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MEMORANDUM
REMEDIAL INVESTIGATION

TO: Joshua Vaccaro, NYSDEC

FROM: Cody Martin, C&S

RE: Remedial Investigation Results
301 Connecticut Street Site
BCP Site No. C915345

FILE: C&S Project No. V20.001.005

DATE: September 20, 2019 (Revision 01 October 2, 2019)

C&S Engineers, Inc. (C&S) is providing this memorandum to present soil sampling results at the 301 Connecticut Street Site (BCP Site No. C915345).

BCP Remedial Investigation

RI activities were completed as follows:

Soil Sampling	8/5/2019, 8/9/2019, 8/12/2019 & 9/10/2019
Groundwater Sampling	4/11/2019 & 5/21/2019
Offsite Soil Sampling	9/9/2019 & 9/10/2019
Offsite Groundwater Sampling	9/10/2019

Samples were collected from these locations as described in the Remedial Investigation / Interim Remedial Measures Work Plan. **Figure 1** shows the locations of the samples on the BCP Site.

Findings

Site Geology

The Site is comprised of asphalt underlain by urban fill and native soils. Asphalt thickness varied throughout the Site. Generally, asphalt was approximately five to twelve inches thick. Underneath the asphalt, the Site contains urban fill to approximate depths ranging from one to four feet below grade, in most areas. Urban fill is defined as material coming from anthropogenic sources re-worked to build a site to a defined grade. The urban fill material at the Site contains:

- Crushed Rock

- Sand
- Silt
- Clay
- Plastics
- Construction Debris
- Lumber
- Ash/Cinders
- Ceramics
- Bricks
- Metals

The urban fill at this Site consisted of a mixture of sand, silt, clay and gravel with varying amounts of anthropogenic materials. Color of the fill material varied between light grey, brown, dark grey and black. Beneath the fill material, native material consists of moist brown silty clay. Boring logs and multiple refusals of soil borings throughout the Site, indicate that this native brown clay can be very dense at depths beginning as shallow as 1 to 2 feet below ground surface. The January 2019 geotechnical study indicated that this native material extends to the bedrock and identified the bedrock as thinly to thickly bedded grey limestone located approximately 29 to 36 feet below ground surface.

Groundwater across this site was present at depths of approximately five to six feet below ground surface. The attached groundwater sampling memos from the April and May 2019 groundwater investigation provide the results for those rounds of sampling. **Figure 3** also shows groundwater sampling results and groundwater elevations.

Methodology and Results

Initial sampling provided evidence of lead contamination near the northern corner of the site. Labeled as the "X Delineation", this area of the site appeared to contain deeper areas of crushed stone. Based on previous reports and photographs, a portion of grid A1 was remediated and backfilled to 12 to 15 feet when the tanks were removed from the fuel station that was previously located on that site.

Two other delineation areas were investigated to determine extents of petroleum contamination uncovered in previous sampling. These areas were labeled as "Y and Z Delineation" areas and were located along Connecticut Street, just southwest of the lead delineation area.

Grid location C1 and multiple locations within the Y and Z delineation areas did exhibit evidence of petroleum contamination. Staining, odors, and elevated PID measurements were recorded in these areas. Grid location C1 and those other locations contained petroleum-like odors with PID measurements of up to 4000 ppm. Depths of these petroleum impacts extended down 6 to 10 feet below ground surface. Sample results in C1, 2-Z01, and 2-Y05 indicate low level VOCs at concentrations above the Unrestricted Use Soil Cleanup Objectives (SCOs).

Soil borings were advanced throughout the Site to at least 15 feet below ground surface and within the existing buildings. Except for grid location C1 and the delineation areas, no other petroleum impacts were observed onsite.

Analytical Results

Surface Soil Results

Surface soil samples were collected from 3 locations throughout the site. **Table 1** show these surface soil results. Samples were labeled as follows:

Sample ID	
"Grid ID"	Surface Sample

Results indicate many SVOCs, pesticides, and metals present in all three of the sample locations. Analytics show multiple SVOCs above Residential, Restricted Residential, and Industrial Use SCOs in B3, C1, and E1. Pesticides and metals, including lead and zinc, were all also present in these surface soil samples with results above Unrestricted Use SCOs.

Fill Material Results

A total of 7 subsurface soil samples were collected from fill material within soil borings for analysis. **Figure 2** and **Tables 2 and 3** present subsurface soil analytical results and compare the results to Part 375 Soil Cleanup Objectives (SCOs). Samples were labeled as follows:

Sample ID	
"Grid ID"-00-"depth"	Fill Sample

Sample results indicate that the subsurface fill material contains concentrations of SVOCs, pesticides, and metals above multiple SCOs. Lead was detected at a concentration above Restricted Residential Use SCOs in grid location D1. Multiple SVOCs and other metals were detected at concentrations above Unrestricted Use SCOs and Restricted Residential Use SCO in grid locations B4 and D1.

Native Soil Results

During the RI, 18 native soil samples were collected in grid locations as the final confirmatory samples. In addition to collecting samples at the top of the native material, two additional samples were collected at one-foot intervals below the first native soil sample. These deeper samples were submitted to the laboratory but held until the uppermost native soil sample was analyzed. If any analytes exceeded the respective SCOs, the next deeper sample was analyzed for only those compounds that exceed the SCO. If the concentrations in that sample also exceeded the SCOs, the next lower sample was analyzed and the results compared to the SCOs. The intent of this sampling scheme was to identify the depth of remedial action and use the sampling results as the confirmatory sample results for the IRMs. Samples were labeled as follows:

Sample ID	
"Grid ID"-01-"depth"	1st Native Sample
"Grid ID"-02-"depth"	2nd Native Sample
"Grid ID"-03-"depth"	3rd Native Sample

Results indicate VOC and metal contamination in the first native sample. Grid locations B1 and C4 indicated exceedances for acetone, lead, and zinc above Unrestricted Use SCOs. **Figure 2** and **Tables 2 and 3** present subsurface soil results. Based on the soil boring and analytical data discussed above, **Figure 4** presents the depths for each grid that will achieve a Track 1 Level Cleanup.

Deep Native Soil Results

Five deep native soil locations were selected to sample from 15 feet below ground surface. **Figure 2** and **Tables 2 and 3** present these deep native subsurface results. Samples were labeled as follows:

Sample ID	
"Grid ID"-04-"depth"	15-foot Native Sample

In four of the five locations sampled, contaminant concentrations did not exceed the Unrestricted Use SCOs. In grid location A1 (within the area backfilled with crushed stone), zinc concentrations exceeded the Unrestricted Use SCO. Considering that zinc is a heavy metal that is not mobile in the subsurface, it is likely that residual stone backfill interfered with the native soil results at 15-feet in this location.

X (Lead) Delineation

Initial sampling indicated elevated lead levels in the subsurface near the northern corner of the site, which resulted in the need for delineation to determine the extents of contamination. Results indicated lead concentrations below Unrestricted Use SCOs for all but one of the sample locations. At a depth of 13 feet below ground surface, 2-X04 had lead levels of 266 mg/kg, exceeding the Unrestricted Use SCOs. Multiple VOCs were detected above Unrestricted Use SCOs in ten of the delineation locations. These VOCs included acetone, ethylbenzene, toluene, and xylenes. In one of the locations, 1-X01, at a depth of 9 feet below ground surface, multiple SVOCs were also detected. Three SVOC analytes in that location had levels exceeding Residential Use SCOs, and two of those three exceeding Restricted Residential Use SCOs. Full lead delineation results are summarized in **Table 4**.

Y and Z (Petroleum) Delineation

Remedial investigation in this area focused on the determination of the extents of petroleum impacts through sampling. Soil borings and sampling indicated that the extent of contamination extends to

approximately 7 to 12 feet below ground surface. Both petroleum delineation areas showed evidence of petroleum impairment toward the northwest. With the addition of soil borings 3-Y04, 2-Y05, and 2-Z05, it appeared this contamination extended toward Connecticut Street. With PID measurements of up to 5,500 ppm in 3-Y04, it was determined that additional sampling beneath the sidewalk and across the street would need to take place. The only contamination which appeared in the analytical results was in soil boring 2-Z01 at a depth of 10 feet below ground surface and soil boring 2-Y05 at a depth of 12 feet below ground surface. Both locations appeared to show total xylenes to have concentrations slightly above Unrestricted Use SCOs, and 2-Y05 showed ethylbenzene concentrations also above Unrestricted Use SCOs. Full Petroleum delineation results can be found in **Table 5**.

Waste Characterization Results

Table 6 present waste characterization results. Based on these results, contaminated material located at the Site is considered non-hazardous.

Groundwater Results

C&S conducted two rounds of groundwater sampling in previous investigations. The results of the sampling was provided to the DEC in two reports (also attached below). Concentrations of VOCs and SVOCs were detected above New York State Groundwater TOGS Standards.

Offsite Sampling Results

Soil

Ten additional soil boring locations were investigated to determine the possibility of petroleum contamination migrating toward Connecticut Street. The locations were drilled and sampled in the sidewalk at the furthest extent toward the southeast side of Connecticut Street that was permitted. Elevated PID measurements were found in five of the locations. The locations of these elevated measurements were adjacent to where elevated PID measurements were found in the original onsite investigation. Samples were collected from the soil interval where the most significant petroleum impacts were observed (staining, or highest PID measurements).

VOCs were detected at concentrations just above Unrestricted Use SCOs in only two of the ten offsite samples. These analytes included total xylenes, and 1,3,5-trimethlybenzene in locations SW-4 and SW-7. These contaminants do not seem to be an issue at their low levels and with the proposed Track 1 cleanup (as shown in **Figure 4**), all sources will be removed. No SVOCs were detected at levels exceeding Unrestricted Use SCOs. Full offsite subsurface soil results can be found in **Table 7**.

Groundwater

Three temporary groundwater monitoring wells were drilled in the sidewalk to the northwest, across Connecticut Street, to examine if petroleum impacts found in the onsite investigation migrated via groundwater. MW-6, which was drilled to a depth of 16 feet below ground surface, was sampled and contained only SVOC (polycyclic aromatic hydrocarbons) concentrations exceeding New York State Groundwater TOGS Standards. The SVOC concentrations were likely due to the turbidity of the groundwater sample. Groundwater from this well showed no evidence of petroleum odors. The two other temporary wells, MW-7 and MW-8, were drilled to depths of 12 to 16 feet below ground surface.

Neither of these two wells produced groundwater and were unable to be sampled. None of the soil borings advanced for the installation of temporary wells showed evidence of petroleum impacts. Full offsite groundwater results can be found in **Table 8**.

Interim Remedial Measures

The RI/IRM Work Plan was approved on August 23, 2019. Based on the RI results, the following Interim Remedial Measures will be implemented:

- Installation of an earth retention system (steel sheeting) along the Site perimeter to allow for the removal of all contaminated material.
- Removal of fill material and any impacted native soils for off-site disposal or treatment at a regulated facility.
- Removal of offsite petroleum impacted soils along Connecticut Street.
- The use of the results of the native samples collected during the RI as confirmation sampling and collection of confirmation sidewall samples during the IRM.
- Decommissioning the two existing groundwater monitoring wells within areas of the deeper excavation. The remaining monitoring wells will be preserved and protected during the remediation. Pending post-remediation groundwater sample results and NYSDEC approval, the remaining monitoring wells may be decommissioned following CP-43 guidance.
- If necessary, dewatering of the excavation area and, as required by the sample data, the treatment of captured water.
- Abatement and demolition of the existing buildings.
- Collection of sidewall samples on the boundary of the Site to document offsite conditions.

The intended cleanup goal for this Site is Track 1, as such, the site-wide excavation and removal to the depths presented in **Figure 4** will not only remediate soil contamination but will also remove onsite groundwater contamination and eliminate the source of offsite concerns.

We respectfully request the Department's review of the results contained herein; please do not hesitate to contact us with any questions or comments.

Very truly yours,

C&S ENGINEERS, INC.

Cody Martin
Project Environmental Scientist

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

Attached:

1. Figures 1 through 4
2. Tables 1 through 8
3. Soil Borings
4. April and May Groundwater Memorandums

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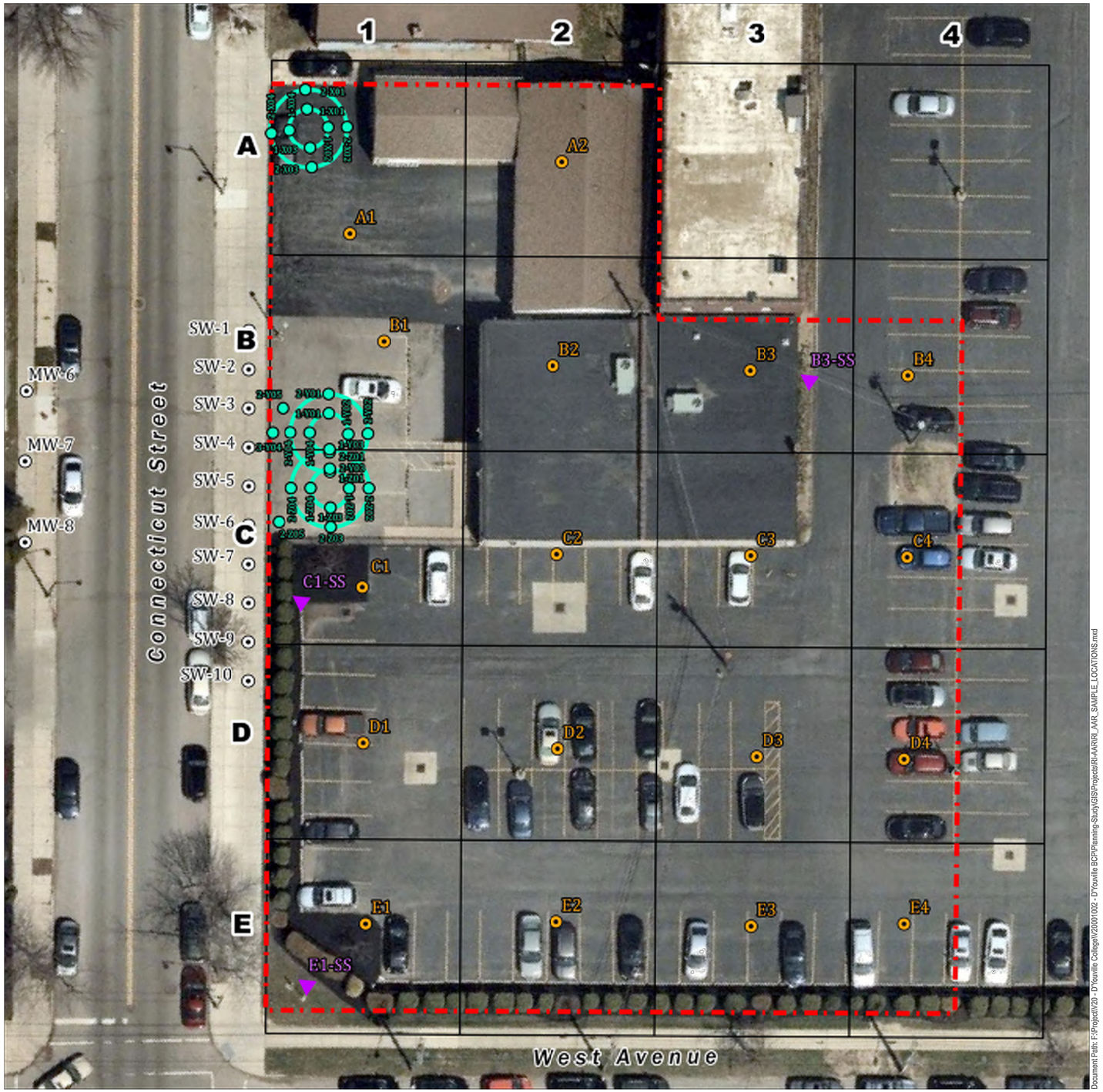

Legend

- BROWNFIELD CLEANUP (BCP) BOUNDARY
- 50-FT X 50-FT BCP GRID
- SUBSURFACE SOIL BORING LOCATION
- DELINEATION SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- OFFSITE SAMPLE LOCATIONS

0 15 30 60 Feet

Document Path: F:\Project\V20 - D'Youville College\V20001002 - D'Youville BCP\Planning-Study\GIS\Projects\RI-AARIRI_AAR_SAMPLE_LOCATIONS.mxd

F:\Project\V20 - D'Youville College\V20001002 - D'Youville BCP\Planning-Study\CADD\Sheet Files\1 SAMPLE LOCATIONS.dwg

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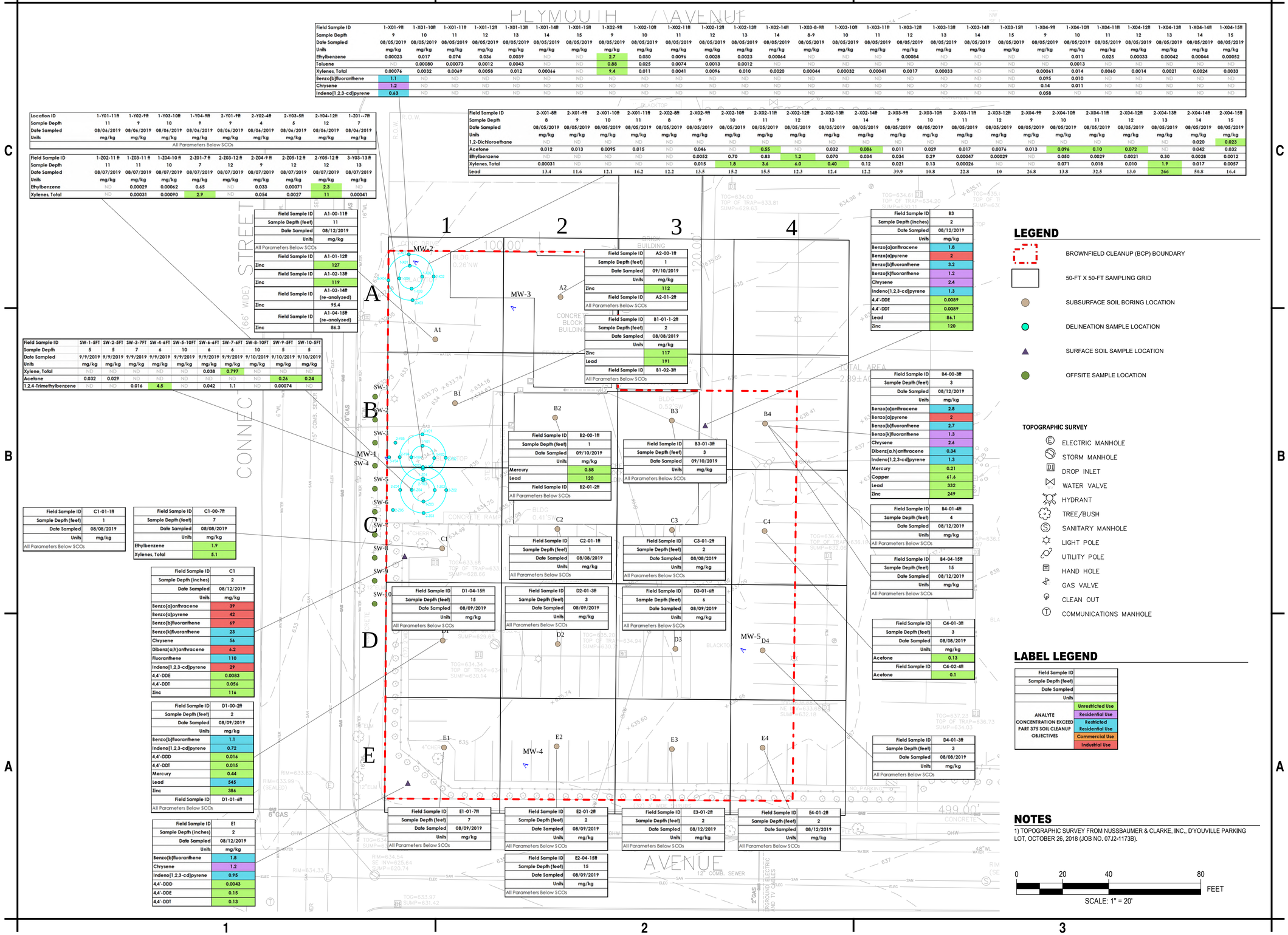
301 CONNECTICUT STREET SITE
BROWNFIELD CLEANUP PROGRAM
SITE NO. C915345
CITY OF BUFFALO, NEW YORK

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	V20.001.002
DATE:	SEPTEMBER 20, 2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

SAMPLE LOCATIONS

FIGURE 1



Field Sample ID	1-X01-9ft	1-X01-10ft	1-X01-11ft	1-X01-12ft	1-X01-13ft	1-X01-14ft	1-X01-15ft	1-X02-9ft	1-X02-10ft	1-X02-11ft	1-X02-12ft	1-X02-13ft	1-X02-14ft	1-X03-8-9ft	1-X03-10ft	1-X03-11ft	1-X03-12ft	1-X03-13ft	1-X03-14ft	1-X03-15ft	1-X04-9ft	1-X04-10ft	1-X04-11ft	1-X04-12ft	1-X04-13ft	1-X04-14ft	1-X04-15ft
Sample Depth	9	10	11	12	13	14	15	9	10	11	12	13	14	8-9	10	11	12	13	14	15	9	10	11	12	13	14	15
Date Sampled	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Ethylbenzene	0.00023	0.017	0.074	0.036	0.0039	ND	ND	2.7	0.030	0.0076	0.0028	0.0023	0.00064	ND	ND	ND	0.00084	ND	ND	ND	ND	0.011	0.025	0.00033	0.00042	0.00044	0.00052
Toluene	ND	0.00080	0.00073	0.0012	0.0043	ND	ND	0.88	0.025	0.0074	0.0013	0.0012	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0013	ND	ND	ND	ND	ND
Xylenes, Total	0.00076	0.0032	0.0069	0.0058	0.012	0.00066	ND	9.4	0.011	0.0041	0.0096	0.010	0.0020	0.00044	0.00032	0.00041	0.0017	0.00033	ND	ND	0.00061	0.014	0.0060	0.0014	0.0021	0.0024	0.0033
Benzo[b]fluoranthene	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.095	0.010	ND	ND	ND	ND	ND
Chrysene	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	0.011	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058	ND	ND	ND	ND	ND	ND

Location ID	1-Y01-11ft	1-Y02-9ft	1-Y03-10ft	1-Y04-9ft	2-Y01-9ft	2-Y02-4ft	2-Y03-5ft	2-Y04-12ft	1-Z01--7ft
Sample Depth	11	9	10	9	9	4	5	12	7
Date Sampled	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/04/2019
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
All Parameters Below SCOs									

Field Sample ID	1-Z02-11 ft	1-Z03-11 ft	1-Z04-10 ft	2-Z01-7 ft	2-Z03-12 ft	2-Z04-9 ft	2-Z05-12 ft	2-Y05-12 ft	3-Y03-13 ft
Sample Depth	11	11	10	7	12	9	12	12	13
Date Sampled	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Ethylbenzene	ND	0.00029	0.00062	0.65	ND	0.033	0.00071	2.3	ND
Xylenes, Total	ND	0.00031	0.00090	2.9	ND	0.054	0.0027	11	0.00041

Field Sample ID	2-X01-8ft	2-X01-9ft	2-X01-10ft	2-X01-11ft	2-X02-8ft	2-X02-9ft	2-X02-10ft	2-X02-11ft	2-X02-12ft	2-X02-13ft	2-X02-14ft	2-X03-9ft	2-X03-10ft	2-X03-11ft	2-X03-12ft	2-X04-9ft	2-X04-10ft	2-X04-11ft	2-X04-12ft	2-X04-13ft	2-X04-14ft	2-X04-15ft
Sample Depth	8	9	10	11	8	9	10	11	12	13	14	9	10	11	12	9	10	11	12	13	14	15
Date Sampled	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1,2-DichloroethaneNOT	NOT	NOT	ND	ND	ND	ND	NOT	ND	ND	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	ND	0.020	0.023
Acetone	0.012	0.013	0.0095	0.015	ND	0.044	ND	0.55	ND	0.032	0.086	0.011	0.029	0.017	0.0074	0.013	0.096	0.10	0.072	ND	0.042	0.032
Ethylbenzene	ND	ND	ND	ND	ND	0.0052	0.70	0.83	1.2	0.070	0.034	0.034	0.29	0.00047	0.00029	ND	0.050	0.0029	0.0021	0.30	0.0028	0.0012
Xylenes, Total	0.00031	ND	ND	ND	ND	0.015	1.8	3.6	6.0	0.40	0.12	0.021	0.13	0.00026	ND	ND	0.071	0.018	0.010	1.9	0.017	0.0057
Lead	13.4	11.6	12.1	16.2	12.2	13.5	15.2	15.5	12.3	12.4	12.2	39.9	10.8	22.8	10	26.8	13.8	32.5	13.0	266	50.8	16.4

Field Sample ID	SW-1-5FT	SW-2-5FT	SW-3-7FT	SW-4-6FT	SW-5-10FT	SW-6-6FT	SW-7-6FT	SW-8-10FT	SW-9-5FT	SW-10-5FT
Sample Depth	5	5	7	6	10	6	6	10	5	5
Date Sampled	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/10/2019	9/10/2019	9/10/2019
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Xylene, Total	ND	ND	ND	ND	ND	0.038	0.797	ND		
Acetone	0.032	0.029	ND	ND	ND	ND	ND	ND	0.26	0.24
1,2,4-Trimethylbenzene	ND	ND	0.016	4.5	ND	0.042	1.1	ND	0.00074	ND

Field Sample ID	A1-00-11ft
Sample Depth (feet)	11
Date Sampled	08/12/2019
Units	mg/kg
All Parameters Below SCOs	
Field Sample ID	A1-01-12ft
Zinc	127
Field Sample ID	A1-02-13ft
Zinc	119
Field Sample ID	A1-03-14ft (re-analyzed)
Zinc	95.4
Field Sample ID	A1-04-15ft (re-analyzed)
Zinc	84.3

Field Sample ID	A2-00-1ft
Sample Depth (feet)	1
Date Sampled	09/10/2019
Units	mg/kg
Zinc	112
Field Sample ID	A2-01-2ft
All Parameters Below SCOs	

Field Sample ID	B1-01-1-2ft
Sample Depth (feet)	2
Date Sampled	08/08/2019
Units	mg/kg
Zinc	117
Lead	191
Field Sample ID	B1-02-3ft
All Parameters Below SCOs	

Field Sample ID	B2-00-1ft
Sample Depth (feet)	1
Date Sampled	09/10/2019
Units	mg/kg
Mercury	0.58
Lead	120
Field Sample ID	B2-01-2ft
All Parameters Below SCOs	

Field Sample ID	B3-01-3ft
Sample Depth (feet)	3
Date Sampled	09/10/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	C1-01-1ft
Sample Depth (feet)	1
Date Sampled	08/08/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	C1-00-7ft
Sample Depth (feet)	7
Date Sampled	08/08/2019
Units	mg/kg
Ethylbenzene	1.9
Xylenes, Total	5.1

Field Sample ID	C2-01-1ft
Sample Depth (feet)	1
Date Sampled	08/08/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	C3-01-2ft
Sample Depth (feet)	2
Date Sampled	08/08/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	C1
Sample Depth (inches)	2
Date Sampled	08/12/2019
Units	mg/kg
Benzo[a]anthracene	39
Benzo[a]pyrene	42
Benzo[b]fluoranthene	69
Benzo[k]fluoranthene	23
Chrysene	56
Dibenz(a,h)anthracene	6.2
Fluoranthene	110
Indeno[1,2,3-cd]pyrene	29
4,4'-DDE	0.0083
4,4'-DDT	0.056
Zinc	116

Field Sample ID	D1-04-15ft
Sample Depth (feet)	15
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	D2-01-3ft
Sample Depth (feet)	3
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	D3-01-4ft
Sample Depth (feet)	6
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	D1-00-2ft
Sample Depth (feet)	2
Date Sampled	08/09/2019
Units	mg/kg
Benzo[b]fluoranthene	1.1
Indeno[1,2,3-cd]pyrene	0.72
4,4'-DDD	0.016
4,4'-DDT	0.015
Mercury	0.44
Lead	545
Zinc	386
Field Sample ID	D1-01-4ft
All Parameters Below SCOs	

Field Sample ID	E1
Sample Depth (inches)	2
Date Sampled	08/12/2019
Units	mg/kg
Benzo[b]fluoranthene	1.8
Chrysene	1.2
Indeno[1,2,3-cd]pyrene	0.95
4,4'-DDD	0.0043
4,4'-DDE	0.15
4,4'-DDT	0.13

Field Sample ID	E1-01-7ft
Sample Depth (feet)	7
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	E2-01-2ft
Sample Depth (feet)	2
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	E2-04-15ft
Sample Depth (feet)	15
Date Sampled	08/09/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	E3-01-2ft
Sample Depth (feet)	2
Date Sampled	08/12/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	E4-01-2ft
Sample Depth (feet)	2
Date Sampled	08/12/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	B3
Sample Depth (inches)	2
Date Sampled	08/12/2019
Units	mg/kg
Benzo[a]anthracene	1.8
Benzo[a]pyrene	2
Benzo[b]fluoranthene	3.2
Benzo[k]fluoranthene	1.2
Chrysene	2.4
Indeno[1,2,3-cd]pyrene	1.3
4,4'-DDE	0.0089
4,4'-DDT	0.0089
Lead	86.1
Zinc	120

Field Sample ID	B4-00-3ft
Sample Depth (feet)	3
Date Sampled	08/12/2019
Units	mg/kg
Benzo[a]anthracene	2.8
Benzo[a]pyrene	2
Benzo[b]fluoranthene	2.7
Benzo[k]fluoranthene	1.3
Chrysene	2.6
Dibenz(a,h)anthracene	0.34
Indeno[1,2,3-cd]pyrene	1.3
Mercury	0.21
Copper	61.6
Lead	332
Zinc	249

Field Sample ID	B4-01-4ft
Sample Depth (feet)	4
Date Sampled	08/12/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	B4-04-15ft
Sample Depth (feet)	15
Date Sampled	08/12/2019
Units	mg/kg
All Parameters Below SCOs	

Field Sample ID	C4-01-3ft
Sample Depth (feet)	3
Date Sampled	08/08/2019
Units	mg/kg
Acetone	0.13
Field Sample ID	C4-02-4ft
Acetone	0.1

Field Sample ID	D4-01-3ft
Sample Depth (feet)	3
Date Sampled	08/08/2019
Units	mg/kg
All Parameters Below SCOs	

LEGEND

- BROWNFIELD CLEANUP (BCP) BOUNDARY
- 50-FT X 50-FT SAMPLING GRID
- SUBSURFACE SOIL BORING LOCATION
- DELINEATION SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- OFFSITE SAMPLE LOCATION

TOPOGRAPHIC SURVEY

- ELECTRIC MANHOLE
- STORM MANHOLE
- DROP INLET
- WATER VALVE
- HYDRANT
- TREE/BUSH
- SANITARY MANHOLE
- LIGHT POLE
- UTILITY POLE
- HAND HOLE
- GAS VALVE
- CLEAN OUT
- COMMUNICATIONS MANHOLE

LABEL LEGEND

Field Sample ID	
Sample Depth (feet)	
Date Sampled	
Units	
ANALYTE CONCENTRATION EXCEED PART 375 SOIL CLEANUP OBJECTIVES	Unrestricted Use
	Residential Use
	Restricted Residential Use
	Commercial Use
	Industrial Use

NOTES

1) TOPOGRAPHIC SURVEY FROM NUSSBAUMER & CLARKE, INC., D'YOUVILLE PARKING LOT, OCTOBER 26, 2018 (JOB NO. 07J2-1173B).

