisopropyl)ether	ND		ug/kg	920	130	4
Bis(2-chloroethoxy)methane	ND		ug/kg	830	77.	4
Hexachlorobutadiene	ND		ug/kg	770	110	4
Hexachlorocyclopentadiene	ND		ug/kg	2200	700	4
Hexachloroethane	ND		ug/kg	620	120	4
Isophorone	ND		ug/kg	690	100	4
Naphthalene	1500		ug/kg	770	94.	4
Nitrobenzene	ND		ug/kg	690	110	4
NDPA/DPA	ND		ug/kg	620	88.	4
n-Nitrosodi-n-propylamine	ND		ug/kg	770	120	4
Bis(2-ethylhexyl)phthalate	ND		ug/kg	770	270	4
Butyl benzyl phthalate	ND		ug/kg	770	190	4
Di-n-butylphthalate	ND		ug/kg	770	150	4
Di-n-octylphthalate	ND		ug/kg	770	260	4
Diethyl phthalate	ND		ug/kg	770	71.	4
Dimethyl phthalate	ND		ug/kg	770	160	4
Benzo(a)anthracene	92000	E	ug/kg	460	87.	4
Benzo(a)pyrene	71000	E	ug/kg	620	190	4
Benzo(b)fluoranthene	92000	E	ug/kg	460	130	4
Benzo(k)fluoranthene	27000		ug/kg	460	120	4

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-08 D

Date Collected: 12/21/16 15:00

Client ID: SB6 (0-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	82000	E	ug/kg	460	80.	4
Acenaphthylene	860		ug/kg	620	120	4
Anthracene	63000	E	ug/kg	460	150	4
Benzo(ghi)perylene	36000	E	ug/kg	620	91.	4
Fluorene	26000		ug/kg	770	75.	4
Phenanthrene	210000	E	ug/kg	460	94.	4
Dibenzo(a,h)anthracene	11000		ug/kg	460	89.	4
Indeno(1,2,3-cd)pyrene	44000	E	ug/kg	620	110	4
Pyrene	170000	E	ug/kg	460	77.	4
Biphenyl	920	J	ug/kg	1800	180	4
4-Chloroaniline	ND		ug/kg	770	140	4
2-Nitroaniline	ND		ug/kg	770	150	4
3-Nitroaniline	ND		ug/kg	770	140	4
4-Nitroaniline	ND		ug/kg	770	320	4
Dibenzofuran	13000		ug/kg	770	73.	4
2-Methylnaphthalene	2300		ug/kg	920	93.	4
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	770	80.	4
Acetophenone	ND		ug/kg	770	95.	4
2,4,6-Trichlorophenol	ND		ug/kg	460	150	4
p-Chloro-m-cresol	ND		ug/kg	770	110	4
2-Chlorophenol	ND		ug/kg	770	91.	4
2,4-Dichlorophenol	ND		ug/kg	690	120	4
2,4-Dimethylphenol	ND		ug/kg	770	250	4
2-Nitrophenol	ND		ug/kg	1700	290	4
4-Nitrophenol	ND		ug/kg	1100	310	4
2,4-Dinitrophenol	ND		ug/kg	3700	360	4
4,6-Dinitro-o-cresol	ND		ug/kg	2000	370	4
Pentachlorophenol	ND		ug/kg	620	170	4
Phenol	ND		ug/kg	770	120	4
2-Methylphenol	ND		ug/kg	770	120	4
3-Methylphenol/4-Methylphenol	ND		ug/kg	1100	120	4
2,4,5-Trichlorophenol	ND		ug/kg	770	150	4
Carbazole	14000		ug/kg	770	75.	4
Atrazine	ND		ug/kg	620	270	4
Benzaldehyde	ND		ug/kg	1000	210	4
Caprolactam	ND		ug/kg	770	230	4
2,3,4,6-Tetrachlorophenol	ND		ug/kg	770	160	4

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-08 D

Date Collected: 12/21/16 15:00

Client ID: SB6 (0-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	85		25-120
Phenol-d6	92		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	79		30-120
2,4,6-Tribromophenol	84		10-136
4-Terphenyl-d14	88		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-09
Client ID: SB7 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 21:09
Analyst: KV
Percent Solids: 86%

Date Collected: 12/21/16 15:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	74	J	ug/kg	150	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	2800		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	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	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	140	J	ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	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	40.	1
Benzo(a)anthracene	1300		ug/kg	120	22.	1
Benzo(a)pyrene	1100		ug/kg	150	47.	1
Benzo(b)fluoranthene	1700		ug/kg	120	32.	1
Benzo(k)fluoranthene	600		ug/kg	120	31.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-09
 Client ID: SB7 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/21/16 15:30
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	1400		ug/kg	120	20.	1
Acenaphthylene	56	J	ug/kg	150	30.	1
Anthracene	210		ug/kg	120	38.	1
Benzo(ghi)perylene	720		ug/kg	150	23.	1
Fluorene	56	J	ug/kg	190	19.	1
Phenanthrene	800		ug/kg	120	23.	1
Dibenzo(a,h)anthracene	180		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	790		ug/kg	150	27.	1
Pyrene	2300		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	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	55	J	ug/kg	190	18.	1
2-Methylnaphthalene	120	J	ug/kg	230	23.	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	170	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	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	93.	1
Pentachlorophenol	ND		ug/kg	150	42.	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	110	J	ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	68.	1
Benzaldehyde	ND		ug/kg	250	52.	1
Caprolactam	ND		ug/kg	190	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-09

Date Collected: 12/21/16 15:30

Client ID: SB7 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		25-120
Phenol-d6	88		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	78		30-120
2,4,6-Tribromophenol	63		10-136
4-Terphenyl-d14	70		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-10
Client ID: SB8 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 21:34
Analyst: KV
Percent Solids: 80%

Date Collected: 12/22/16 09:05
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	1400		ug/kg	160	21.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	28.	1
2-Chloronaphthalene	ND		ug/kg	210	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	55.	1
2,4-Dinitrotoluene	ND		ug/kg	210	41.	1
2,6-Dinitrotoluene	ND		ug/kg	210	35.	1
Fluoranthene	6800		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	190	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	27.	1
Naphthalene	350		ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	71.	1
Butyl benzyl phthalate	ND		ug/kg	210	52.	1
Di-n-butylphthalate	ND		ug/kg	210	39.	1
Di-n-octylphthalate	ND		ug/kg	210	70.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	43.	1
Benzo(a)anthracene	2500		ug/kg	120	23.	1
Benzo(a)pyrene	1400		ug/kg	160	50.	1
Benzo(b)fluoranthene	2400		ug/kg	120	35.	1
Benzo(k)fluoranthene	720		ug/kg	120	33.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-10
 Client ID: SB8 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 09:05
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	3000		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	32.	1
Anthracene	2200		ug/kg	120	40.	1
Benzo(ghi)perylene	910		ug/kg	160	24.	1
Fluorene	2700		ug/kg	210	20.	1
Phenanthrene	8900	E	ug/kg	120	25.	1
Dibenzo(a,h)anthracene	300		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	900		ug/kg	160	29.	1
Pyrene	6500		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	85.	1
Dibenzofuran	950		ug/kg	210	20.	1
2-Methylnaphthalene	440		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	39.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	33.	1
2,4-Dimethylphenol	ND		ug/kg	210	68.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	990	96.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	99.	1
Pentachlorophenol	ND		ug/kg	160	45.	1
Phenol	ND		ug/kg	210	31.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	56.	1
Caprolactam	ND		ug/kg	210	63.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-10

Date Collected: 12/22/16 09:05

Client ID: SB8 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		25-120
Phenol-d6	52		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	55		10-136
4-Terphenyl-d14	52		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-10 D
Client ID: SB8 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/04/17 18:02
Analyst: MW
Percent Solids: 80%

Date Collected: 12/22/16 09:05
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Phenanthrene	8900		ug/kg	250	50.	2
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Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12 D
 Client ID: SB9 (0-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/02/17 22:00
 Analyst: KV
 Percent Solids: 86%

Date Collected: 12/22/16 09:30
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3546
 Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	2800		ug/kg	750	97.	5
Hexachlorobenzene	ND		ug/kg	560	100	5
Bis(2-chloroethyl)ether	ND		ug/kg	840	130	5
2-Chloronaphthalene	ND		ug/kg	940	93.	5
3,3'-Dichlorobenzidine	ND		ug/kg	940	250	5
2,4-Dinitrotoluene	ND		ug/kg	940	190	5
2,6-Dinitrotoluene	ND		ug/kg	940	160	5
Fluoranthene	29000		ug/kg	560	110	5
4-Chlorophenyl phenyl ether	ND		ug/kg	940	100	5
4-Bromophenyl phenyl ether	ND		ug/kg	940	140	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1100	160	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1000	94.	5
Hexachlorobutadiene	ND		ug/kg	940	140	5
Hexachlorocyclopentadiene	ND		ug/kg	2700	850	5
Hexachloroethane	ND		ug/kg	750	150	5
Isophorone	ND		ug/kg	840	120	5
Naphthalene	2100		ug/kg	940	110	5
Nitrobenzene	ND		ug/kg	840	140	5
NDPA/DPA	ND		ug/kg	750	110	5
n-Nitrosodi-n-propylamine	ND		ug/kg	940	140	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	940	320	5
Butyl benzyl phthalate	ND		ug/kg	940	240	5
Di-n-butylphthalate	ND		ug/kg	940	180	5
Di-n-octylphthalate	ND		ug/kg	940	320	5
Diethyl phthalate	ND		ug/kg	940	87.	5
Dimethyl phthalate	ND		ug/kg	940	200	5
Benzo(a)anthracene	12000		ug/kg	560	100	5
Benzo(a)pyrene	11000		ug/kg	750	230	5
Benzo(b)fluoranthene	16000		ug/kg	560	160	5
Benzo(k)fluoranthene	5900		ug/kg	560	150	5

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12 D

Date Collected: 12/22/16 09:30

Client ID: SB9 (0-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	13000		ug/kg	560	97.	5
Acenaphthylene	320	J	ug/kg	750	140	5
Anthracene	5100		ug/kg	560	180	5
Benzo(ghi)perylene	6500		ug/kg	750	110	5
Fluorene	2600		ug/kg	940	91.	5
Phenanthrene	24000		ug/kg	560	110	5
Dibenzo(a,h)anthracene	1900		ug/kg	560	110	5
Indeno(1,2,3-cd)pyrene	7900		ug/kg	750	130	5
Pyrene	21000		ug/kg	560	93.	5
Biphenyl	ND		ug/kg	2100	220	5
4-Chloroaniline	ND		ug/kg	940	170	5
2-Nitroaniline	ND		ug/kg	940	180	5
3-Nitroaniline	ND		ug/kg	940	180	5
4-Nitroaniline	ND		ug/kg	940	390	5
Dibenzofuran	1600		ug/kg	940	88.	5
2-Methylnaphthalene	700	J	ug/kg	1100	110	5
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	940	98.	5
Acetophenone	ND		ug/kg	940	120	5
2,4,6-Trichlorophenol	ND		ug/kg	560	180	5
p-Chloro-m-cresol	ND		ug/kg	940	140	5
2-Chlorophenol	ND		ug/kg	940	110	5
2,4-Dichlorophenol	ND		ug/kg	840	150	5
2,4-Dimethylphenol	ND		ug/kg	940	310	5
2-Nitrophenol	ND		ug/kg	2000	350	5
4-Nitrophenol	ND		ug/kg	1300	380	5
2,4-Dinitrophenol	ND		ug/kg	4500	440	5
4,6-Dinitro-o-cresol	ND		ug/kg	2400	450	5
Pentachlorophenol	ND		ug/kg	750	210	5
Phenol	ND		ug/kg	940	140	5
2-Methylphenol	ND		ug/kg	940	140	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1300	150	5
2,4,5-Trichlorophenol	ND		ug/kg	940	180	5
Carbazole	3900		ug/kg	940	91.	5
Atrazine	ND		ug/kg	750	330	5
Benzaldehyde	ND		ug/kg	1200	250	5
Caprolactam	ND		ug/kg	940	280	5
2,3,4,6-Tetrachlorophenol	ND		ug/kg	940	190	5

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-12 D

Date Collected: 12/22/16 09:30

Client ID: SB9 (0-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	70		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	68		10-136
4-Terphenyl-d14	60		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-15
Client ID: SB13 (1-5')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 22:25
Analyst: KV
Percent Solids: 89%

Date Collected: 12/22/16 12:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	580		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	6000		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	140	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	3300		ug/kg	110	21.	1
Benzo(a)pyrene	3100		ug/kg	150	45.	1
Benzo(b)fluoranthene	3800		ug/kg	110	31.	1
Benzo(k)fluoranthene	1200		ug/kg	110	30.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-15
 Client ID: SB13 (1-5')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 12:30
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	3400		ug/kg	110	19.	1
Acenaphthylene	56	J	ug/kg	150	29.	1
Anthracene	1300		ug/kg	110	36.	1
Benzo(ghi)perylene	1800		ug/kg	150	22.	1
Fluorene	540		ug/kg	180	18.	1
Phenanthrene	5100		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	500		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	2000		ug/kg	150	26.	1
Pyrene	5300		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	300		ug/kg	180	18.	1
2-Methylnaphthalene	80	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	650		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: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-15

Date Collected: 12/22/16 12:30

Client ID: SB13 (1-5')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		25-120
Phenol-d6	90		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	80		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	75		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-17
Client ID: SB16 (.5-4.5)
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 19:02
Analyst: KV
Percent Solids: 88%

Date Collected: 12/22/16 14:15
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

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	55	J	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	ND		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	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	64.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	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	29	J	ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-17
 Client ID: SB16 (.5-4.5)
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/22/16 14:15
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	26	J	ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	47	J	ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	46	J	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	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		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	75.	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	35.	1
Carbazole	ND		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: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-17

Date Collected: 12/22/16 14:15

Client ID: SB16 (.5-4.5)

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	90		25-120
Phenol-d6	100		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	88		30-120
2,4,6-Tribromophenol	85		10-136
4-Terphenyl-d14	83		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-18
Client ID: SB21 (1-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 22:51
Analyst: KV
Percent Solids: 78%

Date Collected: 12/23/16 08:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	980		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	57.	1
2,4-Dinitrotoluene	ND		ug/kg	210	43.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	13000	E	ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	610	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	28.	1
Naphthalene	470		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	32.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	74.	1
Butyl benzyl phthalate	ND		ug/kg	210	54.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	45.	1
Benzo(a)anthracene	5600		ug/kg	130	24.	1
Benzo(a)pyrene	4800		ug/kg	170	52.	1
Benzo(b)fluoranthene	6200		ug/kg	130	36.	1
Benzo(k)fluoranthene	2300		ug/kg	130	34.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-18
 Client ID: SB21 (1-4')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 08:30
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	5300		ug/kg	130	22.	1
Acenaphthylene	210		ug/kg	170	33.	1
Anthracene	2600		ug/kg	130	42.	1
Benzo(ghi)perylene	2700		ug/kg	170	25.	1
Fluorene	1000		ug/kg	210	21.	1
Phenanthrene	10000	E	ug/kg	130	26.	1
Dibenzo(a,h)anthracene	810		ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	3100		ug/kg	170	30.	1
Pyrene	10000	E	ug/kg	130	21.	1
Biphenyl	90	J	ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	39.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	88.	1
Dibenzofuran	610		ug/kg	210	20.	1
2-Methylnaphthalene	450		ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	32.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	70.	1
2-Nitrophenol	ND		ug/kg	460	80.	1
4-Nitrophenol	ND		ug/kg	300	87.	1
2,4-Dinitrophenol	ND		ug/kg	1000	99.	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	100	1
Pentachlorophenol	ND		ug/kg	170	47.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	57	J	ug/kg	310	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	41.	1
Carbazole	1100		ug/kg	210	21.	1
Atrazine	ND		ug/kg	170	74.	1
Benzaldehyde	ND		ug/kg	280	58.	1
Caprolactam	ND		ug/kg	210	65.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	43.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-18

Date Collected: 12/23/16 08:30

Client ID: SB21 (1-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	81		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	76		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	63		18-120

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-18 D
Client ID: SB21 (1-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/04/17 18:53
Analyst: MW
Percent Solids: 78%

Date Collected: 12/23/16 08:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Fluoranthene	13000		ug/kg	260	49.	2
Phenanthrene	9600		ug/kg	260	52.	2
Pyrene	10000		ug/kg	260	42.	2

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-19
Client ID: SB25 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 01/02/17 19:53
Analyst: KV
Percent Solids: 88%

Date Collected: 12/23/16 10:15
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	290		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	190	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	4900		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	260		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1
Diethyl phthalate	ND		ug/kg	190	17.	1
Dimethyl phthalate	ND		ug/kg	190	39.	1
Benzo(a)anthracene	2600		ug/kg	110	21.	1
Benzo(a)pyrene	2300		ug/kg	150	46.	1
Benzo(b)fluoranthene	3000		ug/kg	110	32.	1
Benzo(k)fluoranthene	980		ug/kg	110	30.	1

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-19
 Client ID: SB25 (2-6')
 Sample Location: MPC BUFFALO, NY

Date Collected: 12/23/16 10:15
 Date Received: 12/28/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	2700		ug/kg	110	19.	1
Acenaphthylene	110	J	ug/kg	150	29.	1
Anthracene	780		ug/kg	110	36.	1
Benzo(ghi)perylene	1200		ug/kg	150	22.	1
Fluorene	290		ug/kg	190	18.	1
Phenanthrene	3800		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	370		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	1400		ug/kg	150	26.	1
Pyrene	4300		ug/kg	110	19.	1
Biphenyl	49	J	ug/kg	430	43.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	35.	1
4-Nitroaniline	ND		ug/kg	190	77.	1
Dibenzofuran	180	J	ug/kg	190	18.	1
2-Methylnaphthalene	250		ug/kg	220	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	62.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	90.	1
Pentachlorophenol	ND		ug/kg	150	41.	1
Phenol	ND		ug/kg	190	28.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Carbazole	360		ug/kg	190	18.	1
Atrazine	ND		ug/kg	150	66.	1
Benzaldehyde	ND		ug/kg	250	50.	1
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-19

Date Collected: 12/23/16 10:15

Client ID: SB25 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	67		10-136
4-Terphenyl-d14	72		18-120

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/01/17 23:07
 Analyst: ALS

Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG965831-1					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/01/17 23:07
 Analyst: ALS

Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG965831-1					
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

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/l

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/01/17 23:07
 Analyst: ALS

Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG965831-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	75		41-149

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 12/30/16 12:06
 Analyst: KL

Extraction Method: EPA 3510C
 Extraction Date: 12/29/16 19:27

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02-04 Batch: WG965832-1					
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: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 12/30/16 12:06

Extraction Date: 12/29/16 19:27

Analyst: KL

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02-04 Batch: WG965832-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	43		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	75		15-120
2,4,6-Tribromophenol	75		10-120
4-Terphenyl-d14	84		41-149

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/04/17 23:57
 Analyst: KV

Extraction Method: EPA 3546
 Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 06-10,12,15,17-19 Batch: WG966076-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/04/17 23:57
 Analyst: KV

Extraction Method: EPA 3546
 Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 06-10,12,15,17-19 Batch: WG966076-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/04/17 23:57
 Analyst: KV

Extraction Method: EPA 3546
 Extraction Date: 12/30/16 13:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 06-10,12,15,17-19 Batch: WG966076-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	82		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	96		10-136
4-Terphenyl-d14	88		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG965831-2 WG965831-3								
Acenaphthene	74		74		37-111	0		30
Benzidine	4	Q	4	Q	10-75	5		30
1,2,4-Trichlorobenzene	72		65		39-98	10		30
Hexachlorobenzene	74		76		40-140	3		30
Bis(2-chloroethyl)ether	68		64		40-140	6		30
2-Chloronaphthalene	78		73		40-140	7		30
1,2-Dichlorobenzene	66		60		40-140	10		30
1,3-Dichlorobenzene	63		59		40-140	7		30
1,4-Dichlorobenzene	64		59		36-97	8		30
3,3'-Dichlorobenzidine	67		72		40-140	7		30
2,4-Dinitrotoluene	80		82		48-143	2		30
2,6-Dinitrotoluene	87		86		40-140	1		30
Azobenzene	77		77		40-140	0		30
Fluoranthene	75		76		40-140	1		30
4-Chlorophenyl phenyl ether	75		74		40-140	1		30
4-Bromophenyl phenyl ether	75		77		40-140	3		30
Bis(2-chloroisopropyl)ether	65		62		40-140	5		30
Bis(2-chloroethoxy)methane	77		73		40-140	5		30
Hexachlorobutadiene	73		68		40-140	7		30
Hexachlorocyclopentadiene	75		68		40-140	10		30
Hexachloroethane	68		63		40-140	8		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG965831-2 WG965831-3								
Isophorone	81		77		40-140	5		30
Naphthalene	72		67		40-140	7		30
Nitrobenzene	77		72		40-140	7		30
NitrosoDiPhenylAmine(NDPA)/DPA	76		76		40-140	0		30
n-Nitrosodi-n-propylamine	79		74		29-132	7		30
Bis(2-Ethylhexyl)phthalate	87		88		40-140	1		30
Butyl benzyl phthalate	82		83		40-140	1		30
Di-n-butylphthalate	83		84		40-140	1		30
Di-n-octylphthalate	91		90		40-140	1		30
Diethyl phthalate	80		80		40-140	0		30
Dimethyl phthalate	83		80		40-140	4		30
Benzo(a)anthracene	77		75		40-140	3		30
Benzo(a)pyrene	77		76		40-140	1		30
Benzo(b)fluoranthene	79		79		40-140	0		30
Benzo(k)fluoranthene	72		72		40-140	0		30
Chrysene	74		72		40-140	3		30
Acenaphthylene	81		77		45-123	5		30
Anthracene	75		77		40-140	3		30
Benzo(ghi)perylene	76		77		40-140	1		30
Fluorene	77		76		40-140	1		30
Phenanthrene	72		73		40-140	1		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG965831-2 WG965831-3								
Dibenzo(a,h)anthracene	77		78		40-140	1		30
Indeno(1,2,3-cd)Pyrene	81		82		40-140	1		30
Pyrene	72		74		26-127	3		30
Biphenyl	83		78		40-140	6		30
Aniline	33	Q	35	Q	40-140	6		30
4-Chloroaniline	62		56		40-140	10		30
1-Methylnaphthalene	77		75		41-103	3		30
2-Nitroaniline	90		86		52-143	5		30
3-Nitroaniline	66		65		25-145	2		30
4-Nitroaniline	77		77		51-143	0		30
Dibenzofuran	74		75		40-140	1		30
2-Methylnaphthalene	77		70		40-140	10		30
1,2,4,5-Tetrachlorobenzene	79		75		2-134	5		30
Pentachloronitrobenzene	100		101		4-189	1		30
Acetophenone	80		75		39-129	6		30
n-Nitrosodimethylamine	47		42		22-74	11		30
2,4,6-Trichlorophenol	88		85		30-130	3		30
P-Chloro-M-Cresol	88		84		23-97	5		30
2-Chlorophenol	74		68		27-123	8		30
2,4-Dichlorophenol	85		79		30-130	7		30
2,4-Dimethylphenol	77		68		30-130	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG965831-2 WG965831-3								
2-Nitrophenol	84		78		30-130	7		30
4-Nitrophenol	54		55		10-80	2		30
2,4-Dinitrophenol	76		75		20-130	1		30
4,6-Dinitro-o-cresol	80		81		20-164	1		30
Pentachlorophenol	71		70		9-103	1		30
Phenol	38		36		12-110	5		30
2-Methylphenol	71		67		30-130	6		30
3-Methylphenol/4-Methylphenol	70		66		30-130	6		30
2,4,5-Trichlorophenol	90		86		30-130	5		30
Benzoic Acid	35		22		10-164	46	Q	30
Benzyl Alcohol	77		72		26-116	7		30
Carbazole	75		76		55-144	1		30
Pyridine	16		22		10-66	32	Q	30
Parathion, ethyl	105		107		40-140	2		30
Atrazine	105		105		40-140	0		30
Benzaldehyde	74		66		40-140	11		30
Caprolactam	31		29		10-130	7		30
2,3,4,6-Tetrachlorophenol	79		79		40-140	0		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-04 Batch: WG965831-2 WG965831-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	53		48		21-120
Phenol-d6	40		36		10-120
Nitrobenzene-d5	79		73		23-120
2-Fluorobiphenyl	76		73		15-120
2,4,6-Tribromophenol	85		84		10-120
4-Terphenyl-d14	71		74		41-149