0 20 40 80 FEET

SCALE: 1" = 20'

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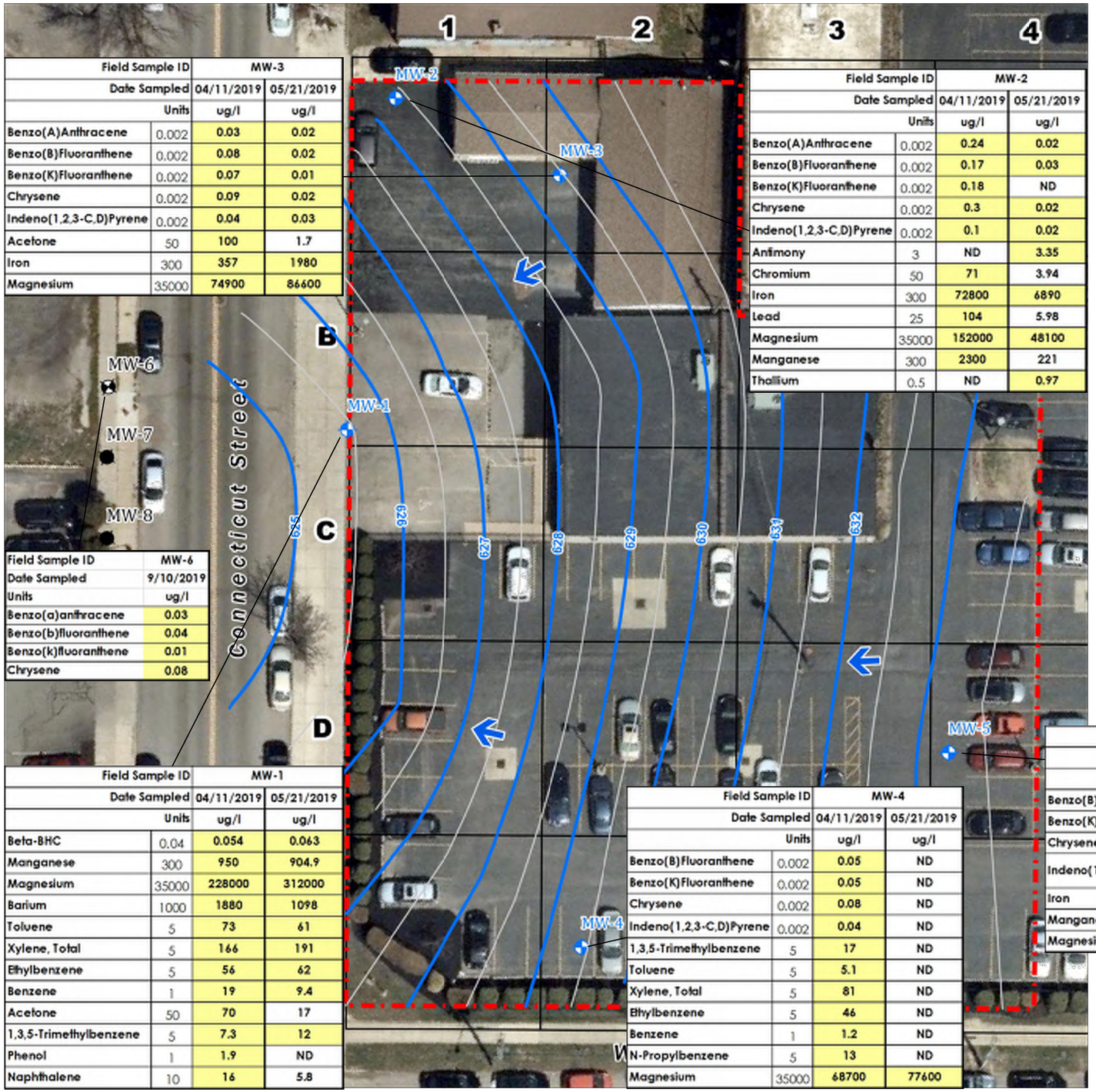
301 CONNECTICUT STREET SITE
BROWNFIELD CLEANUP PROGRAM
SITE NO. C915345
CITY OF BUFFALO, NY

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	V20.001.002
DATE:	10/01/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

FILL / SOIL CONTAMINATION

FIGURE 2



Field Sample ID		MW-3	
Date Sampled		04/11/2019	05/21/2019
	Units	ug/l	ug/l
Benzo(A)Anthracene	0.002	0.03	0.02
Benzo(B)Fluoranthene	0.002	0.08	0.02
Benzo(K)Fluoranthene	0.002	0.07	0.01
Chrysene	0.002	0.09	0.02
Indeno(1,2,3-C,D)Pyrene	0.002	0.04	0.03
Acetone	50	100	1.7
Iron	300	357	1980
Magnesium	35000	74900	86600

Field Sample ID		MW-2	
Date Sampled		04/11/2019	05/21/2019
	Units	ug/l	ug/l
Benzo(A)Anthracene	0.002	0.24	0.02
Benzo(B)Fluoranthene	0.002	0.17	0.03
Benzo(K)Fluoranthene	0.002	0.18	ND
Chrysene	0.002	0.3	0.02
Indeno(1,2,3-C,D)Pyrene	0.002	0.1	0.02
Antimony	3	ND	3.35
Chromium	50	71	3.94
Iron	300	72800	6890
Lead	25	104	5.98
Magnesium	35000	152000	48100
Manganese	300	2300	221
Thallium	0.5	ND	0.97

Field Sample ID	MW-6
Date Sampled	9/10/2019
Units	ug/l
Benzo(a)anthracene	0.03
Benzo(b)fluoranthene	0.04
Benzo(k)fluoranthene	0.01
Chrysene	0.08

Field Sample ID		MW-1	
Date Sampled		04/11/2019	05/21/2019
	Units	ug/l	ug/l
Beta-BHC	0.04	0.054	0.063
Manganese	300	950	904.9
Magnesium	35000	228000	312000
Barium	1000	1880	1098
Toluene	5	73	61
Xylene, Total	5	166	191
Ethylbenzene	5	56	62
Benzene	1	19	9.4
Acetone	50	70	17
1,3,5-Trimethylbenzene	5	7.3	12
Phenol	1	1.9	ND
Naphthalene	10	16	5.8

Field Sample ID		MW-4	
Date Sampled		04/11/2019	05/21/2019
	Units	ug/l	ug/l
Benzo(B)Fluoranthene	0.002	0.05	ND
Benzo(K)Fluoranthene	0.002	0.05	ND
Chrysene	0.002	0.08	ND
Indeno(1,2,3-C,D)Pyrene	0.002	0.04	ND
1,3,5-Trimethylbenzene	5	17	ND
Toluene	5	5.1	ND
Xylene, Total	5	81	ND
Ethylbenzene	5	46	ND
Benzene	1	1.2	ND
N-Propylbenzene	5	13	ND
Magnesium	35000	68700	77600

Field Sample ID		MW-5	
Date Sampled		04/11/2019	05/21/2019
	Units	ug/l	ug/l
Benzo(B)Fluoranthene	0.002	0.03	0.02
Benzo(K)Fluoranthene	0.002	0.03	ND
Chrysene	0.002	0.04	ND
Indeno(1,2,3-C,D)Pyrene	0.002	0.02	ND
Iron	300	101	601
Manganese	300	172	302.9
Magnesium	35000	207000	251000

Legend

- PROPOSED BROWNFIELD CLEANUP (BCP) BOUNDARY
- 50-FT X 50-FT BCP GRID
- MAJOR GROUNDWATER ELEVATION CONTOUR (1 FOOT)
- MINOR GROUNDWATER ELEVATION CONTOUR (0.5 FOOT)
- GROUNDWATER MONITORING WELL LOCATION
- TEMPORARY GROUNDWATER MONITORING WELL LOCATION
- DRY (NOT SAMPLED) TEMPORARY GROUNDWATER MONITORING WELL LOCATION

0 15 30 60 Feet

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301 CONNECTICUT STREET SITE
BROWNFIELD CLEANUP PROGRAM
SITE NO. C915345
CITY OF BUFFALO, NEW YORK

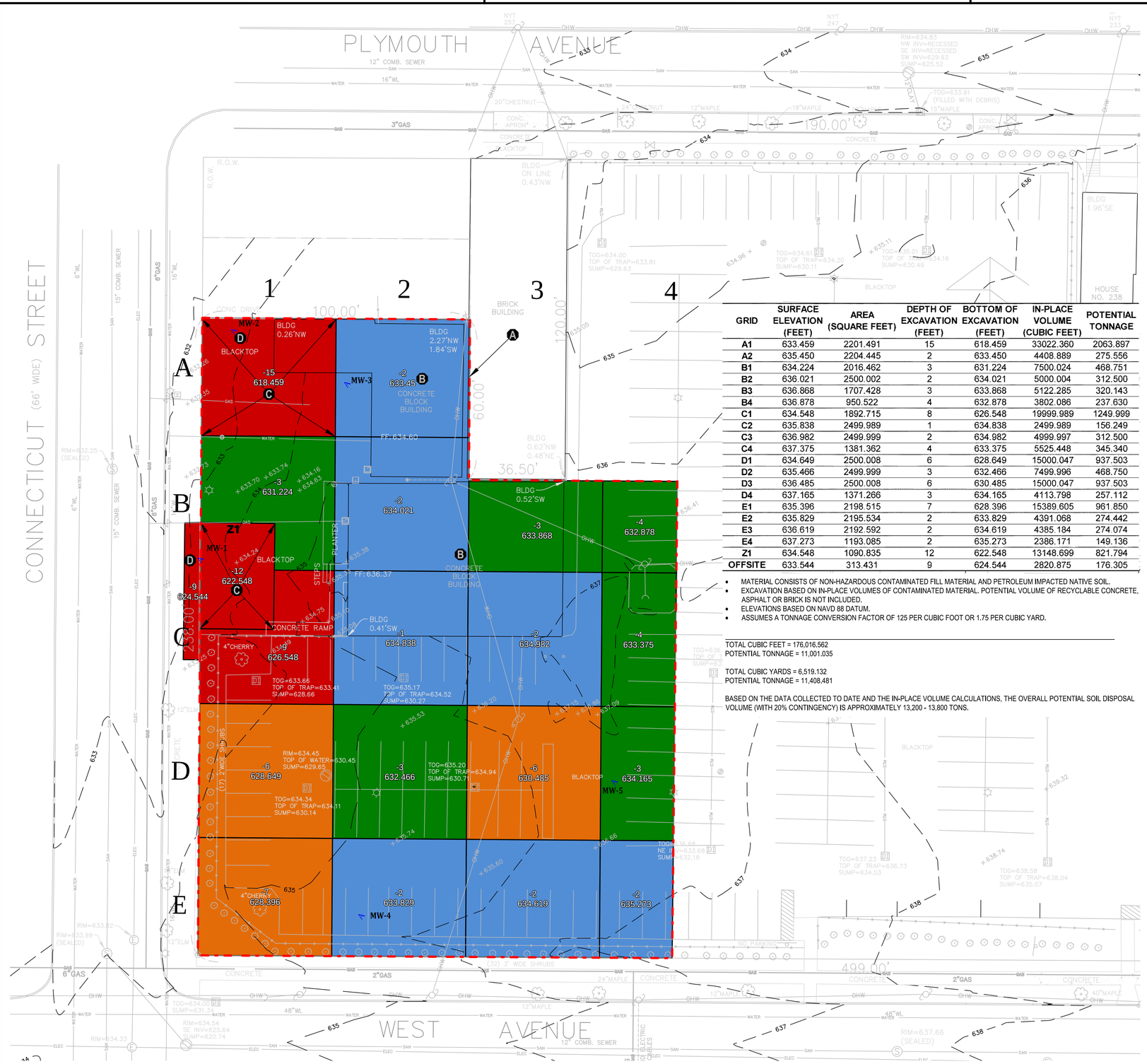
MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	V20.001.002
DATE:	SEPTEMBER 20, 2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

GROUNDWATER SAMPLE RESULTS

FIGURE 3

F:\Project\V20 - D'Youville College\V20001002 - D'Youville BCP\Planning-Study\CADD\Sheet Files\3 GW RESULTS.dwg



GRID	SURFACE ELEVATION (FEET)	AREA (SQUARE FEET)	DEPTH OF EXCAVATION (FEET)	BOTTOM OF EXCAVATION (FEET)	IN-PLACE VOLUME (CUBIC FEET)	POTENTIAL TONNAGE
A1	633.459	2201.491	15	618.459	33022.360	2063.897
A2	635.450	2204.445	2	633.450	4408.889	275.556
B1	634.224	2016.462	3	631.224	7500.024	468.751
B2	636.021	2500.002	2	634.021	5000.004	312.500
B3	636.868	1707.428	3	633.868	5122.285	320.143
B4	636.878	950.522	4	632.878	3802.086	237.630
C1	634.548	1892.715	8	626.548	19999.989	1249.999
C2	635.838	2499.989	1	634.838	2499.989	156.249
C3	636.982	2499.999	2	634.982	4999.997	312.500
C4	637.375	1381.362	4	633.375	5525.448	345.340
D1	634.649	2500.008	6	628.649	15000.047	937.503
D2	635.466	2499.999	3	632.466	7499.996	468.750
D3	636.485	2500.008	6	630.485	15000.047	937.503
D4	637.165	1371.266	3	634.165	4113.798	257.112
E1	635.396	2198.515	7	628.396	15389.605	961.850
E2	635.829	2195.534	2	633.829	4391.068	274.442
E3	636.619	2192.592	2	634.619	4385.184	274.074
E4	637.273	1193.085	2	635.273	2386.171	149.136
Z1	634.548	1090.835	12	622.548	13148.699	821.794
OFFSITE	633.544	313.431	9	624.544	2820.875	176.305

- MATERIAL CONSISTS OF NON-HAZARDOUS CONTAMINATED FILL MATERIAL AND PETROLEUM IMPACTED NATIVE SOIL.
- EXCAVATION BASED ON IN-PLACE VOLUMES OF CONTAMINATED MATERIAL. POTENTIAL VOLUME OF RECYCLABLE CONCRETE, ASPHALT OR BRICK IS NOT INCLUDED.
- ELEVATIONS BASED ON NAVD 88 DATUM.
- ASSUMES A TONNAGE CONVERSION FACTOR OF 125 PER CUBIC FOOT OR 1.75 PER CUBIC YARD.

TOTAL CUBIC FEET = 176,016.562
POTENTIAL TONNAGE = 11,001.035

TOTAL CUBIC YARDS = 6,519.132
POTENTIAL TONNAGE = 11,408.481

BASED ON THE DATA COLLECTED TO DATE AND THE IN-PLACE VOLUME CALCULATIONS, THE OVERALL POTENTIAL SOIL DISPOSAL VOLUME (WITH 20% CONTINGENCY) IS APPROXIMATELY 13,200 - 13,800 TONS.

LEGEND

BROWNFIELD CLEANUP (BCP) BOUNDARY / AREA OF EXCAVATION

50-FT X 50-FT EXCAVATION GRID

EXCAVATION (FEET)

- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 15

TOPOGRAPHIC SURVEY

- ELECTRIC MANHOLE
- STORM MANHOLE
- DROP INLET
- WATER VALVE
- HYDRANT
- TREE/BUSH
- SANITARY MANHOLE
- LIGHT POLE
- UTILITY POLE
- HAND HOLE
- GAS VALVE
- CLEAN OUT
- COMMUNICATIONS MANHOLE

NOTES

1) TOPOGRAPHIC SURVEY FROM NUSSBAUMER & CLARKE, INC., D'YOUVILLE PARKING LOT, OCTOBER 26, 2018 (JOB NO. 07J2-1173B).

A TRACK 1 LEVEL CLEANUP: COMPLETE REMOVAL OF CONTAMINATED FILL AND SOIL FROM WITHIN THE BCP BOUNDARY. EXCAVATION ALONG THE BCP BOUNDARY MUST BE A VERTICAL CUT - SIDEWALLS CAN NOT BE BENCHED.

B BUILDING DEMOLITION AND FLOOR SLAB REMOVAL COMPLETED BY OTHERS.

C DEWATERING ACTIVITIES FROM THESE AREAS MUST INCLUDE STORAGE, SAMPLING AND POSSIBLE TREATMENT FOR PETROLEUM IMPACTS IN ACCORDANCE WITH BUFFALO SEWER AUTHORITY REQUIREMENTS PRIOR TO DISCHARGE.

D GROUNDWATER MONITORING WELLS TO BE REMOVED AND/OR DECOMMISSIONED IN ACCORDANCE WITH NYSDEC CP-43.

0 20 40 80 FEET

SCALE: 1" = 20'

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301 CONNECTICUT STREET SITE
BROWNFIELD CLEANUP PROGRAM
SITE NO. C915345

CITY OF BUFFALO, NY

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	V20.001.002
DATE:	10/01/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	D. RIKER

TRACK 1 CLEANUP PLAN

FIGURE 4

F:\Projects\V20 - D'Youville College\V20001002 - D'Youville BCP\Planning-Study\CADD\Sheet Files\4 TRACK 1 CLEANUP.dwg

TABLE 1

SURFACE SOIL RESULTS - 8/12/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	B3	C1	E1
						SAMPLING DATE	08/12/2019	08/12/2019	08/12/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use				
VOCs									
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		ND	ND	ND
Acetone	0.05	100	100	500	1000		ND	ND	ND
Benzene	0.06	2.9	4.8	44	89		ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND	ND
Cyclohexane							ND	ND	ND
Ethylbenzene	1	30	41	390	780		ND	ND	ND
Isopropylbenzene							ND	ND	ND
Methyl tert-butyl ether	0.93	62	100	500	1000		0.00044 J	ND	0.00027 J
Methylcyclohexane							ND	ND	ND
Methylene Chloride	0.05	51	100	500	1000		ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND
Toluene	0.7	100	100	500	1000		ND	ND	ND
Xylenes, Total	0.26	100	100	500	1000		ND	ND	ND
SVOCs									
Benzo[a]anthracene	1	1	1	5.6	11		1.8	39	0.74
Benzo[a]pyrene	1	1	1	1	1.1		2.0	42	1.0
Benzo[b]fluoranthene	1	1	1	5.6	11		3.2	69	1.8
Benzo[g,h,i]perylene	100	100	100	500	1000		1.1	25	0.90
Benzo[k]fluoranthene	0.8	1	3.9	56	110		1.2	23	0.56
Chrysene	1	1	3.9	56	110		2.4	56	1.2
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		0.22	6.2	0.20
Dibenzofuran	7	14	59	350	1000		0.034 J	1.2 J	ND
Fluoranthene	100	100	100	500	1000		4.3	110	1.8
Fluorene	30	100	100	500	1000		0.083 J	3.3 J	0.020 J
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		1.3	29	0.95
Naphthalene	12	100	100	500	1000		0.017 J	0.25 J	ND
Phenanthrene	100	100	100	500	1000		1.7	53	0.49
Pyrene	100	100	100	500	1000		3.6	89	1.5
Pesticidies									
4,4'-DDD	0.0033	2.6	13	92	180		ND	ND	0.0043 Jp
4,4'-DDE	0.0033	1.8	8.9	62	120		0.0089	0.0083 J	0.15 p
4,4'-DDT	0.0033	1.7	7.9	47	94		0.0089	0.056	0.13 p
Dieldrin	0.005	0.039	0.2	1.4	2.8		0.0023	ND	ND
PCBs									
Total PCBs	0.1	1	1	1	25		ND	ND	ND
Herbicidies									
Silvex (2,4,5-TP)	3.8	58	100	500	1000		ND	ND	ND

TABLE 1

SURFACE SOIL RESULTS - 8/12/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	B3		C1		E1	
						SAMPLING DATE	08/12/2019		08/12/2019		08/12/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use							
Metals												
Aluminum							**13300**		**6270**		**13700**	
Mercury	0.18	0.81	0.81	2.8	5.7		**0.092**		**0.040**		**0.046**	
Arsenic	13	16	16	16	16		**6.7**		**4.3**	**J**	**3.6**	
Barium	350	350	400	400	10000		**112**		**120**		**77.3**	
Beryllium	7.2	14	72	590	2700		**0.77**		**0.40**	**J**	**0.57**	
Cadmium	2.5	2.5	4.3	9.3	60		**0.46**	**J**	**0.54**	**J**	**0.16**	**J**
Calcium							**29200**		**32900**		**6340**	
Chromium							**18.2**		**17.7**		**17.0**	
Cobalt							**8.4**	**J**	**4.4**	**J**	**6.6**	**J**
Copper	50	270	270	270	10000		**21.2**		**24.0**		**16.8**	
Iron							**28700**		**12900**		**19000**	
Lead	63	400	400	1000	3900		**86.1**		**46.3**		**25.5**	
Magnesium							**9430**		**4600**		**3470**	
Manganese	1600	2000	2000		10000		**705**		**775**		**299**	
Nickel	30	140	310	310	10000		**18.8**		**13.0**	**J**	**14.6**	
Potassium							**1840**		**964**	**J**	**1510**	
Selenium	3.9	36	180	1500	6800		ND		ND		ND	
Silver	2	36	180	1500	6800		ND		ND		ND	
Sodium							**761**	**J**	ND		**87.7**	**J**
Vanadium							**28.9**		**15.3**	**J**	**26.1**	
Zinc	109	2200			10000		**120**		**116**		**80.2**	
WetChem												
Chromium, hexavalent	1	22	110	400	800		ND		ND		ND	
Cyanide, Total	27	27	27	27	10000		**0.20**	**J**	**0.80**		**0.28**	**J**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

p - The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	A1-00-11ft	A1-01-12ft	A1-02-13ft	A1-03-14ft	A1-04-15ft	A2-00-1ft	A2-01-2ft	B1-01-1-2ft	B1-02-3ft
						SAMPLING DATE	08/12/2019	08/12/2019	08/12/2019	08/12/2019	08/12/2019	09/10/2019	09/10/2019	08/08/2019	08/08/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
VOCs															
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND			ND	ND	ND	ND	
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND			ND	ND	ND	ND	
2-Butanone (MEK)	0.12	100	100	500	1000		ND	ND			ND	ND	0.0030 J	ND	
Acetone	0.05	100	100	500	1000		ND	0.011			0.0094	ND	0.016	0.0065 J	
Benzene	0.06	2.9	4.8	44	89		ND	ND			0.0027	ND	ND	ND	
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND			0.0012	ND	ND	ND	
Cyclohexane							0.00074 J	ND			ND	ND	ND	ND	
Ethylbenzene	1	30	41	390	780		ND	ND			ND	ND	ND	ND	
Isopropylbenzene							ND	ND			ND	ND	ND	ND	
Methyl tert-butyl ether	0.93	62	100	500	1000		0.00043 J	0.0017			0.012	ND	ND	ND	
Methylcyclohexane							0.0012	ND			ND	ND	ND	ND	
Methylene Chloride	0.05	51	100	500	1000		ND	ND			ND	0.00095 J	ND	ND	
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND			ND	0.046	0.067	ND	
Toluene	0.7	100	100	500	1000		ND	ND			ND	ND	ND	ND	
Xylenes, Total	0.26	100	100	500	1000		0.00060 J	ND			ND	ND	ND	ND	
SVOCs															
Benzo[a]anthracene	1	1	1	5.6	11		ND	ND			0.024 J	0.047	ND	0.051	
Benzo[a]pyrene	1	1	1	1	1.1		ND	ND			0.017 J	ND	ND	0.039 J	
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	ND			0.026 J	0.11	ND	0.068	
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND	ND			0.0086 J	0.030 J	ND	0.026 J	
Chrysene	1	1	3.9	56	110		ND	ND			0.025 J	0.10 J	ND	0.070 J	
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND			ND	0.021 J	ND	ND	
Dibenzofuran	7	14	59	350	1000		ND	ND			ND	ND	ND	ND	
Fluoranthene	100	100	100	500	1000		ND	ND			0.040 J	0.061 J	ND	0.10 J	
Fluorene	30	100	100	500	1000		ND	ND			ND	ND	ND	ND	
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND			0.017 J	0.049	ND	0.039 J	
Naphthalene	12	100	100	500	1000		ND	ND			ND	ND	ND	ND	
Phenanthrene	100	100	100	500	1000		0.028 J	ND			0.013 J	0.024 J	ND	0.051 J	
Pyrene	100	100	100	500	1000		ND	ND			0.035 J	0.055 J	ND	0.093 J	
Pesticidies															
4,4'-DDD	0.0033	2.6	13	92	180		ND	ND			ND	ND			
4,4'-DDE	0.0033	1.8	8.9	62	120		ND	ND			ND	ND			
4,4'-DDT	0.0033	1.7	7.9	47	94		ND	ND			ND	ND			
PCBs															
Total PCBs	0.1	1	1	1	25		ND	ND			ND	ND			
Herbicidies															
Silvex (2,4,5-TP)	3.8	58	100	500	1000		ND	ND			ND	ND			

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	A1-00-11ft	A1-01-12ft	A1-02-13ft	A1-03-14ft	A1-04-15ft	A2-00-1ft	A2-01-2ft	B1-01-1-2ft	B1-02-3ft
						SAMPLING DATE	08/12/2019	08/12/2019	08/12/2019	08/12/2019	08/12/2019	09/10/2019	09/10/2019	08/08/2019	08/08/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Metals															
Aluminum							579	4290			4440	11100	14500	11400	
Mercury	0.18	0.81	0.81	2.8	5.7		ND	ND			ND	0.14	0.070	0.16	
Arsenic	13	16	16	16	16		ND	1.8 J			1.7 J	9.0	4.5	6.0	
Barium	350	350	400	400	10000		2.4 J	39.4 J			44.5	192	115	110	
Beryllium	7.2	14	72	590	2700		ND	0.23 J			0.24 J	0.58	0.78	0.66	
Cadmium	2.5	2.5	4.3	9.3	60		ND	0.42 J			0.35 J	ND	ND	ND	
Calcium							195000	87000			84100	77200	5470	25400	
Chromium							3.2	6.7			7.2	17.3	21.5	17.3	
Cobalt							ND	2.9 J			3.2 J	8.3 J	9.7 J	7.5 J	
Copper	50	270	270	270	10000		3.5 J	12.8			12.2	17.5	18.2	18.9	
Iron							1730	8960			9400	23400	25700	19100	
Lead	63	400	400	1000	3900		ND	11.4			10.1	28.7	25.5	191	18.9
Magnesium							3970	36000			30500	29000	6570	12400	
Manganese	1600	2000	2000		10000		61.0	389			418	1040	335	392	
Nickel	30	140	310	310	10000		4.0 J	6.6 J			7.1 J	18.5	24.0	16.9	
Potassium							298 J	1190			1230	1930	1700	1460	
Selenium	3.9	36	180	1500	6800		ND	ND			ND	ND	ND	ND	
Silver	2	36	180	1500	6800		ND	ND F1			ND	ND	ND	ND	
Sodium							260 J	505 J			466 J	803 J	574 J	894 J	
Vanadium							2.3 J	11.9			13.0	27.3	28.1	23.3	
Zinc	109	2200			10000		8.9	127	119	133	125	112	93.5	117	67.4
WetChem															
Chromium, hexavalent	1	22	110	400	800		ND	ND			ND	ND			
Cyanide, Total	27	27	27	27	10000		ND	ND			ND	0.18 J	ND	ND	

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	DUP-1-080819	B2-00-1ft	B2-01-2ft	B3-01-3ft	B4-00-3ft	B4-01-4ft	B4-04-15ft	C1-00-7ft	C1-01-1ft
						SAMPLING DATE	08/08/2019	09/10/2019	09/10/2019	09/10/2019	08/12/2019	08/12/2019	08/12/2019	08/08/2019	08/08/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
VOCs															
1,1-Dichloroethane	0.27	19	26	240	480	ND		ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	ND		ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000	ND		ND	ND	ND	**0.0058**	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000	**0.010**		ND	ND	ND	**0.034**	**0.021**	ND	ND	ND
Benzene	0.06	2.9	4.8	44	89	ND		ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND		ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane						ND		ND	ND	ND	ND	ND	ND	**3.1** *	ND
Ethylbenzene	1	30	41	390	780	ND		ND	ND	ND	ND	ND	ND	**1.9**	ND
Isopropylbenzene						ND		ND	ND	ND	ND	ND	ND	**0.83**	ND
Methyl tert-butyl ether	0.93	62	100	500	1000	ND		ND	ND	ND	ND	ND	**0.00034** J	ND	ND
Methylcyclohexane						ND		ND	ND	ND	ND	ND	ND	**17**	ND
Methylene Chloride	0.05	51	100	500	1000	ND		**0.00072** J	**0.00084** J	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300	ND		ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000	ND		ND	ND	ND	ND	ND	ND	**0.12**	ND
Xylenes, Total	0.26	100	100	500	1000	**0.0018** J		ND	ND	ND	ND	ND	ND	**5.1**	ND
SVOCs															
Benzo[a]anthracene	1	1	1	5.6	11	**0.085**		**0.073**	ND	ND	**2.8**	ND	ND		ND
Benzo[a]pyrene	1	1	1	1	1.1	**0.081**		**0.050**	ND	ND	**2.0**	ND F1	ND		ND
Benzo[b]fluoranthene	1	1	1	5.6	11	**0.13**		**0.089**	ND	**0.025** J	**2.7**	ND F1	ND		**0.019** J
Benzo[k]fluoranthene	0.8	1	3.9	56	110	**0.058**		**0.028** J	ND	ND	**1.3**	ND F1	ND		ND
Chrysene	1	1	3.9	56	110	**0.12** J		**0.077** J	ND	ND	**2.6**	ND	ND		ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	ND		ND	ND	ND	**0.34**	ND	ND		ND
Dibenzofuran	7	14	59	350	1000	ND		ND	ND	ND	**0.64** J	ND F1	ND		ND
Fluoranthene	100	100	100	500	1000	**0.20** J		**0.13** J	ND	**0.025** J	**7.0**	ND	ND		ND
Fluorene	30	100	100	500	1000	ND		ND	ND	ND	**0.97** J	ND F1	ND		ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11	**0.080**		**0.035** J	ND	ND	**1.3**	ND	ND		ND
Naphthalene	12	100	100	500	1000	ND		ND	ND	ND	**0.30** J	ND F1	ND		ND
Phenanthrene	100	100	100	500	1000	**0.094** J		**0.092** J	ND	**0.020** J	**7.2**	ND	ND		ND
Pyrene	100	100	100	500	1000	**0.19** J		**0.11** J	ND	**0.020** J	**5.6**	ND	ND		ND
Pesticides															
4,4'-DDD	0.0033	2.6	13	92	180			ND	ND		ND		ND		
4,4'-DDE	0.0033	1.8	8.9	62	120			ND	ND		**0.0030** J		ND		
4,4'-DDT	0.0033	1.7	7.9	47	94			ND	ND		ND		ND		
PCBs															
Total PCBs	0.1	1	1	1	25			**0.091**	ND		ND		ND		
Herbicidies															
Silvex (2,4,5-TP)	3.8	58	100	500	1000			ND	ND		ND		ND		