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02-04 Batch: WG965832-2 WG965832-3								
Acenaphthene	61		75		37-111	21		40
2-Chloronaphthalene	57		68		40-140	18		40
Fluoranthene	73		84		40-140	14		40
Hexachlorobutadiene	46		54		40-140	16		40
Naphthalene	52		63		40-140	19		40
Benzo(a)anthracene	70		81		40-140	15		40
Benzo(a)pyrene	75		86		40-140	14		40
Benzo(b)fluoranthene	76		87		40-140	13		40
Benzo(k)fluoranthene	79		90		40-140	13		40
Chrysene	76		89		40-140	16		40
Acenaphthylene	65		79		40-140	19		40
Anthracene	71		84		40-140	17		40
Benzo(ghi)perylene	67		76		40-140	13		40
Fluorene	65		79		40-140	19		40
Phenanthrene	68		81		40-140	17		40
Dibenzo(a,h)anthracene	67		77		40-140	14		40
Indeno(1,2,3-cd)pyrene	66		75		40-140	13		40
Pyrene	73		84		26-127	14		40
1-Methylnaphthalene	56		66		40-140	16		40
2-Methylnaphthalene	56		66		40-140	16		40
Pentachlorophenol	62		79		9-103	24		40

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02-04 Batch: WG965832-2 WG965832-3								
Hexachlorobenzene	64		77		40-140	18		40
Hexachloroethane	50		60		40-140	18		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	35		40		21-120
Phenol-d6	28		31		10-120
Nitrobenzene-d5	61		75		23-120
2-Fluorobiphenyl	58		68		15-120
2,4,6-Tribromophenol	67		82		10-120
4-Terphenyl-d14	81		80		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966076-2 WG966076-3								
Acenaphthene	74		62		31-137	18		50
Benzidine	20		14		10-66	35		50
1,2,4-Trichlorobenzene	66		60		38-107	10		50
Hexachlorobenzene	80		68		40-140	16		50
Bis(2-chloroethyl)ether	67		57		40-140	16		50
2-Chloronaphthalene	70		58		40-140	19		50
1,2-Dichlorobenzene	69		58		40-140	17		50
1,3-Dichlorobenzene	68		58		40-140	16		50
1,4-Dichlorobenzene	67		58		28-104	14		50
3,3'-Dichlorobenzidine	48		37	Q	40-140	26		50
2,4-Dinitrotoluene	86		70		40-132	21		50
2,6-Dinitrotoluene	88		68		40-140	26		50
Azobenzene	74		62		40-140	18		50
Fluoranthene	77		61		40-140	23		50
4-Chlorophenyl phenyl ether	70		59		40-140	17		50
4-Bromophenyl phenyl ether	76		63		40-140	19		50
Bis(2-chloroisopropyl)ether	56		47		40-140	17		50
Bis(2-chloroethoxy)methane	68		62		40-117	9		50
Hexachlorobutadiene	64		55		40-140	15		50
Hexachlorocyclopentadiene	61		50		40-140	20		50
Hexachloroethane	71		62		40-140	14		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966076-2 WG966076-3								
Isophorone	65		57		40-140	13		50
Naphthalene	72		62		40-140	15		50
Nitrobenzene	76		65		40-140	16		50
NDPA/DPA	76		62		36-157	20		50
n-Nitrosodi-n-propylamine	66		56		32-121	16		50
Bis(2-ethylhexyl)phthalate	90		74		40-140	20		50
Butyl benzyl phthalate	90		70		40-140	25		50
Di-n-butylphthalate	82		69		40-140	17		50
Di-n-octylphthalate	93		76		40-140	20		50
Diethyl phthalate	78		63		40-140	21		50
Dimethyl phthalate	70		58		40-140	19		50
Benzo(a)anthracene	76		64		40-140	17		50
Benzo(a)pyrene	86		67		40-140	25		50
Benzo(b)fluoranthene	82		65		40-140	23		50
Benzo(k)fluoranthene	85		67		40-140	24		50
Chrysene	76		63		40-140	19		50
Acenaphthylene	74		61		40-140	19		50
Anthracene	80		67		40-140	18		50
Benzo(ghi)perylene	79		68		40-140	15		50
Fluorene	76		62		40-140	20		50
Phenanthrene	78		66		40-140	17		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966076-2 WG966076-3								
Dibenzo(a,h)anthracene	75		67		40-140	11		50
Indeno(1,2,3-cd)pyrene	76		68		40-140	11		50
Pyrene	76		61		35-142	22		50
Biphenyl	77		62		54-104	22		50
4-Chloroaniline	28	Q	22	Q	40-140	24		50
1-Methylnaphthalene	69		56		26-130	21		50
2-Nitroaniline	92		73		47-134	23		50
3-Nitroaniline	66		53		26-129	22		50
4-Nitroaniline	84		70		41-125	18		50
Dibenzofuran	75		62		40-140	19		50
2-Methylnaphthalene	73		60		40-140	20		50
1,2,4,5-Tetrachlorobenzene	70		57		40-117	20		50
Acetophenone	73		61		14-144	18		50
n-Nitrosodimethylamine	67		57		22-100	16		50
2,4,6-Trichlorophenol	75		60		30-130	22		50
p-Chloro-m-cresol	82		65		26-103	23		50
2-Chlorophenol	78		65		25-102	18		50
2,4-Dichlorophenol	76		67		30-130	13		50
2,4-Dimethylphenol	71		61		30-130	15		50
2-Nitrophenol	90		79		30-130	13		50
4-Nitrophenol	86		71		11-114	19		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966076-2 WG966076-3								
2,4-Dinitrophenol	58		46		4-130	23		50
4,6-Dinitro-o-cresol	88		71		10-130	21		50
Pentachlorophenol	64		51		17-109	23		50
Phenol	74		60		26-90	21		50
2-Methylphenol	79		65		30-130.	19		50
3-Methylphenol/4-Methylphenol	76		66		30-130	14		50
2,4,5-Trichlorophenol	80		64		30-130	22		50
Benzoic Acid	17		15		10-110	13		50
Benzyl Alcohol	70		60		40-140	15		50
Carbazole	81		67		54-128	19		50
Parathion, ethyl	108		89		40-140	19		50
Atrazine	84		70		40-140	18		50
Benzaldehyde	67		57		40-140	16		50
Caprolactam	74		60		15-130	21		50
2,3,4,6-Tetrachlorophenol	78		63		40-140	21		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966076-2 WG966076-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	80		66		25-120
Phenol-d6	82		67		10-120
Nitrobenzene-d5	79		67		23-120
2-Fluorobiphenyl	75		60		30-120
2,4,6-Tribromophenol	100		79		10-136
4-Terphenyl-d14	80		63		18-120

PCBS

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-05
Client ID: SS1 (0-1')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 01/03/17 18:40
Analyst: AF
Percent Solids: 83%

Date Collected: 12/23/16 12:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 08:10
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.2	3.10	1	A
Aroclor 1221	ND		ug/kg	39.2	3.62	1	A
Aroclor 1232	ND		ug/kg	39.2	4.60	1	A
Aroclor 1242	ND		ug/kg	39.2	4.80	1	A
Aroclor 1248	ND		ug/kg	39.2	3.31	1	A
Aroclor 1254	10.9	J	ug/kg	39.2	3.23	1	B
Aroclor 1260	17.9	J	ug/kg	39.2	2.99	1	B
Aroclor 1262	ND		ug/kg	39.2	1.95	1	A
Aroclor 1268	ND		ug/kg	39.2	5.69	1	A
PCBs, Total	28.8	J	ug/kg	39.2	2.99	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	49		30-150	A
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	62		30-150	B

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-10
Client ID: SB8 (2-6')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 01/03/17 18:54
Analyst: AF
Percent Solids: 80%

Date Collected: 12/22/16 09:05
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 08:10
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.2	3.10	1	A
Aroclor 1221	ND		ug/kg	39.2	3.61	1	A
Aroclor 1232	ND		ug/kg	39.2	4.59	1	A
Aroclor 1242	ND		ug/kg	39.2	4.80	1	A
Aroclor 1248	ND		ug/kg	39.2	3.31	1	A
Aroclor 1254	ND		ug/kg	39.2	3.22	1	A
Aroclor 1260	3.72	J	ug/kg	39.2	2.98	1	A
Aroclor 1262	ND		ug/kg	39.2	1.94	1	A
Aroclor 1268	ND		ug/kg	39.2	5.68	1	A
PCBs, Total	3.72	J	ug/kg	39.2	1.94	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	96		30-150	B

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-11
Client ID: SB9 (0-2')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 01/03/17 19:09
Analyst: AF
Percent Solids: 86%

Date Collected: 12/23/16 14:15
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 08:10
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.2	2.94	1	A
Aroclor 1221	ND		ug/kg	37.2	3.43	1	A
Aroclor 1232	ND		ug/kg	37.2	4.36	1	A
Aroclor 1242	ND		ug/kg	37.2	4.56	1	A
Aroclor 1248	ND		ug/kg	37.2	3.14	1	A
Aroclor 1254	ND		ug/kg	37.2	3.06	1	A
Aroclor 1260	11.7	J	ug/kg	37.2	2.84	1	A
Aroclor 1262	ND		ug/kg	37.2	1.84	1	A
Aroclor 1268	ND		ug/kg	37.2	5.40	1	A
PCBs, Total	11.7	J	ug/kg	37.2	1.84	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	50		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-13
Client ID: SB10 (1-3')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 01/03/17 19:24
Analyst: AF
Percent Solids: 87%

Date Collected: 12/22/16 10:30
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 08:10
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.3	2.95	1	A
Aroclor 1221	ND		ug/kg	37.3	3.44	1	A
Aroclor 1232	ND		ug/kg	37.3	4.37	1	A
Aroclor 1242	ND		ug/kg	37.3	4.57	1	A
Aroclor 1248	ND		ug/kg	37.3	3.15	1	A
Aroclor 1254	ND		ug/kg	37.3	3.07	1	A
Aroclor 1260	69.5		ug/kg	37.3	2.84	1	B
Aroclor 1262	ND		ug/kg	37.3	1.85	1	A
Aroclor 1268	97.0		ug/kg	37.3	5.41	1	B
PCBs, Total	167		ug/kg	37.3	2.84	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	48		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	92		30-150	B