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	DUP-1-080819	B2-00-1ft	B2-01-2ft	B3-01-3ft	B4-00-3ft	B4-01-4ft	B4-04-15ft	C1-00-7ft	C1-01-1ft
						SAMPLING DATE	08/08/2019	09/10/2019	09/10/2019	09/10/2019	08/12/2019	08/12/2019	08/12/2019	08/08/2019	08/08/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Metals															
Aluminum							10400	10000	12700	12100	9820	13600	11900		15000
Mercury	0.18	0.81	0.81	2.8	5.7		0.15	0.58	0.021	0.093	0.21	0.016 J	ND		0.034
Arsenic	13	16	16	16	16		6.3	5.8	3.0	4.6	5.6	3.9	3.4		3.4
Barium	350	350	400	400	10000		97.2	86.4	57.4	106	115	96.0	119		129
Beryllium	7.2	14	72	590	2700		0.63	0.55	0.65	0.64	0.63	0.67	0.64		0.72
Cadmium	2.5	2.5	4.3	9.3	60		ND	ND	ND	ND	0.66 J	ND	0.29 J		ND
Calcium							20300	39000	3850	3800	47900	16400	73000		2960
Chromium							16.0	15.1	19.0	18.6	15.3	19.0	17.2		20.4
Cobalt							8.7 J	6.4 J	7.1 J	8.4 J	6.9 J	8.4 J	9.5 J		8.6 J
Copper	50	270	270	270	10000		15.3	19.4	13.2	13.8	61.6	15.0	18.8		10.5
Iron							21000	18100	21200	22900	18800	22900	20600		22700
Lead	63	400	400	1000	3900		96.1	120	18.3	20.3	332	15.0	13.2		15.9
Magnesium							10500	16400	5040	4800	18300	12800	26000		4240
Manganese	1600	2000	2000		10000		545	372	203	397	576	297	597		221
Nickel	30	140	310	310	10000		17.0	15.1	18.6	19.1	18.2	20.9	23.1		19.8
Potassium							1200	1570	1560	1620	1640	2130	2920		1530
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND		ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND		ND
Sodium							811 J	214 J	167 J	88.1 J	382 J	238 J	204 J		546 J
Vanadium							24.3	22.1	20.2	24.3	22.0	26.1	25.2		26.1
Zinc	109	2200			10000		96.4	94.9	76.2	81.2	249	85.9	93.4		76.1
WetChem															
Chromium, hexavalent	1	22	110	400	800			ND	ND		ND		ND		
Cyanide, Total	27	27	27	27	10000		ND F1	0.15 J	ND	ND	0.25 J	ND	ND		0.15 J

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	C2-01-1ft	C3-01-2ft	C4-01-3ft	C4-02-4ft	D1-00-2ft	D1-01-6ft	D1-04-15ft	DUP-C-080919	D2-01-3ft
LOCATION - SAMPLE DEPTH						C2-01-1ft	C3-01-2ft	C4-01-3ft	C4-02-4ft	D1-00-2ft	D1-01-6ft	D1-04-15ft	DUP-C-080919	D2-01-3ft
SAMPLING DATE						08/08/2019	08/08/2019	08/08/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019
SAMPLE TYPE						SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
UNITS						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs														
1,1-Dichloroethane	0.27	19	26	240	480	ND	ND	ND		ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	ND	ND	ND		ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000	ND	ND	**0.017**		ND	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000	ND	ND	**0.13**	**0.10**	**0.023**	ND	**0.011**	**0.012**	**0.011**
Benzene	0.06	2.9	4.8	44	89	ND	ND	ND		ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND	ND	ND		ND	ND	ND	ND	ND
Cyclohexane						ND	ND	ND		ND	ND	ND	ND	ND
Ethylbenzene	1	30	41	390	780	ND	ND	ND		ND	ND	ND	ND	ND
Isopropylbenzene						ND	ND	ND		ND	ND	ND	ND	ND
Methyl tert-butyl ether	0.93	62	100	500	1000	ND	ND	ND		ND	ND	ND	ND	ND
Methylcyclohexane						ND	ND	ND		ND	ND	ND	ND	ND
Methylene Chloride	0.05	51	100	500	1000	ND	ND	ND		**0.0010 J**	**0.0020**	**0.0029**	**0.0032**	**0.0013**
Tetrachloroethene	1.3	5.5	19	150	300	ND	ND	ND		ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000	ND	ND	ND		ND	ND	ND	ND	ND
Xylenes, Total	0.26	100	100	500	1000	ND	ND	ND		ND	ND	ND	ND	ND
SVOCs														
Benzo[a]anthracene	1	1	1	5.6	11	**0.12**	**0.065**	ND		**0.73**	ND	**0.041**	**0.093**	**0.019 J**
Benzo[a]pyrene	1	1	1	1	1.1	**0.10**	**0.054**	ND		**0.74**	**0.014 J**	**0.040**	**0.075**	**0.019 J**
Benzo[b]fluoranthene	1	1	1	5.6	11	**0.16**	**0.087**	ND		**1.1**	**0.022 J**	**0.062**	**0.13**	**0.032 J**
Benzo[k]fluoranthene	0.8	1	3.9	56	110	**0.070**	**0.037 J**	ND		**0.42**	ND	**0.026 J**	**0.042 J**	**0.0094 J**
Chrysene	1	1	3.9	56	110	**0.17 J**	**0.073 J**	ND		**1.0**	**0.020 J**	**0.072 J**	**0.12 J**	**0.026 J**
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	**0.023 J**	ND	ND		**0.16**	ND	ND	**0.020 J**	ND
Dibenzofuran	7	14	59	350	1000	ND	ND	ND		**0.037 J**	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000	**0.36 J**	**0.10 J**	ND		**2.0**	**0.028 J**	**0.13 J**	**0.18 J**	**0.043 J**
Fluorene	30	100	100	500	1000	ND	ND	ND		**0.064 J**	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11	**0.095**	**0.047**	ND		**0.72**	ND	**0.031 J**	**0.067**	**0.024 J**
Naphthalene	12	100	100	500	1000	ND	ND	ND		**0.019 J**	ND	ND	ND	ND
Phenanthrene	100	100	100	500	1000	**0.18 J**	**0.056 J**	ND		**1.2**	ND	**0.081 J**	**0.11 J**	**0.026 J**
Pyrene	100	100	100	500	1000	**0.34 J**	**0.11 J**	ND		**1.9**	**0.029 J**	**0.13 J**	**0.17 J**	**0.040 J**
Pesticides														
4,4'-DDD	0.0033	2.6	13	92	180		ND	ND		**0.016**		ND	ND	
4,4'-DDE	0.0033	1.8	8.9	62	120		ND	ND		ND		ND	ND	
4,4'-DDT	0.0033	1.7	7.9	47	94		ND	ND		**0.015**		ND	ND	
PCBs														
Total PCBs	0.1	1	1	1	25		ND	ND		ND		ND	ND	
Herbicidies														
Silvex (2,4,5-TP)	3.8	58	100	500	1000		ND	ND		ND		ND	ND	

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	C2-01-1ft	C3-01-2ft	C4-01-3ft	C4-02-4ft	D1-00-2ft	D1-01-6ft	D1-04-15ft	DUP-C-080919	D2-01-3ft
						SAMPLING DATE	08/08/2019	08/08/2019	08/08/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Metals															
Aluminum							12100	7450	15200		6070	6700	5670	11800	6770
Mercury	0.18	0.81	0.81	2.8	5.7		ND	0.013 J	0.025		0.44	0.078	ND	0.080	ND
Arsenic	13	16	16	16	16		4.0	4.8	5.0		8.3	5.7	2.9	4.5	3.2 J
Barium	350	350	400	400	10000		104	64.6	135		143	57.6	56.5	92.8	62.7
Beryllium	7.2	14	72	590	2700		0.75	0.44 J	0.85		0.41 J	0.34 J	0.29 J	0.66	0.37 J
Cadmium	2.5	2.5	4.3	9.3	60		ND	ND	ND		0.57 J	ND	ND	ND	ND
Calcium							18900	84700	3690		29900	68400	66600	25400	77300
Chromium							18.5	15.2	22.0		17.8	11.0	9.8	18.4	11.2
Cobalt							7.3 J	5.3 J	10.2 J		5.0 J	5.4 J	4.7 J	7.8 J	5.8 J
Copper	50	270	270	270	10000		14.4	14.8	14.0		37.6	16.0	10.9	19.8	10.8
Iron							23100	15200	25500		20000	13700	11900	20000	12900
Lead	63	400	400	1000	3900		18.1	41.4	17.9		545	45.9	10.8	48.4	13.3
Magnesium							13000	23200	5470		8390	21000	26600	15300	26700
Manganese	1600	2000	2000		10000		234	368	541		212	337	358	358	407
Nickel	30	140	310	310	10000		18.4	13.7	24.3		14.8	13.3	11.2	19.8	12.4
Potassium							1510	1460	1770		945 J	1260	1350	1790	1300
Selenium	3.9	36	180	1500	6800		ND	ND	ND		ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND		ND	ND	ND	ND	ND
Sodium							795 J	916 J	591 J		1810	728 J	159 J	1680	1280
Vanadium							26.3	19.0	27.7		15.7	15.7	14.7	23.0	15.2
Zinc	109	2200			10000		87.3	73.9	90.1		386	70.5	53.3	122	58.3
WetChem															
Chromium, hexavalent	1	22	110	400	800			ND	ND		ND		ND	ND	
Cyanide, Total	27	27	27	27	10000		ND	ND	ND		0.25 J	ND	ND	ND	ND

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	D3-01-6ft	D4-01-3ft	E1-01-7ft	E2-00-1ft	E2-01-2ft	E2-04-15ft	E3-01-2ft	E4-01-2ft	E4-04-15ft
						SAMPLING DATE	08/09/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019	08/12/2019	08/12/2019	08/12/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
VOCs															
1,1-Dichloroethane	0.27	19	26	240	480		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000		ND	**0.011**	ND	**0.015 F1**	**0.0078**	ND	ND	**0.0066 J**	ND
Benzene	0.06	2.9	4.8	44	89		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Cyclohexane							ND F1	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	30	41	390	780		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Isopropylbenzene							ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Methyl tert-butyl ether	0.93	62	100	500	1000		ND	ND	ND	ND F1	ND	ND	ND	ND	ND
Methylcyclohexane							ND F1	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.05	51	100	500	1000		**0.00064 J**	**0.00083 J**	ND	**0.00081 JF1**	**0.00096 J**	**0.00082 J**	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Xylenes, Total	0.26	100	100	500	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
SVOCs															
Benzo[a]anthracene	1	1	1	5.6	11		ND	ND	ND	**0.055**	ND	ND	ND	**0.018 J**	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND F1	ND	ND	**0.043 F1**	ND	ND	ND	**0.011 J**	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	ND	ND	**0.088 F1**	ND	ND	ND	**0.019 J**	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND F1	ND	ND	**0.027 JF1**	ND	ND	ND	ND	ND
Chrysene	1	1	3.9	56	110		ND	ND	ND	**0.077 J**	ND	ND	ND	**0.014 J**	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000		**0.016 J**	ND	ND	**0.17 JF1**	ND	ND	ND	**0.023 J**	ND
Fluorene	30	100	100	500	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	**0.046**	ND	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000		ND F1	ND	ND	ND F1	ND	ND	ND	ND	ND
Phenanthrene	100	100	100	500	1000		ND F1	ND	ND	**0.078 JF1**	ND	ND	ND	**0.014 J**	ND
Pyrene	100	100	100	500	1000		ND	ND	ND	**0.16 J**	ND	ND	ND	ND	ND
Pesticides															
4,4'-DDD	0.0033	2.6	13	92	180					ND		ND	ND F2		ND
4,4'-DDE	0.0033	1.8	8.9	62	120					ND *		ND	ND F2		ND
4,4'-DDT	0.0033	1.7	7.9	47	94					ND		ND	ND F2		ND
PCBs															
Total PCBs	0.1	1	1	1	25					ND		ND	ND		ND
Herbicidies															
Silvex (2,4,5-TP)	3.8	58	100	500	1000					ND		ND	ND		ND

TABLE 2

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 8/12/2019 AND 9/10/2019
GRID SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	D3-01-6ft	D4-01-3ft	E1-01-7ft	E2-00-1ft	E2-01-2ft	E2-04-15ft	E3-01-2ft	E4-01-2ft	E4-04-15ft
						SAMPLING DATE	08/09/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019	08/12/2019	08/12/2019	08/12/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Metals															
Aluminum							6660	9870	5310	12600	10300	5600	12600	19600	6420
Mercury	0.18	0.81	0.81	2.8	5.7		ND	0.013 J	0.086	0.019	0.013 J	0.011 J	0.024	ND	ND
Arsenic	13	16	16	16	16		3.3 J	3.3 J	3.3	5.0	3.4	2.6 J	3.9	4.7	3.2
Barium	350	350	400	400	10000		53.1	56.5	43.5	115	78.2	64.8	115	164	101
Beryllium	7.2	14	72	590	2700		0.43 J	0.52	0.31 J	0.68	0.56	0.28 J	0.68	0.98	0.37
Cadmium	2.5	2.5	4.3	9.3	60		ND	ND	ND	0.31 J	0.17 J	ND	ND	ND	0.19 J
Calcium							83400	25100	79700	80600	63100	74900	5060	4000	82700
Chromium							10.8	15.4	9.5	18.3	16.3	9.9	17.8	27.1	10.2
Cobalt							5.6 J	6.1 J	4.6 J	8.4 J	7.2 J	4.6 J	10.3	11.7	6.7 J
Copper	50	270	270	270	10000		13.6	12.3	15.6	19.9	14.0	13.8	14.0	17.8	14.6
Iron							14000	17600	11900	22600	18600	11500	22600	30500	13000
Lead	63	400	400	1000	3900		12.0	14.6	15.7	19.0	15.9	11.1	17.7	16.9	11.4
Magnesium							31800	16100	30300	29100	29200	31300	6360	7490	34600
Manganese	1600	2000	2000		10000		413	164	329	573	477	350	568	568	430
Nickel	30	140	310	310	10000		12.8	16.2	10.6	20.4	18.1	11.3	21.4	29.9	13.1
Potassium							1450	1460	1290	2440 F1	2010	1360	1490	2750	1580
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							688 J	1000 J	424 J	1040	770 J	163 J	477 J	964 J	634 J
Vanadium							17.9	19.7	15.6	27.5	21.5	15.0	23.4	33.4	15.0
Zinc	109	2200			10000		63.2	67.9	85.2	74.5	71.8	76.8	77.0	96.5	68.6
WetChem															
Chromium, hexavalent	1	22	110	400	800					ND		ND	ND		ND
Cyanide, Total	27	27	27	27	10000		ND	ND	ND	ND F1	ND	ND	ND F1	ND	ND

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 3

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 AND 8/12/2019
GRID SAMPLING - EMERGING CONTAMINANTS
301 CONNECTICUT STREET SITE
BCP SITE C915345

	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	LOCATION - SAMPLE DEPTH	B1-01-1-2ft	DUP-B-080819	C1-01-1ft	C2-01-1ft	C3-01-2ft	C4-01-3ft	D1-00-2ft	D1-01-6ft	D1-04-15ft
						SAMPLING DATE	08/08/2019	08/08/2019	08/08/2019	08/08/2019	08/08/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LCMS															
Perfluorobutanoic acid (PFBA)							ND	ND	ND	ND	ND	ND	**0.069 J**	ND	**0.089 J**
Perfluoropentanoic acid (PFPeA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorohexanoic acid (PFHxA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluoroheptanoic acid (PFHpA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanoic acid (PFOA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorononanoic acid (PFNA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorodecanoic acid (PFDA)							ND	ND	ND	ND	ND	ND	**0.065 J**	ND	ND
Perfluoroundecanoic acid (PFUnA)							ND	ND	ND	ND	ND	ND	**0.063 J**	ND	ND
Perfluorododecanoic acid (PFDoA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorotridecanoic acid (PFTriA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorotetradecanoic acid (PFTeA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorobutanesulfonic acid (PFBS)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorohexanesulfonic acid (PFHxS)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluoroheptanesulfonic Acid (PFHpS)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonic acid (PFOS)							ND	**0.23 J**	**0.27 J**	ND	ND	ND	**2.2**	ND	ND
Perfluorodecanesulfonic acid (PFDS)							ND	ND	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonamide (FOSA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)							ND	ND	ND	ND	ND	ND	ND	ND	ND
6:2 FTS							ND	ND	ND	ND	ND	ND	ND	ND	ND
8:2 FTS							ND	ND	ND	ND	ND	ND	ND	ND	ND

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 3

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 AND 8/12/2019
GRID SAMPLING - EMERGING CONTAMINANTS
301 CONNECTICUT STREET SITE
BCP SITE C915345

	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	LOCATION - SAMPLE DEPTH	D01-C-080919	D2-01-3ft	D3-01-6ft	D4-01-3ft	E1-01-7ft	E2-00-1ft	E2-01-2ft	E2-04-15ft
						SAMPLING DATE	08/09/2019	08/09/2019	08/09/2019	08/08/2019	08/09/2019	08/09/2019	08/09/2019	08/09/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
LCMS														
Perfluorobutanoic acid (PFBA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluoropentanoic acid (PFPeA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorohexanoic acid (PFHxA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluoroheptanoic acid (PFHpA)							**0.043 J**	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanoic acid (PFOA)							**0.28**	ND	ND	ND	ND	ND	ND	ND
Perfluorononanoic acid (PFNA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorodecanoic acid (PFDA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluoroundecanoic acid (PFUnA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorododecanoic acid (PFDoA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorotridecanoic acid (PFTriA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorotetradecanoic acid (PFTeA)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorobutanesulfonic acid (PFBS)							ND	ND	**0.032 J**	ND	ND	ND	ND	ND
Perfluorohexanesulfonic acid (PFHxS)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluoroheptanesulfonic Acid (PFHpS)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonic acid (PFOS)							**0.51 J**	ND	ND	ND	ND	ND	ND	ND
Perfluorodecanesulfonic acid (PFDS)							ND	ND	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonamide (FOSA)							ND	ND	ND	ND	ND	ND	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)							ND	ND	ND	ND	ND	ND	ND	ND
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)							ND	ND	ND	ND	ND	ND	ND	ND
6:2 FTS							ND	ND	ND	ND	ND	ND	ND	ND
8:2 FTS							ND	ND	ND	ND	ND	ND	ND	ND

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

					LOCATION - SAMPLE DEPTH	1-X01-9ft	1-X01-10ft	1-X01-11ft	1-X01-12ft	1-X01-13ft	1-X01-14ft	1-X01-15ft	DUP-A-080519	1-X02-9ft	1-X02-10ft	1-X02-11ft	1-X02-12ft
					SAMPLING DATE	08/05/2018	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
					SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use												
VOCs																	
1,1-Dichloroethane	0.27	19	26	240	480	ND	ND	ND	ND	ND	ND	0.00035 J	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	ND	ND	ND	ND	ND	0.00045 J	0.0039	ND	ND	ND	ND	0.0028
2-Butanone (MEK)	0.12	100	100	500	1000	ND	0.0036 J	ND	0.0047 J	0.017	ND	ND	ND	ND	0.016	0.011	0.0036 J
Acetone	0.05	100	100	500	1000	0.0071	0.012	0.0067	0.014	0.041	0.014	0.0087	0.0073	ND	0.022	0.019	0.0076
Benzene	0.06	2.9	4.8	44	89	ND	0.0013	0.0010 J	0.0024	0.011	ND	ND	0.0029	ND	0.0055	0.0024	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND	ND	ND	ND	0.00017 J	ND	ND	ND	ND	ND	ND	ND
Cyclohexane						0.0010	0.0064	0.016	0.018	0.038	0.00076 J	ND	0.0053	1.4	0.013	0.0049	0.00048 J
Ethylbenzene	1	30	41	390	780	0.00023 J	0.017	0.074	0.036	0.0039	ND	ND	0.041	2.7	0.030	0.0096	0.0028
Isopropylbenzene						ND	0.0024	0.0046	0.0036	0.0084	0.00021 J	ND	0.0033	0.28	0.0039	0.0029	0.00023 J
Methyl tert-butyl ether	0.93	62	100	500	1000	0.00039 J	0.00042 J	ND	0.00026 J	0.0013	0.0018	0.012	0.00021 J	ND	0.00068 J	0.00063 J	0.0075
Methylcyclohexane						0.0013	0.013	0.021	0.011	0.015	ND	ND	0.0053	3.9	0.018	0.0096	0.00061 J
Methylene Chloride	0.05	51	100	500	1000	0.0021	ND	ND	ND	ND	0.0023	ND	0.0013	ND	ND	0.00083 J	0.0012
Tetrachloroethene	1.3	5.5	19	150	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000	ND	0.00080 J	0.00073 J	0.0012	0.0043	ND	ND	0.0011	0.88	0.025	0.0074	0.0013
Xylenes, Total	0.26	100	100	500	1000	0.00076 J	0.0032	0.0069	0.0058	0.012	0.00066 J	ND	0.0050	9.4	0.011	0.0041	0.0096
SVOCs																	
Benzo[a]anthracene	1	1	1	5.6	11	0.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1	0.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110	0.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1	1	3.9	56	110	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000	0.11 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000	2.4	ND	ND	ND	0.033 J	ND	ND	ND	ND	ND	ND	ND
Fluorene	30	100	100	500	1000	0.16 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11	0.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000	ND	0.072 J	0.17 J	0.12 J	0.048 J	ND	ND	0.20 J	0.072 J	0.039 J	0.055 J	ND
Phenanthrene	100	100	100	500	1000	1.8	ND	ND	ND	0.027 J	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	100	100	500	1000	2.2	ND	ND	ND	0.027 J	ND	ND	ND	ND	ND	ND	ND
PCBs																	
Total PCBs	0.1	1	1	1	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																	
Aluminum						248	5450	8130	7380	6780	6230	6010	6930	7370	4490	3920	6060
Mercury	0.18	0.81	0.81	2.8	5.7	ND	0.011 J	0.017 J	0.019	0.017 J	0.012 J	ND	0.015 J	ND	ND	ND	0.013 J
Arsenic	13	16	16	16	16	1.2 J	3.0	4.4	3.6	3.5	3.5	2.4 J	3.7	3.1	3.3	3.1	3.5
Barium	350	350	400	400	10000	2.7 J	65.2	85.9	82.9	72.8	72.3	62.3	74.1	112	66.8	61.4	56.0
Beryllium	7.2	14	72	590	2700	ND	0.29 J	0.39 J	0.41	0.35	0.31 J	0.27 J	0.31 J	0.37	0.25 J	0.21 J	0.31 J
Cadmium	2.5	2.5	4.3	9.3	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15 J	0.23 J	ND
Calcium						154000	51000	99100	74700	73100	73200	68500	86100	72900	93000	103000	88000
Chromium						2.2	9.2	12.7	12.1	11.5	10.1	9.6	11.3	11.7	7.3	6.4	10.8
Cobalt						ND	4.2 J	6.2 J	6.9 J	5.7 J	4.5 J	4.8 J	4.7 J	5.8 J	4.1 J	3.4 J	4.1 J
Copper	50	270	270	270	10000	ND	12.3	15.0	15.0	12.7	31.5	12.3	12.1	15.6	16.9	13.6	13.7
Iron						1480	11800	15300	14300	13400	13300	11500	13600	14500	9300	8520	12100
Lead	63	400	400	1000	3900	1.9	5.7	12.7	13.9	11.7	11.5	10.2	10.6	14.3	13.8	12.9	24.2

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-X01-9ft	1-X01-10ft	1-X01-11ft	1-X01-12ft	1-X01-13ft	1-X01-14ft	1-X01-15ft	DUP-A-080519	1-X02-9ft	1-X02-10ft	1-X02-11ft	1-X02-12ft
						SAMPLING DATE	08/05/2018	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use													
Magnesium							**5460**	**14000**	**44200**	**29200**	**26800**	**28600**	**28600**	**34500**	**25900**	**41100**	**39900**	**29900**
Manganese	1600	2000	2000		10000		**49.6**	**293**	**420**	**401**	**406**	**351**	**347**	**375**	**398**	**387**	**403**	**331**
Nickel	30	140	310	310	10000		**3.0 J**	**8.7**	**14.0**	**14.5**	**13.6**	**11.5**	**10.9**	**11.7**	**12.7**	**8.1**	**6.8**	**11.2**
Potassium							**174 J**	**1200**	**2040**	**1730**	**1560**	**1460**	**1480**	**1670**	**1700**	**1260**	**1010**	**1430**
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							**201 J**	**457 J**	**602 J**	**505 J**	**452 J**	**359 J**	**299 J**	**542 J**	**517 J**	**423 J**	**414 J**	**379 J**
Vanadium							**1.5 J**	**15.6**	**17.9**	**17.5**	**16.0**	**15.4**	**15.1**	**16.2**	**17.6**	**13.1**	**11.1**	**15.7**
Zinc	109	2200			10000		ND	**71.0**	**89.6**	**74.5**	**65.2**	**62.5**	**71.0**	**83.7**	**64.8**	**84.0**	**88.7**	**75.9**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-X02-13ft	1-X02-14ft	1-X03-8-9ft	1-X03-10ft	1-X03-11ft	1-X03-12ft	1-X03-13ft	1-X03-14ft	1-X03-15ft	1-X04-9ft	1-X04-10ft	1-X04-11ft
						SAMPLING DATE	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use													
VOCs																		
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		0.0073	0.0024	ND	ND	ND	ND	0.00054 J	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		0.0028 J	ND	0.0045 J	ND	0.0040 J	ND	0.0037 J	ND	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000		0.0060 J	0.0079	0.011	0.0088	0.011	ND	0.012	0.0094	0.011	ND	ND	ND
Benzene	0.06	2.9	4.8	44	89		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0027	0.0021
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane							0.0015	ND	ND	ND	0.0015	ND	ND	ND	ND	0.0011	0.0016	0.0042
Ethylbenzene	1	30	41	390	780		0.0023	0.00064 J	ND	ND	ND	0.00084 J	ND	ND	ND	ND	0.011	0.025
Isopropylbenzene							0.00027 J	ND	ND	ND	0.00065 J	0.00069 J	ND	ND	ND	ND	0.00098 J	0.0022
Methyl tert-butyl ether	0.93	62	100	500	1000		0.018	0.015	0.00024 J	0.00018 J	0.00032 J	ND	0.0027	0.031	0.030	ND	0.00034 J	0.00018 J
Methylcyclohexane							0.0017	ND	ND	ND	0.0023	0.0041	ND	ND	ND	0.0019	0.0043	0.0081
Methylene Chloride	0.05	51	100	500	1000		0.00053 J	0.00071 J	0.00078 J	0.00071 J	0.0011	ND	0.0015	0.0012	0.0015	0.0015	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		0.0012	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0013	ND
Xylenes, Total	0.26	100	100	500	1000		0.010	0.0020 J	0.00044 J	0.00032 J	0.00041 J	0.0017 J	0.00033 J	ND	ND	0.00061 J	0.014	0.0060
SVOCs																		
Benzo[a]anthracene	1	1	1	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.086	0.020 J	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.063	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.095	0.010 J	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028 J	ND	ND
Chrysene	1	1	3.9	56	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14 J	0.011 J	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021 J	ND	ND
Fluoranthene	100	100	100	500	1000		ND	ND	ND	ND	0.018 J	0.023 J	ND	ND	ND	0.27 J	0.017 J	ND
Fluorene	30	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.033 J	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058	ND	ND
Naphthalene	12	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.074 J	0.27 J
Phenanthrene	100	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27 J	0.021 J	ND
Pyrene	100	100	100	500	1000		ND	ND	ND	ND	0.014 J	0.022 J	ND	ND	ND	0.29 J	0.020 J	ND
PCBs																		
Total PCBs	0.1	1	1	1	25		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																		
Aluminum							6410	6040	3140	3180	4930	4380	4310	6450	6270	803	6340	6410
Mercury	0.18	0.81	0.81	2.8	5.7		ND	ND	ND	ND	ND	ND	0.013 J	0.011 J	0.012 J	0.012 J	0.013 J	0.014 J
Arsenic	13	16	16	16	16		2.9	3.0	2.5 J	1.8 J	2.7 J	2.8	3.1	3.1	3.4	1.7 J	2.9	3.7
Barium	350	350	400	400	10000		65.7	61.3	34.8 J	25.9 J	63.6	51.4	44.5	65.2	64.3	19.3 J	100	71.1
Beryllium	7.2	14	72	590	2700		0.30 J	0.31 J	0.15 J	0.11 J	0.23 J	0.20 J	0.19 J	0.35	0.32 J	ND	0.33	0.34
Cadmium	2.5	2.5	4.3	9.3	60		ND	ND	ND	0.16 J	0.16 J	ND	ND	ND	ND	0.13 J	ND	ND
Calcium							81100	79600	111000	139000	85800	110000	115000	66300	68800	207000	68700	74300
Chromium							10.5	10.3	5.9	5.4	8.3	7.6	7.3	10.7	10.1	4.1	10.3	10.1
Cobalt							4.6 J	4.8 J	2.3 J	2.1 J	3.1 J	3.4 J	3.4 J	5.5 J	5.3 J	ND	4.3 J	5.9 J
Copper	50	270	270	270	10000		12.8	14.4	12.7	7.3	12.5	13.7	9.3	13.1	13.3	4.1	13.3	16.7
Iron							12500	12000	6870	8440	10000	8660	8910	12800	12400	3050	11700	12000
Lead	63	400	400	1000	3900		11.6	11.6	10.2	6.2	9.8	9.9	11.0	12.4	13.3	50.7	17.9	15.5

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-X02-13ft		1-X02-14ft		1-X03-8-9ft		1-X03-10ft		1-X03-11ft		1-X03-12ft		1-X03-13ft	
						SAMPLING DATE	08/05/2019		08/05/2019		08/05/2019		08/05/2019		08/05/2019		08/05/2019		08/05/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use															
Magnesium							**32600**		**34500**		**27100**		**75100**		**28900**		**26700**		**52400**	
Manganese	1600	2000	2000		10000		**352**		**381**		**290**		**372**		**357**		**310**		**391**	
Nickel	30	140	310	310	10000		**11.2**		**11.3**		**5.9**	**J**	**5.7**	**J**	**8.4**		**7.7**		**7.6**	
Potassium							**1550**		**1450**		**832**	**J**	**970**		**1180**		**1130**		**1180**	
Selenium	3.9	36	180	1500	6800		ND		ND		ND		ND		ND		ND		ND	
Silver	2	36	180	1500	6800		ND		ND		ND		ND		ND		ND		ND	
Sodium							**281**	**J**	**248**	**J**	**457**	**J**	**399**	**J**	**552**	**J**	**468**	**J**	**472**	**J**
Vanadium							**15.9**		**15.3**		**8.8**	**J**	**8.0**	**J**	**13.5**		**11.4**		**12.0**	
Zinc	109	2200			10000		**65.7**		**59.1**		**65.8**		**57.7**		**108**		**80.8**		**81.1**	

						LOCATION - SAMPLE DEPTH	1-X03-14ft		1-X03-15ft		1-X04-9ft		1-X04-10ft		1-X04-11ft					
						SAMPLING DATE	08/05/2019		08/05/2019		08/05/2019		08/05/2019		08/05/2019					
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL					
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg					
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use															
Magnesium							**26900**		**27800**		**6730**		**25900**		**30500**					
Manganese	1600	2000	2000		10000		**368**		**364**		**79.8**		**341**		**427**					
Nickel	30	140	310	310	10000		**12.6**		**12.2**		**7.0**		**10.0**		**12.6**					
Potassium							**1530**		**1520**		**379**	**J**	**1600**		**1600**					
Selenium	3.9	36	180	1500	6800		ND		ND		ND		ND		ND					
Silver	2	36	180	1500	6800		ND		ND		ND		ND		ND					
Sodium							**326**	**J**	**287**	**J**	**342**	**J**	**477**	**J**	**430**	**J**				
Vanadium							**15.4**		**15.0**		**3.4**	**J**	**16.8**		**15.2**					
Zinc	109	2200			10000		**67.0**		**52.7**		**38.1**		**74.2**		**63.8**					