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-14
 Client ID: SB11 (1-3')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Analytical Method: 1,8082A
 Analytical Date: 01/03/17 16:52
 Analyst: AF
 Percent Solids: 88%

Date Collected: 12/22/16 11:00
 Date Received: 12/28/16
 Field Prep: Not Specified
 Extraction Method: EPA 3546
 Extraction Date: 12/30/16 08:10
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/30/16
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.1	2.93	1	A
Aroclor 1221	ND		ug/kg	37.1	3.42	1	A
Aroclor 1232	ND		ug/kg	37.1	4.34	1	A
Aroclor 1242	ND		ug/kg	37.1	4.54	1	A
Aroclor 1248	ND		ug/kg	37.1	3.13	1	A
Aroclor 1254	19.8	J	ug/kg	37.1	3.05	1	B
Aroclor 1260	28.8	J	ug/kg	37.1	2.82	1	B
Aroclor 1262	ND		ug/kg	37.1	1.84	1	A
Aroclor 1268	ND		ug/kg	37.1	5.38	1	A
PCBs, Total	48.6	J	ug/kg	37.1	2.82	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	57		30-150	B

Project Name: BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-16
Client ID: SB14 (0-4')
Sample Location: MPC BUFFALO, NY
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 01/03/17 17:06
Analyst: AF
Percent Solids: 87%

Date Collected: 12/22/16 15:50
Date Received: 12/28/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 12/30/16 08:10
Cleanup Method: EPA 3665A
Cleanup Date: 12/30/16
Cleanup Method: EPA 3660B
Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	35.9	2.84	1	A
Aroclor 1221	ND		ug/kg	35.9	3.31	1	A
Aroclor 1232	ND		ug/kg	35.9	4.21	1	A
Aroclor 1242	ND		ug/kg	35.9	4.40	1	A
Aroclor 1248	ND		ug/kg	35.9	3.03	1	A
Aroclor 1254	ND		ug/kg	35.9	2.95	1	A
Aroclor 1260	ND		ug/kg	35.9	2.74	1	A
Aroclor 1262	ND		ug/kg	35.9	1.78	1	A
Aroclor 1268	ND		ug/kg	35.9	5.21	1	A
PCBs, Total	ND		ug/kg	35.9	1.78	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 01/03/17 20:23
 Analyst: AF

Extraction Method: EPA 3546
 Extraction Date: 12/30/16 08:00
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/30/16
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/30/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 05,10-11,13-14,16 Batch: WG965948-1						
Aroclor 1016	ND		ug/kg	31.9	2.52	A
Aroclor 1221	ND		ug/kg	31.9	2.94	A
Aroclor 1232	ND		ug/kg	31.9	3.74	A
Aroclor 1242	ND		ug/kg	31.9	3.90	A
Aroclor 1248	ND		ug/kg	31.9	2.69	A
Aroclor 1254	ND		ug/kg	31.9	2.62	A
Aroclor 1260	ND		ug/kg	31.9	2.43	A
Aroclor 1262	ND		ug/kg	31.9	1.58	A
Aroclor 1268	ND		ug/kg	31.9	4.62	A
PCBs, Total	ND		ug/kg	31.9	1.58	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		30-150	A
Decachlorobiphenyl	38		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	49		30-150	B

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 05,10-11,13-14,16 Batch: WG965948-2 WG965948-3									
Aroclor 1016	88		90		40-140	2		50	A
Aroclor 1260	42		40		40-140	5		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	110		101		30-150	A
Decachlorobiphenyl	39		36		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		84		30-150	B
Decachlorobiphenyl	50		45		30-150	B

METALS

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-06

Date Collected: 12/23/16 13:35

Client ID: SS2 (0-1')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5400		mg/kg	8.9	2.4	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Antimony, Total	3.8	J	mg/kg	4.4	0.34	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Arsenic, Total	34		mg/kg	0.89	0.18	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Barium, Total	80		mg/kg	0.89	0.16	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Beryllium, Total	0.44		mg/kg	0.44	0.03	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.89	0.09	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Calcium, Total	7200		mg/kg	8.9	3.1	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Chromium, Total	16		mg/kg	0.89	0.09	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Cobalt, Total	6.8		mg/kg	1.8	0.15	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Copper, Total	66		mg/kg	0.89	0.23	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Iron, Total	56000		mg/kg	44	8.0	20	12/30/16 18:40	01/04/17 01:50	EPA 3050B	1,6010C	AB
Lead, Total	160		mg/kg	4.4	0.24	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Magnesium, Total	1100		mg/kg	8.9	1.4	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Manganese, Total	860		mg/kg	0.89	0.14	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Mercury, Total	0.26		mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:29	EPA 7471B	1,7471B	EA
Nickel, Total	27		mg/kg	2.2	0.22	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Potassium, Total	660		mg/kg	220	13.	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.89	0.25	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Sodium, Total	100	J	mg/kg	180	2.8	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Vanadium, Total	20		mg/kg	0.89	0.18	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB
Zinc, Total	130		mg/kg	4.4	0.26	2	12/30/16 18:40	01/03/17 23:16	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-07

Date Collected: 12/21/16 10:30

Client ID: SB1 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7300		mg/kg	8.8	2.4	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Antimony, Total	ND		mg/kg	4.4	0.34	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Arsenic, Total	4.8		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Barium, Total	41		mg/kg	0.88	0.15	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Beryllium, Total	0.84		mg/kg	0.44	0.03	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Calcium, Total	40000		mg/kg	8.8	3.1	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Chromium, Total	7.1		mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Cobalt, Total	2.4		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Copper, Total	12		mg/kg	0.88	0.23	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Iron, Total	10000		mg/kg	4.4	0.80	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Lead, Total	22		mg/kg	4.4	0.24	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Magnesium, Total	7100		mg/kg	8.8	1.4	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Manganese, Total	390		mg/kg	0.88	0.14	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:31	EPA 7471B	1,7471B	EA
Nickel, Total	5.2		mg/kg	2.2	0.21	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Potassium, Total	740		mg/kg	220	13.	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.88	0.25	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Sodium, Total	380		mg/kg	180	2.8	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Vanadium, Total	13		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB
Zinc, Total	29		mg/kg	4.4	0.26	2	12/30/16 18:40	01/04/17 00:00	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-08

Date Collected: 12/21/16 15:00

Client ID: SB6 (0-4')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5300		mg/kg	9.1	2.4	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Antimony, Total	ND		mg/kg	4.5	0.34	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Arsenic, Total	6.3		mg/kg	0.91	0.19	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Barium, Total	33		mg/kg	0.91	0.16	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Beryllium, Total	0.23	J	mg/kg	0.45	0.03	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.91	0.09	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Calcium, Total	28000		mg/kg	9.1	3.2	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Chromium, Total	8.4		mg/kg	0.91	0.09	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Cobalt, Total	3.3		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Copper, Total	15		mg/kg	0.91	0.23	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Iron, Total	15000		mg/kg	4.5	0.82	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Lead, Total	50		mg/kg	4.5	0.24	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Magnesium, Total	3200		mg/kg	9.1	1.4	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Manganese, Total	290		mg/kg	0.91	0.14	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Mercury, Total	0.96		mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:33	EPA 7471B	1,7471B	EA
Nickel, Total	7.4		mg/kg	2.3	0.22	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Potassium, Total	380		mg/kg	230	13.	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.91	0.26	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Sodium, Total	74	J	mg/kg	180	2.9	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.29	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Vanadium, Total	18		mg/kg	0.91	0.18	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB
Zinc, Total	88		mg/kg	4.5	0.27	2	12/30/16 18:40	01/04/17 00:05	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-09

Date Collected: 12/21/16 15:30

Client ID: SB7 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4400		mg/kg	9.1	2.4	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Antimony, Total	1.6	J	mg/kg	4.5	0.34	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Arsenic, Total	5.9		mg/kg	0.91	0.19	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Barium, Total	40		mg/kg	0.91	0.16	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Beryllium, Total	0.26	J	mg/kg	0.45	0.03	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.91	0.09	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Calcium, Total	110000		mg/kg	91	32.	20	12/30/16 18:40	01/04/17 02:07	EPA 3050B	1,6010C	AB
Chromium, Total	9.8		mg/kg	0.91	0.09	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Cobalt, Total	2.2		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Copper, Total	24		mg/kg	0.91	0.23	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Iron, Total	16000		mg/kg	4.5	0.82	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Lead, Total	35		mg/kg	4.5	0.24	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Magnesium, Total	44000		mg/kg	9.1	1.4	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Manganese, Total	740		mg/kg	0.91	0.14	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Mercury, Total	0.03	J	mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:35	EPA 7471B	1,7471B	EA
Nickel, Total	6.3		mg/kg	2.3	0.22	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Potassium, Total	420		mg/kg	230	13.	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.91	0.26	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Sodium, Total	170	J	mg/kg	180	2.9	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.29	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Vanadium, Total	10		mg/kg	0.91	0.18	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB
Zinc, Total	61		mg/kg	4.5	0.27	2	12/30/16 18:40	01/04/17 00:09	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-10

Date Collected: 12/22/16 09:05

Client ID: SB8 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4900		mg/kg	9.6	2.6	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Antimony, Total	0.64	J	mg/kg	4.8	0.36	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Arsenic, Total	38		mg/kg	0.96	0.20	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Barium, Total	33		mg/kg	0.96	0.17	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Beryllium, Total	0.22	J	mg/kg	0.48	0.03	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.96	0.09	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Calcium, Total	22000		mg/kg	9.6	3.4	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Chromium, Total	6.8		mg/kg	0.96	0.09	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Cobalt, Total	3.3		mg/kg	1.9	0.16	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Copper, Total	11		mg/kg	0.96	0.25	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Iron, Total	35000		mg/kg	4.8	0.86	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Lead, Total	470		mg/kg	4.8	0.26	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Magnesium, Total	2700		mg/kg	9.6	1.5	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Manganese, Total	400		mg/kg	0.96	0.15	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.09	0.02	1	01/04/17 14:00	01/04/17 21:37	EPA 7471B	1,7471B	EA
Nickel, Total	6.8		mg/kg	2.4	0.23	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Potassium, Total	500		mg/kg	240	14.	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.9	0.25	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.96	0.27	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Sodium, Total	170	J	mg/kg	190	3.0	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.9	0.30	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Vanadium, Total	15		mg/kg	0.96	0.19	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB
Zinc, Total	50		mg/kg	4.8	0.28	2	12/30/16 18:40	01/04/17 00:13	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12
 Client ID: SB9 (0-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Percent Solids: 86%

Date Collected: 12/22/16 09:30
 Date Received: 12/28/16
 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											
Aluminum, Total	5800		mg/kg	9.0	2.4	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Antimony, Total	1.0	J	mg/kg	4.5	0.34	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Arsenic, Total	22		mg/kg	0.90	0.19	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Barium, Total	79		mg/kg	0.90	0.16	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Beryllium, Total	0.46		mg/kg	0.45	0.03	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Cadmium, Total	0.60	J	mg/kg	0.90	0.09	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Calcium, Total	27000		mg/kg	9.0	3.1	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Chromium, Total	19		mg/kg	0.90	0.09	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Cobalt, Total	5.6		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Copper, Total	130		mg/kg	0.90	0.23	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Iron, Total	40000		mg/kg	4.5	0.81	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Lead, Total	250		mg/kg	4.5	0.24	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Magnesium, Total	3600		mg/kg	9.0	1.4	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Manganese, Total	660		mg/kg	0.90	0.14	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Mercury, Total	0.12		mg/kg	0.09	0.02	1	01/04/17 14:00	01/04/17 21:38	EPA 7471B	1,7471B	EA
Nickel, Total	19		mg/kg	2.2	0.22	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Potassium, Total	510		mg/kg	220	13.	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.90	0.25	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Sodium, Total	140	J	mg/kg	180	2.8	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Vanadium, Total	24		mg/kg	0.90	0.18	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB
Zinc, Total	180		mg/kg	4.5	0.26	2	12/30/16 18:40	01/04/17 00:18	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-15
 Client ID: SB13 (1-5')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Percent Solids: 89%

Date Collected: 12/22/16 12:30
 Date Received: 12/28/16
 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											
Aluminum, Total	4100		mg/kg	8.8	2.4	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Antimony, Total	ND		mg/kg	4.4	0.34	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Arsenic, Total	34		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Barium, Total	41		mg/kg	0.88	0.15	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Beryllium, Total	0.23	J	mg/kg	0.44	0.03	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Calcium, Total	33000		mg/kg	8.8	3.1	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Chromium, Total	60		mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Cobalt, Total	14		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Copper, Total	42		mg/kg	0.88	0.23	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Iron, Total	180000		mg/kg	44	8.0	20	12/30/16 18:40	01/04/17 02:16	EPA 3050B	1,6010C	AB
Lead, Total	31		mg/kg	4.4	0.24	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Magnesium, Total	2800		mg/kg	8.8	1.4	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Manganese, Total	1400		mg/kg	0.88	0.14	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Mercury, Total	0.31		mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:40	EPA 7471B	1,7471B	EA
Nickel, Total	24		mg/kg	2.2	0.21	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Potassium, Total	390		mg/kg	220	13.	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	18	2.3	20	12/30/16 18:40	01/04/17 02:16	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.88	0.25	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Sodium, Total	120	J	mg/kg	180	2.8	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Vanadium, Total	95		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB
Zinc, Total	37		mg/kg	4.4	0.26	2	12/30/16 18:40	01/04/17 00:22	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-17
 Client ID: SB16 (.5-4.5)
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Percent Solids: 88%

Date Collected: 12/22/16 14:15
 Date Received: 12/28/16
 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											
Aluminum, Total	2300		mg/kg	9.0	2.4	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Antimony, Total	ND		mg/kg	4.5	0.34	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Arsenic, Total	2.2		mg/kg	0.90	0.19	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Barium, Total	15		mg/kg	0.90	0.16	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Beryllium, Total	0.10	J	mg/kg	0.45	0.03	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.90	0.09	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Calcium, Total	38000		mg/kg	9.0	3.1	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Chromium, Total	2.7		mg/kg	0.90	0.09	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Cobalt, Total	1.3	J	mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Copper, Total	2.2		mg/kg	0.90	0.23	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Iron, Total	5200		mg/kg	4.5	0.81	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Lead, Total	130		mg/kg	4.5	0.24	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Magnesium, Total	4600		mg/kg	9.0	1.4	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Manganese, Total	150		mg/kg	0.90	0.14	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Mercury, Total	ND		mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:42	EPA 7471B	1,7471B	EA
Nickel, Total	2.3		mg/kg	2.2	0.22	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Potassium, Total	180	J	mg/kg	220	13.	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.90	0.25	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Sodium, Total	90	J	mg/kg	180	2.8	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Vanadium, Total	6.0		mg/kg	0.90	0.18	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB
Zinc, Total	11		mg/kg	4.5	0.26	2	12/30/16 18:40	01/04/17 00:27	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-18
 Client ID: SB21 (1-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil
 Percent Solids: 78%

Date Collected: 12/23/16 08:30
 Date Received: 12/28/16
 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											
Aluminum, Total	14000		mg/kg	9.9	2.7	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Antimony, Total	3.3	J	mg/kg	5.0	0.38	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Arsenic, Total	12		mg/kg	0.99	0.21	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Barium, Total	77		mg/kg	0.99	0.17	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Beryllium, Total	0.48	J	mg/kg	0.50	0.03	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.99	0.10	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Calcium, Total	8600		mg/kg	9.9	3.5	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Chromium, Total	15		mg/kg	0.99	0.10	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Cobalt, Total	6.2		mg/kg	2.0	0.16	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Copper, Total	370		mg/kg	0.99	0.26	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Iron, Total	37000		mg/kg	5.0	0.90	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Lead, Total	200		mg/kg	5.0	0.27	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Magnesium, Total	3300		mg/kg	9.9	1.5	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Manganese, Total	570		mg/kg	0.99	0.16	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Mercury, Total	0.04	J	mg/kg	0.09	0.02	1	01/04/17 14:00	01/04/17 21:44	EPA 7471B	1,7471B	EA
Nickel, Total	18		mg/kg	2.5	0.24	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Potassium, Total	770		mg/kg	250	14.	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	2.0	0.26	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.99	0.28	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Sodium, Total	280		mg/kg	200	3.1	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	2.0	0.31	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Vanadium, Total	24		mg/kg	0.99	0.20	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB
Zinc, Total	170		mg/kg	5.0	0.29	2	12/30/16 18:40	01/04/17 00:31	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-19

Date Collected: 12/23/16 10:15

Client ID: SB25 (2-6')

Date Received: 12/28/16

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5200		mg/kg	8.8	2.4	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Antimony, Total	0.36	J	mg/kg	4.4	0.34	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Arsenic, Total	24		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Barium, Total	78		mg/kg	0.88	0.15	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Beryllium, Total	1.2		mg/kg	0.44	0.03	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Cadmium, Total	0.27	J	mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Calcium, Total	19000		mg/kg	8.8	3.1	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Chromium, Total	7.0		mg/kg	0.88	0.09	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Cobalt, Total	4.4		mg/kg	1.8	0.15	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Copper, Total	39		mg/kg	0.88	0.23	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Iron, Total	16000		mg/kg	4.4	0.80	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Lead, Total	78		mg/kg	4.4	0.24	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Magnesium, Total	1800		mg/kg	8.8	1.4	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Manganese, Total	340		mg/kg	0.88	0.14	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Mercury, Total	0.077	J	mg/kg	0.079	0.017	1	01/04/17 14:00	01/04/17 21:46	EPA 7471B	1,7471B	EA
Nickel, Total	9.8		mg/kg	2.2	0.21	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Potassium, Total	500		mg/kg	220	13.	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	1.8	0.23	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	0.88	0.25	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Sodium, Total	300		mg/kg	180	2.8	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	1.8	0.28	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Vanadium, Total	14		mg/kg	0.88	0.18	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB
Zinc, Total	77		mg/kg	4.4	0.26	2	12/30/16 18:40	01/04/17 00:57	EPA 3050B	1,6010C	AB



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

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): 06-10,12,15,17-19 Batch: WG966156-1									
Aluminum, Total	ND	mg/kg	4.0	1.1	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Antimony, Total	ND	mg/kg	2.0	0.15	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Arsenic, Total	ND	mg/kg	0.40	0.08	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Barium, Total	ND	mg/kg	0.40	0.07	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Beryllium, Total	ND	mg/kg	0.20	0.01	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Cadmium, Total	ND	mg/kg	0.40	0.04	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Calcium, Total	ND	mg/kg	4.0	1.4	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Chromium, Total	ND	mg/kg	0.40	0.04	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Cobalt, Total	ND	mg/kg	0.80	0.07	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Copper, Total	ND	mg/kg	0.40	0.10	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Iron, Total	ND	mg/kg	2.0	0.36	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Lead, Total	ND	mg/kg	2.0	0.11	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Magnesium, Total	ND	mg/kg	4.0	0.62	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Manganese, Total	ND	mg/kg	0.40	0.06	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Nickel, Total	ND	mg/kg	1.0	0.10	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Potassium, Total	ND	mg/kg	100	5.8	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Selenium, Total	ND	mg/kg	0.80	0.10	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Silver, Total	ND	mg/kg	0.40	0.11	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Sodium, Total	ND	mg/kg	80	1.3	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Thallium, Total	ND	mg/kg	0.80	0.13	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Vanadium, Total	ND	mg/kg	0.40	0.08	1	12/30/16 18:40	01/03/17 23:08	1,6010C	AB
Zinc, Total	ND	mg/kg	2.0	0.12	1	12/30/16 18:40	01/03/17 23:08	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): 06-10,12,15,17-19 Batch: WG966836-1									
Mercury, Total	ND	mg/kg	0.08	0.02	1	01/04/17 14:00	01/04/17 21:14	1,7471B	EA



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966156-2 SRM Lot Number: D091-540								
Aluminum, Total	69		-		52-148	-		
Antimony, Total	187		-		1-200	-		
Arsenic, Total	103		-		80-121	-		
Barium, Total	96		-		84-117	-		
Beryllium, Total	100		-		83-117	-		
Cadmium, Total	112		-		83-117	-		
Calcium, Total	95		-		81-118	-		
Chromium, Total	98		-		80-119	-		
Cobalt, Total	91		-		84-115	-		
Copper, Total	104		-		82-117	-		
Iron, Total	80		-		47-154	-		
Lead, Total	103		-		82-118	-		
Magnesium, Total	83		-		77-123	-		
Manganese, Total	94		-		82-118	-		
Nickel, Total	116		-		83-117	-		
Potassium, Total	83		-		72-128	-		
Selenium, Total	101		-		79-121	-		
Silver, Total	89		-		75-124	-		
Sodium, Total	104		-		73-126	-		
Thallium, Total	106		-		80-121	-		
Vanadium, Total	96		-		78-122	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966156-2 SRM Lot Number: D091-540					
Zinc, Total	103	-	82-118	-	
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG966836-2 SRM Lot Number: D091-540					
Mercury, Total	89	-	72-128	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

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): 06-10,12,15,17-19 QC Batch ID: WG966156-3 QC Sample: L1642311-06 Client ID: SS2 (0-1')												
Aluminum, Total	5400	178	6200	448	Q	-	-		75-125	-		20
Antimony, Total	3.8J	44.6	42	94		-	-		75-125	-		20
Arsenic, Total	34.	10.7	33	0	Q	-	-		75-125	-		20
Barium, Total	80.	178	260	101		-	-		75-125	-		20
Beryllium, Total	0.44	4.46	4.6	103		-	-		75-125	-		20
Cadmium, Total	ND	4.55	4.4	97		-	-		75-125	-		20
Calcium, Total	7200	892	5200	0	Q	-	-		75-125	-		20
Chromium, Total	16.	17.8	31	84		-	-		75-125	-		20
Cobalt, Total	6.8	44.6	48	92		-	-		75-125	-		20
Copper, Total	66.	22.3	110	197	Q	-	-		75-125	-		20
Iron, Total	56000	89.2	70000	15700	Q	-	-		75-125	-		20
Lead, Total	160	45.5	190	66	Q	-	-		75-125	-		20
Magnesium, Total	1100	892	1800	78		-	-		75-125	-		20
Manganese, Total	860	44.6	590	0	Q	-	-		75-125	-		20
Nickel, Total	27.	44.6	82	123		-	-		75-125	-		20
Potassium, Total	660	892	1500	94		-	-		75-125	-		20
Selenium, Total	ND	10.7	8.9	83		-	-		75-125	-		20
Silver, Total	ND	26.8	26	97		-	-		75-125	-		20
Sodium, Total	100J	892	1000	112		-	-		75-125	-		20
Thallium, Total	ND	10.7	8.1	76		-	-		75-125	-		20
Vanadium, Total	20.	44.6	62	94		-	-		75-125	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19				QC Batch ID: WG966156-3		QC Sample: L1642311-06		Client ID: SS2 (0-1')	
Zinc, Total	130	44.6	170	90	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19				QC Batch ID: WG966836-3		QC Sample: L1641908-01		Client ID: MS Sample	
Mercury, Total	0.97	0.193	1.2	119	-	-	80-120	-	20