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-X04-12ft	1-X04-13ft	1-X04-14ft	1-X04-15ft	2-X01-8ft	2-X01-9ft	2-X01-10ft	2-X01-11ft	2-X02-8ft	2-X02-9ft	2-X02-10ft	2-X02-11ft
						SAMPLING DATE	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use													
VOCs																		
1,1-Dichloroethane	0.27	19	26	240	480		0.00041 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		0.0035	0.0052	0.0045	0.0059	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		0.0034 J	0.0041 J	0.0035 J	0.0035 J	ND	ND	ND	ND	ND	0.016	ND	ND
Acetone	0.05	100	100	500	1000		0.020	0.013	0.0078	0.010	0.012	0.013	0.0095	0.015	ND	0.046	ND	0.55
Benzene	0.06	2.9	4.8	44	89		0.00058 J	0.00036 J	0.00053 J	0.00070 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane							0.00037 J	ND	0.00041 J	0.00055 J	ND	ND	ND	ND	ND	ND	0.64	ND
Ethylbenzene	1	30	41	390	780		0.00033 J	0.00042 J	0.00044 J	0.00052 J	ND	ND	ND	ND	ND	0.0052	0.70	0.83
Isopropylbenzene							ND	ND	0.00016 J	0.00020 J	ND	ND	ND	0.00016 J	ND	0.0017	0.19	0.15
Methyl tert-butyl ether	0.93	62	100	500	1000		0.0088	0.0097	0.044	0.032	ND	ND	ND	0.00013 J	ND	ND	ND	ND
Methylcyclohexane							ND	ND	0.00054 J	0.00095 J	ND	ND	ND	ND	ND	0.11	2.7	1.1
Methylene Chloride	0.05	51	100	500	1000		0.00094 J	0.0011	ND	ND	0.0015	0.0028	ND	0.00059 J	ND	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.053 J	0.038 J
Xylenes, Total	0.26	100	100	500	1000		0.0014 J	0.0021	0.0024	0.0033	0.00031 J	ND	ND	ND	ND	0.015	1.8	3.6
SVOCs																		
Benzo[a]anthracene	1	1	1	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	0.30	0.68	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND	ND	ND	ND	ND	ND	ND	ND	0.24	0.51	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	0.33	0.75	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND	ND	ND	ND	ND	ND	ND	ND	0.14	0.29	ND	ND
Chrysene	1	1	3.9	56	110		ND	ND	ND	ND	0.022 J	ND	ND	ND	0.34 J	0.84	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	ND	ND	ND	ND	ND	0.047	0.088	ND	ND
Dibenzofuran	7	14	59	350	1000		ND	ND	ND	ND	ND	ND	ND	ND	0.081 J	0.35 J	ND	ND
Fluoranthene	100	100	100	500	1000		ND	ND	ND	ND	0.041 J	ND	ND	ND	1.0	2.7	ND	ND
Fluorene	30	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	0.094 J	0.37 J	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	0.21	0.40	ND	ND
Naphthalene	12	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12 J	0.50	0.75
Phenanthrene	100	100	100	500	1000		ND	ND	ND	ND	0.027 J	ND	ND	ND	0.87	2.8	ND	ND
Pyrene	100	100	100	500	1000		ND	ND	ND	ND	0.033 J	ND	ND	ND	0.81	2.5	ND	ND
PCBs																		
Total PCBs	0.1	1	1	1	25		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																		
Aluminum							8090	6940	4850	6450	6380	7310	7060	6630	8440	6410	6880	6470
Mercury	0.18	0.81	0.81	2.8	5.7		0.013 J	0.014 J	0.012 J	0.013 J	ND	ND	ND	0.012 J	0.010 J	ND	ND	ND
Arsenic	13	16	16	16	16		3.9	4.4	3.2	3.6	2.4 J	2.6 J	3.0 J	2.5 J	2.6 J	3.2	2.9	3.1
Barium	350	350	400	400	10000		79.8	70.8	43.5	65.1	58.7	83.8	65.7	69.1	61.5	49.7	55.3	50.8
Beryllium	7.2	14	72	590	2700		0.36	0.35	0.22 J	0.33	0.33 J	0.40 J	0.38 J	0.35 J	0.42	0.34 J	0.36 J	0.34 J
Cadmium	2.5	2.5	4.3	9.3	60		0.16 J	ND	ND	ND	ND	ND	ND	0.18 J	0.13 J	0.12 J	0.14 J	0.13 J
Calcium							78800	74500	99300	83300	82100	87700	67100	69300	86700	97700	79900	77600
Chromium							12.6	11.4	8.7	10.2	10.9	12.3	11.8	11.4	13.1	10.4	10.8	10.1
Cobalt							6.1 J	5.2 J	4.0 J	5.1 J	5.1 J	5.5 J	5.7 J	5.7 J	6.2 J	5.2 J	5.6 J	5.3 J
Copper	50	270	270	270	10000		15.3	14.0	10.0	12.2	12.3	14.1	12.9	15.6	13.4	14.7	13.0	12.6
Iron							13900	13400	9920	12600	12500	14100	14500	13900	15100	13300	13700	13700
Lead	63	400	400	1000	3900		14.0	16.5	12.3	27.7	13.4	11.6	12.1	16.2	12.2	13.5	15.2	15.5

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-X04-12ft	1-X04-13ft	1-X04-14ft	1-X04-15ft	2-X01-8ft	2-X01-9ft	2-X01-10ft	2-X01-11ft	2-X02-8ft	2-X02-9ft	2-X02-10ft	2-X02-11ft
						SAMPLING DATE	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use													
Magnesium							**32100**	**30000**	**37400**	**34700**	**29300**	**35200**	**27500**	**27800**	**34600**	**28500**	**31900**	**31500**
Manganese	1600	2000	2000		10000		**399**	**359**	**320**	**401**	**405**	**395**	**381**	**387**	**432**	**418**	**426**	**412**
Nickel	30	140	310	310	10000		**14.3**	**12.4**	**9.8**	**12.0**	**12.0**	**12.8**	**13.1**	**12.9**	**14.5**	**12.2**	**11.7**	**11.9**
Potassium							**1980**	**1710**	**1300**	**1620**	**1650**	**1900**	**1720**	**1510**	**1670**	**1330**	**1390**	**1350**
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							**328 J**	**295 J**	**233 J**	**250 J**	**480 J**	**614 J**	**534 J**	**519 J**	**564 J**	**456 J**	**493 J**	**450 J**
Vanadium							**17.8**	**15.7**	**11.8**	**14.5**	**16.2**	**18.6**	**16.9**	**16.1**	**18.2**	**18.8**	**16.0**	**15.8**
Zinc	109	2200			10000		**66.9**	**59.2**	**63.6**	**56.4**	**70.1**	**67.8**	**70.7**	**76.5**	**63.1**	**59.6**	**69.8**	**68.3**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	2-X02-12ft 08/05/2019 SOIL mg/kg	2-X02-13ft 08/05/2019 SOIL mg/kg	2-X02-14ft 08/05/2019 SOIL mg/kg	2-X03-9ft 08/05/2019 SOIL mg/kg	2-X03-10ft 08/05/2019 SOIL mg/kg	2-X03-11ft 08/05/2019 SOIL mg/kg	2-X03-12ft 08/05/2019 SOIL mg/kg	DUP-B-080519 08/05/2019 SOIL mg/kg	2-X04-9ft 08/05/2019 SOIL mg/kg	2-X04-10ft 08/05/2019 SOIL mg/kg	2-X04-11ft 08/05/2019 SOIL mg/kg
VOCs																
1,1-Dichloroethane	0.27	19	26	240	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000	ND	0.014	0.051	0.0072	0.011	ND	ND	ND	ND	0.0089	0.0067
Acetone	0.05	100	100	500	1000	ND	0.032	0.086	0.011	0.029	0.017	0.0076	0.0096	0.013	0.096	0.10
Benzene	0.06	2.9	4.8	44	89	ND	ND	ND	0.00065 J	0.0095	ND	ND	ND	ND	0.0038	0.0011
cis-1,2-Dichloroethene	0.25	59	100	500	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00028 J
Cyclohexane						0.77	ND	0.0061	0.0036	ND	ND	ND	ND	ND	0.0020	0.011
Ethylbenzene	1	30	41	390	780	1.2	0.070	0.034	0.034	0.29	0.00047 J	0.00029 J	ND	ND	0.050	0.0029
Isopropylbenzene						0.14	0.011	0.0022	0.0016	0.035	ND	ND	ND	ND	0.0052	0.0022
Methyl tert-butyl ether	0.93	62	100	500	1000	ND	ND	ND	ND	ND	0.0091	0.018	0.041	0.033	0.0043	0.015
Methylcyclohexane						2.4	0.20	0.016	0.0061	0.084	ND	ND	ND	ND	0.0073	0.011
Methylene Chloride	0.05	51	100	500	1000	ND	ND	0.0032	0.00092 J	ND	0.0032	0.00096 J	0.0021	0.00065 J	0.0022	0.0014
Tetrachloroethene	1.3	5.5	19	150	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000	0.10 J	0.0092	0.0035	0.0043	ND	ND	ND	ND	ND	0.0074	0.0014
Xylenes, Total	0.26	100	100	500	1000	6.0	0.40	0.12	0.021	0.13	0.00026 J	ND	ND	ND	0.071	0.018
SVOCs																
Benzo[a]anthracene	1	1	1	5.6	11	0.60	0.041	ND	0.022 J	0.028 J	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1	0.45	0.029 J	ND	0.015 J	0.019 J	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11	0.65	0.042	ND	0.023 J	0.020 J	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110	0.27	0.014 J	ND	ND	0.021 J	ND	ND	ND	ND	ND	ND
Chrysene	1	1	3.9	56	110	0.66	0.046 J	ND	0.019 J	0.029 J	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	0.077	ND	ND	ND	0.016 J	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000	0.21 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000	2.0	0.12 J	ND	0.041 J	0.020 J	ND	ND	ND	ND	ND	ND
Fluorene	30	100	100	500	1000	0.21 J	0.011 J	ND	0.0098 J	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11	0.36	0.023 J	ND	ND	0.018 J	ND	ND	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000	0.63	0.16 J	0.10 J	0.44	ND	ND	ND	ND	0.18 J	0.025 J	0.020 J
Phenanthrene	100	100	100	500	1000	1.8	0.10 J	ND	0.054 J	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	100	100	500	1000	1.7	0.11 J	ND	0.039 J	0.024 J	ND	ND	ND	ND	ND	ND
PCBs																
Total PCBs	0.1	1	1	1	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																
Aluminum						6360	6090	5400	7600	3900	2760	5340	5380	6420	7080	6670
Mercury	0.18	0.81	0.81	2.8	5.7	ND	0.022	ND	ND	ND	0.023	0.013 J	0.020	0.014 J	0.015 J	0.019
Arsenic	13	16	16	16	16	2.5	2.6	2.2 J	3.3	1.6 J	3.6	1.9 J	2.8	2.8	2.8	2.3 J
Barium	350	350	400	400	10000	51.8	47.4	61.8	70.9	49.6	24.5 J	52.1	33.1 J	172	74.2	65.1
Beryllium	7.2	14	72	590	2700	0.33	0.31 J	0.26 J	0.43	0.21 J	0.16 J	0.27 J	0.22 J	0.35	0.35 J	0.35 J
Cadmium	2.5	2.5	4.3	9.3	60	ND	0.12 J	0.21 J	ND	0.29 J	0.29 J	ND	0.18 J	0.18 J	0.23 J	ND
Calcium						71200	74800	89300	56400	93200	126000	117000	71600	80200	84100	90900
Chromium						11.1	10	8.1	11.6	6.6	4.9	8.7	8.5	10.4	11.2	11.0
Cobalt						4.7 J	5.1 J	4.4 J	5.2 J	3.1 J	3.5 J	5.3 J	4.6 J	5.8 J	4.9 J	4.5 J
Copper	50	270	270	270	10000	11.6	12.3	15.1	21.4	12.2	10.5	10.6	10.4	13.4	13.0	12.5
Iron						12500	12700	10700	12400	8390	7150	11900	13000	13300	14200	13200
Lead	63	400	400	1000	3900	12.3	12.4	12.2	39.9	10.8	22.8	10	7.9	26.8	13.8	32.5

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	2-X02-12ft	2-X02-13ft	2-X02-14ft	2-X03-9ft	2-X03-10ft	2-X03-11ft	2-X03-12ft	DUP-B-080519	2-X04-9ft	2-X04-10ft	2-X04-11ft
						SAMPLING DATE	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use												
Magnesium							**27300**	**29400**	**36500**	**15300**	**38400**	**65900**	**56300**	**29700**	**32200**	**35900**	**34400**
Manganese	1600	2000	2000		10000		**374**	**409**	**421**	**256**	**436**	**332**	**350**	**625**	**401**	**375**	**377**
Nickel	30	140	310	310	10000		**10.9**	**11.1**	**9.8**	**13.1**	**7.4**	**8.6**	**12.8**	**10.4**	**12.7**	**12.0**	**11.0**
Potassium							**1290**	**1290**	**1480**	**1230**	**1030**	**951**	**1400**	**1020**	**1560**	**1670**	**1710**
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							**455 J**	**323 J**	**263 J**	**807 J**	**483 J**	**400 J**	**324 J**	**330 J**	**376 J**	**387 J**	**340 J**
Vanadium							**15.5**	**15.2**	**12.8**	**16.5**	**11.5**	**8.1**	**13.3**	**12.5**	**16.5**	**17.0**	**16.0**
Zinc	109	2200			10000		**61.9**	**62.3**	**81.9**	**66.8**	**104**	**67.6**	**46.5**	**86.6**	**65.2**	**73.5**	**63.3**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	2-X04-12ft	2-X04-13ft	2-X04-14ft	2-X04-15ft
						SAMPLING DATE	08/05/2019	08/05/2019	08/05/2019	08/05/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use					
VOCs										
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	0.020	0.023
2-Butanone (MEK)	0.12	100	100	500	1000		0.0048 J	ND	ND	ND
Acetone	0.05	100	100	500	1000		0.072	ND	0.042	0.032
Benzene	0.06	2.9	4.8	44	89		0.00055 J	0.053 J	0.00041 J	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		0.00019 J	ND	ND	ND
Cyclohexane							0.0055	0.069 J	0.00030 J	0.00041 J
Ethylbenzene	1	30	41	390	780		0.0021	0.30	0.0028	0.0012
Isopropylbenzene							0.0032	0.036 J	0.00042 J	0.00018 J
Methyl tert-butyl ether	0.93	62	100	500	1000		0.015	ND	0.016	0.030
Methylcyclohexane							0.0027	0.15	0.00067 J	0.00077 J
Methylene Chloride	0.05	51	100	500	1000		0.0012	ND	0.0013	0.0030
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		0.00083 J	0.60	0.0029	0.0011
Xylenes, Total	0.26	100	100	500	1000		0.010	1.9	0.017	0.0057
SVOCs										
Benzo[a]anthracene	1	1	1	5.6	11		ND	0.043	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND	0.020 J	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	0.026 J	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND	0.0095 J	ND	ND
Chrysene	1	1	3.9	56	110		ND	0.066 J	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000		ND	0.014 J	ND	ND
Fluoranthene	100	100	100	500	1000		ND	0.072 J	ND	ND
Fluorene	30	100	100	500	1000		ND	0.051 J	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	ND
Naphthalene	12	100	100	500	1000		ND	0.78 F1	0.011 J	0.016 J
Phenanthrene	100	100	100	500	1000		ND	0.15 J	ND	ND
Pyrene	100	100	100	500	1000		ND	0.14 J	ND	ND
PCBs										
Total PCBs	0.1	1	1	1	25		ND	ND	ND	ND
Metals										
Aluminum							7930	6880	7350	7040
Mercury	0.18	0.81	0.81	2.8	5.7		0.016 J	0.018	0.019	0.015 J
Arsenic	13	16	16	16	16		3.4	2.8 J	1.8 J	2.1 J
Barium	350	350	400	400	10000		75.0	117	75.5	79.3
Beryllium	7.2	14	72	590	2700		0.42 J	0.35 J	0.37 J	0.38 J
Cadmium	2.5	2.5	4.3	9.3	60		ND	0.15 J	ND	ND
Calcium							92400	79400	80900	92300
Chromium							12.8	11.5	11.9	11.4
Cobalt							5.2 J	4.8 J	5.5 J	5.6 J
Copper	50	270	270	270	10000		12.9	10.7	12.3	13.5
Iron							15300	12500	12900	13400
Lead	63	400	400	1000	3900		13.0	266	50.8	16.4

TABLE 4

SUBSURFACE SOIL RESULTS - 8/5/2019
X (LEAD) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	2-X04-12ft		2-X04-13ft		2-X04-14ft		2-X04-15ft	
						SAMPLING DATE	08/05/2019		08/05/2019		08/05/2019		08/05/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use									
Magnesium							**39300**		**30700**		**33500**		**40200**	
Manganese	1600	2000	2000		10000		**438**		**369**		**405**		**422**	
Nickel	30	140	310	310	10000		**12.6**		**11.1**		**13.1**		**12.5**	
Potassium							**2060**		**1800**		**1970**		**1890**	
Selenium	3.9	36	180	1500	6800		ND		ND		ND		ND	
Silver	2	36	180	1500	6800		ND		ND		ND		ND	
Sodium							**380**	**J**	**348**	**J**	**320**	**J**	**331**	**J**
Vanadium							**18.6**		**15.7**		**16.9**		**17.3**	
Zinc	109	2200			10000		**68.1**		**68.6**		**65.7**		**61.9**	

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 5

SUBSURFACE SOIL RESULTS - 8/6/2019 AND 8/7/2019
X AND Y (PETROLEUM) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-Y01-11ft	1-Y02-9ft	1-Y03-10ft	1-Y04-9ft	2-Y01-9ft	2-Y02-4ft	2-Y03-5ft	2-Y04-12ft	2-Y05-12 ft
						SAMPLING DATE	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/07/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
VOCs															
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000		ND	ND	**0.011**	ND	ND	ND	ND	ND	ND
Benzene	0.06	2.9	4.8	44	89		ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane							ND	ND	ND	**0.0042**	ND	ND	ND	ND	**3.0**
Ethylbenzene	1	30	41	390	780		ND	ND	**0.00085 J**	**0.0044**	ND	ND	ND	ND	**2.3**
Isopropylbenzene							ND	ND	**0.00019 J**	**0.00085 J**	ND	ND	ND	ND	**0.41**
Methyl tert-butyl ether	0.93	62	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane							ND	ND	ND	**0.015**	ND	ND	ND	ND	**8.3**
Methylene Chloride	0.05	51	100	500	1000		**0.00056 J**	**0.00060 J**	ND	**0.0010 J**	**0.00074 J**	**0.00075 J**	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	**0.61**
Xylenes, Total	0.26	100	100	500	1000		ND	**0.00035 J**	**0.00040 J**	**0.0078**	ND	ND	ND	ND	**11**
SVOCs															
Benzo[a]anthracene	1	1	1	5.6	11		ND F1	**0.086**	ND	ND	**0.030 J**	ND	ND	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND F1	**0.082**	ND	ND	**0.019 J**	**0.015 J**	ND	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND F1	**0.14**	ND	ND	**0.032 J**	**0.042**	ND	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND F1	**0.043**	ND	ND	**0.016 J**	**0.020 J**	ND	ND	ND
Chrysene	1	1	3.9	56	110		ND	**0.095 J**	ND	ND	**0.025 J**	**0.032 J**	ND	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND F1 F2	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000		ND F1	ND	ND	ND	**0.013 J**	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000		ND F1	**0.19 J**	ND	ND	**0.027 J**	**0.073 J**	**0.024 J**	ND	ND
Fluorene	30	100	100	500	1000		ND F1	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND F2	**0.082**	ND	ND	**0.020 J**	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000		ND F1	ND	ND	**0.00031 J**	**0.025 J**	ND	ND	ND	**0.27 J**
Phenanthrene	100	100	100	500	1000		ND F1	**0.041 J**	ND	ND	**0.029 J**	**0.047 J**	**0.030 J**	ND	ND
Pyrene	100	100	100	500	1000		ND	**0.15 J**	ND	ND	**0.022 J**	**0.048 J**	**0.021 J**	ND	ND
Metals															
Aluminum							**5920**	**7290**	**7280**	**7580**	**7930**	**8620**	**8570**	**7520**	**8140**
Mercury	0.18	0.81	0.81	2.8	5.7		ND	ND	**0.012 J**	**0.015 J**	**0.019**	**0.012 J**	ND	**0.012 J**	ND
Arsenic	13	16	16	16	16		**2.7 J**	**3.8**	**3.0 J**	**5.4**	**3.6**	**4.9**	**3.2 J**	**3.2 J**	**3.3 J**

TABLE 5

SUBSURFACE SOIL RESULTS - 8/6/2019 AND 8/7/2019
X AND Y (PETROLEUM) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	1-Y01-11ft	1-Y02-9ft	1-Y03-10ft	1-Y04-9ft	2-Y01-9ft	2-Y02-4ft	2-Y03-5ft	2-Y04-12ft	2-Y05-12 ft
						SAMPLING DATE	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/06/2019	08/07/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Barium	350	350	400	400	10000		**51.3**	**63.7**	**48.2**	**60.5**	**49.4**	**69.8**	**65.7**	**75.0**	**93.5**
Beryllium	7.2	14	72	590	2700		**0.27 J**	**0.38 J**	**0.35 J**	**0.39 J**	**0.40 J**	**0.45**	**0.44**	**0.39 J**	**0.53**
Cadmium	2.5	2.5	4.3	9.3	60		ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium							**73800**	**63400**	**59800**	**72100**	**64600**	**72600**	**73700**	**67500**	**55800**
Chromium							**10.6**	**11.9**	**11.4**	**12.4**	**13.2**	**12.8**	**12.8**	**12.0**	**13.5**
Cobalt							**4.6 J**	**5.3 J**	**5.3 J**	**5.7 J**	**5.1 J**	**6.1 J**	**6.1 J**	**6.1 J**	**6.1 J**
Copper	50	270	270	270	10000		**13.7**	**13.5**	**12.1**	**14.6**	**13.5**	**15.7**	**14.1**	**13.7**	**18.0**
Iron							**11400**	**13200**	**12600**	**14500**	**13600**	**16500**	**14800**	**13700**	**16000**
Lead	63	400	400	1000	3900		**12.1**	**14.7**	**12.1**	**15.9**	**39.6**	**13.1**	**11.6**	**10.5**	**11.0**
Magnesium							**29700**	**25000**	**22400**	**29500**	**24300**	**24500**	**24200**	**27800**	**18700**
Manganese	1600	2000	2000		10000		**382**	**338**	**347**	**366**	**395**	**393**	**339**	**366**	**347**
Nickel	30	140	310	310	10000		**9.1**	**11.8**	**11.5**	**12.6**	**12.8**	**13.6**	**13.9**	**12.4**	**13.7**
Potassium							**1500**	**1810**	**1810**	**1870**	**1930**	**1860**	**1970**	**1950**	**2070**
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							**289 J**	**344 J**	**968 J**	**1190**	**1560**	**1230**	**1480**	**938 J**	**889 J**
Vanadium							**14.7**	**17.6**	**16.8**	**18.3**	**18.2**	**21.3**	**20.0**	**18.1**	**24.2**
Zinc	109	2200			10000		**77.3**	**59.5**	**59.8**	**63.0**	**72.3**	**61.4**	**59.4**	**64.4**	**84.9**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 5

SUBSURFACE SOIL RESULTS - 8/6/2019 AND 8/7/2019
X AND Y (PETROLEUM) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	3-Y04-13 ft	1-Z01--7ft	1-Z02-11 ft	1-Z03-11 ft	1-Z04-10 ft	2-Z01-7 ft	2-Z03-12 ft	2-Z04-9 ft	2-Z05-12 ft
						SAMPLING DATE	08/07/2019	08/06/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
VOCs															
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	**0.010**	ND
Acetone	0.05	100	100	500	1000		ND	ND	ND	**0.0086**	ND	ND	ND	**0.018**	**0.0057**
Benzene	0.06	2.9	4.8	44	89		**0.00029 J**	ND	ND	ND	ND	ND	ND	**0.0021**	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane							ND	**0.51**	ND	**0.00026 J**	**0.0013**	**0.86**	ND	**0.014**	**0.0045**
Ethylbenzene	1	30	41	390	780		ND	**0.28**	ND	**0.00029 J**	**0.00062 J**	**0.65**	ND	**0.033**	**0.00071 J**
Isopropylbenzene							ND	**0.14**	ND	ND	**0.00017 J**	**0.17**	ND	**0.0056**	**0.00092 J**
Methyl tert-butyl ether	0.93	62	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane							ND	**1.9**	ND	ND	**0.00077 J**	**3.4**	ND	**0.047**	**0.046**
Methylene Chloride	0.05	51	100	500	1000		ND	ND	**0.00053 J**	ND	**0.00081 J**	ND	ND	ND	**0.00060 J**
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.7	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	**0.0092**	ND
Xylenes, Total	0.26	100	100	500	1000		**0.00041 J**	**0.25**	ND	**0.00031 J**	**0.00090 J**	**2.9**	ND	**0.054**	**0.0027**
SVOCs															
Benzo[a]anthracene	1	1	1	5.6	11		ND	**0.031 J**	ND	ND	ND	ND	ND	ND	ND
Benzo[a]pyrene	1	1	1	1	1.1		ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	1	1	1	5.6	11		ND	**0.019 J**	ND	ND	ND	ND	ND	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110		ND	**0.012 J**	ND	ND	ND	ND	ND	ND	ND
Chrysene	1	1	3.9	56	110		ND	**0.025 J**	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	14	59	350	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000		ND	**0.037 J**	ND	ND	ND	ND	ND	ND	**0.011 J**
Fluorene	30	100	100	500	1000		ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000		ND	ND	ND	ND	ND	**0.41**	ND	**0.024 J**	ND
Phenanthrene	100	100	100	500	1000		ND	**0.045 J**	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	100	100	500	1000		ND	**0.029 J**	ND	ND	ND	ND	ND	ND	ND
Metals															
Aluminum							**6020**	**6940**	**8120**	**6100**	**6800**	**6500**	**6490**	**5120**	**7840**
Mercury	0.18	0.81	0.81	2.8	5.7		**0.012 J**	**0.013 J**	ND	**0.014 J**	ND	ND	ND	ND	**0.016 J**
Arsenic	13	16	16	16	16		**3.1 J**	**4.3**	**3.2**	**2.7 J**	**2.8 J**	**3.0 J**	**3.1 J**	**2.9 J**	**2.5 J**

TABLE 5

SUBSURFACE SOIL RESULTS - 8/6/2019 AND 8/7/2019
X AND Y (PETROLEUM) DELINEATION
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	3-Y04-13 ft	1-Z01--7ft	1-Z02-11 ft	1-Z03-11 ft	1-Z04-10 ft	2-Z01-7 ft	2-Z03-12 ft	2-Z04-9 ft	2-Z05-12 ft
						SAMPLING DATE	08/07/2019	08/06/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019	08/07/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use										
Barium	350	350	400	400	10000		**81.0**	**54.5**	**78.5**	**44.9**	**84.4**	**60.0**	**94.5**	**39.4 J**	**64.4**
Beryllium	7.2	14	72	590	2700		**0.37 J**	**0.37 J**	**0.50**	**0.38 J**	**0.38 J**	**0.39 J**	**0.37 J**	**0.30 J**	**0.48**
Cadmium	2.5	2.5	4.3	9.3	60		**0.16 J**	ND	ND	ND	ND	ND	**0.15 J**	ND	ND
Calcium							**89400**	**74900**	**65800**	**76500**	**81900**	**74800**	**84100**	**75600**	**75400**
Chromium							**10.6**	**11.1**	**15.5**	**9.9**	**10.9**	**10.5**	**9.6**	**9.0**	**12.9**
Cobalt							**4.2 J**	**5.3 J**	**6.5 J**	**4.8 J**	**5.0 J**	**5.0 J**	**4.9 J**	**3.9 J**	**5.7 J**
Copper	50	270	270	270	10000		**11.0**	**11.6**	**14.6**	**11.9**	**12.3**	**12.4**	**14.0**	**10.1**	**15.1**
Iron							**11900**	**13500**	**15900**	**11600**	**12800**	**13100**	**12000**	**11000**	**14000**
Lead	63	400	400	1000	3900		**10.4**	**12.3**	**9.6**	**9.2**	**11.7**	**13.2**	**10.5**	**12.3**	**8.7**
Magnesium							**40000**	**29000**	**22900**	**30900**	**34500**	**29100**	**34000**	**31900**	**27500**
Manganese	1600	2000	2000		10000		**328**	**383**	**399**	**375**	**390**	**403**	**411**	**393**	**353**
Nickel	30	140	310	310	10000		**11.3**	**11.8**	**14.1**	**10.7**	**12.0**	**11.6**	**11.4**	**9.0**	**12.7**
Potassium							**1630**	**1640**	**1860**	**1560**	**1750**	**1550**	**1600**	**1240**	**1960**
Selenium	3.9	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	2	36	180	1500	6800		ND	ND	ND	ND	ND	ND	ND	ND	ND
Sodium							**796 J**	**1110 J**	**1210**	**684 J**	**1020 J**	**1280**	**445 J**	**1250**	**1050 J**
Vanadium							**15.0**	**17.1**	**20.5**	**15.4**	**16.3**	**16.7**	**16.8**	**14.4**	**19.3**
Zinc	109	2200			10000		**66.0**	**67.2**	**61.6**	**67.2**	**73.0**	**66.0**	**85.7**	**61.8**	**64.1**

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

* - LCS or LCSD is outside acceptance limits.

F1 - MS and/or MSD Recovery is outside acceptance limits.

F2 - MS/MSD RPD exceeds control limits

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 6

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 AND 8/12/2019
WASTE CHARACTERIZATION SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use	LOCATION - SAMPLE DEPTH	A1-WC	A1-WC	A1-WC	B1-WC	B1-WC	B1-WC	B4-WC
						SAMPLING DATE	08/12/2019	08/12/2019	08/12/2019	08/08/2019	08/08/2019	08/08/2019	08/12/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mm/sec	su	mg/kg	mm/sec	su	mg/kg
PCBs													
Aroclor 1016							ND			ND			ND
Aroclor 1221							ND			ND			ND
Aroclor 1232							ND			ND			ND
Aroclor 1242							ND			ND			ND
Aroclor 1248							ND			ND			ND
Aroclor 1254							ND			ND			ND
Aroclor 1260							ND			ND			ND
Aroclor-1262							ND			ND			ND
Aroclor 1268							ND			ND			ND
Total PCBs	0.1	1	1	1	25		ND			ND			ND
WetChem													
Burn Rate								ND			ND		
Cyanide, Reactive							ND			ND			ND
pH									**8.4 HF**			**8.1 HF**	
Sulfide, Reactive							ND			ND			ND

Analytical Data compared to Part 375 Standards and DER-10

ND indicates analyte was not detected.

Blank space indicates analyte was not analyzed for in that sample.

HF - Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

TABLE 6

SUBSURFACE SOIL RESULTS - 8/8/2019 - 8/9/2019 AND 8/12/2019
WASTE CHARACTERIZATION SAMPLING
301 CONNECTICUT STREET SITE
BCP SITE C915345

B4-WC 08/12/2019 SOIL mm/sec	B4-WC 08/12/2019 SOIL su	D1-WC 08/09/2019 SOIL mg/kg	D1-WC 08/09/2019 SOIL mm/sec	D1-WC 08/09/2019 SOIL su	E2-WC 08/09/2019 SOIL mg/kg	E2-WC 08/09/2019 SOIL mm/sec	E2-WC 08/09/2019 SOIL su
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
		ND			ND		
ND			ND			ND	
		ND			ND		
	8.1 HF			**8.5 HF**			**8.1 HF**
		ND			ND		

TABLE 7

OFFSITE INVESTIGATION SUBSURFACE SOIL RESULTS - 9/9/2019 AND 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	SW-1-5FT		SW-2-5FT		SW-3-7FT		SW-4-6FT		SW-5-10FT	
						SAMPLING DATE	9/9/2019		9/9/2019		9/9/2019		9/9/2019		9/9/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use											
General Chemistry																
Solids, Total (%)							87.2		88.4		87.4		86.8		87.3	
Semivolatile Organics by GC/MS																
Acenaphthene	20	100	100	500	1000		ND		ND		ND		ND		ND	
Hexachlorobenzene	0.33	0.33	1.2	6	12		ND		ND		ND		ND		ND	
Fluoranthene	100	100	100	500	1000		ND		0.049	J	ND		ND		ND	
Naphthalene	12	100	100	500	1000		ND		ND		ND		0.087	J	ND	
Benzo(a)anthracene	1	1	1	5.6	11		ND		0.029	J	ND		ND		ND	
Benzo(a)pyrene	1	1	1	1	1.1		ND		ND		ND		ND		ND	
Benzo(b)fluoranthene	1	1	1	5.6	11		ND		0.04	J	ND		ND		ND	
Benzo(k)fluoranthene	0.8	1	3.9	56	110		ND		ND		ND		ND		ND	
Chrysene	1	1	3.9	56	110		ND		0.034	J	ND		ND		ND	
Acenaphthylene	100	100	100	500	1000		ND		ND		ND		ND		ND	
Anthracene	100	100	100	500	1000		ND		ND		ND		ND		ND	
Benzo(ghi)perylene	100	100	100	500	1000		ND		ND		ND		ND		ND	
Fluorene	30	100	100	500	1000		ND		ND		ND		ND		ND	
Phenanthrene	100	100	100	500	1000		ND		0.038	J	ND		ND		ND	
Dibenzo(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND		ND		ND		ND		ND	
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	11		ND		ND		ND		ND		ND	
Pyrene	100	100	100	500	1000		ND		0.044	J	ND		ND		ND	
Dibenzofuran	7	14	59	350	1000		ND		ND		ND		ND		ND	
Pentachlorophenol	0.8	2.4	6.7	6.7	55		ND		ND		ND		ND		ND	
Phenol	0.33	100	100	500	1000		ND		ND		ND		ND		ND	
2-Methylphenol	0.33	100	100	500	1000		ND		ND		ND		ND		ND	
3-Methylphenol/4-Methylphenol	0.33	34	100	500	1000		ND		ND		ND		ND		ND	
Volatile Organics by GC/MS																
Methylene chloride	0.05	51	100	500	1000		ND				ND		ND		ND	
1,1-Dichloroethane	0.27	19	26	240	480		ND		ND		ND		ND		ND	
Chloroform	0.37	10	49	350	700		0.00018	J	0.00021	J	ND		ND		0.01	J
Carbon tetrachloride	0.76	1.4	2.4	22	44		ND		ND		ND		ND		ND	
Tetrachloroethene	1.3	5.5	19	150	300		ND		ND		ND		ND		ND	
Chlorobenzene	1.1	100	100	500	1000		ND		ND		ND		ND		ND	
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND		ND		ND		ND		ND	
1,1,1-Trichloroethane	0.68	100	100	500	1000		ND		ND		ND		ND		ND	
Benzene	0.06	2.9	4.8	44	89		0.00016	J	0.00017	J	ND		ND		ND	
Toluene	0.7	100	100	500	1000		0.00067	J	0.0009	J	ND		ND		ND	
Ethylbenzene	1	30	41	390	780		ND		ND		ND		ND		0.029	J
Vinyl chloride	0.02	0.21	0.9	13	27		ND		ND		ND		ND		ND	

TABLE 7

OFFSITE INVESTIGATION SUBSURFACE SOIL RESULTS - 9/9/2019 AND 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	SW-1-5FT		SW-2-5FT		SW-3-7FT		SW-4-6FT		SW-5-10FT	
						SAMPLING DATE	9/9/2019		9/9/2019		9/9/2019		9/9/2019		9/9/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use											
1,1-Dichloroethene	0.33	100	100	500	1000		ND		ND		ND		ND		ND	
trans-1,2-Dichloroethene	0.19	100	100	500	1000		ND		ND		ND		ND		ND	
Trichloroethene	0.47	10	21	200	400		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	1.1	100	100	500	1000		ND		ND		ND		ND		ND	
1,3-Dichlorobenzene	2.4	17	49	280	560		ND		ND		ND		ND		ND	
1,4-Dichlorobenzene	1.8	9.8	13	130	250		ND		ND		ND		ND		ND	
Methyl tert butyl ether	0.93	62	100	500	1000		0.00046	J	0.00063	J	ND		ND		ND	
p/m-Xylene							ND		ND		ND		ND		ND	
o-Xylene							ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND		ND		ND		ND		ND	
Acetone	0.05	100	100	500	1000		0.032		0.029		ND		ND		ND	
Carbon disulfide							ND		ND		ND		ND		ND	
2-Butanone	0.12	100	100	500	1000		ND		ND		ND		ND		ND	
n-Butylbenzene	12	100	100	500	1000		ND		ND		0.12		1.5		ND	
sec-Butylbenzene	11	100	100	500	1000		ND		ND		0.35		0.82		ND	
tert-Butylbenzene	5.9	100	100	500	1000		ND		ND		0.032	J	0.096	J	ND	
Isopropylbenzene							ND		ND		0.075		0.44		0.0071	J
p-Isopropyltoluene							ND		ND		0.22		1.2		ND	
Naphthalene	12	100	100	500	1000		ND		ND		ND		ND		0.054	J
n-Propylbenzene	3.9	100	100	500	1000		ND		ND		0.14		1.5		0.02	J
1,2,4-Trichlorobenzene							ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	8.4	47	52	190	380		ND		ND		ND		0.14	J	ND	
1,2,4-Trimethylbenzene	3.6	47	52	190	380		ND		ND		0.016	J	4.5		ND	
Methyl Acetate							ND		ND		ND		ND		ND	
Cyclohexane							ND		ND		0.17	J	4.2		ND	
Methyl cyclohexane							ND		ND		1		15		0.083	J

* Comparison is not performed on parameters with non-numeric criteria.
NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6 NYCRR Part 375 Environmental Remediation Programs, effective December 14, 2006.

TABLE 7

OFFSITE INVESTIGATION SUBSURFACE SOIL RESULTS - 9/9/2019 AND 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	SW-6-6FT	SW-7-6FT	SW-8-10FT	SW-9-5FT	SW-10-5FT
						SAMPLING DATE	9/9/2019	9/9/2019	9/10/2019	9/10/2019	9/10/2019
						SAMPLE TYPE	SOIL	SOIL	SOIL	SOIL	SOIL
						UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use						
General Chemistry											
Solids, Total (%)							87.9	90.5	90.6	88.5	88.5
Semivolatile Organics by GC/MS											
Acenaphthene	20	100	100	500	1000		ND	ND	ND	0.042 J	ND
Hexachlorobenzene	0.33	0.33	1.2	6	12		ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000		ND	0.055 J	ND	0.51	ND
Naphthalene	12	100	100	500	1000		0.023 J	0.31	0.031 J	0.024 J	ND
Benzo(a)anthracene	1	1	1	5.6	11		ND	0.022 J	ND	0.23	ND
Benzo(a)pyrene	1	1	1	1	1.1		ND	ND	ND	0.18	ND
Benzo(b)fluoranthene	1	1	1	5.6	11		ND	0.03 J	ND	0.24	ND
Benzo(k)fluoranthene	0.8	1	3.9	56	110		ND	ND	ND	0.086 J	ND
Chrysene	1	1	3.9	56	110		ND	0.022 J	ND	0.23	ND
Acenaphthylene	100	100	100	500	1000		ND	ND	ND	ND	ND
Anthracene	100	100	100	500	1000		ND	ND	ND	0.099 J	ND
Benzo(ghi)perylene	100	100	100	500	1000		ND	ND	ND	0.1 J	ND
Fluorene	30	100	100	500	1000		ND	ND	ND	0.057 J	ND
Phenanthrene	100	100	100	500	1000		ND	0.039 J	ND	0.51	ND
Dibenzo(a,h)anthracene	0.33	0.33	0.33	0.56	1.1		ND	ND	ND	0.033 J	ND
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	11		ND	ND	ND	0.12 J	ND
Pyrene	100	100	100	500	1000		ND	0.043 J	ND	0.42	ND
Dibenzofuran	7	14	59	350	1000		ND	ND	ND	0.029 J	ND
Pentachlorophenol	0.8	2.4	6.7	6.7	55		ND	ND	ND	ND	ND
Phenol	0.33	100	100	500	1000		ND	ND	ND	ND	ND
2-Methylphenol	0.33	100	100	500	1000		ND	ND	ND	ND	ND
3-Methylphenol/4-Methylphenol	0.33	34	100	500	1000		ND	ND	ND	ND	ND
Volatile Organics by GC/MS											
Methylene chloride	0.05	51	100	500	1000		ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	19	26	240	480		ND	ND	ND	ND	ND
Chloroform	0.37	10	49	350	700		ND	ND	0.0096 J	0.00029 J	0.00028 J
Carbon tetrachloride	0.76	1.4	2.4	22	44		ND	ND	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300		ND	ND	ND	ND	ND
Chlorobenzene	1.1	100	100	500	1000		ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60		ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.68	100	100	500	1000		ND	ND	ND	ND	ND
Benzene	0.06	2.9	4.8	44	89		ND	ND	0.0081 J	0.00019 J	ND
Toluene	0.7	100	100	500	1000		ND	0.055	ND	ND	ND
Ethylbenzene	1	30	41	390	780		ND	0.28	ND	ND	ND
Vinyl chloride	0.02	0.21	0.9	13	27		ND	ND	ND	ND	ND

TABLE 7

OFFSITE INVESTIGATION SUBSURFACE SOIL RESULTS - 9/9/2019 AND 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

						LOCATION - SAMPLE DEPTH	SW-6-6FT		SW-7-6FT		SW-8-10FT		SW-9-5FT		SW-10-5FT	
						SAMPLING DATE	9/9/2019		9/9/2019		9/10/2019		9/10/2019		9/10/2019	
						SAMPLE TYPE	SOIL		SOIL		SOIL		SOIL		SOIL	
						UNITS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial Use	Industrial Use											
1,1-Dichloroethene	0.33	100	100	500	1000		ND		ND		ND		ND		ND	
trans-1,2-Dichloroethene	0.19	100	100	500	1000		ND		ND		ND		ND		ND	
Trichloroethene	0.47	10	21	200	400		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	1.1	100	100	500	1000		ND		ND		ND		ND		ND	
1,3-Dichlorobenzene	2.4	17	49	280	560		ND		ND		ND		ND		ND	
1,4-Dichlorobenzene	1.8	9.8	13	130	250		ND		ND		ND		ND		ND	
Methyl tert butyl ether	0.93	62	100	500	1000		ND		ND		ND		0.0016	J	0.0019	J
p/m-Xylene							0.038	J	0.7		ND		ND		ND	
o-Xylene							0.024	J	0.097		ND		ND		ND	
cis-1,2-Dichloroethene	0.25	59	100	500	1000		ND		ND		ND		ND		ND	
Acetone	0.05	100	100	500	1000		ND		ND		ND		0.26		0.24	
Carbon disulfide							ND		ND		ND		ND		ND	
2-Butanone	0.12	100	100	500	1000		ND		ND		ND		0.0071	J	ND	
n-Butylbenzene	12	100	100	500	1000		ND		0.1		0.01	J	ND		ND	
sec-Butylbenzene	11	100	100	500	1000		0.18		0.04	J	0.022	J	ND		ND	
tert-Butylbenzene	5.9	100	100	500	1000		0.031	J	ND		ND		ND		ND	
Isopropylbenzene							0.071		0.058		0.007	J	ND		ND	
p-Isopropyltoluene							0.033	J	0.05	J	0.0067	J	ND		ND	
Naphthalene	12	100	100	500	1000		0.14	J	0.36		ND		ND		ND	
n-Propylbenzene	3.9	100	100	500	1000		0.15		0.2		ND		ND		ND	
1,2,4-Trichlorobenzene							ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	8.4	47	52	190	380		0.043	J	0.41		ND		0.00035	J	ND	
1,2,4-Trimethylbenzene	3.6	47	52	190	380		0.042	J	1.1		ND		0.00074	J	ND	
Methyl Acetate							ND		ND		ND		0.052		0.065	
Cyclohexane							0.26	J	0.26	J	0.065	J	0.00084	J	ND	
Methyl cyclohexane							1.6		0.72		0.12	J	0.00088	J	ND	

* Comparison is not performed on parameters with non-numeric criteria.
NY-UNRES: New York NYCRR Part 375 New York Unrestricted use Criteria Criteria per 6 NYC
NY-RESR: New York NYCRR Part 375 Residential Criteria, New York Restricted use Criteria pe
NY-RESRR: New York NYCRR Part 375 Restricted-Residential Criteria, New York Restricted u‡006.
NY-RESC: New York NYCRR Part 375 Commercial Criteria, New York Restricted use Criteria p
NY-RESI: New York NYCRR Part 375 Industrial Criteria, New York Restricted use Criteria per 6

TABLE 8

OFFSITE INVESTIGATION GROUNDWATER RESULTS - 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

	LOCATION		MW-6	
	SAMPLING DATE		9/10/2019	
	SAMPLE TYPE		WATER	
	NY-TOGS	Units	Results	Qual
Semivolatile Organics by GC/MS				
Bis(2-chloroethyl)ether	1	ug/l	ND	
3,3'-Dichlorobenzidine	5	ug/l	ND	
2,4-Dinitrotoluene	5	ug/l	ND	
2,6-Dinitrotoluene	5	ug/l	ND	
Bis(2-chloroisopropyl)ether	5	ug/l	ND	
Bis(2-chloroethoxy)methane	5	ug/l	ND	
Hexachlorocyclopentadiene	5	ug/l	ND	
Isophorone	50	ug/l	ND	
Nitrobenzene	0.4	ug/l	ND	
NDPA/DPA	50	ug/l	ND	
Bis(2-ethylhexyl)phthalate	5	ug/l	2.4	J
Butyl benzyl phthalate	50	ug/l	ND	
Di-n-butylphthalate	50	ug/l	ND	
Di-n-octylphthalate	50	ug/l	ND	
Diethyl phthalate	50	ug/l	ND	
Dimethyl phthalate	50	ug/l	ND	
Biphenyl		ug/l	ND	
4-Chloroaniline	5	ug/l	ND	
2-Nitroaniline	5	ug/l	ND	
3-Nitroaniline	5	ug/l	ND	
4-Nitroaniline	5	ug/l	ND	
Dibenzofuran		ug/l	ND	
1,2,4,5-Tetrachlorobenzene	5	ug/l	ND	
Acetophenone		ug/l	ND	
2,4-Dichlorophenol	2	ug/l	ND	
2,4-Dimethylphenol	2	ug/l	ND	
2,4-Dinitrophenol	2	ug/l	ND	
4,6-Dinitro-o-cresol		ug/l	ND	
Phenol	2	ug/l	ND	
Carbazole		ug/l	ND	
Atrazine	7.5	ug/l	ND	
Benzaldehyde		ug/l	ND	
Caprolactam		ug/l	ND	
Semivolatile Organics by GC/MS-SIM				
Acenaphthene	20	ug/l	ND	
2-Chloronaphthalene	10	ug/l	ND	
Fluoranthene	50	ug/l	0.04	J
Hexachlorobutadiene	0.5	ug/l	ND	
Naphthalene	10	ug/l	2.1	
Benzo(a)anthracene	0.002	ug/l	0.03	J
Benzo(a)pyrene	0	ug/l	ND	
Benzo(b)fluoranthene	0.002	ug/l	0.04	J
Benzo(k)fluoranthene	0.002	ug/l	0.01	J
Chrysene	0.002	ug/l	0.08	J
Acenaphthylene		ug/l	ND	
Anthracene	50	ug/l	ND	
Fluorene	50	ug/l	ND	
Phenanthrene	50	ug/l	0.06	J
Indeno(1,2,3-cd)pyrene	0.002	ug/l	ND	
Pyrene	50	ug/l	0.07	J
Pentachlorophenol	2	ug/l	ND	
Hexachlorobenzene	0.04	ug/l	ND	
Hexachloroethane	5	ug/l	ND	

TABLE 8

OFFSITE INVESTIGATION GROUNDWATER RESULTS - 9/10/2019
301 CONNECTICUT STREET SITE
BCP SITE C915345

		LOCATION	**MW-6**	
		SAMPLING DATE	**9/10/2019**	
		SAMPLE TYPE	**WATER**	
	NY-TOGS	**Units**	**Results**	**Qual**
Volatile Organics by GC/MS				
Methylene chloride	5	ug/l	ND	
Chloroform	7	ug/l	ND	
1,2-Dichloropropane	1	ug/l	ND	
1,1,2-Trichloroethane	1	ug/l	ND	
Tetrachloroethene	5	ug/l	ND	
Chlorobenzene	5	ug/l	ND	
Trichlorofluoromethane	5	ug/l	ND	
1,2-Dichloroethane	0.6	ug/l	ND	
1,1,1-Trichloroethane	5	ug/l	ND	
trans-1,3-Dichloropropene	0.4	ug/l	ND	
cis-1,3-Dichloropropene	0.4	ug/l	ND	
Bromoform	50	ug/l	ND	
1,1,2,2-Tetrachloroethane	5	ug/l	ND	
Benzene	1	ug/l	ND	
Toluene	5	ug/l	ND	
Ethylbenzene	5	ug/l	ND	
Bromomethane	5	ug/l	ND	
Vinyl chloride	2	ug/l	ND	
Chloroethane	5	ug/l	ND	
trans-1,2-Dichloroethene	5	ug/l	ND	
Trichloroethene	5	ug/l	ND	
1,2-Dichlorobenzene	3	ug/l	ND	
1,3-Dichlorobenzene	3	ug/l	ND	
1,4-Dichlorobenzene	3	ug/l	ND	
Methyl tert butyl ether	10	ug/l	ND	
p/m-Xylene	5	ug/l	ND	
o-Xylene	5	ug/l	ND	
cis-1,2-Dichloroethene	5	ug/l	ND	
Styrene	930	ug/l	ND	
Dichlorodifluoromethane	5	ug/l	ND	
Acetone	50	ug/l	5	
Carbon disulfide	60	ug/l	ND	
2-Butanone	50	ug/l	ND	
2-Hexanone	50	ug/l	ND	
1,2-Dibromoethane	0.0006	ug/l	ND	
n-Butylbenzene	5	ug/l	ND	
sec-Butylbenzene	5	ug/l	ND	
tert-Butylbenzene	5	ug/l	ND	
1,2-Dibromo-3-chloropropane	0.04	ug/l	ND	
Isopropylbenzene	5	ug/l	ND	
p-Isopropyltoluene	5	ug/l	ND	
Naphthalene	10	ug/l	ND	
n-Propylbenzene	5	ug/l	ND	
1,2,4-Trichlorobenzene	5	ug/l	ND	
1,3,5-Trimethylbenzene	5	ug/l	ND	
1,2,4-Trimethylbenzene	5	ug/l	ND	
Freon-113	5	ug/l	ND	

* Comparison is not performed on parameters with non-numeric criteria.
NY-TOGS-GA: New York TOGS 111 Groundwater Effluent Limitations criteria reflects all addendum to criteria through June 2004.

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BORING LOG

Boring No.	A1
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.4 ft - Asphalt, gravel and sand, fill	
				0.4-3.7 ft - Gravel fill and sand	
2					
3					
4					
5				***PID - 0 ppm***	3.7 ft Recovered
6				0-1.8 ft - Gravel fill and sand	
7					
8					
9					
10				***PID - 0 ppm***	1.8 ft Recovered
11	A1-00			0-1.7 ft - Gravel fill and sand	
				1.7-5.0 ft - Brown silty clay, moist	
12	A1-01				
13	A1-02				
14	A1-03				
15	A1-04			***PID - 0 ppm***	5.0 ft Recovered
16				***End of Boring at 15 ft***	
17				**A1-00-11 ft**	
				A1-01-12 ft	
18				**A1-02-13 ft**	
				A1-03-14 ft	
19				**A1-04-15 ft**	
				A1-WC	
20					
21					
22					
23					

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Buffalo, New York 14203
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BORING LOG

		Boring No.	A2
		Sheet 1 of:	
		Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	9/9/19
Drilling Firm:	TREC	**Finish Date:**	9/10/19
Groundwater	**Depth** / **Date & Time**	**Drill Rig:**	**Inspector:** J. Alt-Winzig
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-0.5 ft - Concrete gravel	
1	A2-00			0.5-0.8 ft - Sub-base gravel and sand	
				0.8-1.4 ft - Brown silty clay and gravel	1.4 ft Recovered
2	A2-01			***PID - 0 ppm***	
3	A2-02			0-0.2 ft - Brown silty clay and gravel	
				0.2-2.9 ft - Brown silty clay, dry	
4	A2-03			2.9-3.9 ft - Brown silty clay, moist	
5					
				PID - 0 ppm	3.9 ft Recovered
6					
7				0-3.1 ft - Brown silty clay, moist	
8					
9					
				PID - 0 ppm	3.1 ft Recovered
10					
11				0-2.4 ft - Brown silty clay, moist	
12					
13					
				PID - 0 ppm	2.3 ft Recovered
14					
				End of Boring at 14 ft	
15					
				A2-00-1 ft	
16				**A2-01-2 ft**	
				A2-02-3 ft	
17				**A2-03-4 ft**	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	B1
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.6 ft - Asphalt, gravel, some dark brown sand, fill	
	B1-01			0.6-1.8 ft - Black silty clay	
2	DUP-D			1.8-5.0 ft - Brown silty clay	
3	B1-02				
4	B1-03				
				PID - 0 ppm	5.0 ft Recovered
5					
6				0-5.0 ft - Brown silty clay	
7					
8					
9					
				PID - 0 ppm	5.0 ft Recovered
10				***Hit Refusal at 10 ft***	
				End of Boring at 10 ft	
11					
12					
13					
14					
15					
16					
				B1-01-1 to 2 ft	
17				**B1-02-3 ft**	
				B1-03-4 ft	
18				**B1-WC**	
				DUP-D-080819	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	B2
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-0.6 ft - Concrete gravel	
1	B2-00			0.6-1.2 ft - Sub-base gravel, some asphalt	
				1.2-1.6 ft - Dark brown silty clay, dry	1.6 ft Recovered
2	B2-01			***PID - 0 ppm***	
3	B2-02			0-0.2 ft - Dark brown silty clay and gravel, dry	
				0.2-2.9 ft - Brown silty clay	
4	B2-03				
5					
				PID - 0 ppm	3.9 ft Recovered
6					
7				0-3.8 ft - Brown silty clay, saturated	
8					
9					
				PID - 0 ppm	3.8 ft Recovered
10					
11				0-3.9 ft - Brown silty clay, saturated	
12					
13					
				PID - 0 ppm	3.9 ft Recovered
14					
				End of Boring at 14 ft	
15					
				B2-00-1 ft	
16				**B2-01-2 ft**	
				B2-02-3 ft	
17				**B2-03-4 ft**	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	B3
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
				0-0.5 ft - Concrete gravel	
1				0.5-0.7 ft - Sub-base gravel and sand, some asphalt	
				0.7-1.1 ft - Dark brown silty clay, trace brick	1.1 ft Recovered
2				***PID - 0 ppm***	
3	B3-01			0-0.2 ft - Dark brown silty clay, trace brick	
				0.2-2.5 ft - Sandy clay	
4	B3-02			2.5-3.7 ft - Brown silty clay	
5	B3-03				
				PID - 0 ppm	3.7 ft Recovered
6					
7				0-3.9 ft - Brown silty clay, moist	
8					
9					
				PID - 0 ppm	3.9 ft Recovered
10					
11				0-2.6 ft - Brown silty clay, moist	
12					
13					
				PID - 0 ppm	2.6 ft Recovered
14					
				End of Boring at 14 ft	
15					
				B3-01-3 ft	
16				**B3-02-4 ft**	
				B3-03-5 ft	
17					
18					
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	B4
141 Elm Street		Sheet 1 of:	
Buffalo, New York 14203		Project No.:	V20.001.005
Phone: 716-847-1630		Surface Elev.:	
Fax: 716-847-1454		Datum:	

Project Name:	301 Connecticut Street Brownfield Cleanup Program							**Start Date:**	8/5/19
Location:	301 Connecticut Street, Buffalo, NY							**Finish Date:**	8/12/19
Client:	D'Youville College							**Inspector:**	J. Alt-Winzig
Drilling Firm:	TREC								
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**						
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**		
Before Casing Removal:			**Sampler:**		**Other:**				
After Casing Removal:			**Hammer:**						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.9 ft - Asphalt, gravel and sand, fill	
				0.9-1.8 ft - Brick and sand, fill	
2				1.8-3.5 ft - Black silty clay	
				3.5-4.7 ft - Brown silty clay, moist	
3	B4-00				
4	B4-01				
				PID - 0 ppm	4.7 ft Recovered
5	B4-02				
6	B4-03			0-5.0 ft - Brown silty clay, moist	
7					
8					
9					
				PID - 0 ppm	5.0 ft Recovered
10					
11				0-4.8 ft - Brown silty clay, moist	
12					
13					
14					
				PID - 0 ppm	4.8 ft Recovered
15	B4-04				
				End of Boring at 15 ft	
16					
				B4-00-3 ft	
17				**B4-01-4 ft**	
				B4-02-5 ft	
18				**B4-03-6 ft**	
				B4-04-15 ft	
19				**B4-WC**	
20					
21					
22					
23					

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BORING LOG

		Boring No.	C1
		Sheet 1 of:	
		Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Drill Rig:**	**Inspector:** J. Alt-Winzig
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	C1-01			0-0.7 ft - Asphalt, gravel and sand, fill	
				0.7-1.0 ft - Black silty clay	
2	C1-02			1.0-5.0 ft - Brown silty clay	
3	C1-03				
4					
5				***PID - 0 ppm***	5.0 ft Recovered
6				0-5.0 ft - Brown silty clay, saturated, **petroleum odor**	
7	C1-00				
8				***PID - 3000 ppm at 7 ft***	
9				***PID - 4300 ppm at 8 ft***	
10				***PID - 200 ppm at 9 ft***	
				PID - 5 ppm at 10 ft	5.0 ft Recovered
11				0-0.4 ft - Sand, dry	
12				0.4-5.0 ft - Silty clay, moist	
13					
14				***PID - 5ppm at 11 ft***	
15				***PID - 0 ppm at 12 to 15 ft***	5.0 ft Recovered
16				***End of Boring at 15 ft***	
17				**C1-01-1 ft**	
18				**C1-02-2 ft** **C1-03-3 ft** **C1-00-7 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	C2
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC			**Drill Rig:**				
Groundwater	**Depth**	**Date & Time**		**Casing:**		**Rock Core:**	**Undist:**	
While Drilling:								
Before Casing Removal:				**Sampler:**		**Other:**		
After Casing Removal:				**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	C2-01			0-0.4 ft - Asphalt, gravel, fill	
				0.4-3.6 ft - Brown silty clay and sand	
2	C2-02				
3	C2-03				
4					
				PID - 0 ppm	3.6 ft Recovered
5					
6				0-4.8 ft - Brown silty clay, moist	
7					
8					
9					
				PID - 0 ppm	4.8 ft Recovered
10					
11				0-4.9 ft - Brown silty clay, moist	
12					
13					
14					
				PID - 0 ppm	4.9 ft Recovered
15					
				End of Boring at 15 ft	
16					
				C2-01-1 ft	
17				**C2-02-2 ft**	
				C2-03-3 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	C3
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.4 ft - Asphalt, gravel, fill	
				1.4-1.9 ft - Large gravel and silt, saturated	
2	C3-01			1.9-2.8 ft - Brown silty clay, moist	
3	C3-02				
4	C3-03				
				PID - 0 ppm	2.8 ft Recovered
5					
6				0-5.0 ft - Brown silty clay, moist	
7					
8					
9					
				PID - 0 ppm	5.0 ft Recovered
10				***Hit Refusal at 9 ft***	
				End of Boring at 10 ft	
11					
12					
13					
14					
15					
16					
				C3-01-2 ft	
17				**C3-02-3 ft**	
				C3-03-4 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	C4
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.8 ft - Asphalt, gravel, fill	
				0.8-2.7 ft - Black silty clay	
2				2.7-4.6 ft - Brown silty clay	
3	C4-01				
4	C4-02				
5	C4-03			***PID - 0 ppm***	4.6 ft Recovered
6				0-4.8 ft - Brown silty clay	
7					
8					
9					
10				***PID - 0 ppm***	4.8 ft Recovered
11				0-5.0 ft - Brown silty clay	
12					
13					
14					
15				***PID - 0 ppm***	5.0 ft Recovered
16				***End of Boring at 15 ft***	
17				**C4-01-3 ft** **C4-02-4 ft**	
18				**C4-03-5 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	D1		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Drill Rig:**	**Inspector:** J. Alt-Winzig
While Drilling:		**Casing:**	**Rock Core:** / **Undist:**
Before Casing Removal:		**Sampler:**	**Other:**
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.8 ft - Asphalt, gravel, some sand, fill	
				0.8-1.9 ft - Large gravel and sand	
2	D1-00			1.9-2.5 ft - Brown silty clay	
	DUP-C			2.5-2.8 ft - Asphalt	
3				2.8-3.6 ft - Gravel and sand, some brick	
4					
				PID - 0 ppm	3.6 ft Recovered
5					
6	D1-01			0-0.9 ft - Gravel and sand, some brick	
				0.9-4.8 ft - Brown silty clay, moist	
7	D1-02				
8	D1-03				
9					
				PID - 0 ppm	4.8 ft Recovered
10					
11				0-5.0 ft - Brown silty clay, moist	
12					
13					
14					
				PID - 0 ppm	5.0 ft Recovered
15	D1-04				
				End of Boring at 15 ft	
16					
				D1-00-2 ft	
17				**D1-01-6 ft**	
				D1-02-7ft	
18				**D1-03-8ft**	
				D1-04-15 ft	
19				**DUP-C-080919**	
				D1-WC	
20					
21					
22					
23					