Lab Duplicate Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 QC Batch ID: WG966156-4 QC Sample: L1642311-06 Client ID: SS2 (0-1')						
Aluminum, Total	5400	4700	mg/kg	14		20
Antimony, Total	3.8J	5.7	mg/kg	NC		20
Arsenic, Total	34.	28	mg/kg	19		20
Barium, Total	80.	83	mg/kg	4		20
Beryllium, Total	0.44	0.36J	mg/kg	NC		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Calcium, Total	7200	4600	mg/kg	44	Q	20
Chromium, Total	16.	21	mg/kg	27	Q	20
Cobalt, Total	6.8	7.6	mg/kg	11		20
Copper, Total	66.	79	mg/kg	18		20
Lead, Total	160	170	mg/kg	6		20
Magnesium, Total	1100	820	mg/kg	29	Q	20
Manganese, Total	860	770	mg/kg	11		20
Nickel, Total	27.	25	mg/kg	8		20
Potassium, Total	660	540	mg/kg	20		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	100J	150J	mg/kg	NC		20
Thallium, Total	ND	ND	mg/kg	NC		20

Lab Duplicate Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 QC Batch ID: WG966156-4 QC Sample: L1642311-06 Client ID: SS2 (0-1')					
Vanadium, Total	20.	29	mg/kg	37	Q 20
Zinc, Total	130	130	mg/kg	0	20
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 QC Batch ID: WG966156-4 QC Sample: L1642311-06 Client ID: SS2 (0-1')					
Iron, Total	56000	68000	mg/kg	19	20
Total Metals - Mansfield Lab Associated sample(s): 06-10,12,15,17-19 QC Batch ID: WG966836-4 QC Sample: L1641908-01 Client ID: DUP Sample					
Mercury, Total	0.97	0.85	mg/kg	13	20

INORGANICS & MISCELLANEOUS

Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Number:** L1642311**Report Date:** 01/05/17**SAMPLE RESULTS**

Lab ID: L1642311-05
Client ID: SS1 (0-1')
Sample Location: MPC BUFFALO, NY
Matrix: Soil

Date Collected: 12/23/16 12:30
Date Received: 12/28/16
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	83.2		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-06

Client ID: SS2 (0-1')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/23/16 13:35

Date Received: 12/28/16

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	86.4		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.53	J	mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:15	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-07

Client ID: SB1 (2-6')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/21/16 10:30

Date Received: 12/28/16

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	89.7		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.35	J	mg/kg	1.0	0.17	1	12/29/16 10:15	12/29/16 14:16	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-08

Client ID: SB6 (0-4')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/21/16 15:00

Date Received: 12/28/16

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	85.9		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.36	J	mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:17	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-09

Client ID: SB7 (2-6')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/21/16 15:30

Date Received: 12/28/16

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	85.7		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.29	J	mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:17	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-10

Client ID: SB8 (2-6')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/22/16 09:05

Date Received: 12/28/16

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	80.1		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.49	J	mg/kg	1.2	0.19	1	12/29/16 10:15	12/29/16 14:20	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-11

Client ID: SB9 (0-2')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/23/16 14:15

Date Received: 12/28/16

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	86.4		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-12

Client ID: SB9 (0-4')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/22/16 09:30

Date Received: 12/28/16

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	86.4		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.44	J	mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:21	1,9010C/9012B	ML



Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Number:** L1642311**Report Date:** 01/05/17**SAMPLE RESULTS****Lab ID:** L1642311-13**Client ID:** SB10 (1-3')**Sample Location:** MPC BUFFALO, NY**Matrix:** Soil**Date Collected:** 12/22/16 10:30**Date Received:** 12/28/16**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	87.2		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI



Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Number:** L1642311**Report Date:** 01/05/17**SAMPLE RESULTS****Lab ID:** L1642311-14**Client ID:** SB11 (1-3')**Sample Location:** MPC BUFFALO, NY**Matrix:** Soil**Date Collected:** 12/22/16 11:00**Date Received:** 12/28/16**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	-	12/29/16 10:53	121,2540G	RI



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-15

Client ID: SB13 (1-5')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/22/16 12:30

Date Received: 12/28/16

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	88.9		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	0.33	J	mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:21	1,9010C/9012B	ML



Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Number:** L1642311**Report Date:** 01/05/17**SAMPLE RESULTS****Lab ID:** L1642311-16**Client ID:** SB14 (0-4')**Sample Location:** MPC BUFFALO, NY**Matrix:** Soil**Date Collected:** 12/22/16 15:50**Date Received:** 12/28/16**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	87.2		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-17
 Client ID: SB16 (.5-4.5)
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil

Date Collected: 12/22/16 14:15
 Date Received: 12/28/16
 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	87.5		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:22	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-18
 Client ID: SB21 (1-4')
 Sample Location: MPC BUFFALO, NY
 Matrix: Soil

Date Collected: 12/23/16 08:30
 Date Received: 12/28/16
 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	78.1		%	0.100	NA	1	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	2.8		mg/kg	1.2	0.21	1	12/29/16 10:15	12/29/16 14:32	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

SAMPLE RESULTS

Lab ID: L1642311-19

Client ID: SB25 (2-6')

Sample Location: MPC BUFFALO, NY

Matrix: Soil

Date Collected: 12/23/16 10:15

Date Received: 12/28/16

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	-	12/29/16 10:53	121,2540G	RI
Cyanide, Total	2.1		mg/kg	1.1	0.18	1	12/29/16 10:15	12/29/16 14:33	1,9010C/9012B	ML



Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 06-10,12,15,17-19 Batch: WG965568-1										
Cyanide, Total	ND		mg/kg	0.84	0.14	1	12/29/16 10:15	12/29/16 13:59	1,9010C/9012B	ML

Lab Control Sample Analysis**Batch Quality Control****Project Name:** BCP PH. II ESA**Lab Number:** L1642311**Project Number:** E1609**Report Date:** 01/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 06-10,12,15,17-19 Batch: WG965568-2 WG965568-3								
Cyanide, Total	80		110		80-120	33		35

Matrix Spike Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 06-10,12,15,17-19 QC Batch ID: WG965568-4 WG965568-5 QC Sample: L1642311-09 Client ID: SB7 (2-6')												
Cyanide, Total	0.29J	11	11	93		12	100		65-135	9		35

Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Duplicate Analysis**
Batch Quality Control**Lab Number:** L1642311**Report Date:** 01/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05-19 QC Batch ID: WG965611-1 QC Sample: L1642311-05 Client ID: SS1 (0-1')						
Solids, Total	83.2	82.9	%	0		20

Project Name: BCP PH. II ESA

Lab Number: L1642311

Project Number: E1609

Report Date: 01/05/17

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(*)
L1642311-01A	Vial HCl preserved	A	N/A	3.9	Y	Absent	HOLD-8260(14)
L1642311-01B	Vial HCl preserved	A	N/A	3.9	Y	Absent	HOLD-8260(14)
L1642311-01C	Vial HCl preserved	A	N/A	3.9	Y	Absent	HOLD-8260(14)
L1642311-01D	Amber 1000ml unpreserved	A	7	3.9	Y	Absent	HOLD-8270(7)
L1642311-02A	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-02B	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-02C	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-02D	Amber 1000ml unpreserved	A	7	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1642311-03A	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-03B	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-03C	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-03D	Amber 1000ml unpreserved	A	7	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1642311-04A	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-04B	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-04C	Vial HCl preserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-04D	Amber 1000ml unpreserved	A	7	3.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1642311-05A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	TS(7),NYTCL-8082(14)
L1642311-06A	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-06B	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-07A	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)

*Values in parentheses indicate holding time in days



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1642311-07B	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-08A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-08A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-08B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-08C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-09A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-09A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-09B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-09C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-10A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-10A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-10B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7),NYTCL-8082(14)

*Values in parentheses indicate holding time in days



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1642311-10C	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-11A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	TS(7),NYTCL-8082(14)
L1642311-12A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-12A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-12B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-12C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-13A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	TS(7),NYTCL-8082(14)
L1642311-14A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	TS(7),NYTCL-8082(14)
L1642311-15A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-15A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-15B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-15C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-16A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	TS(7),NYTCL-8082(14)
L1642311-17A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-17A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-17B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)

*Values in parentheses indicate holding time in days



Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1642311

Report Date: 01/05/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1642311-17C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-18A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-18A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-18B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-18C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1642311-19A	Glass 120ml/4oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-19A9	Vial MeOH preserved split	A	N/A	3.9	Y	Absent	NYTCL-8260-R2(14)
L1642311-19B	Glass 250ml/8oz unpreserved	A	N/A	3.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),TS(7)
L1642311-19C	Glass 60ml unpreserved split	A	N/A	3.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)

*Values in parentheses indicate holding time in days



Project Name: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1642311
Report Date: 01/05/17

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, SM4500CI-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 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 12/29/16		ALPHA Job # L1642311																																																																																																																															
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Client Information Client: <u>Hazard Evaluations Inc.</u> Address: <u>3752 N. Buffalo Rd.</u> <u>Orchard Park NY 14127</u> Phone: <u>716-667-3130</u> Fax: <u>716-667-3156</u> Email: <u>MWittmon@hazardevaluations.com</u>		Project Manager: <u>Candy Fox</u> ALPHA Quote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days: <u>5 day firm</u>		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		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: <u>Additionally email results to ebetzoid@hazard evaluations.com</u>		ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)		Total Bottles																																																																																																																																	
Please specify Metals or TAL.		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ALPHA Lab ID (Lab Use Only)</th> <th>Sample ID</th> <th colspan="2">Collection</th> <th>Sample Matrix</th> <th>Sampler's Initials</th> <th>VOC B260 TLL + STARS</th> <th>SVAL B270 TLL</th> <th>TAL Metals + Cyanide</th> <th>T. PCBs</th> <th>VOC B260 TLL + STARS</th> </tr> <tr> <th></th> <th></th> <th>Date</th> <th>Time</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>42311-01</td> <td>SB2</td> <td>12/21/16</td> <td>12:00pm</td> <td>GW</td> <td>EB</td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>-02</td> <td>SB8</td> <td>12/23/16</td> <td>1:10pm</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>-03</td> <td>SB10</td> <td>12/23/16</td> <td>12:45pm</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>-04</td> <td>SB14</td> <td>12/23/16</td> <td>2:15pm</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>-05</td> <td>SS1 (0-1')</td> <td>12/23/16</td> <td>12:30pm</td> <td>Soil</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>-06</td> <td>SS2 (0-1')</td> <td>12/23/16</td> <td>1:35pm</td> <td>Soil</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>-07</td> <td>SB1 (2-6')</td> <td>12/21/16</td> <td>10:30am</td> <td>Soil</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>-08</td> <td>SB6 (0-4')</td> <td>12/21/16</td> <td>3:00pm</td> <td>Soil</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>-09</td> <td>SB7 (2-6')</td> <td>12/21/16</td> <td>3:30pm</td> <td>Soil</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>-10</td> <td>SB8 (2-6')</td> <td>12/22/16</td> <td>9:05am</td> <td>Soil</td> <td>V</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> </tbody> </table>		ALPHA Lab ID (Lab Use Only)	Sample ID			Collection		Sample Matrix	Sampler's Initials	VOC B260 TLL + STARS	SVAL B270 TLL	TAL Metals + Cyanide	T. PCBs	VOC B260 TLL + STARS			Date	Time								42311-01	SB2	12/21/16	12:00pm	GW	EB		X			X	-02	SB8	12/23/16	1:10pm				X			X	-03	SB10	12/23/16	12:45pm				X			X	-04	SB14	12/23/16	2:15pm				X			X	-05	SS1 (0-1')	12/23/16	12:30pm	Soil					X		-06	SS2 (0-1')	12/23/16	1:35pm	Soil			X	X			-07	SB1 (2-6')	12/21/16	10:30am	Soil			X	X			-08	SB6 (0-4')	12/21/16	3:00pm	Soil		X	X	X			-09	SB7 (2-6')	12/21/16	3:30pm	Soil		X	X	X			-10	SB8 (2-6')	12/22/16	9:05am	Soil	V	X	X	X
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	VOC B260 TLL + STARS	SVAL B270 TLL	TAL Metals + Cyanide	T. PCBs	VOC B260 TLL + STARS																																																																																																																													
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Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O 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		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>A</td><td>A</td><td>A</td><td>A</td><td>V</td> </tr> <tr> <td>A</td><td>A</td><td>A</td><td>A</td><td>B</td> </tr> </table>		A	A	A	A	V	A	A	A	A	B	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.)																																																																																																																			
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 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		Page 2 of 2		Date Rec'd in Lab 12/29/16		ALPHA Job # L1642311																																																										
	Project Information Project Name: BCP Ph. II ESA Project Location: MPC Buffalo, NY Project # e1609 (Use Project name as Project #) ☐				Deliverables ☐ ASP-A ☐ ASP-B ☐ EQuIS (1 File) ☐ EQuIS (4 File) ☐ Other		Billing Information ☒ Same as Client Info PO #																																																										
Client Information Client: Hazard Evaluations Inc. Address: 3752 N. Buffalo Rd Orchard Park, NY 14127 Phone: 716-667-3130 Fax: 716-667-3156 Email: mwhitman@hazardevaluations.com		Project Manager: Candy Fox ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days: 5 day firm		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		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				ANALYSIS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>VOC B260 TOL + STARS</th> <th>SVOC B270 TOL</th> <th>TAL Metals + Cyanide</th> <th>T. PCBs</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		VOC B260 TOL + STARS	SVOC B270 TOL	TAL Metals + Cyanide	T. PCBs																					Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)																																			
VOC B260 TOL + STARS	SVOC B270 TOL	TAL Metals + Cyanide	T. PCBs																																																														
Please specify Metals or TAL.				Sample Specific Comments		Total Bottle																																																											
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Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O 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 A A A Preservative A A A A		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)		Relinquished By: Eia/B... 3:05p 12/28/16 Anthony Fley 12/28/16 15:15		Date/Time 12/28/16		Received By: Anthony Fley 12/28/16 15:05 W... 12/29/16 09:00		Date/Time 12/29/16																																																									



ANALYTICAL REPORT

Lab Number:	L1700083
Client:	Hazard Evaluations, Inc. 3752 North Buffalo Road Orchard Park, NY 14127
ATTN:	Michele Wittman
Phone:	(716) 667-3130
Project Name:	BCP PH. II ESA
Project Number:	E1609
Report Date:	01/10/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1700083-01	SB-2	WATER	MPC BUFFALO, NY	01/02/17 10:20	01/03/17
L1700083-02	SB-25	WATER	MPC BUFFALO, NY	01/02/17 10:40	01/03/17
L1700083-03	SB-16	WATER	MPC BUFFALO, NY	01/02/17 11:15	01/03/17

Project Name: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

Case Narrative (continued)

Report Submission

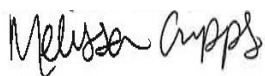
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

The surrogate recoveries for L1700083-03 were outside the acceptance criteria for 2-fluorophenol (9%) and 2,4,6-tribromophenol (8%); however, re-extraction could not be performed due to lack of additional sample. The results of the original analysis are reported.

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:

 Melissa Cripps

Title: Technical Director/Representative

Date: 01/10/17

ORGANICS

VOLATILES

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-01
 Client ID: SB-2
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/05/17 17:40
 Analyst: KD

Date Collected: 01/02/17 10:20
 Date Received: 01/03/17
 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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-01

Date Collected: 01/02/17 10:20

Client ID: SB-2

Date Received: 01/03/17

Sample Location: MPC 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	16		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	ND		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	125		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	103		70-130

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-02
 Client ID: SB-25
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/05/17 18:08
 Analyst: KD

Date Collected: 01/02/17 10:40
 Date Received: 01/03/17
 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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-02
 Client ID: SB-25
 Sample Location: MPC BUFFALO, NY

Date Collected: 01/02/17 10:40
 Date Received: 01/03/17
 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	21		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	ND		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	126		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	104		70-130

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-03
 Client ID: SB-16
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 01/05/17 18:36
 Analyst: KD

Date Collected: 01/02/17 11:15
 Date Received: 01/03/17
 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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-03
 Client ID: SB-16
 Sample Location: MPC BUFFALO, NY

Date Collected: 01/02/17 11:15
 Date Received: 01/03/17
 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	87		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	ND		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	103		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	103		70-130

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/05/17 09:47
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG967222-5					
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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/05/17 09:47
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG967222-5					
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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/05/17 09:47
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG967222-5					
Methyl cyclohexane	ND		ug/l	10	0.40

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG967222-3 WG967222-4								
Methylene chloride	81		81		70-130	0		20
1,1-Dichloroethane	92		94		70-130	2		20
Chloroform	89		88		70-130	1		20
2-Chloroethylvinyl ether	63	Q	68	Q	70-130	8		20
Carbon tetrachloride	80		78		63-132	3		20
1,2-Dichloropropane	96		94		70-130	2		20
Dibromochloromethane	82		82		63-130	0		20
1,1,2-Trichloroethane	96		97		70-130	1		20
Tetrachloroethene	82		80		70-130	2		20
Chlorobenzene	89		88		75-130	1		20
Trichlorofluoromethane	80		78		62-150	3		20
1,2-Dichloroethane	97		98		70-130	1		20
1,1,1-Trichloroethane	84		82		67-130	2		20
Bromodichloromethane	85		85		67-130	0		20
trans-1,3-Dichloropropene	90		89		70-130	1		20
cis-1,3-Dichloropropene	86		85		70-130	1		20
1,1-Dichloropropene	89		88		70-130	1		20
Bromoform	82		82		54-136	0		20
1,1,2,2-Tetrachloroethane	98		100		67-130	2		20
Benzene	90		88		70-130	2		20
Toluene	93		92		70-130	1		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG967222-3 WG967222-4								
Ethylbenzene	91		90		70-130	1		20
Chloromethane	100		100		64-130	0		20
Bromomethane	74		73		39-139	1		20
Vinyl chloride	97		93		55-140	4		20
Chloroethane	96		95		55-138	1		20
1,1-Dichloroethene	80		77		61-145	4		20
trans-1,2-Dichloroethene	80		78		70-130	3		20
Trichloroethene	87		85		70-130	2		20
1,2-Dichlorobenzene	87		87		70-130	0		20
1,3-Dichlorobenzene	89		88		70-130	1		20
1,4-Dichlorobenzene	88		88		70-130	0		20
Methyl tert butyl ether	82		83		63-130	1		20
p/m-Xylene	85		85		70-130	0		20
o-Xylene	85		85		70-130	0		20
cis-1,2-Dichloroethene	86		84		70-130	2		20
Dibromomethane	86		86		70-130	0		20
1,2,3-Trichloropropane	98		100		64-130	2		20
Acrylonitrile	100		100		70-130	0		20
Isopropyl Ether	100		100		70-130	0		20
tert-Butyl Alcohol	114		114		70-130	0		20
Styrene	85		85		70-130	0		20

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG967222-3 WG967222-4								
Dichlorodifluoromethane	92		89		36-147	3		20
Acetone	91		93		58-148	2		20
Carbon disulfide	73		71		51-130	3		20
2-Butanone	99		100		63-138	1		20
Vinyl acetate	110		110		70-130	0		20
4-Methyl-2-pentanone	94		96		59-130	2		20
2-Hexanone	93		95		57-130	2		20
Bromochloromethane	84		84		70-130	0		20
2,2-Dichloropropane	88		86		63-133	2		20
1,2-Dibromoethane	88		90		70-130	2		20
1,3-Dichloropropane	97		96		70-130	1		20
1,1,1,2-Tetrachloroethane	83		84		64-130	1		20
Bromobenzene	88		87		70-130	1		20
n-Butylbenzene	87		84		53-136	4		20
sec-Butylbenzene	91		89		70-130	2		20
tert-Butylbenzene	75		74		70-130	1		20
o-Chlorotoluene	95		95		70-130	0		20
p-Chlorotoluene	95		94		70-130	1		20
1,2-Dibromo-3-chloropropane	77		81		41-144	5		20
Hexachlorobutadiene	78		75		63-130	4		20
Isopropylbenzene	92		91		70-130	1		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG967222-3 WG967222-4								
p-Isopropyltoluene	84		81		70-130	4		20
Naphthalene	91		92		70-130	1		20
n-Propylbenzene	96		95		69-130	1		20
1,2,3-Trichlorobenzene	82		81		70-130	1		20
1,2,4-Trichlorobenzene	81		80		70-130	1		20
1,3,5-Trimethylbenzene	91		89		64-130	2		20
1,2,4-Trimethylbenzene	88		87		70-130	1		20
Methyl Acetate	94		97		70-130	3		20
Ethyl Acetate	110		110		70-130	0		20
Cyclohexane	110		100		70-130	10		20
Ethyl-Tert-Butyl-Ether	97		98		70-130	1		20
Tertiary-Amyl Methyl Ether	85		87		66-130	2		20
1,4-Dioxane	122		116		56-162	5		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	86		82		70-130	5		20
p-Diethylbenzene	89		87		70-130	2		20
p-Ethyltoluene	96		94		70-130	2		20
1,2,4,5-Tetramethylbenzene	110		110		70-130	0		20
Tetrahydrofuran	110		110		58-130	0		20
Ethyl ether	87		87		59-134	0		20
trans-1,4-Dichloro-2-butene	110		120		70-130	9		20
Iodomethane	59	Q	62	Q	70-130	5		20

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG967222-3 WG967222-4								
Methyl cyclohexane	93		92		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	104		104		70-130
Dibromofluoromethane	95		95		70-130

SEMIVOLATILES

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-01
 Client ID: SB-2
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/08/17 00:34
 Analyst: PS

Date Collected: 01/02/17 10:20
 Date Received: 01/03/17
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:47

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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-01

Date Collected: 01/02/17 10:20

Client ID: SB-2

Date Received: 01/03/17

Sample Location: MPC 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	29		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	69		10-120
4-Terphenyl-d14	84		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**SAMPLE RESULTS**

Lab ID: L1700083-01
Client ID: SB-2
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 01/06/17 14:28
Analyst: KL

Date Collected: 01/02/17 10:20
Date Received: 01/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/04/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		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	0.02	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: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**SAMPLE RESULTS**

Lab ID: L1700083-01

Date Collected: 01/02/17 10:20

Client ID: SB-2

Date Received: 01/03/17

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	27		21-120
Phenol-d6	21		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	65		10-120
4-Terphenyl-d14	68		41-149

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-02
 Client ID: SB-25
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/08/17 01:01
 Analyst: PS

Date Collected: 01/02/17 10:40
 Date Received: 01/03/17
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:47

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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-02

Date Collected: 01/02/17 10:40

Client ID: SB-25

Date Received: 01/03/17

Sample Location: MPC 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	27		21-120
Phenol-d6	20		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	71		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**SAMPLE RESULTS**

Lab ID: L1700083-02
Client ID: SB-25
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 01/06/17 15:17
Analyst: KL

Date Collected: 01/02/17 10:40
Date Received: 01/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/04/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.50		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	0.25		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	0.11	J	ug/l	0.20	0.04	1
Benzo(a)anthracene	0.03	J	ug/l	0.20	0.02	1
Benzo(a)pyrene	ND		ug/l	0.20	0.04	1
Benzo(b)fluoranthene	0.08	J	ug/l	0.20	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.20	0.04	1
Chrysene	0.06	J	ug/l	0.20	0.04	1
Acenaphthylene	0.05	J	ug/l	0.20	0.04	1
Anthracene	0.08	J	ug/l	0.20	0.04	1
Benzo(ghi)perylene	0.05	J	ug/l	0.20	0.04	1
Fluorene	0.20		ug/l	0.20	0.04	1
Phenanthrene	0.48		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	0.15	J	ug/l	0.20	0.04	1
2-Methylnaphthalene	0.06	J	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: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**SAMPLE RESULTS**

Lab ID: L1700083-02

Date Collected: 01/02/17 10:40

Client ID: SB-25

Date Received: 01/03/17

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	23		21-120
Phenol-d6	16		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	65		10-120
4-Terphenyl-d14	55		41-149

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-03
 Client ID: SB-16
 Sample Location: MPC BUFFALO, NY
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 01/08/17 01:28
 Analyst: PS

Date Collected: 01/02/17 11:15
 Date Received: 01/03/17
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:47

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	1.0	J	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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-03

Date Collected: 01/02/17 11:15

Client ID: SB-16

Date Received: 01/03/17

Sample Location: MPC 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	1.3	J	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	9	Q	21-120
Phenol-d6	11		10-120
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	49		15-120
2,4,6-Tribromophenol	8	Q	10-120
4-Terphenyl-d14	49		41-149

Project Name: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**SAMPLE RESULTS**

Lab ID: L1700083-03
Client ID: SB-16
Sample Location: MPC BUFFALO, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 01/06/17 15:41
Analyst: KL

Date Collected: 01/02/17 11:15
Date Received: 01/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/04/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.83		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	7.7		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	1.4		ug/l	0.20	0.04	1
Benzo(a)anthracene	3.2		ug/l	0.20	0.02	1
Benzo(a)pyrene	3.0		ug/l	0.20	0.04	1
Benzo(b)fluoranthene	6.8		ug/l	0.20	0.02	1
Benzo(k)fluoranthene	1.8		ug/l	0.20	0.04	1
Chrysene	3.8		ug/l	0.20	0.04	1
Acenaphthylene	0.54		ug/l	0.20	0.04	1
Anthracene	1.3		ug/l	0.20	0.04	1
Benzo(ghi)perylene	4.2		ug/l	0.20	0.04	1
Fluorene	1.2		ug/l	0.20	0.04	1
Phenanthrene	6.8		ug/l	0.20	0.02	1
Dibenzo(a,h)anthracene	1.2		ug/l	0.20	0.04	1
Indeno(1,2,3-cd)pyrene	3.7		ug/l	0.20	0.04	1
Pyrene	6.3		ug/l	0.20	0.04	1
2-Methylnaphthalene	0.41		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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

SAMPLE RESULTS

Lab ID: L1700083-03

Date Collected: 01/02/17 11:15

Client ID: SB-16

Date Received: 01/03/17

Sample Location: MPC BUFFALO, NY

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	12	Q	21-120
Phenol-d6	10		10-120
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	42		15-120
2,4,6-Tribromophenol	24		10-120
4-Terphenyl-d14	35	Q	41-149

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/06/17 16:30
 Analyst: CB

Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG966985-1					
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: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/06/17 16:30
 Analyst: CB

Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG966985-1					
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	41		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	74		10-120
4-Terphenyl-d14	75		41-149

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 01/06/17 13:13
 Analyst: KL

Extraction Method: EPA 3510C
 Extraction Date: 01/04/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG966987-1					
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	0.11	J	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: BCP PH. II ESA**Lab Number:** L1700083**Project Number:** E1609**Report Date:** 01/10/17**Method Blank Analysis**
Batch Quality Control**Analytical Method:** 1,8270D-SIM**Extraction Method:** EPA 3510C**Analytical Date:** 01/06/17 13:13**Extraction Date:** 01/04/17 19:51**Analyst:** KL

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG966987-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	19		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	67		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG966985-2 WG966985-3								
Acenaphthene	89		93		37-111	4		30
Benzidine	5	Q	9	Q	10-75	47	Q	30
1,2,4-Trichlorobenzene	74		86		39-98	15		30
Hexachlorobenzene	96		101		40-140	5		30
Bis(2-chloroethyl)ether	80		94		40-140	16		30
2-Chloronaphthalene	84		93		40-140	10		30
1,2-Dichlorobenzene	64		78		40-140	20		30
1,3-Dichlorobenzene	62		76		40-140	20		30
1,4-Dichlorobenzene	61		76		36-97	22		30
3,3'-Dichlorobenzidine	76		77		40-140	1		30
2,4-Dinitrotoluene	105		107		48-143	2		30
2,6-Dinitrotoluene	98		107		40-140	9		30
Azobenzene	94		99		40-140	5		30
Fluoranthene	95		100		40-140	5		30
4-Chlorophenyl phenyl ether	93		96		40-140	3		30
4-Bromophenyl phenyl ether	98		101		40-140	3		30
Bis(2-chloroisopropyl)ether	74		84		40-140	13		30
Bis(2-chloroethoxy)methane	89		98		40-140	10		30
Hexachlorobutadiene	72		85		40-140	17		30
Hexachlorocyclopentadiene	65		75		40-140	14		30
Hexachloroethane	62		76		40-140	20		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG966985-2 WG966985-3								
Isophorone	85		95		40-140	11		30
Naphthalene	76		86		40-140	12		30
Nitrobenzene	89		99		40-140	11		30
NitrosoDiPhenylAmine(NDPA)/DPA	93		96		40-140	3		30
n-Nitrosodi-n-propylamine	88		98		29-132	11		30
Bis(2-Ethylhexyl)phthalate	102		109		40-140	7		30
Butyl benzyl phthalate	100		108		40-140	8		30
Di-n-butylphthalate	96		103		40-140	7		30
Di-n-octylphthalate	105		113		40-140	7		30
Diethyl phthalate	96		100		40-140	4		30
Dimethyl phthalate	90		96		40-140	6		30
Benzo(a)anthracene	94		97		40-140	3		30
Benzo(a)pyrene	96		97		40-140	1		30
Benzo(b)fluoranthene	97		99		40-140	2		30
Benzo(k)fluoranthene	93		97		40-140	4		30
Chrysene	93		96		40-140	3		30
Acenaphthylene	84		91		45-123	8		30
Anthracene	93		97		40-140	4		30
Benzo(ghi)perylene	94		97		40-140	3		30
Fluorene	91		96		40-140	5		30
Phenanthrene	93		98		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG966985-2 WG966985-3								
Dibenzo(a,h)anthracene	93		98		40-140	5		30
Indeno(1,2,3-cd)Pyrene	98		100		40-140	2		30
Pyrene	94		98		26-127	4		30
Biphenyl	90		99		40-140	10		30
Aniline	33	Q	39	Q	40-140	17		30
4-Chloroaniline	57		57		40-140	0		30
1-Methylnaphthalene	83		95		41-103	13		30
2-Nitroaniline	94		103		52-143	9		30
3-Nitroaniline	64		57		25-145	12		30
4-Nitroaniline	97		97		51-143	0		30
Dibenzofuran	88		93		40-140	6		30
2-Methylnaphthalene	82		91		40-140	10		30
1,2,4,5-Tetrachlorobenzene	87		96		2-134	10		30
Pentachloronitrobenzene	116		120		4-189	3		30
Acetophenone	100		109		39-129	9		30
n-Nitrosodimethylamine	34		40		22-74	16		30
2,4,6-Trichlorophenol	99		108		30-130	9		30
P-Chloro-M-Cresol	98	Q	107	Q	23-97	9		30
2-Chlorophenol	79		89		27-123	12		30
2,4-Dichlorophenol	98		104		30-130	6		30
2,4-Dimethylphenol	83		86		30-130	4		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG966985-2 WG966985-3								
2-Nitrophenol	94		102		30-130	8		30
4-Nitrophenol	64		66		10-80	3		30
2,4-Dinitrophenol	91		91		20-130	0		30
4,6-Dinitro-o-cresol	97		100		20-164	3		30
Pentachlorophenol	86		86		9-103	0		30
Phenol	32		35		12-110	9		30
2-Methylphenol	76		81		30-130	6		30
3-Methylphenol/4-Methylphenol	71		77		30-130	8		30
2,4,5-Trichlorophenol	96		107		30-130	11		30
Benzoic Acid	38		32		10-164	17		30
Benzyl Alcohol	75		83		26-116	10		30
Carbazole	97		100		55-144	3		30
Pyridine	11		21		10-66	63	Q	30
Parathion, ethyl	115		124		40-140	8		30
Atrazine	124		124		40-140	0		30
Benzaldehyde	84		98		40-140	15		30
Caprolactam	22		22		10-130	0		30
2,3,4,6-Tetrachlorophenol	100		103		40-140	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG966985-2 WG966985-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	47		53		21-120
Phenol-d6	34		38		10-120
Nitrobenzene-d5	87		96		23-120
2-Fluorobiphenyl	83		91		15-120
2,4,6-Tribromophenol	98		100		10-120
4-Terphenyl-d14	91		95		41-149

Lab Control Sample Analysis **Batch Quality Control**

Project Name: BCP PH. II ESA

Project Number: E1609

Lab Number: L1700083

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG966987-2 WG966987-3								
Acenaphthene	75		78		37-111	4		40
2-Chloronaphthalene	72		78		40-140	8		40
Fluoranthene	78		79		40-140	1		40
Hexachlorobutadiene	78		80		40-140	3		40
Naphthalene	69		72		40-140	4		40
Benzo(a)anthracene	74		80		40-140	8		40
Benzo(a)pyrene	81		87		40-140	7		40
Benzo(b)fluoranthene	81		87		40-140	7		40
Benzo(k)fluoranthene	77		85		40-140	10		40
Chrysene	71		77		40-140	8		40
Acenaphthylene	74		80		40-140	8		40
Anthracene	77		82		40-140	6		40
Benzo(ghi)perylene	82		90		40-140	9		40
Fluorene	77		82		40-140	6		40
Phenanthrene	70		78		40-140	11		40
Dibenzo(a,h)anthracene	82		88		40-140	7		40
Indeno(1,2,3-cd)pyrene	81		89		40-140	9		40
Pyrene	76		77		26-127	1		40
1-Methylnaphthalene	61		75		40-140	21		40
2-Methylnaphthalene	65		74		40-140	13		40
Pentachlorophenol	82		96		9-103	16		40

Lab Control Sample Analysis Batch Quality Control

Project Name: BCP PH. II ESA

Lab Number: L1700083

Project Number: E1609

Report Date: 01/10/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG966987-2 WG966987-3								
Hexachlorobenzene	88		96		40-140	9		40
Hexachloroethane	69		72		40-140	4		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	34		37		21-120
Phenol-d6	21		23		10-120
Nitrobenzene-d5	72		81		23-120
2-Fluorobiphenyl	65		74		15-120
2,4,6-Tribromophenol	91		100		10-120
4-Terphenyl-d14	72		74		41-149

Project Name: BCP PH. II ESA**Project Number:** E1609**Lab Number:** L1700083**Report Date:** 01/10/17**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(*)
L1700083-01A	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-01B	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-01C	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-01D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1700083-02A	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-02B	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-02C	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-02D	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1700083-03A	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-03B	Vial HCl preserved	A	N/A	2.7	Y	Absent	NYTCL-8260-R2(14)
L1700083-03C	Amber 1000ml unpreserved	A	7	2.7	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

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: BCP PH. II ESA
Project Number: E1609

Lab Number: L1700083
Report Date: 01/10/17

REFERENCES

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

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, SM4500CI-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.

L1700883

Page 50 of 50