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BORING LOG

Boring No.	D2
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.1 ft - Asphalt, gravel, fill	
				1.1-2.8 ft - Large gravel and sand	
2				2.8-4.1 ft - Brown silty clay, moist	
3	D2-01				
4	D2-02				
				PID - 0 ppm	4.1 ft Recovered
5	D2-03				
6				0-4.9 ft - Brown silty clay, moist	
7					
8					
9					
				PID - 0 ppm	4.9 ft Recovered
10					
11				0-0.4 ft - Brown silty clay, moist	
				0.4-2.6 ft - Small gravel, some sand, saturated	
12				2.6-4.6 ft - Brown silty clay, moist	
13					
14					
				PID - 0 ppm	4.6 ft Recovered
15					
				End of Boring at 15 ft	
16					
				D2-01-3 ft	
17				**D2-02- 4 ft**	
				D2-03-5 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	D3
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.4 ft - Asphalt, gravel, fill	
				1.4-1.9 ft - Brown silty clay	
2				1.9-3.6 ft - Gravel and sand, moist	
3					
4					
5				***PID - 0 ppm***	3.6 ft Recovered
6	D3-01			0-0.4 ft - Gravel and sand, moist	
	MS/MSD			0.4-4.8 ft - Silty clay, moist	
7	D3-02				
8	D3-03				
9					
10				***PID - 0 ppm***	4.8 ft Recovered
11				0-3.4 ft - Small gravel, some sand, saturated	
				3.4-5.0 - Brown silty clay, moist	
12					
13					
14					
15				***PID - 0 ppm***	5.0 ft Recovered
16				***End of Boring at 15 ft***	
17				**D3-01-6 ft** **D3-01-6 ft MS/MSD**	
18				**D3-02-7 ft** **D3-03-8 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	D4
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.8 ft - Asphalt, gravel, and sand, fill, moist	
				1.8-2.5 ft - Sand, saturated	
2				2.5-4.3 ft - Brown silty clay, saturated	
3	D4-01				
4	D4-02				
5	D4-03			***PID - 0 ppm***	4.3 ft Recovered
6				0-4.3 ft - Brown silty clay, moist	
7					
8					
9					
10				***PID - 0 ppm***	4.3 ft Recovered
				Hit Refusal at 9 to 10 ft	
11				***End of Boring at 10 ft***	
12					
13					
14					
15					
16					
17				**D4-01-3 ft**	
				D4-02-4 ft	
18				**D4-03-5 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	E1
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-2.6 ft - Tolsoil loam, little gravel	
				2.6-3.4 ft - Gravel, fill	
2				3.4-4.3 ft - Black silty clay, moist	
				4.3-4.8 ft - Brown silty clay	
3					
4					
				PID - 0 ppm	4.8 ft Recovered
5					
6				0-2.0 ft - Black silty clay and gravel	
				2.0-5.0 ft - Brown silty clay	
7	E1-01				
8	E1-02				
9	E1-03				
				PID - 0 ppm	5.0 ft Recovered
10					
11				0-5.0 ft - Brown silty clay	
12					
13					
14					
				PID - 0 ppm	5.0 ft Recovered
15					
				End of Boring at 15 ft	
16					
				E1-01-7 ft	
17				**E1-02-8 ft**	
				E1-03-9 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	E2
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1	E2-00			0-0.6 ft - Asphalt, gravel, and sand, fill	
	MS/MSD			0.6-4.8 ft - Brown silty clay	
2	E2-01				
3	E2-02				
4	E2-03				
5				***PID - 0 ppm***	4.8 ft Recovered
6				0-4.8 ft - Brown silty clay, dense	
7					
8					
9					
10				***PID - 0 ppm***	4.8 ft Recovered
11				0-4.8 ft - Brown silty clay, dense	
12					
13					
14					
15	E2-04			***PID - 0 ppm***	4.8 ft Recovered
16				***End of Boring at 15 ft***	
17				**E2-00-1 ft** **E2-00-1 ft MS/MSD**	
18				**E2-01-2 ft** **E2-02-3 ft**	
19				**E2-03-4 ft** **E2-04-15 ft**	
20				**E2-WC**	
21					
22					
23					

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BORING LOG

Boring No.	E3
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.8 ft - Asphalt, gravel, and sand, fill	
				0.8-1.4 ft - Black silty clay, moist	
2	E3-01			1.4-5.0 ft - Brown silty clay	
3	E3-02				
4	E3-03				
				PID - 0 ppm	5.0 ft Recovered
5					
6				0-5.0 ft - Brown silty clay	
7					
8					
9					
				PID - 0 ppm	5.0 ft Recovered
10					
11				0-5.0 ft - Brown silty clay	
12					
13					
14					
				PID - 0 ppm	5.0 ft Recovered
15					
				End of Boring at 15 ft	
16					
				E3-01-2 ft	
17				**E3-02-3 ft**	
				E3-03-4 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	E4
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.7 ft - Asphalt, gravel, and sand, fill	
				0.7-1.3 ft - Black silty clay and sand, moist	
2	E4-01			1.3-4.7 ft - Brown silty clay	
3	E4-02				
4	E4-03				
				PID - 0 ppm	4.7 ft Recovered
5					
6				0-4.8 ft - Brown silty clay	
7					
8					
9					
				PID - 0 ppm	4.8 ft Recovered
10					
11				0-5.0 ft - Brown silty clay, moist	
12					
13					
14					
				PID - 0 ppm	5.0 ft Recovered
15	E4-04				
				End of Boring at 15 ft	
16					
				E4-01-2 ft	
17				**E4-02-3 ft**	
				E4-03-4 ft	
18				**E4-04-15 ft**	
19					
20					
21					
22					
23					

C&S Engineers, Inc. 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	1-X01
		Sheet 1 of:	
		Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program						***Surface Elev.:***		
Location:	301 Connecticut Street, Buffalo, NY						***Datum:***		
Client:	D'Youville College						***Start Date:***	8/5/19	
Drilling Firm:	TREC						***Finish Date:***	8/12/19	
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	J. Alt-Winzig	
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.7 ft - Asphalt, gravel, sub-base, fill	
2					
3					
4				***PID - 0 ppm***	1.7 ft Recovered
5				0-0.7 ft - Gravel backfill, water, saturated	
6					
7					
8				***PID - 0 ppm***	0.7 ft Recovered
9	1-X01			0-1.1 ft - Gravel backfill, water, saturated	
10	1-X01 DUP-A			1.1-2.6 ft - Brown silty clay, trace gravel, soft, moist	
11	1-X01				
12	1-X01			***PID - 0 ppm***	2.6 ft Recovered
13	1-X01			0-2.6 ft - Brown silty clay, soft, moist	
14	1-X01				
15	1-X01				
16				***PID - 0 ppm***	2.6 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-X01-9 ft** **1-X01-10 ft**	
19				**1-X01-11 ft** **1-X01-12 ft**	
20				**1-X01-13 ft** **1-X01-14 ft**	
21				**1-X01-15 ft** **DUP-A-080519**	
22					
23					

C&S Engineers, Inc. 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	1-X02
		Sheet 1 of:	
		Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program							***Surface Elev.:***	
Location:	301 Connecticut Street, Buffalo, NY							***Datum:***	
Client:	D'Youville College							***Start Date:***	8/5/19
Drilling Firm:	TREC							***Finish Date:***	8/12/19
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***					***Inspector:***	J. Alt-Winzig
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.9 ft - Asphalt, gravel, sub-base, fill, dry	
2					
3					
4				***PID - 0 ppm***	1.9 ft Recovered
5				0-0.9 ft - Gravel backfill	
6					
7					
8				***PID - 0 ppm***	0.9 ft Recovered
9	1-X02			0-1.0 ft - Slag	
10	1-X02			1.0-2.6 ft - Brown silty clay, moist	
11	1-X02			***PID - 700 ppm at 9 ft***	
12	1-X02			***PID - 0 ppm at 10 ft***	2.6 ft Recovered
13	1-X02			0-3.8 ft - Brown silty clay, saturated	
14	1-X02				
15					
16				***PID - 0 ppm***	3.8 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-X02-9 ft** **1-X02-10 ft**	
19				**1-X02-11 ft** **1-X02-12 ft**	
20				**1-X02-13 ft** **1-X02-14 ft**	
21					
22					
23					

C&S Engineers, Inc. 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	1-X03
		Sheet 1 of:	
		Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program						***Surface Elev.:***		
Location:	301 Connecticut Street, Buffalo, NY						***Datum:***		
Client:	D'Youville College						***Start Date:***	8/5/19	
Drilling Firm:	TREC						***Finish Date:***	8/12/19	
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***				***Inspector:***	J. Alt-Winzig	
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-2.6 ft - Asphalt, gravel, sub-base, fill, dry	
2					
3					
4				***PID - 0 ppm***	2.6 ft Recovered
5				0-0.7 ft - Gravel backfill	
6					
7					
8				***PID - 0 ppm***	0.7 ft Recovered
9	1-X03			0-2.2 ft - Brown silty clay	
10	1-X03				
11	1-X03				
12	1-X03			***PID - 0 ppm***	2.2 ft Recovered
13	1-X03			0-3.3 ft - Brown silty clay	
14	1-X03				
15	1-X03				
16				***PID - 0 ppm***	3.3 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-X03-8 to 9 ft** **1-X03-10 ft**	
19				**1-X03-11 ft** **1-X03-12 ft**	
20				**1-X03-13 ft** **1-X03-14 ft**	
21				**1-X03-15 ft**	
22					
23					

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BORING LOG

		Boring No.	1-X04
		Sheet 1 of:	
		Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Drill Rig:**	**Inspector:** J. Alt-Winzig
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.5 ft - Asphalt, gravel, sub-base, fill	
2					
3					
4				***PID - 0 ppm***	1.5 ft Recovered
5				0-0.7 ft - Gravel backfill, water, saturated	
6					
7					
8				***PID - 0 ppm***	0.7 ft Recovered
9	1-X04			0-1.1 ft - Gravel backfill, water, saturated	
10	1-X04			1.1-1.6 ft - Brown silty clay, moist	
11	1-X04			***PID - 203 ppm at 10 ft***	
12	1-X04			***PID - 0 ppm at 11 ft***	1.6 ft Recovered
13	1-X04			0-2.6 ft - Brown silty clay, moist	
14	1-X04				
15	1-X04			***PID - 74 ppm at 12 ft***	
16				***PID - 13 ppm at 13 ft***	
				PID - 5 ppm at 15 ft	2.6 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-X04-9 ft**	
19				**1-X04-10 ft**	
20				**1-X04-11 ft**	
21				**1-X04-12 ft**	
22				**1-X04-13 ft**	
23				**1-X04-14 ft**	
				1-X04-15 ft	

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BORING LOG

Boring No.	2-X01		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.3 ft - Asphalt, gravel, fill, dry	
2					
3					
4				***PID - 0 ppm***	1.3 ft Recovered
5				0-0.6 ft - Gravel fill, dry	
6				0.6-1.8 ft - Brown silty clay, saturated	
7					
8	2-X01			***PID - 0 ppm***	1.8 ft Recovered
9	2-X01			0-0.4 ft - Asphalt and gravel fill	
10	2-X01			0.4-3.8 ft - Brown silty clay, trace gravel, moist	
11	2-X01				
12				***PID - 0 ppm***	3.8 ft Recovered
13				***Hit Refusal at 12 ft***	
14				***End of Boring at 12 ft***	
15					
16					
17					
18				**2-X01-8 ft**	
19				**2-X01-9 ft**	
20				**2-X01-10 ft**	
21				**2-X01-11 ft**	
22					
23					

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BORING LOG

		Boring No.	2-X02
		Sheet 1 of:	
		Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.5 ft - Asphalt, gravel, fill	
				0.5-3.0 ft - Brown silty clay and gravel	
2					
3					
				PID - 0 ppm	3.0 ft Recovered
4					
5				0-1.7 ft - Brown silty clay and gravel	
				1.7-3.8 ft - Brown silty clay	
6					
7				***PID - 73 ppm at 7 ft***	
				PID - 240 ppm at 8 ft	3.8 ft Recovered
8	2-X02				
9	2-X02			0-1.0 ft - Brown silty clay and gravel, moist	
				1.0-3.9 ft - Brown silty clay, saturated	
10	2-X02				
				PID - 77 ppm at 9 ft	
11	2-X02			***PID - 61 ppm at 10 ft***	
				PID - 0 ppm at 11 ft	3.9 ft Recovered
12	2-X02				
13	2-X02			0-2.5 ft - Brown silty clay, saturated	
14	2-X02				
15	2-X02				
				PID - 0 ppm	2.5 ft Recovered
16					
				End of Boring at 16 ft	
17					
				2-X02-8 ft	
18				**2-X02-9 ft**	
				2-X02-10 ft	
19				**2-X02-11 ft**	
				2-X02-12 ft	
20				**2-X02-13 ft**	
				2-X02-14 ft	
21					
22					
23					

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BORING LOG

Boring No.	2-X03		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-2.4 ft - Asphalt, gravel, fill	
2					
3					
4				***PID - 0 ppm***	2.4 ft Recovered
5				0-0.9 ft - Gravel fill	
6					
7					
8				***PID - 0 ppm***	0.9 ft Recovered
9	2-X03			0-0.9 ft - Gravel fill	
10	2-X03			0.9-2.3 ft - Brown silty clay, moist	
11	2-X03			***PID - 66 ppm at 9 ft***	
12	2-X03			***PID - 0 ppm at 10 ft***	2.3 ft Recovered
13				0-0.6 ft - Slag	
14				0.6-4.0 - Brown silty clay, moist	
15					
16				***PID - 0 ppm***	4.0 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-X03-9 ft** **2-X03-10 ft**	
19				**2-X03-11 ft** **2-X03-12 ft**	
20					
21					
22					
23					

C&S Engineers, Inc. 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	2-X04
		Sheet 1 of:	
		Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program							***Surface Elev.:***	
Location:	301 Connecticut Street, Buffalo, NY							***Datum:***	
Client:	D'Youville College							***Start Date:***	8/5/19
Drilling Firm:	TREC							***Finish Date:***	8/12/19
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***					***Inspector:***	J. Alt-Winzig
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.7 ft - Asphalt, gravel, sub-base, fill, dry	
2					
3					
4				***PID - 0 ppm***	1.7 ft Recovered
5				0-1.4 ft - Gravel backfill, saturated	
6					
7					
8				***PID - 0 ppm***	1.4 ft Recovered
9	2-X04			0-0.7 ft - Gravel, saturated	
10	2-X04			0.7-3.5 ft - Brown silty clay, saturated	
11	2-X04			***PID - 130 ppm at 10 ft***	
12	2-X04			***PID - 23 ppm at 11 ft*** ***PID - 0 ppm at 12 ft***	3.5 ft Recovered
13	2-X04			0-3.7 ft - Brown silty clay, saturated	
14	2-X04				
15	2-X04				
16				***PID - 0 ppm***	3.7 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-X04-9 ft** **2-X04-10 ft**	
19				**2-X04-11 ft** **2-X04-12 ft**	
20				**2-X04-13 ft** **2-X04-14 ft**	
21				**2-X04-15 ft**	
22					
23					

C&S Engineers, Inc.
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BORING LOG

Boring No.	1-Y01
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.9 ft - Asphalt, gravel, and sand, fill	
				0.9-1.6 ft - Dark brown silty sand	
2				1.6-3.5 ft - Light brown silty sand	
3					
4				***PID - 0 ppm***	3.5 ft Recovered
5				0-1.7 ft - Black silty clay, dry	
6				1.7-3.9 ft - Brown silty clay, moist	
7				***PID - 5 ppm at 5 to 6 ft***	
8				***PID - 0 ppm at 7 to 8 ft***	3.9 ft Recovered
9				0-1.4 ft - Dark brown silty clay, some gravel, moist	
10				1.4-3.9 ft - Brown silty clay, moist	
11	1-Y01				
12				***PID - 0 ppm***	3.9 ft Recovered
13				0-3.9 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.9 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-Y01-11 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	1-Y02
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.8 ft - Asphalt, gravel, and sand, fill	
2				0.8-2.3 ft - Dark brown silty clay, some sand	
3					
4				***PID - 0 ppm***	2.3 ft Recovered
5				0-0.3 ft - Dark brown silty clay, some sand	
6				0.3-0.6 ft - Black silty clay	
7				0.6-0.9 ft - Dark brown silty clay	
8				***PID - 0 ppm***	0.9 ft Recovered
9	1-Y02			0-1.5 ft - Dark brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	1.5 ft Recovered
13				0-3.9 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.9 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-Y02-9 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	1-Y03		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.1 ft - Asphalt, gravel, fill	
				1.1-2.6 ft - Brown silty clay	
2					
3					
4				***PID - 0 ppm***	2.6 ft Recovered
5				0-2.0 ft - Brown silty clay, some gravel	
				2.0-3.2 ft - Brown silty clay, moist	
6					
7				***PID - 60 ppm at 6 ft***	
				PID - 40 ppm at 7 ft	
8				***PID - 0 ppm at 8 ft***	3.2 ft Recovered
9				0-3.9 ft - Brown silty clay, moist	
10	1-Y03				
11					
12				***PID - 0 ppm***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14					
15					
16					
17					
18				**1-Y03-10 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	1-Y04		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.9 ft - Asphalt, gravel, and sand, fill	
				0.9-2.4 ft - Sandy clay, little gravel	
2					
3					
4				***PID - 0 ppm***	2.4 ft Recovered
5					
				0-1.1 ft - Sandy clay, little gravel	
6				1.1-2.0 ft - Black silty clay	
7				***PID - 80 ppm at 5 to 6 ft***	
				PID - 5 ppm at 6-7 ft	
8				***PID - 0 ppm at 8 ft***	2.0 ft Recovered
9	1-Y04				
				0-0.6 ft - Black silty clay	
10				0.6-3.8 ft - Brown silty clay, saturated	
11					
12				***PID - 0 ppm***	3.8 ft Recovered
13					
				0-3.3 ft - Brown silty clay, saturated	
14					
15					
16				***PID - 0 ppm***	3.3 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-Y04-9 ft**	
19					
20					
21					
22					
23					

C&S COMPANIES	**C&S Engineers, Inc.** 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	2-Y01
			Sheet 1 of:	
			Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program							***Surface Elev.:***	
Location:	301 Connecticut Street, Buffalo, NY							***Datum:***	
Client:	D'Youville College							***Start Date:***	8/5/19
Drilling Firm:	TREC							***Finish Date:***	8/12/19
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***					***Inspector:***	J. Alt-Winzig
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1					
				0-0.7 ft - Asphalt, gravel, and black sand, fill	
				0.7-1.9 ft - Black silty clay, moist	
2					
3					
				PID - 0 ppm	1.9 ft Recovered
4					
5				0-2.0 ft - Black silty clay, moist	
				2.0-3.9 ft - Brown silty clay, moist	
6					
7				***PID - 17 ppm at 6 ft***	
				PID - 2 ppm at 7 ft	3.9 ft Recovered
8					
9	2-Y01			0-2.2 ft - Brown silty clay, trace sand, moist	
				2.2-3.7 ft - Silty clay	
10					
11				***PID - 1 ppm at 9 ft***	
				PID - 0 ppm at 10 ft	3.7 ft Recovered
12					
13				0-3.9 ft - Brown silty clay	
14					
15					
				PID - 0 ppm	3.9 ft Recovered
16					
				End of Boring at 16 ft	
17					
				2-Y01-9 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Y02		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:						
Casing:		**Rock Core:**		**Undist:**		
Sampler:		**Other:**				
Hammer:						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.1 ft - Asphalt, gravel, and black sand, fill	
				1.1-2.7 ft - Dark brown silty clay	
2					
3					
4	2-Y02			***PID - 0 ppm***	2.7 ft Recovered
5				0-3.4 ft - Dark brown silty clay, some gravel	
6					
7					
8				***PID - 0 ppm***	3.4 ft Recovered
9				0-3.8 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.8 ft Recovered
13				0-3.7 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.7 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-Y02-4 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Y03		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.6 ft - Asphalt, gravel, fill	
				0.6-2.9 ft - Sandy clay, dry	
2					
3					
4				***PID - 0 ppm***	2.9 ft Recovered
5	2-Y03			0-2.8 ft - Sandy clay, dry	
				2.8-3.6 ft - Silty clay, moist	
6					
7					
8				***PID - 0 ppm***	3.6 ft Recovered
9				0-3.8 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.8 ft Recovered
13				0-3.6 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.6 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-Y03-5 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Y04
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.9 ft - Asphalt, gravel, fill	
				0.9-1.8 ft - Black sand, petroleum odor	
2					
3					
4				***PID - 2500 ppm at 2 ft***	1.8 ft Recovered
5				0-1.4 ft - Black sand, petroleum odor, moist	
6					
7					
8				***PID - 4000 ppm at 5 ft***	1.4 ft Recovered
9				0-1.8 ft - Black sand, petroleum odor, moist	
10				1.8-3.8 ft - Silty sand, moist	
11				***PID - 500 ppm at 9 ft***	
				PID - 100 ppm at 10 ft	
12	2-Y04			***PID - 90 ppm at 11 ft***	3.8 ft Recovered
13				***PID - 5 ppm at 12 ft***	
				0-3.2 ft - Brown silty sand, moist	
14					
15					
16				***PID - 0 ppm***	3.2 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-Y04-12 ft**	
19				**Boring was moved 5 ft further from delineation center (15 ft from center) in order to try and find extent of petroleum odor/contamination**	
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Y05		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:						
Casing:		**Rock Core:**		**Undist:**		
Sampler:		**Other:**				
Hammer:						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Asphalt, gravel, fill	
				0.2-3.0 ft - Sandy clay	
2					
3					
4				***PID - 20 ppm at 3 ft***	3.0 ft Recovered
5				0-1.2 ft - Sandy clay	
				1.2-3.9 ft - Brown silty clay	
6					
7				***PID - 250 ppm at 5 ft***	
				PID - 130 ppm at 6 ft	
8				***PID - 110 ppm at 7 ft***	3.9 ft Recovered
9				***PID - 73 ppm at 8 ft***	
				0-3.9 ft - Brown silty clay	
10					
11				***PID - 130 ppm at 9 ft***	
				PID - 40 ppm at 10 ft	
12	2-Y05			***PID - 0 ppm at 11 ft***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14					
15					
16					
17					
				2-Y05-12 ft	
18					
19				**Boring added on Northeast corner of "Y" delineation 10 ft from center**	
20					
21					
22					
23					

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BORING LOG

Boring No.	3-Y04
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:			***Sampler:***		***Other:***			
After Casing Removal:			***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.2 ft - Asphalt, gravel, fill	
				1.2-2.7 ft - Black and brown silty clay	
2					
3					
4				***PID - 0 ppm***	2.7 ft Recovered
5				0-1.6 ft - Black and brown silty clay	
				1.6-3.9 ft - Brown silty clay, petroleum odor, moist	
6					
7				***PID - 630 ppm at 5 ft***	
				PID - 5500 ppm at 6 ft	
8				***PID - 430 ppm at 7 ft***	3.9 ft Recovered
				PID - 130 pmm at 8 ft	
9				0-2.6 ft - Brown silty clay, moist	
10					
11				***PID - 55 ppm at 9 ft***	
				PID - 20 ppm at 10 ft	
12				***PID - 15 ppm at 11 ft***	2.6 ft Recovered
				PID - 0 ppm at 12 ft	
13	3-Y04			0-2.2 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	2.2 ft Recovered
17				***End of Boring at 16 ft***	
				3-Y04-13 ft	
18					
19				**Boring was added 5 ft further from delineation center (20 ft from center) in order to try and find extent of petroleum odor/contamination**	
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	1-Z01
141 Elm Street		Sheet 1 of:	
Buffalo, New York 14203		Project No.:	V20.001.005
Phone: 716-847-1630		Surface Elev.:	
Fax: 716-847-1454		Datum:	
		Start Date:	8/5/19
		Finish Date:	8/12/19
		Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program						
Location:	301 Connecticut Street, Buffalo, NY						
Client:	D'Youville College						
Drilling Firm:	TREC						
Groundwater	Depth	Date & Time	Drill Rig:				
While Drilling:			Casing:		Rock Core:	Undist:	
Before Casing Removal:			Sampler:		Other:		
After Casing Removal:			Hammer:				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse, m - medium, f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.2 ft - Asphalt, gravel, fill	
2				1.2-3.4 ft - Brown sandy clay	
3					
4				***PID - 0 ppm***	3.4 ft Recovered
5				0-3.9 ft - Brown with black stains sandy clay, some gravel	
6					
7	1-Z01			***PID - 60 ppm at 8 ft***	
				PID - 40 ppm at 7 ft	
8				***PID - 0 ppm at 8 ft***	3.9 ft Recovered
9				0-2.9 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	2.9 ft Recovered
13				0-3.6 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.6 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-Z01-7 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	1-Z02
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.6 ft - Asphalt, gravel, fill	
2					
3					
4				***PID - 0 ppm***	0.6 ft Recovered
5				0-1.1 ft - Asphalt, gravel, fill	
6				1.1-2.6 ft - Brown silty clay	
7				***PID - 60 ppm at 8 ft***	
8				***PID - 40 ppm at 7 ft***	
				PID - 0 ppm at 8 ft	2.6 ft Recovered
9				0-0.6 ft - Asphalt	
10				0.6-3.8 ft - Brown silty clay	
11	1-Z02			***PID - 67 ppm at 9 ft***	
12				***PID - 5 ppm at 10 ft***	
				PID - 0 ppm at 11 ft	3.8 ft Recovered
13				***Hit Refusal at 12 ft***	
14				***End of Boring at 12 ft***	
15					
16					
17					
18				**1-Z02-11 ft**	
19					
20					
21					
22					
23					

C&S Engineers, Inc. 141 Elm Street Buffalo, New York 14203 Phone: 716-847-1630 Fax: 716-847-1454	**BORING LOG**	***Boring No.***	1-Z03
		Sheet 1 of:	
		Project No.:	V20.001.005

Project Name:	301 Connecticut Street Brownfield Cleanup Program							***Surface Elev.:***	
Location:	301 Connecticut Street, Buffalo, NY							***Datum:***	
Client:	D'Youville College							***Start Date:***	8/5/19
Drilling Firm:	TREC							***Finish Date:***	8/12/19
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***					***Inspector:***	J. Alt-Winzig
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***		
Before Casing Removal:			***Sampler:***		***Other:***				
After Casing Removal:			***Hammer:***						

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-1.0 ft - Asphalt, gravel, and sand fill	
				1.0-2.1 ft - Gravel	
2					
3					
				PID - 0 ppm	2.1 ft Recovered
4					
5				0-1.4 ft - Gravel	
				1.4-2.5 ft - Sandy clay and gravel	
6					
7				***PID - 3500 ppm at 7 ft***	
				PID - 400 ppm at 8 ft	2.5 ft Recovered
8					
9				0-1.2 ft - Sandy clay and gravel	
				1.2-3.8 ft - Brown silty clay	
10					
11	1-Z03			***PID - 400 ppm at 9 ft***	
				PID - 0 ppm at 10 ft	3.8 ft Recovered
12					
13				0-3.9 ft - Brown silty clay	
14					
15					
				PID - 0 ppm	3.9 ft Recovered
16					
				End of Boring at 16 ft	
17					
				1-Z03-11 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	1-Z04
Sheet 1 of:	
Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program
Surface Elev.:	
Location:	301 Connecticut Street, Buffalo, NY
Datum:	
Client:	D'Youville College
Start Date:	8/5/19
Drilling Firm:	TREC
Finish Date:	8/12/19
Groundwater / **Depth** / **Date & Time**	**Drill Rig:**
Inspector:	J. Alt-Winzig
While Drilling:	**Casing:** / **Rock Core:** / **Undist:**
Before Casing Removal:	**Sampler:** / **Other:**
After Casing Removal:	**Hammer:**

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.6 ft - Asphalt, gravel, and sub-base stone, fill	
				0.6-3.0 ft - Tan sandy clay, dry	
2					
3					
4				***PID - 0 ppm***	3.0 ft Recovered
5					
				0-1.1 ft - Brown silty clay	
6				1.1-3.8 ft - Sandy clay, trace gravel	
7				***PID - 26 ppm at 5 ft***	
				PID - 15 ppm at 6 ft	
8				***PID - 8 ppm at 7 ft***	3.8 ft Recovered
9				***PID - 0 ppm at 8 ft***	
				0-2.9 ft - Brown silty clay	
10	1-Z04				
11					
12				***PID - 0 ppm***	2.9 ft Recovered
13				0-2.8 ft - Brown silty clay	
14					
15					
16				***PID - 0 ppm***	2.8 ft Recovered
17				***End of Boring at 16 ft***	
18				**1-Z04-10 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Z01
Sheet 1 of:	
Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program
Surface Elev.:	
Location:	301 Connecticut Street, Buffalo, NY
Datum:	
Client:	D'Youville College
Start Date:	8/5/19
Drilling Firm:	TREC
Finish Date:	8/12/19
Groundwater	**Depth** / **Date & Time**
While Drilling:	
Before Casing Removal:	
After Casing Removal:	
Drill Rig:	
Casing:	**Rock Core:** / **Undist:**
Sampler:	**Other:**
Hammer:	
Inspector:	J. Alt-Winzig

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.8 ft - Asphalt, gravel, fill	
				0.8-1.2 ft - Black silty sand	
2				1.2-3.1 ft - Brown silty clay	
3					
4				***PID - 0 ppm***	3.1 ft Recovered
5				0-1.8 ft - Brown silty clay, some gravel	
				1.8-2.9 ft - Brown silty clay, moist	
6					
7	2-Z01			***PID - 20 ppm at 5 ft***	
				PID - 400 ppm at 6 ft	
8				***PID - 160 ppm at 7 ft***	2.9 ft Recovered
				PID - 0 ppm at 8 ft	
9				0-3.8 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.8 ft Recovered
13				0-1.8 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	1.8 ft Recovered
17				***End of Boring at 16 ft***	
18				**2-Z01-7 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	2-Z03
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	8/5/19
Finish Date:	8/12/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.7 ft - Asphalt, gravel, fill	
				0.7-1.6 ft - Dark brown silty clay	
2					
3					
4				***PID - 0 ppm***	1.6 ft Recovered
5				**No Recovery**	
6					
7					
8					0 ft Recovered
9				0-0.6 ft - Brown silty clay and gravel	
10				0.6-3.9 ft - Brown silty clay	
11				***PID - 120 ppm at 9 ft***	
				PID - 40 ppm at 10 ft	
12	2-Z03			***PID - 0 ppm at 11 ft***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14					
15					
16					
17					
18				**2-Z03-12 ft**	
19					
20					
21					
22					
23					

C&S Engineers, Inc.	BORING LOG	Boring No.	2-Z04
141 Elm Street		Sheet 1 of:	
Buffalo, New York 14203		Project No.:	V20.001.005
Phone: 716-847-1630		Surface Elev.:	
Fax: 716-847-1454		Datum:	
		Start Date:	8/5/19
		Finish Date:	8/12/19
		Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program						
Location:	301 Connecticut Street, Buffalo, NY						
Client:	D'Youville College						
Drilling Firm:	TREC						
Groundwater	Depth	Date & Time	Drill Rig:				
While Drilling:			Casing:		Rock Core:		Undist:
Before Casing Removal:			Sampler:		Other:		
After Casing Removal:			Hammer:				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse, m - medium, f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.5 ft - Asphalt, gravel, fill	
				0.5-0.8 ft - Black silty clay	
2				0.8-3.0 ft - Brown silty clay, little gravel	
3				***PID - 400 ppm at 2 ft***	
				PID - 1500 ppm at 3 ft	3.0 ft Recovered
4				***PID - 1200 ppm at 4 ft***	
5				0-3.6 ft - Brown silty clay	
6					
				PID - 1650 ppm at 6 ft	
7				***PID - 200 ppm at 7 ft***	
				PID - 0 ppm at 8 ft	3.6 ft Recovered
8					
9	2-Z04			0-3.3 ft - Brown silty clay, moist	
10					
11					
				PID - 0 ppm	3.3 ft Recovered
12					
13				0-0.8 ft - Brown silty clay, moist	
				0.8-2.2 ft - Brown silty clay, saturated	
14				2.2-3.6 ft - Brown silty clay, moist	
15					
				PID - 0 ppm	3.6 ft Recovered
16					
				End of Boring at 16 ft	
17					
				2-Z04-9 ft	
18					
19					
20					
21					
22					
23					

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BORING LOG

		Boring No.	2-Z05
		Sheet 1 of:	
		Project No.:	V20.001.005
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	8/5/19
Drilling Firm:	TREC	**Finish Date:**	8/12/19
Groundwater	**Depth** / **Date & Time**	**Drill Rig:**	**Inspector:** J. Alt-Winzig
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.7 ft - Asphalt, gravel, fill	
				0.7-1.1 ft - Brown sand	
2				1.1-1.9 ft - Black stained silty clay, petroleum odor	
3					
4				***PID - 2800 ppm at 2 ft***	1.9 ft Recovered
5				0-1.9 ft - Black stained silty clay, petroleum odor	
6					
7				***PID - 2600 ppm at 5 ft***	
8				***PID - 2200 ppm at 6 ft***	1.9 ft Recovered
9				0-1.1 ft - Black stained silty clay, petroleum odor	
10				1.1-3.7 ft - Brown silty clay	
11				***PID - 150 ppm at 10 ft***	
				PID - 50 ppm at 11 ft	
12	2-Z05			***PID - 0 ppm at 12 ft***	3.7 ft Recovered
13				***End of Boring at 12 ft***	
14					
15					
16					
17					
18				**2-Z05-12 ft**	
19				**Boring added on Northwest corner of "Z" delineation 10 ft from center**	
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-1
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.1 ft - Concrete, sub-base stone	
2				0.1-2.6 ft - Brown silty clay, dry	
3					
4				***PID- 0 ppm***	2.6 ft Recovered
5	SW-1			0-3.9 ft - Brown silty clay, trace gravel, dry	
6					
7					
8				***PID - 0 ppm***	3.9 ft Recovered
9				0-3.9 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-1-5 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-2
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.3 ft - Concrete, sub-base stone	
				0.3-2.7 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	2.7 ft Recovered
5	SW-2			0-0.3 ft - Black silty clay	
				0.3-3.8 ft - Brown silty clay, trace gravel, moist	
6					
7					
8				***PID - 0 ppm***	3.8 ft Recovered
9				0-3.9 ft - Brown silty clay, saturated	
10					
11					
12				***PID - 0 ppm***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-2-5 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-3
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-2.2 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	2.2 ft Recovered
5				0-3.9 ft - Dark brown silty clay, moist	
6					
7	SW-3			***PID - 50 ppm at 6 ft***	
				PID - 500 ppm at 7 ft	
8				***PID - 30 ppm at 8 ft***	3.9 ft Recovered
9				0-2.8 ft - Brown silty clay, moist	
10					
11				***PID - 28 oom at 9 ft***	
				PID - 23 ppm at 10 ft	
12				***PID - 0 ppm at 11 ft***	2.8 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-3-7 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-4
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.3 ft - Concrete, sub-base stone	
				0.3-1.7 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	1.7 ft Recovered
5				0-2.1 ft - Black silty clay	
6	SW-4				
7				***PID - 412 ppm at 5 ft***	
				PID - 1850 ppm at 6 ft	
8				***PID - 370 ppm at 7 ft***	2.1 ft Recovered
9				0-0.3 ft - Black silty clay	
				0.3-3.3 ft - Brown silty clay, moist	
10					
11				***PID - 30 ppm at 9 ft***	
12				***PID - 0 ppm at 10 ft***	3.3 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-4-6 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-5
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-1.2 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	1.2 ft Recovered
5				0-3.7 ft - Brown silty clay, moist	
6					
7					
8				***PID - 0 ppm***	3.7 ft Recovered
9				0-3.4 ft - Brown silty clay, moist	
10	SW-5				
11				***PID - 45 ppm at 9 ft***	
				PID - 100 ppm at 10 ft	
12				***PID - 0 ppm at 11 ft***	3.4 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-5-10 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-6
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-1.7 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	1.7 ft Recovered
5				0-3.8 ft - Brown silty clay, moist	
6	SW-6				
7				***PID - 2600 ppm at 6 ft***	
8				***PID - 25 ppm at 7 ft***	3.8 ft Recovered
9				0-2.2 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	2.2 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-6-6 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-7
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-2.5 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	2.5 ft Recovered
5	SW-7			0-3.8 ft - Dark brown silty clay	
6				***PID - 1500 ppm at 5 ft***	
7				***PID - 2600 ppm at 6 ft***	
8				***PID - 0 ppm at 7 ft***	
				PID - 100 ppm at 8 ft	3.8 ft Recovered
9				0-0.7 ft - Dark brown silty clay, some black staining	
10				0.7-3.6 ft - Brown silty clay, moist	
11				***PID - 45 ppm at 9 ft***	
12				***PID - 10 ppm at 10 ft***	3.6 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-7-6 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-8
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.5 ft - Concrete, sub-base stone	
				0.5-1.5 ft - Brown silty clay, moist	
2					
3					
4				***PID- 0 ppm***	1.5 ft Recovered
5				0-0.5 ft - Brown silty clay, moist	
				0.5-0.9 ft - Brown sand, moist	
6				0.9-1.2 ft - Black clayey silt, ashphalt, and sand, moist	
7					
8				***PID - 0 ppm***	1.2 ft Recovered
9				0-0.1 ft - Black silty clay	
				0.1-2.6 ft - Brown silty clay	
10	SW-8				
				PID - 0 ppm at 9 ft	
11				***PID - 40 ppm at 10 ft***	
12				***PID - 0 ppm at 11 ft***	2.6 ft Recovered
13				0-1.2 ft - Brown sandy clay, moist	
				1.2-3.4 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.4 ft Recovered
17				***End of Boring at 16 ft***	
18				**SW-8-10 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-9
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-0.9 ft - Brown sandy clay, dry	
2					
3					
4				***PID- 0 ppm***	0.9 ft Recovered
5	SW-9			0-1.1 ft - Dark brown sandy clay	
6					
7					
8				***PID - 0 ppm***	1.1 ft Recovered
9				0-1.4 ft - Dark brown sandy clay	
10					
11					
12				***PID - 0 ppm***	1.4 ft Recovered
13				0-1.7 ft - Dark brown sandy clay, moist	
14					
15					
16				***PID - 0 ppm***	1.7 ft Recovered
17				***End of Boring at 16 ft***	
18				**SW-9-5 ft**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	SW-10
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				**NO RECOVERY**	
2					
3					
4					0 ft Recovered
5	SW-10			0-3.4 ft - Brown silty clay, moist	
6					
7					
8				***PID - 0 ppm***	3.4 ft Recovered
9				0-3.7 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.7 ft Recovered
13				***End of Boring at 12 ft***	
14				**SW-10-5 ft**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	MW-6
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-2.0 ft - Brown sandy clay	
2					
3					
4				***PID- 0 ppm***	2.0 ft Recovered
5				0-1.9 ft - Dark brown silty clay, some black staining	
				1.9-3.6 ft - Brown silty clay, moist	
6					
7					
8				***PID - 0 ppm***	3.6 ft Recovered
9				0-1.1 ft - Brown silty clay,moist	
				1.1-1.4 ft - Black silty sand	
10				1.3-3.1 ft - Brown silty clay, moist	
11					
12				***PID - 0 ppm***	3.1 ft Recovered
13				0-3.9 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.9 ft Recovered
17				***End of Boring at 16 ft***	
18				**Groundwater Sample Taken**	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	MW-7		
Sheet 1 of:			
Project No.:	V20.001.005		
Project Name:	301 Connecticut Street Brownfield Cleanup Program	**Surface Elev.:**	
Location:	301 Connecticut Street, Buffalo, NY	**Datum:**	
Client:	D'Youville College	**Start Date:**	9/9/19
Drilling Firm:	TREC	**Finish Date:**	9/10/19
Groundwater	**Depth** / **Date & Time**	**Inspector:**	J. Alt-Winzig
While Drilling:			
Before Casing Removal:			
After Casing Removal:			

Drill Rig:					
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.2 ft - Concrete, sub-base stone	
				0.2-1.5 ft - Brown silty clay, dry	
2					
3					
4				***PID - 0 ppm***	1.5 ft Recovered
5				0-1.7 ft - Brown silty clay	
				1.7-3.9 - Brown silty clay, moist	
6					
7					
8				***PID - 0 ppm***	3.9 ft Recovered
9				0-3.9 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.9 ft Recovered
13				***End of Boring at 12 ft***	
14				**No Samples Taken**	
15					
16					
17					
18					
19					
20					
21					
22					
23					

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Fax: 716-847-1454

BORING LOG

Boring No.	MW-8
Sheet 1 of:	
Project No.:	V20.001.005
Surface Elev.:	
Datum:	
Start Date:	9/9/19
Finish Date:	9/10/19
Inspector:	J. Alt-Winzig

Project Name:	301 Connecticut Street Brownfield Cleanup Program							
Location:	301 Connecticut Street, Buffalo, NY							
Client:	D'Youville College							
Drilling Firm:	TREC							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**					
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-0.3 ft - Concrete, sub-base stone	
				0.3-3.1 ft - Brown silty clay, dry	
2					
3					
4				***PID- 0 ppm***	3.1 ft Recovered
5					
				0-2.4 ft - Brown silty clay	
6				2.4-3.9 - Brown silty clay, moist	
7					
8				***PID - 0 ppm***	3.9 ft Recovered
9					
				0-3.7 ft - Brown silty clay, moist	
10					
11					
12				***PID - 0 ppm***	3.7 ft Recovered
13					
				0-3.9 ft - Brown silty clay, moist	
14					
15					
16				***PID - 0 ppm***	3.9 ft Recovered
17				***End of Boring at 16 ft***	
				No Samples Taken	
18					
19					
20					
21					
22					
23					

C&S Companies
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www.cscos.com

MEMORANDUM
REMEDIAL INVESTIGATION

TO: Bryan Kowalewski, NYSDEC

FROM: Cody Martin, C&S

RE: April 2019 Groundwater Sampling Results
301 Connecticut Street

FILE: C&S Project No. V20.001.002

DATE: May 16, 2019

C&S Engineers, Inc. (C&S) is providing this memorandum to present groundwater sampling results from the sample collection event at the 301 Connecticut Street Site.

BCP Remedial Investigation

On April 11, 2019, C&S collected groundwater samples from five monitoring wells located on 301 Connecticut Street. Samples were collected from these locations as described in the Remedial Investigation / Interim Remedial Work Plan. **Figure 1** shows the locations of the samples on the BCP Site. **Figure 2** shows public and private water wells within a ½ mile of the Site. **Tables 1** summarize emerging contaminant results and **Table 2** summarizes the analytical results and compares the results to Department of Environmental Conservation TOGS 1.1.1 standards for groundwater.

Findings

- MW-1 was installed adjacent to historic underground storage tanks (USTs). Soils with petroleum-like odors were identified from two feet to eight feet below ground surface (bgs). PID readings ranged from two parts per million (ppm) to 325 ppm.
- MW-2 was installed to monitor area where USTs had been previously located and removed. No petroleum like odors were encountered.
- MW-3 was installed adjacent to the former auto repair shop. No petroleum-like odors were encountered.
- MW-4 was installed in the area of historic USTs. No petroleum-like odors were encountered.
- MW-5 was installed toward the southeast BCP boundary.
- Subsurface material consists of four feet of fill material overlying fine grain soils consisting of silty clays and silts. Wet to saturated soils were encountered starting around 11 to 14 feet bgs; except for MW-2, which had perched water at eight feet within the former UST excavation.

- Water levels in all the wells were fairly consistent throughout the site. Measurement to depth of water in each well were roughly from 5-6 feet in every well.

Emerging Contaminants

PFAS were sampled in two out of the five wells. PFAS were detected in both monitoring wells were sampled were collected from; concentrations of total PFAS ranged from 0.502 ng/L to 7.19 ng/L. The highest concentration was detected from MW-1 .In both of the wells 1-4Dioxane was not detected.

VOCs

VOCs were detected in three of the five wells including the DUP sampling which was collected from MW-4. Wells MW-1, MW-3, MW-4 and the DUP sample contained VOC levels above TOGS guidance levels.

SVOCs

All five wells on the site contained at least one SVOC above the TOGS groundwater guidance levels. MW-3 contained the highest number of SVOCs above TOGS groundwater guidance levels. With all five wells partially screened within the fill material zone, it was not unexpected to have minor detections of SVOCs. The anticipated remedy will remove all contaminated fill material from the Site.

Metals

Metals were detected above TOGS groundwater guidance levels in all five of the monitoring wells throughout the Site. Magnesium was detected above guidance levels in all five monitoring wells including the DUP sample. Other metals that were detected above the guidance levels included, Manganese, Iron, Chromium, Barium, and one detection of Lead in MW-2.

PCBs

No PCBs were detected in any monitoring wells throughout the Site.

Pesticides

Only one well on Site had a detection of pesticides above TOGS groundwater guidance levels. MW-1 had a detection of Beta-BHC slightly above the guidance levels.

We respectfully request the Department's review of the results contained herein; please do not hesitate to contact us with any questions or comments.

Very truly yours,

C&S ENGINEERS, INC.

Cody Martin
Project Environmental Scientist

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

Attached:

1. Figure 1 – Groundwater Monitoring Well Locations
2. Figure 2 – Public & Private Water Wells
3. Table 1 – Groundwater Sample Results – Emerging Contaminants
4. Table 2 – Groundwater Sample Results
5. Soil Boring and Water Sampling Logs

F:\Project\V20 - D'Youville BCP\V20.001.002 - 301 Conneciticut Street \Planning Study \Correspondence\OUT\ Memorandum Letter

Legend

- PROPOSED BROWNFIELD CLEANUP (BCP) BOUNDARY
- 50-FT X 50-FT BCP GRID
- GROUNDWATER MONITORING WELL LOCATION

0 15 30 60 Feet

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Buffalo, New York 14203
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N

301 CONNECTICUT STREET
BROWNFIELD CLEANUP PROGRAM
CITY OF BUFFALO, NEW YORK

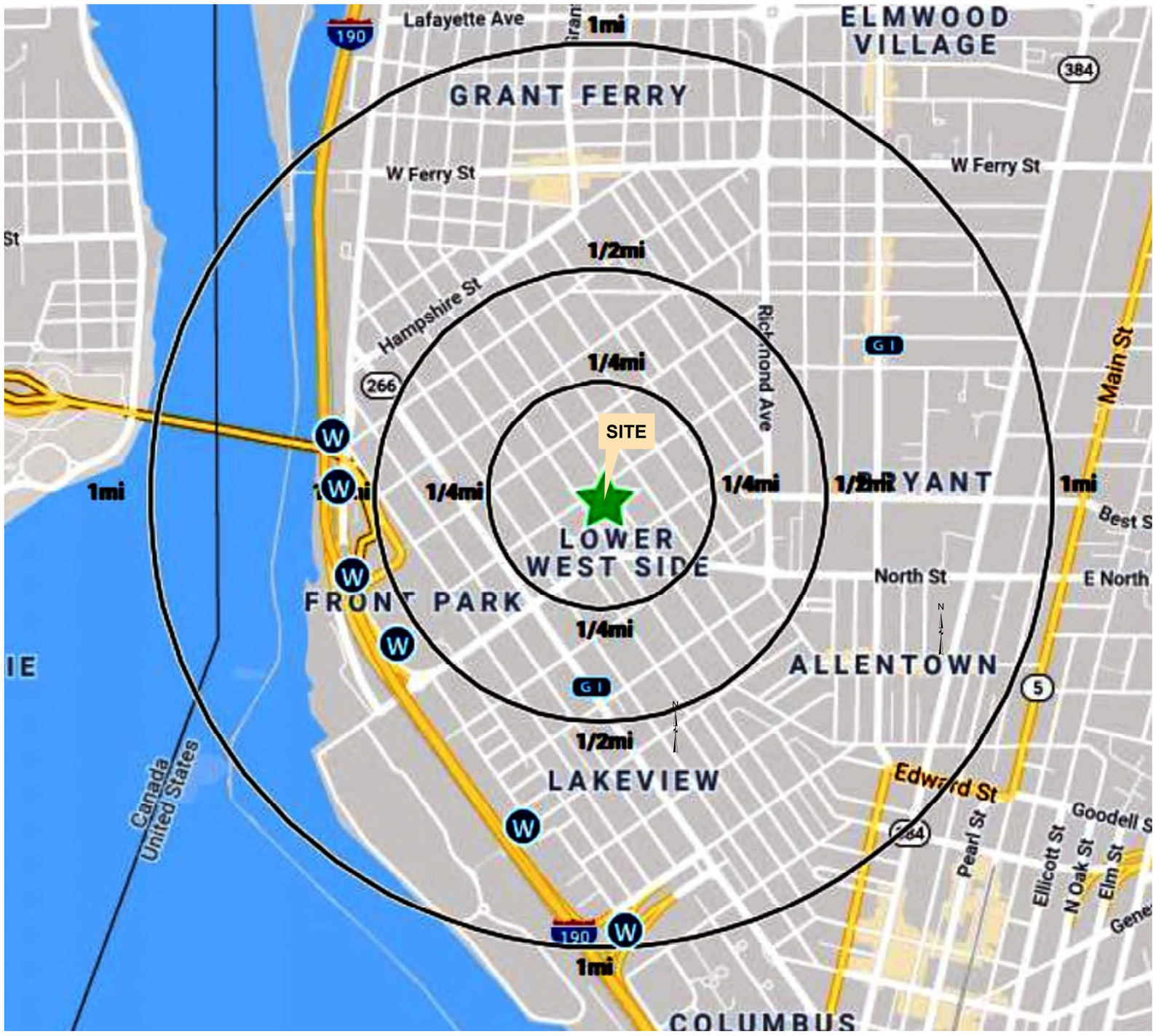
MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	V20.001.002
DATE:	05/17/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	C. MARTIN

GROUNDWATER MONITORING WELL LOCATIONS

FIGURE 1



Legend

W — WATER WELLS

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N

301 CONNECTICUT STREET
BROWNFIELD CLEANUP PROGRAM
CITY OF BUFFALO, NEW YORK

MARK	DATE	DESCRIPTION
REVISIONS		

PROJECT NO:	V20.001.002
DATE:	05/17/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	C. MARTIN

PUBLIC & PRIVATE WATER WELLS

FIGURE 2

Table 1

Emerging Contaminants
301 Connecticut Street

Well Location	MW-1		MW-5	
Sample ID	MW-1		MW-5	
Date Sampled	4/11/2019		4/11/2019	
Sample Matrix	Water		Water	
Units	ng/l		ng/l	
PFOA / PFOS				
Perfluorobutanoic acid (PFBA)	1.23	J	4.65	
Perfluoropentanoic acid (PFPeA)	7.19		1.04	J
Perfluorobutanesulfonic Acid (PFBS)	ND		0.569	J
Perfluorohexanoic acid (PFHxA)	6.4		1	J
Perfluoroheptanoic acid (PFHpA)	4.7		0.518	J
Perfluorohexanesulfonic acid (PFHxS)	0.947	J	1.81	J
Perfluorooctanoic acid (PFOA)	5.89		3	
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ND	
Perfluorononanoic acid (PFNA)	2.75		ND	
Perfluorooctanesulfonic Acid (PFOS)	7.14		ND	
Perfluorodecanoic acid (PFDA)	ND		ND	
Perfluoroundecanoic acid (PFUnA)	ND		ND	
Perfluorodecanesulfonic Acid (PFDS)	ND		ND	
Perfluorooctanesulfonamide (FOSA)	ND		ND	
Perfluorododecanoic acid (PFDoA)	ND		ND	
Perfluorotridecanoic acid (PFTrA)	ND		ND	
Perfluorotetradecanoic acid (PFTA)	ND		ND	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.299	J
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		ND	
6:2 FTS	0.502	J	0.219	J
8:2 FTS	ND		ND	
Total PFOA/PFOS	13.00		3.00	
Units	ug/l		ug/l	
1,4-Dioxane	ND		ND	

ND indicates analyte was not detected.

* - RPD of the LCS and LCSD exceeds the control limits

^ - ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate

TABLE 2

GROUNDWATER SAMPLE RESULTS
301 CONNECTICUT STREET
BUFFALO, NEW YORK

	Location ID	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5
	Sample Matrix	WG	WG	WG	WG	WG	WG
	Date Sampled	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019
	Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
	NYS TOGS Groundwater Standand & Guidance Value						
SVOC							
Acenaphthene	20.0 ug/l	0.07 J	0.22	0.03 J	0.06 J	0.06 J	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND
Anthracene	50.0 ug/l	0.02 J	0.14	0.02 J	0.03 J	0.02 J	0.01 J
Benzo(A)Anthracene	0.002 ug/l	ND	0.24	0.03 J	ND	ND	ND
Benzo(A)Pyrene		ND	0.17	0.05 J	0.05 J	ND	0.03 J
Benzo(B)Fluoranthene	0.002 ug/l	ND	0.17	0.08 J	0.05 J	ND	0.03 J
Benzo(G,H,I)Perylene		ND	0.11	0.05 J	0.05 J	ND	0.02 J
Benzo(K)Fluoranthene	0.002 ug/l	ND	0.18	0.07 J	0.05 J	ND	0.03 J
Bis(2-ethylhexyl)phthalate	5.0 ug/l	2 J	ND	6.3	ND	ND	2.4 J
Chrysene	0.002 ug/l	ND	0.3	0.09 J	0.08 J	ND	0.04 J
Di-n-butylphthalate	50.0 ug/l	ND	ND	2 J	ND	2 J	
Dibenz(A,H)Anthracene		ND	0.04 J	ND	ND	ND	ND
Fluoranthene	50.0 ug/l	0.04 J	0.83	0.28	0.4	0.14	0.16
Fluorene	50.0 ug/l	0.22	0.19	0.03 J	0.05 J	0.05 J	0.02 J
Indeno(1,2,3-C,D)Pyrene	0.002 ug/l	ND	0.1	0.04 J	0.04 J	ND	0.02 J
Naphthalene	10.0 ug/l	16	0.09 J	0.06 J	0.16 J	0.16	ND
2-Methylnaphthalene		1.1	0.05 J	0.02 J	0.5	0.09 J	
2-Methylphenol (O-Cresol)		2.2 J	ND	ND	ND	ND	ND
4-Methylphenol (P-Cresol)		2.2 J	ND	ND	ND	ND	ND
Pentachlorophenol	1.0 ug/l	ND	ND	ND	ND	ND	ND
Phenanthrene	50.0 ug/l	0.29	0.94	0.11	0.18 J	0.09 J	0.14
Phenol	1.0 ug/l	1.90 J	0.46 J	0.43 J	0.42 J		
Pyrene	50.0 ug/l	0.02 J	0.64	0.20	0.26	0.1 J	0.1
VOC							
1,1,1-Trichloroethane	5.0 ug/l	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.0 ug/l	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0 ug/l	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		25	ND	ND	15	34	ND
1,2-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6 ug/l	0.44 J	0.46 J	ND	0.34 J	0.32 J	ND
1,3,5-Trimethylbenzene (Mesitylene)	5.0 ug/l	7.3	ND	ND	17	29	ND
1,3-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND
1,4-Dioxane (P-Dioxane)		ND	ND	ND	ND	ND	ND
2-Butanone	50.0 ug/l	ND	ND	ND	18	28	2.3 J
Acetone	50.0 ug/l	70	14	100	36	49	38
Benzene	1.0 ug/l	19	0.16 J	ND	1.2	2	ND
Carbon Tetrachloride	5.0 ug/l	ND	ND	ND	ND	ND	ND
Chlorobenzene	5.0 ug/l	ND	ND	ND	ND	ND	ND
Chloroform	7.0 ug/l	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethylene	5.0 ug/l	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.0 ug/l	56	ND	ND	46	120	ND
Hexachlorobenzene	0.04 ug/l	ND	ND	ND	ND	ND	ND
Methylene Chloride	5.0 ug/l	ND	ND	ND	ND	ND	ND
N-Butylbenzene	5.0 ug/l	ND	ND	ND	1.7 J	4	ND
N-Propylbenzene	5.0 ug/l	1.9 J	ND	ND	13	55	ND
Sec-Butylbenzene	5.0 ug/l	0.74 J	ND	ND	1.2 J	2 J	ND
Methyl Ethyl Ketone (2-Butanone)	50.0 ug/l	ND	ND	ND	ND	ND	ND
Tert-Butyl Methyl Ether		ND	8.6	ND	ND	ND	ND
p/m-Xylene	5.0 ug/l	150	ND	ND	43	74	ND
o-Xylene	5.0 ug/l	16	ND	ND	38	58	ND
Tetrachloroethylene (PCE)	5.0 ug/l	ND	ND	ND	ND	ND	ND
Toluene	5.0 ug/l	73	ND	ND	5.1	8.8	ND
Trans-1,2-Dichloroethene	5.0 ug/l	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	5.0 ug/l	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2.0 ug/l	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND
Metals							
Aluminum		94 J	42100	376	208	666	60 J
Antimony	3.0 ug/l	ND	ND	ND	ND	ND	ND
Arsenic	25.0 ug/l	7	16	4 J	5	ND	ND
Barium	1000.0 ug/l	1880	797	197	475	582	436
Beryllium	3.0 ug/l	ND	1 J	ND	ND	ND	ND
Cadmium	5.0 ug/l	ND	ND	ND	ND	ND	ND

TABLE 2

GROUNDWATER SAMPLE RESULTS
301 CONNECTICUT STREET
BUFFALO, NEW YORK

	Location ID	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5
	Sample Matrix	WG	WG	WG	WG	WG	WG
	Date Sampled	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019
	Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
	NYS TOGS Groundwater Standand & Guidance Value						
Calcium		666000	727000	127000	159000	174000	409000
Chromium	50.0 ug/l	ND	71	ND	3 J	4 J	ND
Cobalt		8 J	40	ND	ND	ND	3 J
Copper	200.0 ug/l	10 J	114.0	10	6.0 J	11	7 J
Cyanide	200.0 ug/l	ND	ND	ND	ND	ND	ND
Iron	300.0 ug/l	179	72800	357	276	997	101
Lead	25.0 ug/l	ND	104	ND	ND	10 J	ND
Magnesium	35000.0 ug/l	228000	152000	74900	68700	71400	207000
Manganese	300.0 ug/l	950	2300.0	88	102	157	172
Mercury	0.7 ug/l	ND	0.14 J	ND	ND	ND	ND
Nickel	100.0 ug/l	9 J	92.0	33 J	4 J	4 J	4 J
Potassium		17000	18200	7920	8390	7860	10700
Selenium	10.0 ug/l	ND	9 J	ND	ND	ND	ND
Silver	50.0 ug/l	ND	ND	ND	ND	ND	ND
Sodium		3770000	757000	255000	190000	199000	709000
Thallium	0.5 ug/l	ND	ND	ND	ND	ND	ND
Vanadium		ND	77	2 J	ND	2 J	ND
Zinc	2000.0 ug/l	10.0 J	509	9 J	11 J	20 J	8 J
PCBs							
Aroclor 1016	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1221	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1232	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1242	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1254	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1262	0.09	ND	ND	ND	ND	ND	ND
Aroclor 1268	0.09	ND	ND	ND	ND	ND	ND
PCBs, Total		ND	ND	ND	ND	ND	ND
Pesticides							
Delta-BHC	0.04	ND	ND	ND	ND	ND	ND
Lindane	0.05	ND	ND	ND	ND	ND	ND
Alpha-BHC	0.01	ND	ND	ND	ND	ND	ND
Beta-BHC	0.04	0.054 IP	ND	ND	ND	ND	ND
Heptachlor	0.04	ND	ND	ND	ND	ND	ND
Aldrin	0	ND	ND	ND	ND	ND	ND
Endrin	0	ND	ND	ND	ND	ND	ND
Dieldrin	0.004	ND	ND	ND	ND	ND	ND
4,4'-DDE	0.2	ND	ND	ND	ND	ND	ND
4,4'-DDD	0.3	ND	0.006 J	ND	ND	ND	ND
4,4'-DDT	0.2	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
cis-Chlordane		ND	ND	ND	ND	ND	ND

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BORING LOG

Boring No.	MW-01
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/2/19
Finish Date:	
Inspector:	O. Martin

Project Name: 301 Connecticut St. BCP
Location:
Client:
Drilling Firm:

Groundwater	Depth	Date & Time
While Drilling:		
Before Casing Removal:		
After Casing Removal:		

Drill Rig:
Casing: Rock Core: Undist:
Sampler: Other:
Hammer:

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-8" Asphalt	8:30am
				8"-38" Stiff br Silty CLAY - moist	Sunny; 35°F
2				petro like odor @ 2'-4'	light wind
				high pl	0ppm
3					0ppm
					NFG onsite. Moved
4					30ppm one well to the
				HeadSpace # 325 ppm	north b/c lateral
5				0-24" Stiff br Silty CLAY - moist	connection is unknown
				some imbedded rounded Gravel 0.5" ↓	521 ppm
6				24" grades to More Silt Content	145 ppm
7				Petro like odor	290 ppm
8					
9				0-35" Soft Silty CLAY - high pl - br - moist	30 ppm
10				Slight petro like odor	15 ppm
11					
12					12 ppm
13				0-24" Same as previous	10 ppm
				24-29" SILT - lt brown, moist - wet	5 ppm
14				29"-48" Soft br moist - wet Silty CLAY	3 ppm
				high pl imbedded round Gravel	
15					
16					
17				5-48" Soft br Silty CLAY same as	2 ppm
18				previous	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	MW-02
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/2/19
Finish Date:	
Inspector:	

Project Name:								
Location:								
Client:								
Drilling Firm:				Drill Rig:				
Groundwater	Depth	Date & Time		Casing:		Rock Core:		Undist:
While Drilling:				Sampler:		Other:		
Before Casing Removal:				Hammer:				
After Casing Removal:								

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				3" Asphalt	1:15PM
2				No Recovery	
3					
4					
5				3" Saturated Gravel backfill	
6				No Recovery	
7					
8					
9				0-8" Saturated (water) Gravel backfill angular crushed stone 0.5"	0 ppm
10				8"-26" Soft Silty CLAY-br-wet high PL	0ppm
11					
12					
13				9"-9" Slug 9"-38" Same Soft CLAY-Saturated	0ppm
14					
15					
16					
17				0-14" Slug	
18				14"-32" Same as previous	0ppm
19					
20					
21				End @ 20'	
22					
23					

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BORING LOG

Boring No.	NW 03
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/3/19
Finish Date:	
Inspector:	R. Bachman

Project Name:	301 Connecticut St. Buf.
Location:	
Client:	
Drilling Firm:	TREC

Groundwater	Depth	Date & Time
While Drilling:		8:30
Before Casing Removal:		
After Casing Removal:		

Drill Rig:			
Casing:		Rock Core:	Undist:
Sampler:		Other:	
Hammer:			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine
a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%
S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-3" Asphalt	Sunny 36°F Wind: 15mph Southwest
2				3"-48" Dense Silty Clay some small to medium Gravel throughout	0.4ppm
3					0.7ppm
4					
5				0"-6" Slag	1.0ppm
6				6"-48" Silty Soft Brown Clay	1.3ppm
7				40"-48" more Dense Silty Clay some small Smooth Gravel	
8					
9				0"-24" Dense Silty Dry Clay Brown	1.4ppm
10					
11				24"-48" Saturated Wet Soft Silty Brown Clay	2.0ppm
12					
13				Saturated	1.3ppm
14				0"-18" Wet Silty Brown Clay	2.0ppm
15				18"-48" Dense Silty Brown Clay	
16					
17				* Little Recovery	0.0ppm
18				* 4" Soft Wet Silty Clay	
19					
20					
21				End Boring at 20'	
22					
23					

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BORING LOG

Boring No.	MW04
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/3/19
Finish Date:	
Inspector:	R. Backhaus

Project Name:	301 Connecticut St Buf.
Location:	
Client:	
Drilling Firm:	TREC

Groundwater	Depth	Date & Time
While Drilling:		11:45
Before Casing Removal:		
After Casing Removal:		

Drill Rig:			
Casing:		Rock Core:	Undist:
Sampler:		Other:	
Hammer:			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				- Little Recovery	
2				0"-3" Asphalt	1.4 ppm
3				3" some smooth gravel mixed in silty clay.	
4					
5				0"-5" Slab Asphalt	
6				5"-48" Dense Silty Clay/some small smooth gravel throughout.	0.8 ppm
7					1.0 ppm
8					
9				0"-10" Dark Brown Clay Dense/Angular Gravel throughout	17.3 ppm
10				10"-48" Dense Silty Brown Clay/Angular Gravel Throughout	
11					5.1 ppm
12					
13				0"-3" Slab	1.0 ppm
14				3"-15" Large ~~brown~~ gravel embedded in Silty Clay	
15					
16				15"-48" Dense Silty Clay/Brown	1.5 ppm
17					
18				0"-48" Soft/Brown Silty Clay	2.4 ppm
19				Same as previous	
20					
21				End Boring at 20'	
22					
23					

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BORING LOG

Boring No.: MW05
Sheet 1 of:
Project No.:
Surface Elev.:
Datum:
Start Date: 4/3/19
Finish Date:
Inspector: D. BACKHART

Project Name: 301 CONNECTICUT ST BCP
Location:
Client:
Drilling Firm: TREC
Drill Rig:

Groundwater	Depth	Date & Time	Casing:	Rock Core:	Undist:
While Drilling:		12:30			
Before Casing Removal:			Sampler:	Other:	
After Casing Removal:			Hammer:		

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine
MATERIAL DESCRIPTION
S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey
a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0"-3" ASPHALT	
2				3"-48" FINE SMOOTH GRAVEL THROUGH SILTY CLAY/BROWN	1.5 ppm
3					
4					
5				0"-3" SLUSH	1.7 ppm
6					
7				3"-48" SAME AS PREVIOUS / SILTY DENSE BROWN CLAY / SOME SMALL FINE GRAVEL THROUGHOUT	2.1 ppm
8					
9				0"-5" SLUSH ASPHALT	2.3 ppm
10					
11				5"-48" SAME AS PREVIOUS / SILTY DENSE BROWN CLAY / SOME FINE GRAVEL THROUGHOUT	3.1 ppm
12					
13				0"-15" DENSE SILTY BROWN CLAY WITH LARGE GRAVEL THROUGHOUT	1.9 ppm
14					
15				15"-48" MOIST SILTY BROWN CLAY.	2.2 ppm
16					
17					
18				0"-48" MOIST SILTY CLAY/BROWN/SOME SMALL SMOOTH GRAVEL	0.7 ppm
19					
20					
21				TBM BORING 20'	
22					
23					

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name:
Site Name: 301 CONNECTICUT D'YOUVILLE COLLEGE
Project No.:
Field Staff: RICH BACKERT

WELL DATA

Date		4/11/19	4/11/19	4/11/19	4/11/19	4/11/19			
Well Number		MW-4	MW-5	MW-1	MW-2	MW-3			
Diameter (inches)		2"	2"	2"	2"	2"			
Total Sounded Depth (feet)		20.3	20.2	20.49	19.3	20.2			
Static Water Level (feet)		6.4	5.0	5.7	5.3	5.7			
H_2O Column (feet)									
Pump Intake (feet)									
Well Volume (gallons)									
Amount to Evacuate (gallons)									
Amount Evacuated (gallons)									

FIELD READINGS

Date	Stabilization Criteria	4/11/19	4/11/19	4/11/19	4/11/19	4/11/19			
Time		9:30	10:30	11:30	12:15	1:15			
pH (Std. Units)	+/-0.1	7.60	7.20	6.80	7.50	7.45			
Conductivity (mS/cm)	3%	2.23	1.65	28.7	4.70	2.22			
Turbidity (NTU)	10%								
D.O. (mg/L)	10%	13.06	14.37	13.12	12.28	12.42			
Temperature (°C) (°F)	3%	9.48°C	9.19°C	9.04°C	9.40°C	9.59°C			
ORP[3](mV)	+/-10 mv	96	86	98	-141	26			
Appearance		CLEAR	CLEAR	CLEAR	SEMI TURB	CLEAR			
Free Product (Yes/No)		YES	YES	YES	YES	YES			
Odor		NONE	NONE	NONE	NONE	NONE			
Comments		#FOS + 1-4 DIOXANE COLLECTED FROM MW-5 + MW#1 * DUP FROM MW-4 # MS + MSD COLLECTED FROM MW-2							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

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MEMORANDUM
REMEDIAL INVESTIGATION

TO: Bryan Kowalewski, NYSDEC

FROM: Cody Martin, C&S

RE: May 2019 Groundwater Sampling Results
301 Connecticut Street

FILE: C&S Project No. V20.001.002

DATE: June 14, 2019

C&S Engineers, Inc. (C&S) is providing this memorandum to present groundwater sampling results from the sample collection event at the 301 Connecticut Street Site.

BCP Remedial Investigation

On May 21, 2019, C&S collected a second round of groundwater samples from five monitoring wells located on 301 Connecticut Street. Samples were collected from these locations as described in the Remedial Investigation / Interim Remedial Work Plan. **Figure 1** shows the locations of the samples on the BCP Site. **Figure 2** shows public and private water wells within a ½ mile of the Site. No emerging contaminants were tested for in the second round of groundwater sampling. **Table 1** summarizes the analytical results and compares the results to Department of Environmental Conservation TOGS 1.1.1 standards for groundwater.

Findings

- MW-1 was installed adjacent to historic underground storage tanks (USTs). Soils with petroleum-like odors were identified from two feet to eight feet below ground surface (bgs). PID readings ranged from two parts per million (ppm) to 325 ppm.
- MW-2 was installed to monitor area where USTs had been previously located and removed. There were no petroleum like odors that were encountered.
- MW-3 was installed adjacent to the former auto repair shop. No petroleum-like odors were encountered.
- MW-4 was installed in the area of historic USTs. No petroleum-like odors were encountered.
- MW-5 was installed toward the southeast BCP boundary.
- Subsurface material consists of four feet of fill material overlying fine grain soils consisting of silty clays and silts. Wet to saturated soils were encountered starting around 11 to 14 feet

bgs; except for MW-2, which had perched water at eight feet within the former UST excavation.

- Water levels in all the wells were fairly consistent throughout the site. Measurement to depth of water in each well were roughly from 5-7 feet in every well.

Emerging Contaminants

No PFAS were sampled in the second round of groundwater sampling. PFAS were previously detected in the first round of groundwater sampling in both monitoring wells that were sampled. Concentrations of total PFAS ranged from 0.502 ng/L to 7.19 ng/L. The highest concentration was detected from MW-1 .In both of the wells 1-4Dioxane was not detected.

VOCs

VOCs were detected in all five wells including the DUP sampling which was collected from MW-4. All VOC levels decreased in concentration since the previous sampling event. Only Well MW-1, contained VOC levels above TOGS guidance levels.

SVOCs

SVOCs were detected in four of the five wells on the site. All four wells, including the DUP sample contained at least one SVOC above the TOGS groundwater guidance levels. MW-1 and MW-3 contained the highest number of SVOCs above TOGS groundwater guidance levels. Well MW-4 detected no concentrations for SVOCs for any analyte sampled. With all five wells partially screened within the fill material zone, it was not unexpected to have turbidity, leading to minor detections of SVOCs. The anticipated remedy will remove all contaminated fill material from the Site.

Metals

Metals were detected above TOGS groundwater guidance levels in all five of the monitoring wells throughout the Site. Magnesium was detected above guidance levels in all five monitoring wells including the DUP sample. Other metals that were detected above the guidance levels included, Manganese, Iron, Barium, and one detection of Thallium in MW-2. Majority if metal concentrations appeared to decrease in the second round of groundwater sampling.

PCB

No PCBs were detected in any monitoring wells throughout the Site.

Pesticides

Only one well on Site had a detection of pesticides above TOGS groundwater guidance levels. MW-1 had a detection of Beta-BHC slightly above the guidance levels. Beta-BHC was also the only pesticide detected in the first round of groundwater sampling. The concentration remained relatively consistent.

We respectfully request the Department's review of the results contained herein; please do not hesitate to contact us with any questions or comments.

Very truly yours,

C&S ENGINEERS, INC.

Cody Martin
Project Environmental Scientist

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

Attached:

1. Figure 1 – Groundwater Monitoring Well Locations
2. Figure 2 – Public & Private Water Wells
3. Table 1 – Groundwater Sample Results
4. Soil Boring and Water Sampling Logs

F:\Project\V20 - D'Youville BCP\V20.001.002 - 301 Conneciticut Street \Planning Study \Correspondence\OUT\ Memorandum Letter

Legend

- PROPOSED BROWNFIELD CLEANUP (BCP) BOUNDARY
- 50-FT X 50-FT BCP GRID
- GROUNDWATER MONITORING WELL LOCATION

0 15 30 60 Feet

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N

301 CONNECTICUT STREET
BROWNFIELD CLEANUP PROGRAM
CITY OF BUFFALO, NEW YORK

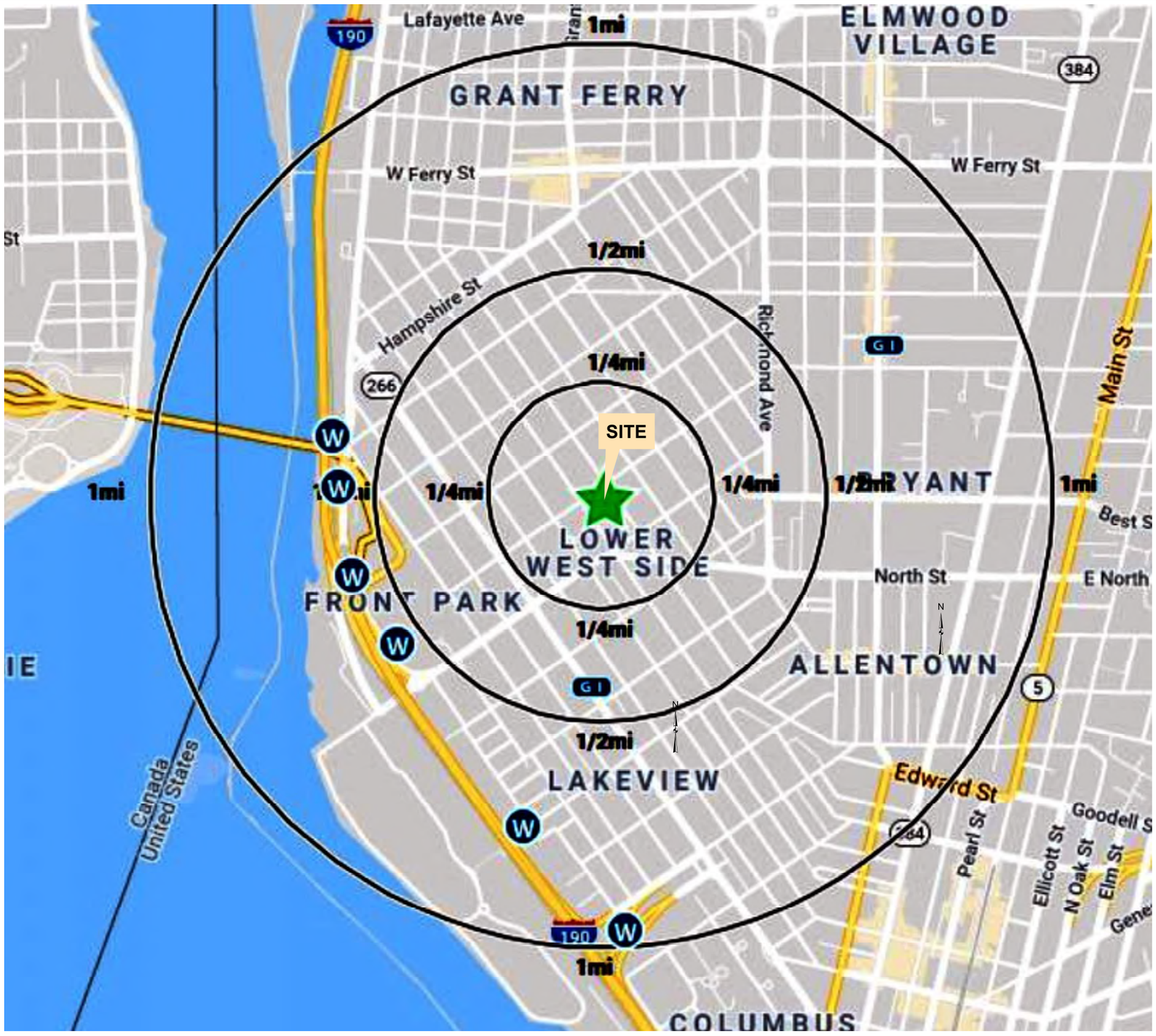
MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	V20.001.002
DATE:	05/17/2019
DRAWN BY:	C. MARTIN
DESIGNED BY:	C. MARTIN
CHECKED BY:	C. MARTIN

GROUNDWATER MONITORING WELL LOCATIONS

FIGURE 1



Legend

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MARK	DATE	DESCRIPTION
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PROJECT NO:	V20.001.002
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CHECKED BY:	C. MARTIN

PUBLIC & PRIVATE WATER WELLS

FIGURE 2

TABLE 1

GROUNDWATER SAMPLE RESULTS
301 CONNECTICUT STREET
BUFFALO, NEW YORK

Location ID		MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5
Sample Matrix		WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
Date Sampled		04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019
Units		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
	NYS TOGS Groundwater Standand & Guidance Value												
SVOC													
Acenaphthene	20.0 ug/l	0.07 J	0.22	0.03 J	0.06 J	0.06 J	ND	0.08 J	0.06 J	ND	ND	ND	ND
Acenaphthylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	50.0 ug/l	0.02 J	0.14	0.02 J	0.03 J	0.02 J	0.01 J	0.04 J	0.02 J	ND	ND	ND	ND
Benzo(A)Anthracene	0.002 ug/l	ND	0.24	0.03 J	ND	ND	ND	0.05 J	0.02 J	0.02 J	ND	ND	ND
Benzo(A)Pyrene		ND	0.17	0.05 J	0.05 J	ND	0.03 J	0.02 J	ND	ND	ND	0.02 J	ND
Benzo(B)Fluoranthene	0.002 ug/l	ND	0.17	0.08 J	0.05 J	ND	0.03 J	0.04 J	0.03 J	0.02 J	ND	0.04 J	0.02 J
Benzo(G,H,I)Perylene		ND	0.11	0.05 J	0.05 J	ND	0.02 J	0.03 J	0.01 J	0.02 J	ND	0.04 J	ND
Benzo(K)Fluoranthene	0.002 ug/l	ND	0.18	0.07 J	0.05 J	ND	0.03 J	0.03 J	ND	0.01 J	ND	0.01 J	ND
Bis(2-ethylhexyl)phthalate	5.0 ug/l	2 J	ND	6.3	ND	ND	2.4 J	3.8	ND	ND	ND	ND	ND
Chrysene	0.002 ug/l	ND	0.3	0.09 J	0.08 J	ND	0.04 J	0.05	0.02 J	0.02 J	ND	ND	ND
Di-n-butylphthalate	50.0 ug/l	ND	ND	2 J	ND	2 J		ND	ND		ND	ND	ND
Dibenz(A,H)Anthracene		ND	0.04 J	ND	ND	ND	ND	0.02 J	ND	ND	ND	ND	ND
2, 4-Dimethylphenol	2.0 ug/l	ND	ND	ND	ND	ND	ND	1.8 J	ND		ND	ND	ND
Fluoranthene	50.0 ug/l	0.04 J	0.83	0.28	0.4	0.14	0.16	0.08 J	0.09 J	0.04 J	ND	ND	0.05 J
Fluorene	50.0 ug/l	0.22	0.19	0.03 J	0.05 J	0.05 J	0.02 J	0.06 J	0.04 J	ND	ND	ND	ND
Indeno(1,2,3-C,D)Pyrene	0.002 ug/l	ND	0.1	0.04 J	0.04 J	ND	0.02 J	0.03 J	0.02 J	0.03 J	ND	0.05 J	ND
Naphthalene	10.0 ug/l	16	0.09 J	0.06 J	0.16 J	0.16	ND	5.8	0.14	ND	ND	ND	ND
2-Methylnaphthalene		1.1	0.05 J	0.02 J	0.5	0.09 J		0.26	0.03 J	0.04	ND	ND	ND
2-Methylphenol (O-Cresol)		2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol (P-Cresol)		2.2 J	ND	ND	ND	ND	ND	1.4 J	ND	ND	ND	ND	ND
Pentachlorophenol	1.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	50.0 ug/l	0.29	0.94	0.11	0.18 J	0.09 J	0.14	0.12	0.12	ND	ND	ND	ND
Phenol	1.0 ug/l	1.90 J	0.46 J	0.43 J	0.42 J			ND	ND		ND	ND	ND
Pyrene	50.0 ug/l	0.02 J	0.64	0.20	0.26	0.1 J	0.1	0.06 J	0.07 J	0.04	ND	ND	0.03 J
VOC													
1,1,1-Trichloroethane	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene		25	ND	ND	15	34	ND	21	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6 ug/l	0.44 J	0.46 J	ND	0.34 J	0.32 J	ND	0.39 J	0.16 J	ND	0.23 J	0.38 J	ND
1,3,5-Trimethylbenzene (Mesitylene)	5.0 ug/l	7.3	ND	ND	17	29	ND	12	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane (P-Dioxane)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 1

GROUNDWATER SAMPLE RESULTS
301 CONNECTICUT STREET
BUFFALO, NEW YORK

Location ID		MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5
Sample Matrix		WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
Date Sampled		04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019
Units	NYS TOGS Groundwater Standand & Guidance Value	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
2-Butanone	50.0 ug/l	ND	ND	ND	18	28	2.3 J	ND	ND	ND	ND	ND	ND
Acetone	50.0 ug/l	70	14	100	36	49	38	17	2.9 J	1.7 J	1.6 J	2.8 J	2.2 J
Benzene	1.0 ug/l	19	0.16 J	ND	1.2	2	ND	9.4	ND	ND	ND	ND	ND
Carbon Tetrachloride	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethylene	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.0 ug/l	56	ND	ND	46	120	ND	62	ND	ND	ND	ND	ND
Hexachlorobenzene	0.04 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Butylbenzene	5.0 ug/l	ND	ND	ND	1.7 J	4	ND	ND	ND	ND	ND	ND	ND
N-Propylbenzene	5.0 ug/l	1.9 J	ND	ND	13	55	ND	2.3 J	ND	ND	ND	ND	ND
Sec-Butylbenzene	5.0 ug/l	0.74 J	ND	ND	1.2 J	2 J	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone (2-Butanone)	50.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tert-Butyl Methyl Ether		ND	8.6	ND	ND	ND	ND	ND	3.3	ND	ND	ND	ND
p/m-Xylene	5.0 ug/l	150	ND	ND	43	74	ND	170	ND	ND	ND	ND	ND
o-Xylene	5.0 ug/l	16	ND	ND	38	58	ND	21	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.0 ug/l	73	ND	ND	5.1	8.8	ND	61	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran		ND	ND	ND	ND	ND	ND	ND					
Metals													
Aluminum		94 J	42100	376	208	666	60 J	202	2080	1220	39	219	567
Antimony	3.0 ug/l	ND	ND	ND	ND	ND	ND	ND	3.35 J	ND	ND	ND	ND
Arsenic	25.0 ug/l	7	16	4 J	5	ND	ND	ND	2.49	2.57	1.2	1.24	1.43
Barium	1000.0 ug/l	1880	797	197	475	582	436	1098	354	152	229	210	394
Beryllium	3.0 ug/l	ND	1 J	ND	ND	ND	ND	ND	0.11 J	ND	ND	ND	ND
Cadmium	5.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium		666000	727000	127000	159000	174000	409000	504000	133000	150000	141000	113000	480000
Chromium	50.0 ug/l	ND	71	ND	3 J	4 J	ND	ND	3.94	4.54	0.35 J	1.04	1.34
Cobalt		8 J	40	ND	ND	ND	3 J	7.16	2.13	1.28	0.6	0.85	2.67
Copper	200.0 ug/l	10 J	114.0	10	6.0 J	11	7 J	4.02 J	5.76	4.71	1.12	1.22	2.12
Cyanide	200.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	300.0 ug/l	179	72800	357	276	997	101	2340	6890	1980	55.1	174	601

TABLE 1

GROUNDWATER SAMPLE RESULTS
301 CONNECTICUT STREET
BUFFALO, NEW YORK

	Location ID	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5	MW-1	MW-2	MW-3	MW-4	DUP (MW-4)	MW-5
	Sample Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG	WG
	Date Sampled	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019	05/21/2019
	Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
	NYS TOGS Groundwater Standand & Guidance Value												
Lead	25.0 ug/l	ND	104	ND	ND	10 J	ND	ND	5.98	5.3	0.43 J	0.56 J	0.93 J
Magnesium	35000.0 ug/l	228000	152000	74900	68700	71400	207000	312000	48100	86600	77600	78200	251000
Manganese	300.0 ug/l	950	2300.0	88	102	157	172	904.9	221	152.2	91.6	92	302.9
Mercury	0.7 ug/l	ND	0.14 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100.0 ug/l	9 J	92.0	33 J	4 J	4 J	4 J	10.71 J	6.43	4.47	1.7 J	2.3	5.31
Potassium		17000	18200	7920	8390	7860	10700	13800	6220	14200	6950	6880	10600
Selenium	10.0 ug/l	ND	9 J	ND	ND	ND	ND	ND	2.51 J	2.49 J	ND	1.88 J	ND
Silver	50.0 ug/l	ND	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND	0.29 J
Sodium		3770000	757000	255000	190000	199000	709000	4E+06	1E+06	194000	170000	179000	640000
Thallium	0.5 ug/l	ND	ND	ND	ND	ND	ND	ND	0.97 J	ND	ND	ND	ND
Zinc	2000.0 ug/l	10.0 J	509	9 J	11 J	20 J	8 J	ND	30.36	18.73	ND	3.76 J	7.85 J
PCBs													
Aroclor 1016	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1262	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1268	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs, Total		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides													
Delta-BHC	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lindane	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Alpha-BHC	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Beta-BHC	0.04	0.054 IP	ND	ND	ND	ND	ND	0.063 IP	ND	ND	ND	ND	ND
Heptachlor	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aldrin	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDD	0.3	ND	0.006 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-Chlordane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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BORING LOG

Boring No.	MW-01
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/2/19
Finish Date:	
Inspector:	O. Martin

Project Name: 301 Connecticut St. BCP
Location:
Client:
Drilling Firm:

Groundwater	Depth	Date & Time
While Drilling:		
Before Casing Removal:		
After Casing Removal:		

Drill Rig:
Casing: Rock Core: Undist:
Sampler: Other:
Hammer:

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-8" Asphalt	8:30am
				8"-38" Stiff br Silty CLAY - moist	Sunny; 35°F
2				petro like odor @ 2'-4'	light wind
				high pl	0ppm
3					0ppm
					NFG onsite. Moved
4					30ppm one well to the
				HeadSpace # 325 ppm	north b/c lateral
5				0-24" Stiff br Silty CLAY - moist	connection is unknown
				some imbedded rounded Gravel 0.5" ↓	521 ppm
6				24" grades to More Silt Content	145 ppm
7				Petro like odor	290 ppm
8					
9				0-35" Soft Silty CLAY - high pl - br - moist	30 ppm
10				Slight petro like odor	15 ppm
11					
12					12 ppm
13				0-24" Same as previous	10 ppm
				24-29" SILT - lt brown, moist - wet	5 ppm
14				29"-48" Soft br moist - wet Silty CLAY	3 ppm
				high pl imbedded round Gravel	
15					
16					
17				5-48" Soft br Silty CLAY same as	2 ppm
18				previous	
19					
20					
21					
22					
23					

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BORING LOG

Boring No.	MW-02
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/2/19
Finish Date:	
Inspector:	

Project Name:								
Location:								
Client:								
Drilling Firm:				Drill Rig:				
Groundwater	Depth	Date & Time		Casing:		Rock Core:		Undist:
While Drilling:				Sampler:		Other:		
Before Casing Removal:				Hammer:				
After Casing Removal:								

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				3" Asphalt	1:15PM
2				No Recovery	
3					
4					
5				3" Saturated Gravel backfill	
6				No Recovery	
7					
8					
9				0-8" Saturated (water) Gravel backfill angular crushed stone 0.5"	0 ppm
10				8"-26" Soft Silty CLAY-br-wet high PL	0ppm
11					
12					
13				9"-9" Slug 9"-38" Same Soft CLAY-Saturated	0ppm
14					
15					
16					
17				0-14" Slug	
18				14"-32" Same as previous	0ppm
19					
20					
21				End @ 20'	
22					
23					

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BORING LOG

Boring No.	NW 03
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/3/19
Finish Date:	
Inspector:	R. Bachman

Project Name:	301 Connecticut St. Buf.
Location:	
Client:	
Drilling Firm:	TREC

Groundwater	Depth	Date & Time
While Drilling:		8:30
Before Casing Removal:		
After Casing Removal:		

Drill Rig:			
Casing:		Rock Core:	Undist:
Sampler:		Other:	
Hammer:			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine
a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%
S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0-3" Asphalt	Sunny 36°F Wind: 15mph Southwest
2				3"-48" Dense Silty Clay some small to medium Gravel throughout	0.4ppm
3					0.7ppm
4					
5				0"-6" Slag	1.0ppm
6				6"-48" Silty Soft Brown Clay	1.3ppm
7				40"-48" more Dense Silty Clay some small Smooth Gravel	
8					
9				0"-24" Dense Silty Dry Clay Brown	1.4ppm
10					
11				24"-48" Saturated Wet Soft Silty Brown Clay	2.0ppm
12					
13				Saturated	1.3ppm
14				0"-18" Wet Silty Brown Clay	2.0ppm
15				18"-48" Dense Silty Brown Clay	
16					
17				* Little Recovery	0.0ppm
18				* 4" Soft Wet Silty Clay	
19					
20					
21				End Boring at 20'	
22					
23					

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BORING LOG

Boring No.	MW04
Sheet 1 of:	
Project No.:	
Surface Elev.:	
Datum:	
Start Date:	4/3/19
Finish Date:	
Inspector:	R. Backhaus

Project Name:	301 Connecticut St Buf.
Location:	
Client:	
Drilling Firm:	TREC

Groundwater	Depth	Date & Time
While Drilling:		11:45
Before Casing Removal:		
After Casing Removal:		

Drill Rig:			
Casing:		Rock Core:	Undist:
Sampler:		Other:	
Hammer:			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				- Little Recovery	
2				0"-3" Asphalt	1.4 ppm
3				3" some smooth gravel mixed in silty clay.	
4					
5				0"-5" Slab Asphalt	
6				5"-48" Dense Silty Clay/some small smooth gravel throughout.	0.8 ppm
7					1.0 ppm
8					
9				0"-10" Dark Brown Clay Dense/Angular Gravel throughout	17.3 ppm
10				10"-48" Dense Silty Brown Clay/Angular Gravel Throughout	
11					5.1 ppm
12					
13				0"-3" Slab	1.0 ppm
14				3"-15" Large ~~brown~~ gravel embedded in Silty Clay	
15					
16				15"-48" Dense Silty Clay/Brown	1.5 ppm
17					
18				0"-48" Soft/Brown Silty Clay	2.4 ppm
19				Same as previous	
20					
21				End Boring at 20'	
22					
23					

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BORING LOG

Boring No.: MW05
Sheet 1 of:
Project No.:
Surface Elev.:
Datum:
Start Date: 4/3/19
Finish Date:
Inspector: D. BACKHART

Project Name: 301 CONNECTICUT ST BCP
Location:
Client:
Drilling Firm: TREC
Drill Rig:

Groundwater	Depth	Date & Time	Casing:	Rock Core:	Undist:
While Drilling:		12:30			
Before Casing Removal:			Sampler:	Other:	
After Casing Removal:			Hammer:		

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse, m - medium, f - fine
MATERIAL DESCRIPTION
S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey
a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%

Depth (ft)	Sample No.	Symbol	Blows on Sampler per 6"	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
1				0"-3" ASPHALT	
2				3"-48" FINE SMOOTH GRAVEL THROUGH SILTY CLAY/BROWN	1.5 ppm
3					
4					
5				0"-3" SLUSH	1.7 ppm
6					
7				3"-48" SAME AS PREVIOUS / SILTY DENSE BROWN CLAY / SOME SMALL FINE GRAVEL THROUGHOUT	2.1 ppm
8					
9				0"-5" SLUSH ASPHALT	2.3 ppm
10					
11				5"-48" SAME AS PREVIOUS / SILTY DENSE BROWN CLAY / SOME FINE GRAVEL THROUGHOUT	3.1 ppm
12					
13				0"-15" DENSE SILTY BROWN CLAY WITH LARGE GRAVEL THROUGHOUT	1.9 ppm
14					
15				15"-48" MOIST SILTY BROWN CLAY.	2.2 ppm
16					
17					
18				0"-48" MOIST SILTY CLAY/BROWN/SOME SMALL SMOOTH GRAVEL	0.7 ppm
19					
20					
21				TBM BORING 20'	
22					
23					

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name:
Site Name: 301 CONNECTICUT
Project No.:
Field Staff: JESSE + RICH

WELL DATA

Date		5/21/19	5/21/19	5/21/19	5/21/19	5/21/19			
Well Number		MW-1	MW-2	MW-3	MW-4	MW-5			
Diameter (inches)		2	2	2"	2	2			
Total Sounded Depth (feet)		20.4	19.3	20.2	20.3	20.2			
Static Water Level (feet)		5.6	5.4	5.8	7.6	5.0			
H_2O Column (feet)									
Pump Intake (feet)									
Well Volume (gallons)									
Amount to Evacuate (gallons)									
Amount Evacuated (gallons)									

FIELD READINGS

Date	Stabilization Criteria	5/21/19	5/21/19	5/21/19	5/21/19	5/21/19			
Time		9:45am	10:45am	11:30	12:15	12:45			
pH (Std. Units)	+/-0.1	6.7	6.9	7.5	7.02	6.73			
Conductivity (mS/cm)	3%	35.7	7.3	2.7	2.4	8.78			
Turbidity (NTU)	10%								
D.O. (mg/L)	10%	1.25	1.69	2.90	3.88	3.38			
Temperature (°C) (°F)	3%	10.4	10.7	11.6	10.85	12.40			
ORP*(mV)	+/-10 mv	-108	-178	-35	19	35			
Appearance		Clear	Semi Turbid	Clear	Clear	Clear			
Free Product (Yes/No)		~~No~~ Yes	~~No~~ YES	~~No~~ YES	Yes	Yes			
Odor		None	None	None	None	None			
Comments		MW-4 has build-up of mud in well casing							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid