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March 20, 2018

Division of Environmental Remediation

Remedial Bureau E, 12th Floor

New York State Department of

Environmental Conservation

625 Broadway

Albany, New York 12233-7016

Attention: Ms. Sarah Saucier, Project Manager

Subject: **Pre-design Investigation Report**
Town and Country Dry Cleaners Site; Site Number 828149
MACTEC Engineering and Consulting, P.C. Project No. 3612132267

Dear Ms. Saucier:

MACTEC Engineering and Consulting, P.C., (MACTEC), under contract to the New York State Department of Environmental Conservation (NYSDEC) (Work Assignment numbers D007619-21 and D007619-42) is providing this letter report to document the results of pre-design sampling conducted in October 2017 at the Town and Country Dry Cleaners site (Site), NYSDEC Site Number 828149.

BACKGROUND

The Site is located at 2308 and 2310 Monroe Avenue, in the Town of Brighton, Monroe County, New York (Figure 1). The Site has operated as a dry cleaning and laundry facility from 1969 to the present. The primary dry cleaning solvent, tetrachloroethene (PCE), was used from 1969 to May 2011, when its use was reportedly discontinued. PCE was detected at a concentration of 38,000 milligrams per kilogram in the soil/sediment just below the bottom of an unlined catch basin that was previously located to the rear (northeast) of the site building. Semi-volatile organic compounds were

detected in a single shallow soil sample at concentrations above the Soil Cleanup Objectives for commercial use.

A soil removal Interim Remedial Measure (IRM) was conducted in the fall of 2015 to remove the most contaminated source area soil immediately below and surrounding the catch basin, and to replace the unlined catch basin with a solid bottomed catch basin. Prior to backfilling the excavation, the bottom and sides were sprayed with sodium permanganate to oxidize remaining soil contamination immediately surrounding the excavation.

A Feasibility Study was completed for the Site and the NYSDEC issued a Record of Decision for the Site remediation in March 2017 (NYSDEC, 2017). The selected remedy consists of:

- 1) Excavation and off-site disposal of all on-site soils which exceed New York State (NYS) Soil Cleanup Objectives (SCOs) for commercial use;
- 2) Excavation and off-site disposal of all off-site soil which exceed NYS SCOs for residential use;
- 3) In-Situ Enhanced Biodegradation to treat PCE and its associated degradation products in groundwater in an area determined during the remedial design.

PRE-DESIGN INVESTIGATION OBJECTIVES

The pre-design investigation was completed to gather data necessary to complete the design for the chosen Site remedy. The objectives of the pre-design investigation were to:

- 1) Refine extent of on-site soil with concentrations of volatile organic compounds (VOCs) exceeding the New York State (NYS) Soil Cleanup Objectives (SCOs) for commercial use;
- 2) Delineate off-site soil on the adjacent residential property to the south of the Site with concentrations of VOCs exceeding the NYS SCOs for residential use;
- 3) Perform geotechnical testing of the on and off-site soil to evaluate sloping/shoring requirements for the planned excavation;
- 4) Collect groundwater data to evaluate the potential microbial population that could naturally breakdown the chlorinated solvent contamination in groundwater; and
- 5) Collect a round of groundwater samples to evaluate the current concentrations of contaminants in groundwater and potential trends in groundwater concentrations, as well as to evaluate the potential presence of 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) at the Site.

FIELD OPERATIONS

Access and Clearance. The Site was accessed from Monroe Avenue. Property owners, of both the Site and 26 Elwell Drive, were contacted prior to direct push and groundwater sampling activities to secure access. Other wells off-site did not require permission for access, as they are located on public property. The monitoring well locations and site features are shown on Figure 2.

Dig-Safely New York (NY) was contacted by the drilling firm prior to the start of work to mark underground utilities. In addition, the site survey, which includes previously identified underground utilities, was reviewed.

Health and Safety. Field work was conducted in Level D personal protective equipment.

Soil Sampling

Soil sampling was conducted between October 10 and October 11, 2017 using both direct push and Hollow Stem Auger (HSA) techniques. Boring locations are shown on Figure 3. Table 1 provides the soil sampling and analytical program.

Direct Push Soil Sampling. To refine the extent of soil for excavation and off-site disposal, a total of 12 borings were advanced into the clay layer underlying the sandy silt using direct push technology. Ten of the borings were advanced to 12 feet below ground surface (ft bgs), and two of the borings (DP-49 and DP-52) encountered refusal at approximately 10 ft bgs. Samples were collected for physical and analytical analysis, as well as geological classification. The sample observations were recorded on Field Data Records (FDRs) which are provided in Attachment 1. Sampling was conducted as follows:

- Five of the direct push soil borings (DP-40, DP-42, DP-43, DP-44 and DP-45) were complete on-Site to further evaluate the extent of VOCs in soil exceeding the Commercial Use SCOs.
- Seven of the direct push soil borings (DP-46, DP-48, DP-49, DP-50, DP-51, DP-52 and DP-53) were performed on the adjacent residential property to the south to further delineate the limit of VOCs in soil exceeding Residential SCOs.

- Four samples from each direct push boring were selected for analysis of VOCs. The sample intervals collected included: one from the surface soil (0-2 ft bgs), one from near the top of the water table (approximately 2-4 ft bgs), one based on the highest photoionization detector (PID) reading, and one within the top of the clay layer (approximately 7-10 ft bgs). The one exception was boring DP-45, where three samples were submitted for analysis.

Forty seven direct push soil samples, plus quality control samples, were sent to the laboratory for analysis of VOCs by United States Environmental Protection Agency (USEPA) Method 8260B.

Hollow Stem Auger/Geotechnical Soil Sampling. To support the excavation design, two soil borings, DP-41 and DP-47, (Figure 3) were advanced to refusal (approximately 19 ft bgs and 16 ft bgs, respectively) using HSA techniques. Soil samples were collected continuously following standard penetration test protocol. Soil was collected for geological characteristics and chemical analysis as follows:

- Four samples were collected from each boring for analysis of VOCs: one from the surface soil (0-2 ft bgs), one from near the top of the water table (4 ft bgs), one based on the highest PID reading, and one within the top of the clay layer (approximately 10 ft bgs).
- Two composite samples for geotechnical parameters were collected from each boring for: moisture content, grain size (sieve and hydrometer), and Atterberg limits (approximately from 4-8 ft bgs and 8-12 ft bgs).

Borings were backfilled with bentonite to prevent potential vertical migration of contaminants.

Groundwater Sampling

Groundwater elevation measurements were collected on October 9, 2017 and groundwater sampling was completed from October 10 to October 12, 2017. Monitoring well locations are shown on Figure 2. Table 2 provides the groundwater sampling and analytical program.

Synoptic Water Level Measurements. Prior to monitoring well sampling, a round of water levels was collected by measuring depth to water from the top of the well riser. The monitoring well details

and groundwater elevations are provided in Table 3. Interpreted groundwater contours were prepared for the overburden and bedrock monitoring wells and are shown on Figures 4 and 5, respectively.

Groundwater Sampling. Groundwater samples were collected from the 25 Site monitoring wells in accordance with the Field Activities Plan (MACTEC, 2017) using low flow sampling techniques, where possible. Due to the low hydraulic conductivity (K) of the soils, several of the wells purged dry and were allowed to recharge prior to sampling.

Field measurements for pH, temperature, specific conductivity, oxidation reduction potential, dissolved oxygen, and turbidity were collected through a flow through cell (with the exception of turbidity) during purging to evaluate well stabilization prior to sample collection. Field measurements and monitoring well sampling activities are documented on FDRs presented in Attachment 1.

Samples were submitted for analysis of VOCs by USEPA Method 8260B, and monitored natural attenuation (MNA) parameters at selected locations. In addition, samples from four wells were analyzed for 1,4-dioxane by USEPA Method 8260B Selective Ion Monitoring (SIM), and for PFAS by Modified USEPA Method 537.

Microbial Sampling

To evaluate the potential presence and quantity of microbes present in groundwater, bio-traps provided by Microbial Insights were deployed on October 12, 2017. The bio-traps were installed in monitoring wells GEMW-1, GEMW-2, and MW-3, located near the area targeted for potential enhanced bioremediation (i.e., the Site building). Bio-traps were retrieved on November 13, 2017 (approximately 30 days after deployment). The bio-traps were submitted to Microbial Insights, Inc. of Knoxville, TN and analyzed using quantitative polymerase chain reaction to evaluate the potential types and quantity of microbes in the groundwater column capable of biodegrading chlorinated ethenes.

Investigation Derived Waste

Soils, decontamination fluids, and purge water generated during the investigation were containerized and disposed off-site at a licensed facility by National Response Corporation of Rochester, New York. The waste manifest is included as Attachment 2.

PRE-DESIGN INVESTIGATION RESULTS

Laboratory results were validated and found to be usable as reported by the laboratory, or qualified as documented in the Data Usability Summary Report (provided as Attachment 3).

Soil Sample Results

The distribution and concentrations of PCE detected in soil were consistent with those observed during the Remedial Investigation (see Figure 3). The highest concentrations were consistently observed below the water table at a depth of 7-8 ft bgs, on average, in the sandy silts overlying the lower clay unit (Table 4).

The highest concentration of PCE (2,000 milligrams per kilogram) was observed at a depth of 8 ft bgs at DP-46 on the off-site residential property. This location is approximately 25 feet down gradient (both topographically and hydraulically) from the suspected source area (former catch basin), and is also near the Site property line. Other VOCs detected in the soil samples (cis-1,2-dichloroethene and trichloroethene) did not exceed SCOs.

The geotechnical soil results are provided in Attachment 4 and will be included in the remedial design to enable the remedial contractor to evaluate the sloping/shoring requirements. Standard penetration test blow counts from the two geotechnical borings DP-41 and DP-47 are presented on FDRs included in Attachment 1.

Groundwater Results

Groundwater Flow. Consistent with the RI results, overburden and overburden/bedrock interface groundwater flow is primarily to the west. Localized groundwater mounding was observed in the area

of the former catch basin and is likely partially attributable to the underlying clay layer, which was not identified in some of the off-site borings, and the IRM excavation backfill materials being more permeable than the native soil.

VOCs. The highest concentrations of PCE were detected adjacent and just downgradient of the IRM soil removal area at monitoring wells MW-1 (9,700 µg/L), MW-2 (69,000 µg/L) and DP-14 (12,000 µg/L) (Table 5 and Figure 6). The groundwater plume appears to be fairly stable, with concentrations and distribution of PCE detected in 2017 similar to those detected in 2013 and 2016 (Table 6). The exception was higher concentrations (130 µg/L) in the upgradient background well MW-10 than previously detected.

MNA Parameters and Microbial Analysis. Although PCE degradation products trichloroethene, cis-1,2-dichloroethene and vinyl chloride (VC) are present in soil and groundwater at low concentrations, the elevated concentration of PCE continues to indicate a slow process of degradation. MNA parameters entered into the USEPA's Biochlor Model¹ (Biochlor) continued to indicate there was limited evidence for anaerobic biodegradation of chlorinated VOCs in groundwater both on and off the site (see Table 7 and Attachment 5). Reducing conditions were observed in the overburden/bedrock interface groundwater; however, the majority of the shallow groundwater wells sampled did not exhibit reducing conditions.

The microbial analysis results from the three wells in the area selected for potential bioaugmentation indicate a lack of dechlorinating microbes at two of the locations (GEMW-2 and MW-3) and a limited number of dechlorinating microbes at the third location (GEMW-1).

1,4-Dioxane. Four wells (DP-17, MW-13, MW-2B, and MW-3) were sampled for 1,4-dioxane. 1,4-Dioxane results are presented in Table 8. Results were compared to the May 2016 USEPA Regional Screening Level (RSL) for tap water of 0.46 µg/L. 1,4-Dioxane was detected in two of the four wells tested; groundwater from MW-3 (1.1 µg/L) exceeded the RSL of 0.46 µg/L.

¹ Biochlor is a USEPA screening tool that simulates remediation by natural attenuation of dissolved solvents at chlorinated solvent release sites. The model can be found at the following USEPA website: <http://www.epa.gov/ada/csmos/models/biochlor.html>

PFAS Parameters. Four wells (DP-17, MW-13, MW-2B, and MW-3) were sampled for PFAS constituents. PFAS results for the four wells are presented in Table 8. Results were compared to the USEPA Drinking Water Health Advisories of 70 ng/L for the combination of the two PFAS compounds Perfluorooctanoic acid and perfluorooctane sulfonate (USEPA, 2016). PFAS were detected in samples collected from each of the wells, and exceeded the USEPA Advisory Limit of 70 ng/L in groundwater collected from monitoring well MW-3 (100 ng/L).

CONCLUSIONS

The soil sampling results further delineated the extent of PCE contamination exceeding Residential SCOs for the off-site property and Commercial SCOs on the Site. These results will be used during the remedial design to calculate volume estimates for excavation and off-site disposal. The interpreted soil excavation limits for the Site and adjacent residential property to the south to be incorporated into the remedial design are presented on Figure 3.

Groundwater conditions at the Site appear to be stable in both contaminant levels and plume configuration, with minimal reducing conditions.

The presence of the microbes at GEMW-1 coupled with the presence of the VC reductase gene, indicate that reductive dechlorination of PCE to ethene can occur in Site groundwater, albeit very limited under the present subsurface conditions. The lack of or limited biodegradation could be the result of several factors, including: 1) the lack or limited population of dechlorinating microbes, 2) a potential inhospitable environment for the microbes due to subsurface conditions, and/or 3) lack of a food source. Bioaugmentation as a remedy in this area of the site will likely require the addition of microbes, as well as bio-amendments to enhance biodegradation.

March 2018

If you have questions on the material provided herein, please feel free to contact us at 207-775-5401.

Sincerely,

MACTEC Engineering and Consulting, P.C.



Charles R. Staples, P.G.

Technical Project Lead



Jayme Connolly

Associate Project Manager

Enclosures

Figures

Figure 1 – Site Location

Figure 2 – Monitoring Wells and Site Features

Figure 3 – Pre-Design Boring Locations and Results

Figure 4 – Interpreted Overburden Groundwater Contours – October 2017

Figure 5 – Interpreted Overburden/Bedrock Interface Groundwater Contours– October 2017

Figure 6 – Groundwater PCE Concentrations – October 2017

Tables

Table 1 – Analytical Program - Soils

Table 2 – Analytical Program - Groundwater

Table 3 – Monitoring Well Details and Groundwater Elevation Data

Table 4 – Volatile Organic Compounds Detected in Soil

Table 5 – Volatile Organic Compounds Detected in Groundwater

Table 6 – Tetrachloroethene and cis-1,2-Dichloroethene - Historical Results in Select Wells

Table 7 – Monitored Natural Attenuation Results

Table 8 – 1,4-Dioxane and Per- and Polyfluoroalkyl Substances Results

Attachments

Attachment 1 – Field Data Records

Attachment 2 – Waste Manifest

Attachment 3 – Data Usability Summary Report

Attachment 4 – Geotechnical Soil Sample Results

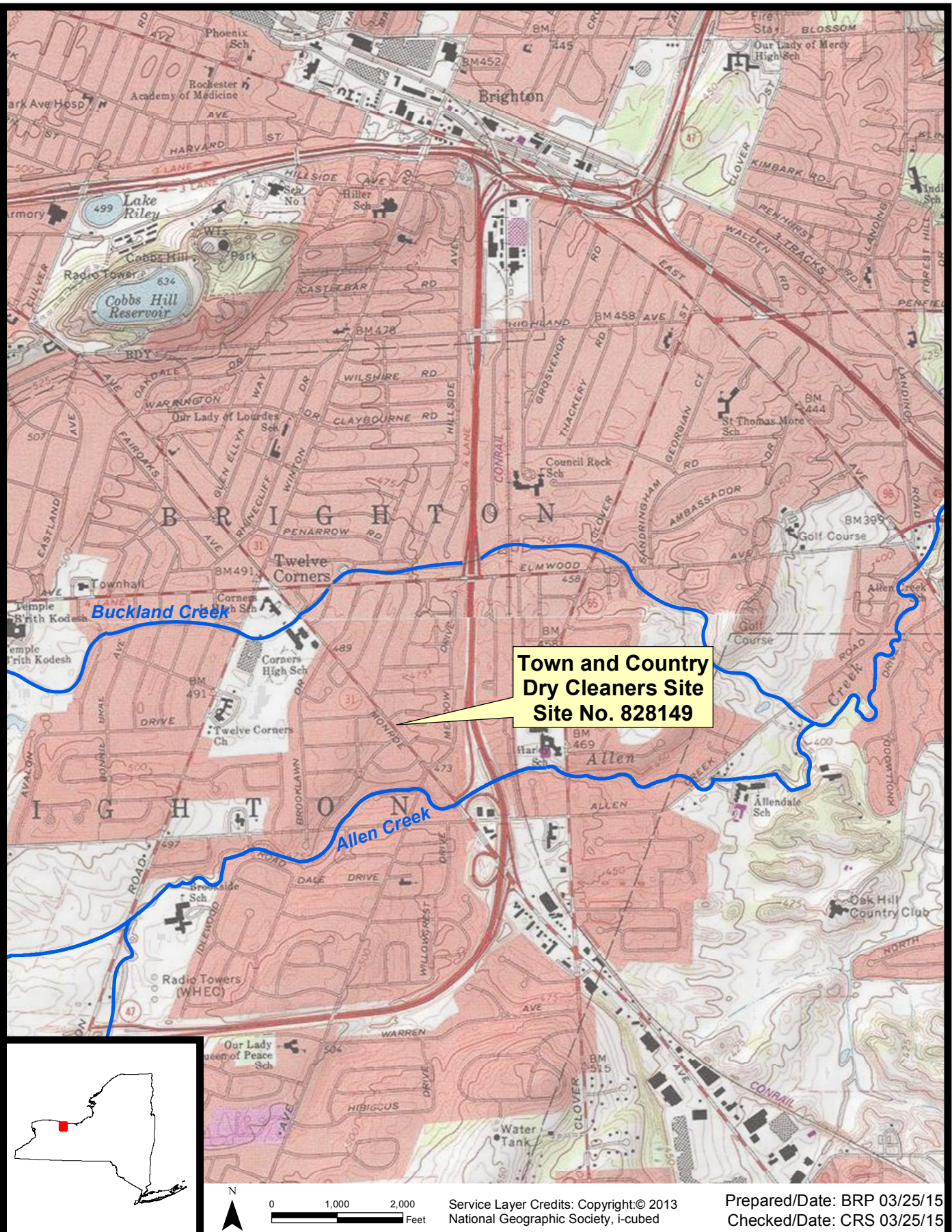
Attachment 5 – Biochlor Data Sheets

Attachment 6 – Bio-Trap Microbial Analysis Results

REFERENCES

- MACTEC Engineering and Consulting, P.C. (MACTEC), 2017. *Pre-design Investigation Field Activities Plan, Town and Country Dry Cleaners Site; Site Number 828149*. Prepared for New York State Department of Environmental Conservation, Albany, New York. September 2017.
- NYSDEC, 2017. Record of Decision. Town and Country Dry Cleaners State Superfund Project, Brighton, Monroe County, Site No. 828149. March 2017.
- USEPA, 2014. Technical Fact Sheet – 1,4-Dioxane. January 2014.
- USEPA, 2016. Regional Screening Level (RSL) Resident Tapwater Table (TR=1E-06, HQ=1). May 2016.

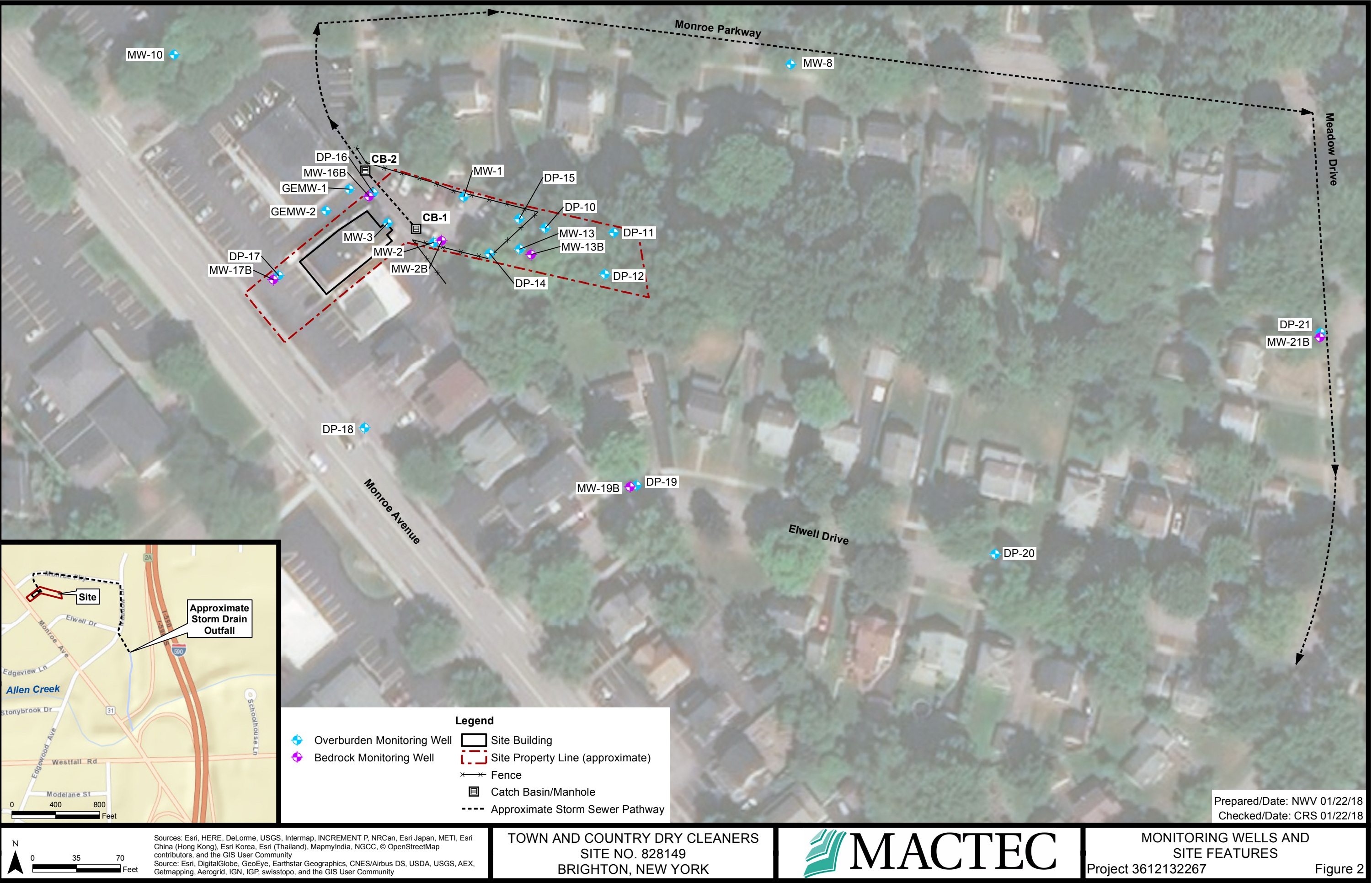
FIGURES

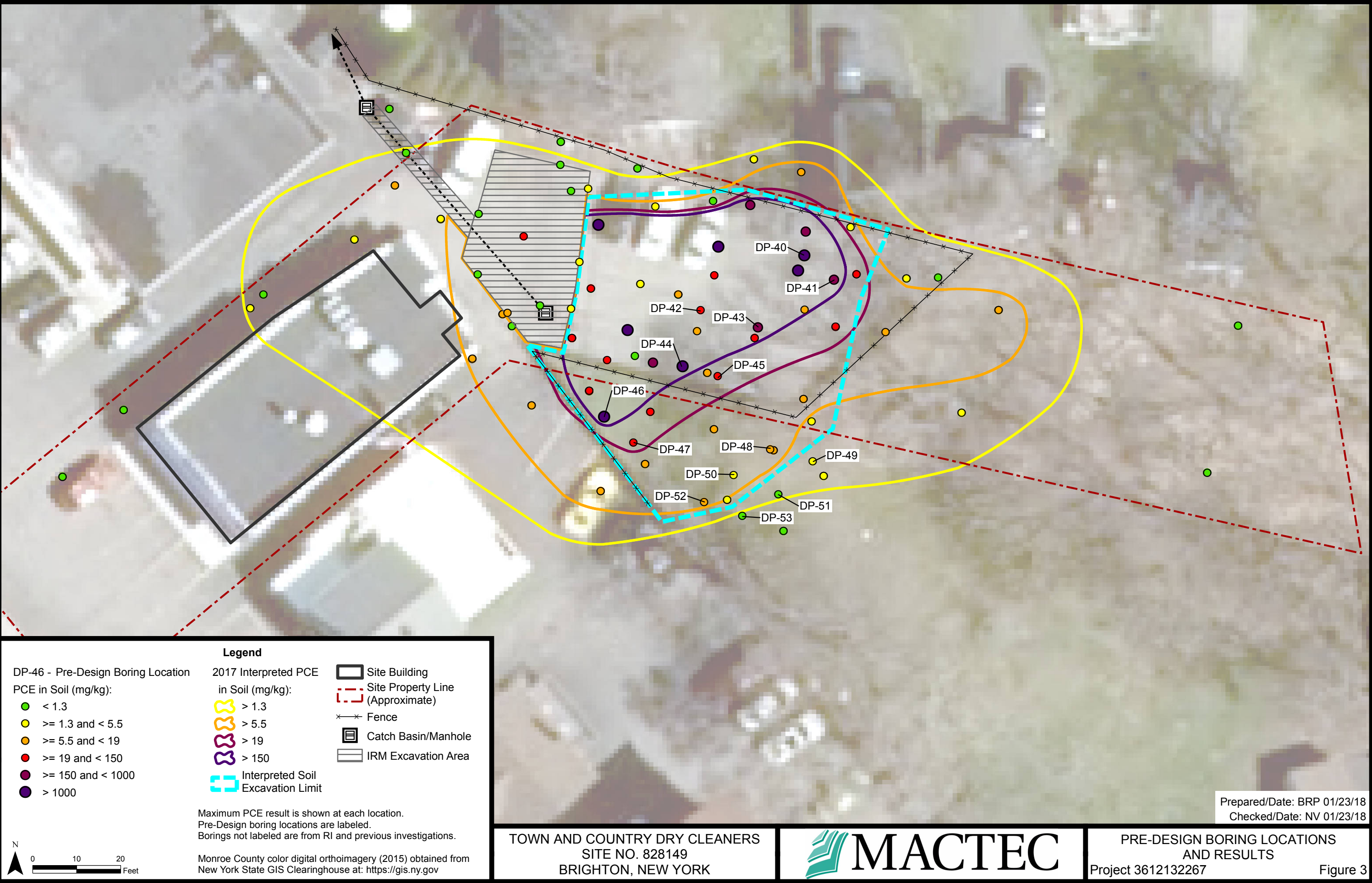


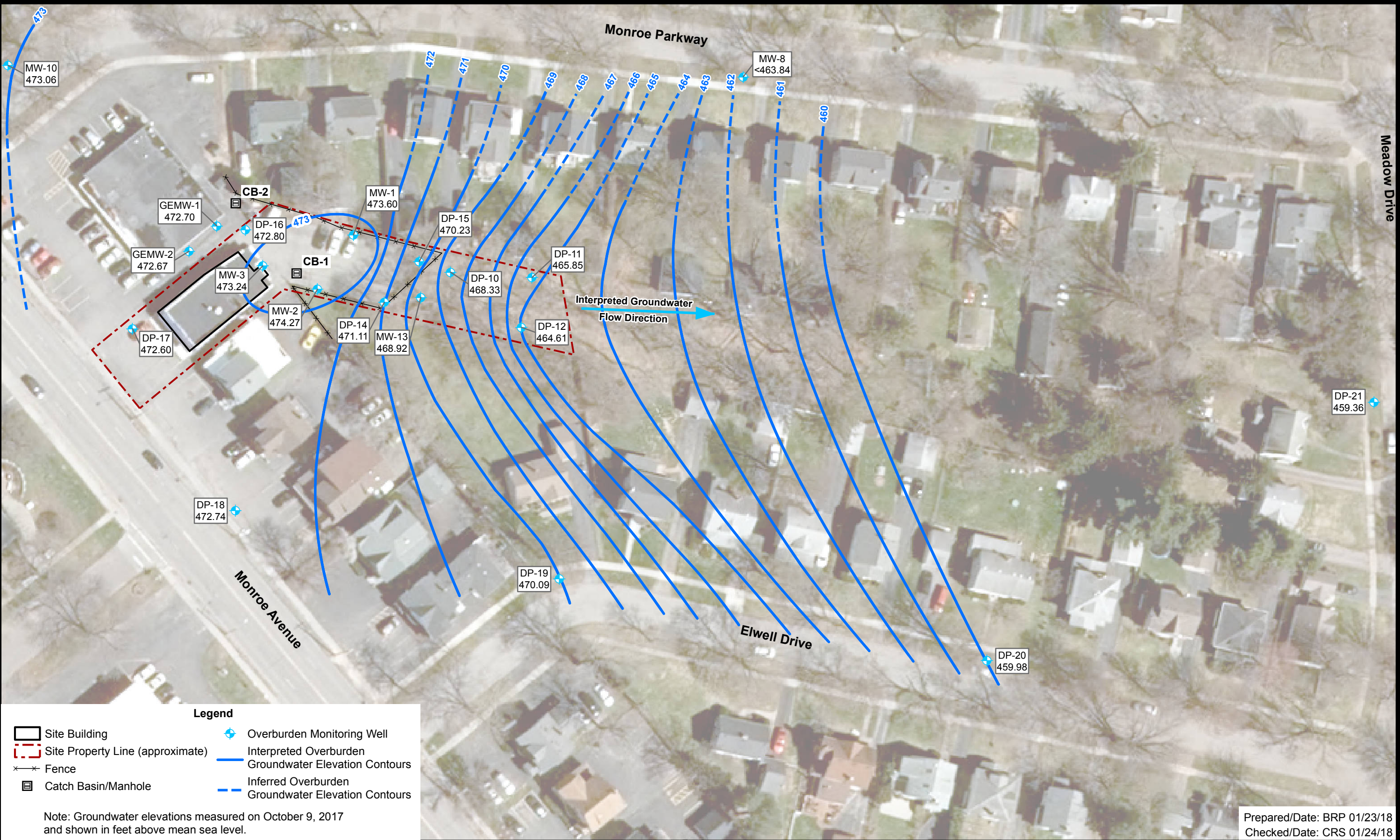
TOWN AND COUNTRY DRY CLEANERS
SITE NO. 828149
BRIGHTON, NEW YORK

SITE LOCATION

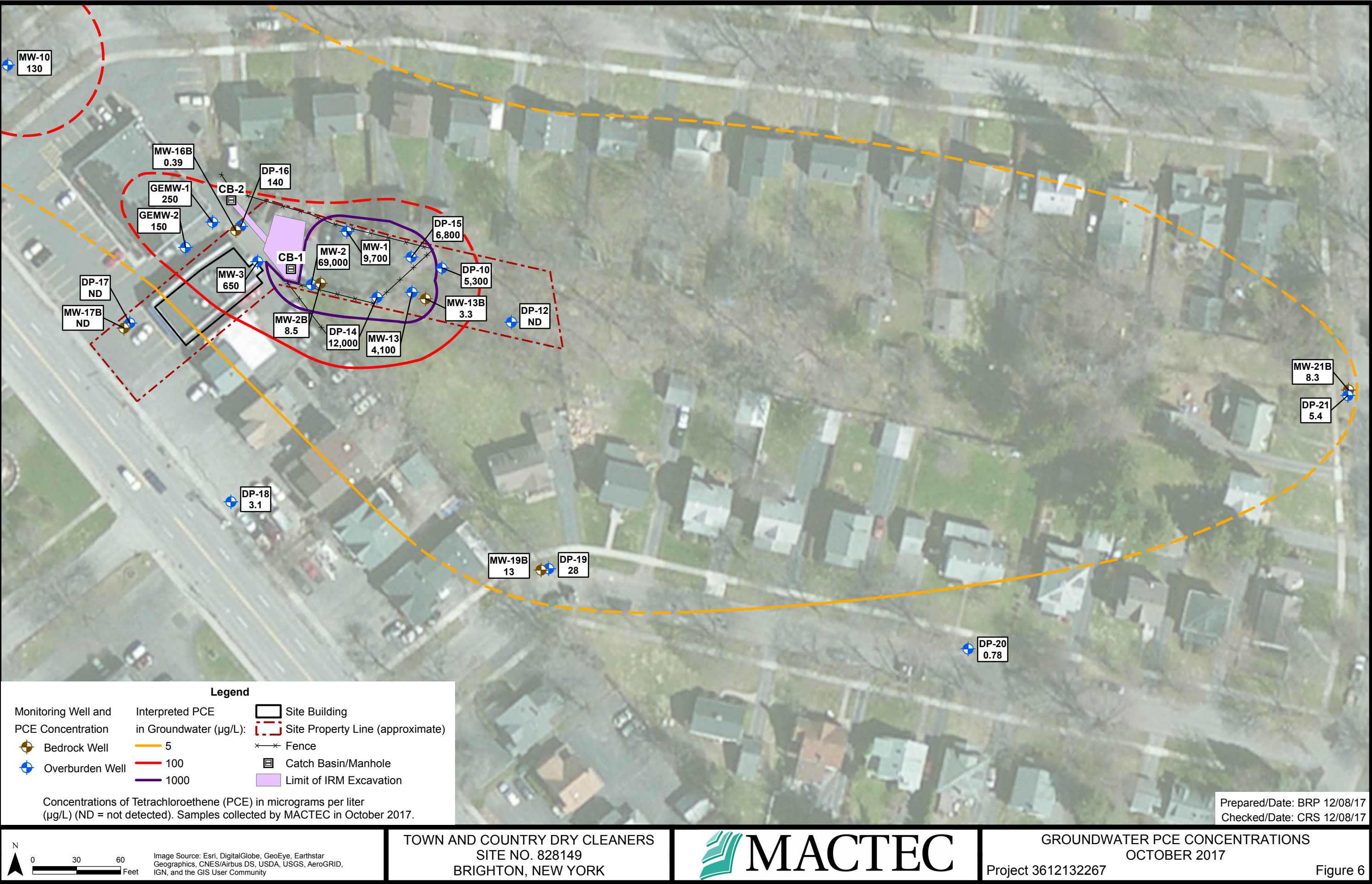
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TABLES

Table 1 - Analytical Program - Soils						
Location ID	Sampling Depth (ft bgs)	Description	Sample Date	Sample ID	VOCs 8260B	Geotech
DP-40	0-2	Direct Push	10/11/2017	828149-DP040002	X	
	5			828149-DP040005	X	
	7			828149-DP040007	X	
	9			828149-DP040009	X	
DP-41	0-2	Hollow Stem Auger Geotechnical	10/11/2017	828149-DP041002	X	
	4-8			828149-DP041004		X
	5			828149-DP041005	X	
	8			828149-DP041008	X	
	9			828149-DP041009	X	
	8-12			828149-DP041012		X
DP-42	0-2	Direct Push	10/11/2017	828149-DP042002	X	
	4			828149-DP042004	X	
	8			828149-DP042008	X	
	9			828149-DP042009	X	
DP-43	0-2	Direct Push	10/11/2017	828149-DP043002	X	
	0-2			828149-DP043002D	X	
	4			828149-DP043004	X	
	9			828149-DP043009	X	
	10			828149-DP043010	X	
DP-44	0-2	Direct Push	10/11/2017	828149-DP044002	X	
	4			828149-DP044004	X	
	7			828149-DP044007	X	
	7			828149-DP044007D	X	
	10			828149-DP044010	X	
DP-45	0-2	Direct Push	10/11/2017	828149-DP045002	X	
	4			828149-DP045004	X	
	7			828149-DP045007	X	
DP-46	0-2	Direct Push	10/10/2017	828149-DP046002	X	
	4			828149-DP046004	X	
	8			828149-DP046008	X	
	11			828149-DP046011	X	
	11			828149-DP046011D	X	
DP-47	0-2	Hollow Stem Auger/ Geotechnical	10/10/2017	828149-DP047002	X	
	3			828149-DP047003	X	
	4-8			828148-DP047004		X
	7			828149-DP047007	X	
	8			828149-DP047008	X	
	8-12			828148-DP047009		X
DP-48	0-2	Direct Push	10/10/2017	828149-DP048002	X	
	3			828149-DP048003	X	
	4			828149-DP048004	X	
	6			828149-DP048006	X	

Table 1 - Analytical Program - Soils						
Location ID	Sampling Depth (ft bgs)	Description	Sample Date	Sample ID	VOCs 8260B	Geotech
DP-49	0-2	Direct Push	10/10/2017	828149-DP049001	X	
	2			828149-DP049002	X	
	6			828149-DP049006	X	
	7			828149-DP049007	X	
DP-50	0-2	Direct Push	10/10/2017	828149-DP050001	X	
	2			828149-DP050002	X	
	5			828149-DP050005	X	
	7			828149-DP050007	X	
DP-51	0-2	Direct Push	10/10/2017	828149-DP051001	X	
	2			828149-DP051002	X	
	6			828149-DP051006	X	
	8			828149-DP051008	X	
DP-52	0-2	Direct Push	10/10/2017	828149-DP052001	X	
	2			828149-DP052002	X	
	4			828149-DP052004	X	
	6			828149-DP052006	X	
DP-53	0-2	Direct Push	10/10/2017	828149-DP053002	X	
	3			828149-DP053003	X	
	6			828149-DP053006	X	
	7			828149-DP053007	X	

NOTES:

8260B VOCs = Target Compound List Volatile Organic Compounds

Geotech = Geotechnical parameter: moisture content, grain size (sieve and hydrometer), Atterberg Limits

BGS = below ground surface

"D" at end of sample ID indicates duplicate sample.

Table 2 - Analytical Program - Groundwater

Location ID	Screen Interval (feet bgs)	Pump intake (feet bgs)	Sample Date	Sample ID	VOCs 8260B	MNA	PFAS 537 Mod	1,4-Dioxane 8260B SIM	Bio-Trap	Sampling Method
GEMW-1	9.5-14.5	14	10/11/2017	828149-GEMW001014	X				X	Purge dry, Sample recharge
GEMW-2	10.5-15.3	14	10/10/2017	828149-GEMW002014	X				X	Low flow
MW-1	UNK-11.6	10	10/10/2017	828149-MW001010	X	X				Low flow
				828149-MW001010D	X	X				Low flow
MW-2	UNK-10.7	10	10/11/2017	828149-MW002010	X					Purge dry, Sample recharge
MW-2B	17.6-22.6	20	10/12/2017	828149-MW02B020	X	X	X	X		Low flow
MW-3	UNK-10.4	9	10/12/2017	828149-MW003009	X		X	X	X	Low flow
				828149-MW003009D	X					Low flow
MW-8	4.5-9.5	10	NA	NA						Dry, no sample collected
MW-10	4.6-9.6	10	10/11/2017	828149-MW010010	X					Purge dry, Sample recharge
MW-13	8-13	12	10/12/2017	828149-MW013B012	X	X	X	X		Purge dry, Sample recharge
MW-13B	20.1-25.1	23	10/11/2017	828149-MW013B023	X	X				Low flow
MW-16B	20.1-25.1	23	10/10/2017	828149-MW016B023	X					Low flow
MW-17B	15.2-20.2	18	10/11/2017	828149-MW017B0180	X					Low flow
MW-19B	22.4-27.4	25	10/11/2017	828149-MW019B025	X					Low flow
MW-21B	16.5-21.5	19	10/11/2017	828149-MW021B019	X					Low flow
DP-10	5.5-9.5	8	10/11/2017	828149-DP010008	X					Purge dry, Sample recharge
DP-11	2.5-12.5	12	NA	NA						Dry, no sample collected
DP-12	10.5-20.5	15	10/10/2017	828149-DP012015	X					Low flow
DP-14	5.1-10.1	9	10/11/2017	828149-DP014009	X					Purge dry, Sample recharge
DP-15	4.7-9.7	9	10/11/2017	828149-DP015009	X					Purge dry, Sample recharge
DP-16	5.1-10.1	9	10/11/2017	828149-DP016009	X					Purge dry, Sample recharge
DP-17	6.5-16.5	15	10/12/2017	828149-DP017015	X	X	X	X		Low flow
DP-18	5.5-10.5	9	10/11/2017	828149-DP018009	X					Purge dry, Sample recharge
DP-19	3-13	12	10/11/2017	828149-DP019012	X	X				Low flow
DP-20	9.8-14.8	12	10/11/2017	828149-DP020012	X					Purge dry, Sample recharge
DP-21	5.4-10.4	9	10/11/2017	828149-DP021009	X					Low flow

NOTES:

Sample ID: 828149 = NYSDEC Site No.; followed by well ID and sample depth (three digits).

8260C VOCs = NYSDEC Target Compound List Volatile Organic Compounds

MNA = monitored natural attenuation parameters; TOC by Method SM 5310C, chloride/nitrate/nitrite/sulfate by EPA Method 300, sulfide by Method SM 4500S2 F, methane/ethane/ethene/carbon dioxide by Method RSK-175, alkalinity by Method SM 2320B, and iron and manganese by USEPA Method 6010C.

PFAS = per- and polyfluoroalkyl substances analyzed by Modified Method 537

1,4-dioxane analyzed by Method 8260 Selective Ion Monitoring (SIM)

bgs = below ground surface

UNK = unknown

Table 3 - Monitoring Well Details and Groundwater Elevation Data

Location ID	Northing	Easting	Ground Elevation (ft amsl)	PVC Riser Pipe Elevation (ft amsl)	BOW-measured 7/28/13 (ft bgs)	Screen Length (feet)	Clay Layer? (ft bgs)	Direct Push Refusal (ft bgs)	Refusal Elevation-Possible Bedrock (ft amsl)	DTW 5/29/13 (ft btor)	GW Elevation 5/29/13 (ft amsl)	DTW 7/22/13 (ft btor)	GW Elevation 7/22/13 (ft amsl)	DTW 4/25/16 (ft btor)	GW Elevation 4/25/16 (ft amsl)	DTW 10/09/2017 (ft btor)	GW Elevation 10/09/2017 (ft amsl)
DP-10	1138737.73	1422305.44	477.84	477.53	9.6	6.0	10.5-15	19.3	458.54	4.47	473.06	7.34	470.19	4.17	473.36	9.2	468.33
DP-11	1138734.19	1422359.91	478.37	478.05	12.6	8.0	None	19.0	459.37	>12.2 (dry)	<465.85	12.40	465.65	12.16	465.89	12.2	465.85
DP-12	1138700.85	1422352.85	477.42	477.09	20.5	10.0	None	21.5	455.92	11.61	465.48	11.65	465.44	10.94	466.15	12.48	464.61
DP-13	1138714.45	1422297.04	478.08	477.76	NM	5.0	10.5-14.5	19.0	459.08	3.10	474.66	Removed	-	-	-	-	-
DP-14	1138717.51	1422261.09	477.14	476.82	10.2	5.0	12.5-13.5	17.5	459.64	4.11	472.71	4.53	472.29	3.59	473.23	5.71	471.11
DP-15	1138744.94	1422284.51	477.25	476.98	9.6	5.0	9.8-14.6	18.8	458.45	4.44	472.54	5.44	471.54	2.61	474.37	6.75	470.23
DP-16	1138766.08	1422168.18	479.06	478.77	10.1	5.0	9.3-11.4	16.0	463.06	4.55	474.22	5.15	473.62	5.49	473.28	5.97	472.80
DP-17	1138699.91	1422092.66	479.89	479.50	16.5	10.0	None	17.0	462.89	6.62	472.88	7.06	472.44	7.12	472.38	6.9	472.60
DP-18	1138578.39	1422161.46	478.82	478.29	10.5	6.0	10.9-12.8	16.8	462.02	6.06	472.23	6.47	471.82	7.06	471.23	5.55	472.74
DP-19	1138532.70	1422378.17	475.49	475.15	13.0	10.0	None	13.9	461.59	4.98	470.17	5.65	469.50	5.46	469.69	5.06	470.09
DP-20	1138477.85	1422664.27	474.21	473.80	14.8	10.0	None	19.5	454.71	12.21	461.59	11.61	462.19	11.68	462.12	13.82	459.98
DP-21	1138650.76	1422923.25	468.74	468.38	10.4	8.0	None	12.0	456.74	7.65	460.73	7.43	460.95	6.21	462.17	9.02	459.36
GEMW-1	1138768.73	1422148.96	479.70	479.57	14.5	5.0	NA	-	-	-	-	6.58	472.99	6.79	472.78	6.87	472.70
GEMW-2	1138751.76	1422130.52	480.36	480.25	11.9	5.0	NA	-	-	-	-	7.80	472.45	7.70	472.55	7.58	472.67
MW-1	1138762.61	1422240.53	477.40	477.05	11.6	5?	NA	-	-	-	-	3.64	473.41	3.66	473.39	3.45	473.60
MW-2	1138726.34	1422216.42	477.13	476.87	10.0	5?	NA	-	-	-	-	2.53	474.34	3.74	473.13	2.6	474.27
MW-2B	1138727.39	1422222.76	477.06	476.71	22.6	5.0	UNK-13	17.5	459.56	-	-	4.83	471.88	4.88	471.83	4.3	472.41
MW-3	1138741.96	1422179.86	478.37	478.00	9.6	5?	NA	-	-	-	-	3.27	474.73	5.22	472.78	4.76	473.24
MW-8	1138868.41	1422501.18	473.10	473.04	9.5	5.0	NA	-	-	-	-	>9.2 (dry)	<463.84	>9.2 (dry)	<463.84	>9.2 (dry)	<463.84
MW-10	1138876.06	1422009.43	482.11	481.70	9.6	5.0	NA	-	-	-	-	8.59	473.11	7.16	474.54	8.64	473.06
MW-13	1138720.922	1422285.49	477.39	480.36	13.0	5.0	NA	-	-	-	-	9.10	471.26	6.99	473.37	11.44	468.92
MW-13B	1138716.73	1422294.21	477.80	480.37	25.1	5.0	NA	18.5	459.30	-	-	9.29	471.08	9.9	470.47	9.85	470.52
MW-16B	1138763.12	1422164.89	478.95	478.58	20.2	5.0	NA	16.5	462.45	-	-	6.74	471.84	6.78	471.80	6.33	472.25
MW-17B	1138696.71	1422088.47	479.75	479.35	27.3	5.0	NA	17.5	462.25	-	-	7.26	472.09	8.13	471.22	8.52	470.83
MW-19B	1138531.53	1422373.04	475.69	475.35	21.1	5.0	NA	13.9	461.79	-	-	5.91	469.44	5.68	469.67	5.28	470.07
MW-21B	1138654.47	1422923.58	468.55	468.15	19.6	5.0	NA	14.0	454.55	-	-	7.82	460.33	7.66	460.49	9.28	458.87

Notes:

Horizontal Coordinates reference to the New York State Plane Coordinate System, West Zone (3103) based on NAD 83 (2011).

Vertical Datum is NAVD88. Survey conducted by Prudent Engineering, dated 8/12/2013.

- = not measured > = greater than < = less than

amsl = above mean sea level

BOW = bottom of well

btor = below top of riser

DTW = depth to water below measuring point

ft = feet

GW = groundwater

NA = not available

UNK = unknown

Table 4 -Volatile Organic Compounds Detected in Soil

Location ID	Sample ID	Sample Depth (ft bgs)	Sample Date	Parameter SCO-Res. SCO-Comm. QC Code	Cis-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene	
					59 500 Result	Qualifier	5.5 150 Result	Qualifier	10 200 Result	Qualifier
DP-40	828149-DP040002	0-2	10/11/2017	FS	0.078 U		0.078 U		0.079 U	
DP-40	828149-DP040005	5	10/11/2017	FS	0.11 U		0.33		0.11 U	
DP-40	828149-DP040007	7	10/11/2017	FS	11 U		1300		12 U	
DP-40	828149-DP040009	9	10/11/2017	FS	1.1 U		100		1.4	
DP-41	828149-DP041002	0-2	10/11/2017	FS	0.075 U		0.17		0.076 U	
DP-41	828149-DP041005	5	10/11/2017	FS	0.19		0.72		0.14	
DP-41	828149-DP041008	8	10/11/2017	FS	1.9 U		300		2 U	
DP-41	828149-DP041009	9	10/11/2017	FS	0.83 U		180		1.5	
DP-42	828149-DP042002	0-2	10/11/2017	FS	0.13 U		1.1		0.13 U	
DP-42	828149-DP042004	4	10/11/2017	FS	0.2		1.9		0.21	
DP-42	828149-DP042008	8	10/11/2017	FS	0.88		55		0.58	
DP-42	828149-DP042009	9	10/11/2017	FS	1.1		50		0.95	
DP-43	828149-DP043002	0-2	10/11/2017	FS	0.11 U		1.2		0.12 U	
DP-43	828149-DP043002D	0-2	10/11/2017	FD	0.098 U		0.92		0.1 U	
DP-43	828149-DP043004	4	10/11/2017	FS	0.16		2.6		0.15	
DP-43	828149-DP043009	9	10/11/2017	FS	1		180		0.91	
DP-43	828149-DP043010	10	10/11/2017	FS	1.1 U		89		1.2 U	
DP-44	828149-DP044002	0-2	10/11/2017	FS	0.093 U		0.42		0.094 U	
DP-44	828149-DP044004	4	10/11/2017	FS	0.11 U		1.3		0.12 U	
DP-44	828149-DP044007	7	10/11/2017	FS	1.1 U		1000 J		1.1 U	
DP-44	828149-DP044007D	7	10/11/2017	FD	2.2 U		290 J		2.3 U	
DP-44	828149-DP044010	10	10/11/2017	FS	0.54 U		74		1.1	
DP-45	828149-DP045002	0-2	10/11/2017	FS	0.089 U		3.5		0.18	
DP-45	828149-DP045004	4	10/11/2017	FS	0.12 U		1.2		0.12 U	
DP-45	828149-DP045007	7	10/11/2017	FS	0.17		70		0.29	
DP-46	828149-DP046002	0-2	10/10/2017	FS	0.11 U		0.11 U		0.11 U	
DP-46	828149-DP046004	4	10/10/2017	FS	0.1 U		0.1 U		0.11 U	
DP-46	828149-DP046008	8	10/10/2017	FS	4.9 U		2000		4.9 U	
DP-46	828149-DP046011	11	10/10/2017	FS	0.11 UJ		0.17 J		0.12 U	
DP-46	828149-DP046011D	11	10/10/2017	FD	0.13 J		0.11 UJ		0.12 U	
DP-47	828149-DP047002	0-2	10/10/2017	FS	0.11 U		0.56		0.12 U	
DP-47	828149-DP047003	3	10/10/2017	FS	0.1 U		1		0.11 U	
DP-47	828149-DP047007	7	10/10/2017	FS	0.25 U		23		0.55	
DP-47	828149-DP047008	8	10/10/2017	FS	0.11 U		0.11 U		0.11 U	
DP-48	828149-DP048002	0-2	10/10/2017	FS	0.099 U		0.32		0.11 U	
DP-48	828149-DP048003	3	10/10/2017	FS	0.13		3.1		0.18	
DP-48	828149-DP048004	4	10/10/2017	FS	0.15		5.4		0.19	
DP-48	828149-DP048006	6	10/10/2017	FS	0.13		8.4		0.33	
DP-49	828149-DP049001	0-2	10/10/2017	FS	0.1 U		0.1 U		0.11 U	
DP-49	828149-DP049002	2	10/10/2017	FS	0.14		0.17		0.12 U	
DP-49	828149-DP049006	6	10/10/2017	FS	0.11 U		3.1		0.25	
DP-49	828149-DP049007	7	10/10/2017	FS	0.1 U		2.5		0.15	
DP-50	828149-DP050001	0-2	10/10/2017	FS	0.46		0.99		0.47	
DP-50	828149-DP050002	2	10/10/2017	FS	0.11 U		3.2		0.13	
DP-50	828149-DP050005	5	10/10/2017	FS	0.11 U		3.9		0.12 U	
DP-50	828149-DP050007	7	10/10/2017	FS	0.092 U		3.8		0.26	

Table 4 -Volatile Organic Compounds Detected in Soil

Location ID	Sample ID	Sample Depth (ft bgs)	Sample Date	Parameter SCO-Res. SCO-Comm. QC Code	Cis-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene	
					59	500	5.5	150	10	200
					Result	Qualifier	Result	Qualifier	Result	Qualifier
DP-51	828149-DP051001	0-2	10/10/2017	FS	0.11	U	0.11	U	0.11	U
DP-51	828149-DP051002	2	10/10/2017	FS	0.11		0.1	U	0.11	U
DP-51	828149-DP051006	6	10/10/2017	FS	0.32		0.4		0.1	
DP-51	828149-DP051008	8	10/10/2017	FS	0.3		0.44		0.11	U
DP-52	828149-DP052001	0-2	10/10/2017	FS	0.1	U	0.11		0.11	U
DP-52	828149-DP052002	2	10/10/2017	FS	0.11	U	0.54		0.17	
DP-52	828149-DP052004	4	10/10/2017	FS	0.11	U	0.78		0.11	U
DP-52	828149-DP052006	6	10/10/2017	FS	0.1	U	7.3		0.45	
DP-53	828149-DP053002	0-2	10/10/2017	FS	0.13	U	0.13	U	0.13	U
DP-53	828149-DP053003	3	10/10/2017	FS	0.11	U	0.11	U	0.12	U
DP-53	828149-DP053006	6	10/10/2017	FS	0.11	U	0.33		0.11	U
DP-53	828149-DP053007	7	10/10/2017	FS	0.1	U	0.23	J	0.21	J

Notes:

Samples analyzed for VOCs by USEPA Method 8260B;
Results in milligrams per kilogram (mg/kg) (**detections in bold**)

Qualifier:

J = estimated value

U = compound not detected at concentration above reporting limit.

D = result from diluted run

FS= Field Sample

FD= Field Duplicate

SCO = NYCRR Part 375 - Soil Cleanup Objectives:

Res= for Residential Use

Highlighted gray cell exceeds residential criteria

Comm.= for Commercial Use

Highlighted yellow cell exceeds commercial criteria

Table 5
Volatile Organic Compounds Detected in Groundwater

Location		DP-10		DP-12		DP-14		DP-15		DP-16		DP-17		DP-18		DP-19		DP-20	
Sample Depth (ft bgs)		08		15		09		09		09		15		09		12		12	
Sample Date		10/11/2017		10/10/2017		10/11/2017		10/11/2017		10/11/2017		10/12/2017		10/11/2017		10/11/2017		10/11/2017	
Sample ID		828149-DP010008		828149-DP012015		828149-DP014009		828149-DP015009		828149-DP016009		828149-DP017015		828149-DP018009		828149-DP019012		828149-DP020012	
Qc Code		FS		FS		FS		FS		FS		FS		FS		FS		FS	
Parameter	Criteria	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	5	1.8 J		1 U		50 U		50 U		1 U		1 U		1 U		1 U		1 U	
1,1-Dichloroethane	5	1.2 J		1 U		50 U		50 U		0.35 J		1 U		1 U		1 U		1 U	
1,1-Dichloroethene	5	5 U		1 U		50 U		50 U		2.1		1 U		1 U		1 U		1 U	
Acetone	NC	9.4 J		5 U		250 U		250 U		1.8 J		5 U		1.7 J		5 U		4.2 J	
Bromomethane	5	5 U		1 U		50 U		50 U		1 U		1 U		1 U		1 U		1 U	
Chloroethane	5	5 U		1 U		50 U		50 U		0.59 J		1 U		1 U		1 U		1 U	
Chloroform	7	5 U		1 U		50 U		50 U		1 U		1 U		1 U		1 U		1 U	
Chloromethane	5	5 U		1 U		50 U		50 U		1 U		1 U		0.23 J		1 U		1 U	
Cis-1,2-Dichloroethene	5	100		1.7		550		220		300		1 U		1 U		12		1 U	
Tetrachloroethene	5	5300		1 U		12000		6800		140		1 U		3.1		28		0.78 J	
trans-1,2-Dichloroethene	5	5 U		1 U		50 U		50 U		1.8		1 U		1 U		1 U		1 U	
Trichloroethene	5	140		1 U		420		210		38		1 U		1 U		8.5		1 U	
Vinyl chloride	2	5 U		1 U		50 U		50 U		36 J		1 U		1 U		1 U		1 U	

Notes:
Samples Analyzed for VOCs by Method 8260
Results in micrograms per liter (µg/L)
Only detected compounds shown
(detections in bold)
Qualifier
U = not detected
J = estimated value
FS=field sample
FD= field duplicate
Criteria = Groundwater guidance or standard values from
Technical and Operational Guidance Series (TOGS) 1.1.1,
"Ambient Water Quality Standards and Guidance Values and
Groundwater Effluent Limitations" (NYSDEC, 1998).
Highlighted cell exceeds criteria
ft bgs = feet below ground surface
NC = no criteria

Table 5
Volatile Organic Compound Detected in Groundwater

Location		DP-21		GEMW-1		GEMW-2		MW-1		MW-1		MW-2		MW-2B		MW-3		MW-3	
Sample Depth (ft bgs)		09		10		20		10		10		10		20		09		09	
Sample Date		10/11/2017		10/11/2017		10/10/2017		10/10/2017		10/10/2017		10/11/2017		10/12/2017		10/12/2017		10/12/2017	
Sample ID		828149-DP021009		828149-GEMW001014		828149-GEMW002014		828149-MW001010		828149-MW001010D		828149-MW002010		828149-MW02B020		828149-MW003009		828149-MW003009D	
Qc Code		FS		FS		FS		FS		FD		FS		FS		FS		FD	
Parameter	Criteria	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	5	1	U	5	U	1	U	50	U	50	U	500	U	1	U	5	U	5	U
1,1-Dichloroethane	5	1	U	5	U	1	U	50	U	50	U	500	U	1	U	5	U	5	U
1,1-Dichloroethene	5	1	U	5.2		1	U	50	U	50	U	500	U	1	U	8.5		8.2	
Acetone	NC	1.8	J	25	U	5	U	250	U	250	U	2500	U	5	U	25	U	25	U
Bromomethane	5	1	U	5	U	0.31	J	50	U	50	U	500	U	1	U	5	U	5	U
Chloroethane	5	1	U	5	U	1	U	50	U	50	U	500	U	1	U	5	U	5	U
Chloroform	7	8.3		5	U	1	U	50	U	50	U	500	U	1	U	5	U	5	U
Chloromethane	5	1	U	5	U	1	U	13	J	50	U	500	U	1	U	5	U	5	U
Cis-1,2-Dichloroethene	5	1	U	520		3.3		340		310		500	U	4.9		670		690	
Tetrachloroethene	5	5.4		250		150		9700		9600		69000		8.5		650		670	
trans-1,2-Dichloroethene	5	1	U	3.5	J	1	U	50	U	50	U	500	U	1	U	5.1		5.3	
Trichloroethene	5	0.33	J	120		3.3		260		240		170	J	3.5		310		320	
Vinyl chloride	2	1	U	15	J	1	U	50	U	50	U	500	U	1	U	200	J	200	J

Notes:
Samples Analyzed for VOCs by Method 8260
Results in micrograms per liter (µg/L)
Only detected compounds shown
(detections in bold)
Qualifier
U = not detected
J = estimated value
FS=field sample
FD= field duplicate
Criteria = Groundwater guidance or standard values from
Technical and Operational Guidance Series (TOGS) 1.1.1,
"Ambient Water Quality Standards and Guidance Values and
Groundwater Effluent Limitations" (NYSDEC, 1998).
Highlighted cell exceeds criteria
ft bgs = feet below ground surface
NC = no criteria

Table 5
Volatile Organic Compound Detected in Groundwater

Location		MW-10		MW-13		MW-13B		MW-16B		MW-17B		MW-19B		MW-21B	
Sample Depth (ft bgs)		10		12		23		23		01		25		19	
Sample Date		10/11/2017		10/12/2017		10/11/2017		10/10/2017		10/11/2017		10/11/2017		10/11/2017	
Sample ID		828149-MW010010		828149-MW013012		828149-MW013B023		828149-MW016B023		828149-MW017B018		828149-MW019B025		828149-MW021B019	
Qc Code		FS		FS		FS		FS		FS		FS		FS	
Parameter	Criteria	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
Acetone	NC	1.4	J	250	U	5	U	5	U	5	U	5	U	2.2	J
Bromomethane	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
Chloroform	7	1	U	50	U	1	U	1	U	1	U	1	U	3.4	
Chloromethane	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
Cis-1,2-Dichloroethene	5	4.5		770		2		0.42	J	1	U	12		1	U
Tetrachloroethene	5	130		4100		3.3		0.39	J	1	U	13		8.3	
trans-1,2-Dichloroethene	5	1	U	50	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	5	3		200		1.3		1	U	1	U	8.4		0.73	J
Vinyl chloride	2	1	U	50	U	1	U	1	U	1	U	1	U	1	U

Notes:
Samples Analyzed for VOCs by Method 8260
Results in micrograms per liter (µg/L)
Only detected compounds shown
(detections in bold)
Qualifier
U = not detected
J = estimated value
FS=field sample
FD= field duplicate
Criteria = Groundwater guidance or standard values from
Technical and Operational Guidance Series (TOGS) 1.1.1,
"Ambient Water Quality Standards and Guidance Values and
Groundwater Effluent Limitations" (NYSDEC, 1998).
Highlighted cell exceeds criteria
ft bgs = feet below ground surface
NC = no criteria

Table 6 - Tetrachloroethene and cis-1,2-Dichloroethene Historical Results in Select Wells

Location	Sample Date	Parameter Criteria Sample ID	Tetrachloroethene		Cis-1,2-Dichloroethene	
			Result	Qualifier	Result	Qualifier
DP-14	7/24/2013	828149-DP1407	13,000	D	870	
	4/26/2016	828149-DP014009	9,400		450	
	10/11/2017	828149-DP014009	12,000		550	
DP-21	5/23/2013	828149-GW021011	1.9		1	U
	7/23/2013	828149-DP2107	2.1		1	U
	4/27/2016	828149-DP021009	3.8		1	U
	10/11/2017	828149-DP021009	5.4		1	U
GEMW-1	7/24/2013	828149-GEMW001014	76		310	D
	4/27/2016	828149-GEMW001014	200		600	
	10/11/2017	828149-GEMW001014	250		520	
GEMW-2	7/24/2013	828149-GEMW002014	230	D	14	
	4/26/2016	828149-GEMW002014	130		4	
	10/10/2017	828149-GEMW002014	150		3.3	
MW-1	7/24/2013	828149-MW001010	11,000	D	660	
	4/26/2016	828149-MW001010	8,400		320	
	10/10/2017	828149-MW001010	9,700		340	
MW-2	7/24/2013	828149-MW002010	90,000	D	260	
	4/27/2016	828149-MW002010	85,000		500	U
	10/11/2017	828149-MW002010	69,000		500	U
MW-10	7/24/2013	828149-MW010010	28		1	U
	4/28/2016	828149-MW010010	1	U	1	U
	10/11/2017	828149-MW010010	130		4.5	

Notes:

Samples Analyzed for VOCs by Method 8260

Results in micrograms per liter (µg/L)

Qualifier

U = not detected

D = result from diluted run

Criteria = Groundwater guidance or standard values from Technical and Operational Guidance Series (TOGS) 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, 1998).

BOLD Detection

Highlighted cell exceeds criteria

41479.6701

828149-MW010010

Table 7 - Monitored Natural Attenuation Results

Location Name		DP-17		DP-19		MW-1		MW-13		MW-13B		MW-2B	
Sample Date		10/12/2017		10/11/2017		10/10/2017		10/12/2017		10/11/2017		10/12/2017	
Sample ID		828149-DP017015		828149-DP019012		828149-MW001010		828149-MW013012		828149-MW013B023		828149-MW02B020	
Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Total Alkalinity, as CaCO ₃	mg/L	726		396		498		490		366		394	
Chloride	mg/L	711		168		617 J		357 J		87 J		99.9 J	
Nitrate as N	mg/L	3.7		0.7 J		2.1		1 U		1 U		0.6 J	
Nitrite as N	mg/L	1 U		1 UJ		1 U		1 U		1 U		1 U	
Sulfate	mg/L	173		65.5		86.1		131		73.9		65	
Ethane	µg/L	1 U		1 U		0.21 J		1 U		0.43 J		1 U	
Ethene	µg/L	1 U		1 U		1 U		0.58 J		0.28 J		1 U	
Methane	µg/L	0.57 J		0.63 J		0.9 J		1.1 U		11		1.1 U	
Sulfide	mg/L	0.2 J		0.21 J		0.3 J		0.25 J		2.6		0.4 J	
Total Organic Carbon	mg/L	3.3		1 J		3.3		7.2		0.9 J		0.9 J	
Iron	µg/L	2,690		87 J		2,070		31,600		124		88 J	
Manganese	µg/L	350		279		57.7		777		11.5		9.3 J	
pH	pH	6.6		7		6.9		7.1		7.1		7	
ORP	mV	36		110		90.2		55		-94		-5.9	
Dissolved Oxygen	mg/L	0.4		0.9		3.7		4.8		0.5		0.4	
NASP Score	NA	Background		6		7		9		10		10	

Notes:

Samples analyzed for Monitored Natural Attenuation (MNA) parameters:

Total Organic Carbon by Method SM 5310C, chloride/sulfate and nitrate/nitrite by EPA Methods 300 and 353.2, sulfide by Method SM 4500F, methane/ethane/ethene/CO₂ by Method RSK-175, alkalinity by Method SM 232oB, and iron and manganese by USEPA Method 6010C.

Oxidation-Reduction Potential, and dissolved oxygen, pH, and temperature measured in the field with YSI 556 MP.

(detections in bold)

Units as noted; mg/L = milligrams per liter, µg/L = micrograms per liter, mV = millivolts, pH = pH units.

Qualifier: J = estimated value; U = compound not detected at concentration above reporting limit.

NA = Not Available

NASP = natural attenuation screening protocol from USEPA Biochlor 2.2

Score 0-5 = inadequate evidence for anaerobic biodegradation

Score 6-14 = limited evidence for anaerobic biodegradation

Score 15-20 = adequate evidence for anaerobic biodegradation

Score >20 = strong evidence for anaerobic biodegradation

Table 8 - 1,4-Dioxane and Per- and Poly-fluoroalkyl Substances Results

				Location		DP-17		MW-13		MW-2B		MW-3	
				Sample Depth (ft bgs)		15		12		20		9	
				Sample Date		10/12/2017		10/12/2017		10/12/2017		10/12/2017	
				Sample ID		828149-DP017015		828149-MW013012		828149-MW02B020		828149-MW003009	
				Qc Code		FS		FS		FS		FS	
Class	Parameter	Criteria	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,4-Dioxane	1,4-Dioxane	0.46	µg/L	0.4	U	0.26	J	0.4	U			1.1	
PFCs	Perfluorobutanesulfonic acid	NA	ng/L	4.9		4.3		1.6	J			8.8	
PFCs	Perfluorobutanoic acid	NA	ng/L	2.6		8.9		4.9				7.5	
PFCs	Perfluorodecanesulfonic acid	NA	ng/L	2	U	2.1	U	2	U			2	U
PFCs	Perfluorodecanoic acid	NA	ng/L	2	U	2.1	U	2	U			3.4	
PFCs	Perfluorododecanoic acid	NA	ng/L	2	U	2.1	U	2	U			2	U
PFCs	Perfluoroheptanesulfonic acid	NA	ng/L	2	U	2.1	U	2	U			1	J
PFCs	Perfluoroheptanoic acid	NA	ng/L	2	U	2.3		2	U			9.9	
PFCs	Perfluorohexane sulfonic acid	NA	ng/L	2	U	2.9		2	U			3.4	
PFCs	Perfluorohexanoic acid	NA	ng/L	2	U	3.8		2	U			9.6	
PFCs	Perfluorononanoic acid	NA	ng/L	2	U	2.1	U	2	U			5.1	
PFCs	Perfluorooctane sulfonamide	NA	ng/L	41	UJ	41	UJ	0.72	J			2.4	J
PFCs	Perfluorooctanesulfonic acid	NA	ng/L	2	U	6.3		2	U			87	
PFCs	Perfluorooctanoic acid	NA	ng/L	2	U	7.4		2	U			17	
PFCs	Perfluoropentanoic acid	NA	ng/L	2	U	3.9		2	U			11	
PFCs	Perfluorotetradecanoic acid	NA	ng/L	2	U	2.1	U	2	U			2	U
PFCs	Perfluorotridecanoic acid	NA	ng/L	2	U	2.1	U	2	U			2	U
PFCs	Perfluoroundecanoic acid	NA	ng/L	2	U	2.1	U	2	U			2	U
PFCs	Sum PFOA and PFOS	70	ng/L	2	U	14		2	U			100	

Notes:

Samples analyzed for per-and poly-flourinated compounds by USEPA Modified Method 537 and for

1,4-Dioxane by USEPA Method 8260 with selective ion monitoring.

Results in micrograms per liter (µg/L) and nanograms per liter (ng/L)

Only detected compounds shown (detections in bold)

Qualifiers: U = not detected; J = estimated value

ft bgs = feet below ground surface

Criteria = Environmental Protection Agency Advisory Limit/Screening Level

Highlighted cell exceeds criteria

NA = no criteria available

ATTACHMENT 1

FIELD DATA RECORDS

SOIL BORING LOG



MACTEC

511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners		Boring ID: DP-040
Project Location: Brighton, NY		Page No. 1
Project No.: 3612132267	Client: NYSDEC	of: 1
Boring Location: ~~Residential Property~~	Refusal Depth: NA	Total Depth: 12'
Weather: 65° Pcloudy	Soil Drilled: 12'	Method: Direct Push
Subcontractor: Nothnagle	Protection Level: D	Casing Size: NA
Driller: Jeff Schweitzer	Date Started: 10/11/17	Date Completed: 10/11/17
Rig Type/Model: 6610DT	Logged By: Marc Vogan	Checked By: TG, 12/7/17
Reference Elevation: NA	Water Level: NA	Time: 1455
Sampler: 4' macrocore		Sampler ID/OD: 3"

Sample Information				Monitoring		Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)		NA	PID (ppm)			
0.0								
	01	4 / 2.6			0.5	0-0.2 Asphalt 0.2-1.1 loose, moist, red brownish gray; fine gravel w/ sand + silt matrix (sub base) 1.1-2.6 moist, soft, med brown grading to grayish brown; sandy SILT; little clay; trace fm gravel; uterine crushed stone	Asphalt Fill ML	
4	02	4 / 4.0			5.05	0-1.2 SAA, grayish brown, wet at 4.6 ft 1.2-4.0 wet, stiff, med brown w/ red brown; sandy SILT; some clay seams; SL cohesive, not plastic	ML	at 4.6'
8	03	4			46.6	0-1.2 SAA (1.4-4) 1.2-4 wet, soft, med. gray w/ red brown mottling; silty CLAY, little f sand; med cohesiveness + plasticity	CL	
12						EOB at 12 ft D ₅₀		
Samples								
0-2 360109- DP040002 (SS) (MS) (HSD)								
4-6 360109- DP040005 (WT)								
7-3 360109- DP040007 (PID 208 ppm)								
9-2 360109- DP040009 (clay)								

NOTES:

7-3 360109- DP040007 (PID 208 ppm)
9-2 360109- DP040009 (clay)

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners
 Project Location: Brighton, NY
 Project No.: 3612132267 Client: NYSDEC
 Boring Location: Parking lot
 Weather: 60°, L Rain
 Subcontractor: Nothnagle
 Driller: Jeff Schweitzer
 Rig Type/Model: 6610DT
 Reference Elevation: NA
 Refusal Depth: 18.9 ft
 Soil Drilled: 18.9 ft
 Total Depth: 18.9 ft
 Method: HSA / 2" SS
 Protection Level: D
 Date Started: 10/11/17
 Logged By: Marc Vayon
 Water Level: NA
 Time: 1456
 Boring ID: DP-041
 Page No. 1
 of: 2
 Bore Hole ID: DP-041
 Casing Size: NA
 Sampler: Split Spoon
 Sampler ID: 2"

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)								
0.0										
0.0	01	1.5 / 0.8	6				0.4	0-0.5 ASPHALT; no sample 0.5-2.0 wet, moist, red dark gray to brownish gray; fine gravel w/ sand + silt (sub base)	Asphalt F-11	
2			2							
	02	2.0 / 1.2	5				1.4	Soft, moist, red brown granular to dark brown; sandy SILT; some f sand, little clay	ML	
4			18							
			5							
			2							
	03	2.0 / 1.6	WH 3				3.9	Soft, moist to wet, red brown; sandy SILT; some f sand, v trace clay	ML	
6			3							
			4							
	04	2.0 / 2.0	5				86.0	Stiff, moist to wet, red brown w/ red brown; sandy SILT; some f sand; little clay layers; some odor at 7.8 ft bgs	ML	
8			6							
			7							
	05	2.0 / 2.0	3				113	0-1.0 SAA; some solvent odor 1.0-2.0 wet, soft, brownish gray to red dark gray w/ red brown mottling; silty CLAY, trace f sand red concrete + plastering	ML CL	
10			5							
			3							
	06	2 / 2	WH 1				368	SAA 1.0-2.0	CL	
			2							
			1							
12										

NOTES:

SOIL BORING LOG

Samples

0-2 360109 - DP041002 (SS)
 4.5 360109 - DP041005 (WT)
 8 360109 - DP041008 (PED - 112 Azm)

Gravel

4-8 360109 - DP041004
 8-12 360109 - DP041012

SOIL BORING LOG



MACTEC

511 Congress Street, Portland Maine 04101

Project Name:	Town and Country Dry Cleaners		Boring ID:	DR041			
Project Location:	Brighton, NY		Page No.	2			
Project No.:	3612132267	Client:	NYSDEC	of: 2			
Boring Location:	Parking Lot	Refusal Depth:	18.9 ft	Total Depth:	18.9 ft	Bore Hole O.D.:	8"
Weather:	60° L Rain	Soil Drilled:	18.9 ft	Method:	HSA	Casing Size:	NA
Subcontractor:	Nothnagle	Protection Level:	D	Sampler:	split spoon	Sampler ID/OD:	2"
Driller:	Jeff Schweitzer	Date Started:	10/11/17	Date Completed:	10/11/17	Checked By:	TG, 12/7/17
Rig Type/Model:	6610DT	Water Level:	NA	Time:	1456		
Reference Elevation:	NA						

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)		NA						
0.0										
12	07	2/2	1/2	9			3.1	0-1.7 SAA 1.7-2 soft, wet, medium dark gray; silty CLAY; white fm sand + fine gravel; sh. cohesive	CL	
14										
16	08	2/1.1	2/5/6/11	11			12.6	wet, soft to stiff, medium dark gray; fine gravel w/ silty clay matrix; sh. cohesive	GC	
18	09	2/1.1	25/12/16/16	38			0.3	SAA	GC	
18.9	10	0.4	17/50/4				0.5	SAA, weathered rock in mass	GC Rock	18.9'
								EOB at 18.9 ft bgs		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name:	Town and Country Dry Cleaners	Boring ID:	DP-042
Project Location:	Brighton, NY	Page No.	1
Project No.:	3612132267	Client:	NYSDEC
Refusal Depth:	NA	Total Depth:	12 ft
Soil Drilled:	12 ft	Method:	Direct Push
Subcontractor:	Nothnagle	Protection Level:	D
Driller:	Jeff Schweitzer	Date Started:	10/11/17
Rig Type/Model:	6610DT	Date Completed:	10/11/17
Reference Elevation:	NA	Logged By:	Nate Vogen
Water Level:	NA	Checked By:	TG, 12/7/17
		Time:	1457

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)								
0.0										
	01	4 3-25				1.7		0-0.25 Asphalt 0.25-0.75 moist, loose, grayish black fine gravel (sub base) 0.75-3.25 moist, stiff, med brown, sandy S< some f sand, little clay; not plastic, not cohesive	Asphalt F-11 NL	
4	02	4 4				25.6		SAA, wet at 4.2 ft	NL	4.2' $\frac{1}{2}$
8	03	4 4				3.7		0-0.6 SAA 0.6-4 wet, soft, med gray w/ brownish red mottling; silty CLAY; little to trace f sand; m cohesive, med. plasticity	NL CL	
12								EOB at 12 ft bgs Samples: 0-2 360109- DP042002 (ss) 4-2 360109- DP042004 (wet) 7.5 360109- DP042008 (PFD - 12.2 ppm) 11.0 360109- DP042009 (clay)		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners
 Project Location: Brighton, NY
 Project No.: 3612132267 Client: NYSDEC
 Boring ID: DP-043
 Page No. 1
 of 1
 Boring Location: Parking lot
 Refusal Depth: NA Total Depth: 12 ft
 Weather: 60°, L Rain
 Soil Drilled: 12 ft Method: Direct Push
 Subcontractor: Nothnagle
 Protection Level: D
 Driller: Jeff Schweitzer
 Date Started: 10/11/17 Date Completed: 10/11/17
 Rig Type/Model: 6610DT
 Logged By: Marc Vogen Checked By: TG, 12/7/17
 Reference Elevation: NA
 Water Level: NA Time: 1458

Sample Information				Monitoring		Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)	NA					
0.0								
0.0	01	4 / 3.08			1.6	0-0.18 asphalt 0.18-1.2 moist, loose, grayish black to brownish gray; fine gravel; silt + f sand matrix (sub base) 1.2-3.08 moist, stiff, med brown, clayey SILT; little clay + f sand; sl. cohesive; non plastic	Asphalt Fill ML	
4	02	4 / 4			13.2	wet, med dense, med brown; sandy SILT; some f sand; trace to little clay seams; sl. cohesive; not plastic	ML	
8	03	4 / 4			56.3	0-1.8 SAM 1.8-4 wet, soft, med gray w/ red brown mottling, silty CLAY, little f sand; med cohesive; med plasticity	CL	
12						EOB at 12 ft bgs Samples: 0-2 360109 - DP043 002 (SS) (Dup) 4-2 360109 - DP043 002 (WT) 9-2 360109 - DP043 009 (PID) SS, 2 ppm 10 360109 - DP043 010 (clg)		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners		Boring ID: DP-044
Project Location: Brighton, NY		Page No. 1
Project No.: 3612132267	Client: NYSDEC	of: 1
Boring Location: Parking Lot	Refusal Depth: NA	Total Depth: 12 ft
Weather: 60°, Clear	Soil Drilled: 12 ft	Method: Direct Push
Subcontractor: Nothnagle	Protection Level: D	Bore Hole ID: 3"
Driller: Jeff Schweitzer	Date Started: 10/11/17	Date Completed: 10/11/17
Rig Type/Model: 6610 DT	Logged By: Wade Vogen	Checked By: TG, 12/7/17
Reference Elevation: NA	Water Level: NA	Time: 1459

Sample Information		Monitoring		Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/Recovery (feet)	NA			
0.0						
0.0	01	4 / 2.4	0.2	0-0.45 Asphalt 0.45-0.85 moist, loose, fine gravel (subbase), silt matrix, gray 0.85-3.4 moist, med dense, sandy SILT, brown; some f sand; liable to face clay, not cohesive or plastic	Asphalt Fill ML	
4	02	4 / 3.4	33.3	0-2.5 SAA, wet 2.5-3.4 moist, stiff, grayish brown, silty CLAY, some f sand (seams) v sl. cohesive, vel. plastic	ML CL	4.4 ft
8	03	4 / 3.3	ML	0-1.3 SAA 1.3-3.3 wet, soft, med gray w/ red brown mottling; silty CLAY; some f sand seams; m. cohesive; m plasticity	CL	
12				EOB at 12 ft bgs Samples: 0-2 360109- DP044002 (ss) 4.4 360109- DP044004 (wt) 7 360109- DP044007 (PID-8.0 ft) (dupl) 9.5 360109- DP044010 (clay)		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners

Boring ID: DP-045

Project Location: Brighton, NY

Page No. 1

Project No.: 3612132267

Client: NYSDEC

of: 1

Boring Location: Parking Lot

Refusal Depth: ~~12 ft~~ NA

Total Depth: 12 ft

Bore Hole ID/OD 3"

Weather: 60° LA rain

Soil Drilled: 12 ft

Method: Direct Push

Casing Size: NA

Subcontractor: Nothnagle

Protection Level: D

Sampler: 4' Macrocore

Driller: Jeff Schweitzer

Date Started: 10/11/17

Date Completed: 10/11/17

Sampler ID/OD 3"

Rig Type/Model: 6610 DT

Logged By: Nick Vogen

Checked By: TG, 12/7/17

Reference Elevation: NA

Water Level: NA

Time: 1501

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)	NA							
0.0										
	a	4 / 0.7				2.1		0-0.5 asphalt (no sample) 0.5-0.7 moist, loose, black; fine gravel (sub base); poor recovery	Asphalt Fill	
4										4.4' IL
	02	4 / 3.5				9.2		wet, red dense, brown w/ red brown, sandy SILT; some f sand; little red brown clay seams; not cohesive, not plastic	ML	
8										
	03	4 / 1.9				5.5		0-0.3 SAA 0.3-1.9 wet, soft, red gray, silty CLAY; trace f sand; m. cohesive, m. plasticity	CL	
12										
								EOB at 12 ft bgs		
								Samples:		
								0-2 360109- DP045002 (SS)		
								4.4 360109- DP045004 (LT)		
								6.8 360109- DP045007 (PID - 12.2 ppm)		
								~~0.3 360109- DP045000 (clay)~~		
								~~0.3 360109- ML SAMPLE~~		
								NOT SUBMITTED		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners		Boring ID: DP-046
Project Location: Brighton, NY		Page No. 1
Project No.: 3612132267	Client: NYSDEC	of: 1
Boring Location: off-site	Refusal Depth: 12 ft	Total Depth: 12 ft
Weather: 65°, PCloudy	Soil Drilled: 12 ft	Method: Direct Push
Subcontractor: Nothnagle	Protection Level: D	Bore Hole ID: 3"
Driller: Jeff Schweitzer	Date Started: 10/10/17	Date Completed: 10/10/17
Rig Type/Model: 6610 DT	Logged By: Nate Vagan	Checked By: TG, 12/7/17
Reference Elevation: NA	Water Level: NA	Time: 1502

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/Recovery (feet)								
0.0										
	01	4 2.6					0.3	0-1.7 moist, soft, med dark brown, sandy SILT, some clay, little organic, v. sl. cohesive 1.7 - 2.6 moist, soft, sandy SILT, some f sand, little clay, no plastic, v. sl. cohesive	ML ML	
4.0										
	02	4 4					10.9	0-2.5 SAA 2.5-4 moist, hard, med brown, silty CLAY; little f sand; sl. cohesive, sl. plastic	ML CL	
8										
	03	4 2.6					30.6	0-2 wet, soft, silty SAND (FS); some clay, sl. cohesive (grayish brown) 2-2.6 wet, soft, brownish gray silty CLAY; trace f sand, sl. cohesive, sl. plastic	SM CL	
12										
								EOB at 12 ft bgl		
								Samples:		
								2 360109-DP046002		
								4 360109-DP046004 (MS/MSD)		
								7.5 (FD -75-2) 360109-DP046008		
								11 360109-DP046011 (Dup)		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



MACTEC

511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners

Project Location: Brighton, NY

Project No.: 3612132267

Client: NYSDEC

Boring ID: DP-047

Page No. 1

of: 2

Boring Location: Off-site

Refusal Depth: 15.6 ft

Total Depth: 15.6 ft

Bore Hole ID/OD 8"

Weather: 65°, Sunny

Soil Drilled: 15.6 ft

Method: HSA

Casing Size: NA

Subcontractor: Nothnagle

Protection Level: D

Sampler: 2" Split Spans

Driller: Jeff Schweitzer

Date Started: 10/10/17

Date Completed: 10/10/17

Sampler ID/OD 2"

Rig Type/Model: 6610DT

Logged By: Marc Vogen

Checked By: TG, 12/7/17

Reference Elevation: NA

Water Level: NA

Time: 1504

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/Recovery (feet)	Blows 6"	NA	NA	NA	NA			
0.0										
2	01	2/1.2	WH 1 4			0.5		moist, soft, med brown, sandy silt, some clay, little organics	ML	
4	02	2/1.7	2 4 3 2	7		0.7		moist to wet (0.5 ft bgs), med brown, sandy silt, little to trace clay, sl. cohesive	ML	2.5' 8
6	03	2/1.8	3 3 6 4	9		10.3		SAA	ML	
8	04	2/1.8	4 2 3 2	5		0.9		wet, soft, brownish gray, clayey silt, some f sand, sl. cohesive, sl. plastic	ML	
10	05	2/2.0	WH 1 4 2			0.8		wet, soft, brownish gray, silty clay, trace f sand, cohesive, sl. plastic	CL	
12	06	2/0.8	2 3 8 9			1.2		0-0.4 SAA 0.4-0.8 wet, soft, gray silty sand (fine) some c sand + fine gravel; trace clay	CL SM	

NOTES:

SOIL BORING LOG

Sample
0-2 360109 - DP047002 (SS)
2.5 360109 - DP047003 (WT)
7.0 360109 - DP047007 (PID)

Geotech
360109 - DP047004 (4-8)
360109 - DP047007 (8-12)

MACTEC

Boring ID: DP-047

Page No. 2

of: **2**

Bore Hole ID/OD 8"

Casing Size: 2A

Sampler: 2" Split Spoon

Sampler ID/OD:	2 "
----------------	-----

Checked By: TG, 12/7/17

Time: 1504

NOTES:

SOIL BORING LOG

SOIL BORING LOG



MACTEC

511 Congress Street, Portland Maine 04101

Project Name: Town and Country Dry Cleaners
 Project Location: Brighton, NY
 Project No.: 3612132267 Client: NYSDEC
 Refusal Depth: NA Total Depth: 12 ft
 Soil Drilled: 12 ft Method: Direct Push
 Date Started: 10/10/17 Date Completed: 10/10/17
 Logged By: Nate Vogen Checked By: TB 12/7/17
 Water Level: NA Time: 1508

Boring ID: DP-048
 Page No. 1
 of: 1
 Bore Hole ID: OD 3"
 Casing Size: NA
 Sampler: 4" Macrocore
 Sampler ID: OD 3"

Boring Location: DP-048
 Weather: 65, PCLOUDY
 Subcontractor: Nothnagle
 Driller: Jeff Schweitzer
 Rig Type/Model: 6610 DT
 Reference Elevation: NA

Sample Information				Monitoring				Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/ Recovery (feet)	Blow	NA	ppm (PEU)					
0.0										
1	4/3.3	NA			0.4			0-1.7 ^{moist} wet, dense, med brown, SILT, some f sand, little clay.	ML	
4								1.7-3.3 wet, soft, med. brown, sandy SILT, some f sand, trace clay	ML	
8	2 4/4	NA			2.2			0-2.2 SAA (1.7-3.3) 2.2-4 wet, soft, grayish brown, CLAY, some silt, trace fm sand lenses, slightly plastic	ML CL	2.5 ft
12	3 4/3.1	NA			0.0			wet, soft, grayish brown, CLAY, some silt + f sand, trace f gravel	CL	
								EOB at 12 ft bgs		
								Samples:		
								0-2 360109-DP048002 0905	- surface	
								6-6.1 360109-DP048006 0910	- top of clay	
								4 ft bgs 360109-DP048004 0908	- highest PID 1.6 ppm	
								2.5 ft 360109-DP048003 0915	- Top of WT	

NOTES: Samples:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name:	Town and Country Dry Cleaners	Boring ID:	DP-049
Project Location:	Brighton, NY	Page No.	1
Project No.: 3612132267	Client: NYSDEC	of:	1
Boring Location:	off-stn	Refusal Depth:	10.2 ft
Weather:	65° , pcloudy	Total Depth:	10.2 ft
Subcontractor:	Nothnagle	Soil Drilled:	10.2 ft
Driller:	Jeff Schweitzer	Method:	Direct push
Rig Type/Model:	6610 DT	Protection Level:	D
Reference Elevation:	NA	Date Started:	10/10/17
		Date Completed:	10/10/17
		Logged By:	Nave Vogan
		Checked By:	TGT, 12/7/17
		Water Level:	NA
		Time:	1510

Sample Information		Monitoring		Sample Description and Classification		USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/Recovery (feet)	NA (ppm) PID				
0.0							
	01	4/3.2		2-3	0-1.7 moist, dense, sandy SILT, brown some f sand, little clay, no plastic, 1.7 wet, dense, sandy SILT, red brown some f sand, little clay (lensed)	ML	1.7'
4.0							
	02	4/4		2.8	0-4 wet, dense, red brown, sandy SILT, some to little f sand, some to little clay, sl. plastic	ML	
8.0							
	03	2.2/2.2		1.6	0-0.9 SAA 0.9-2.2 wet, soft, brownish gray, silty SAND, some silt, little fine sand + fm sub angular gravel refusal on boulder (?)	ML	
10.2							
					EOB at 10.2 ft bgs		
					Samples:		
					0-2 : 360109- DP049002 (MS/MSD)		- Surface, top of HT
					7.1 : 360109- DP049007 (high) PID		- 1.5 ppm
					6.3 : 360109- DP049006 (top of clay)		

NOTES:

SOIL BORING LOG

SOIL BORING LOG



511 Congress Street, Portland Maine 04101

Project Name:	Town and Country Dry Cleaners	Boring ID:	DP-50
Project Location:	Brighton, NY	Page No.	1
Project No.:	3612132267	Client:	NYSDEC
Boring Location:	off-site	Refusal Depth:	NA
Weather:	65°, cloudy	Total Depth:	12 ft
Subcontractor:	Nothnagle	Soil Drilled:	12 ft
Driller:	Jeff Schweitzer	Method:	Direct Push
Rig Type/Model:	6610DT	Protection Level:	D
Reference Elevation:	NA	Date Started:	10/10/17
		Date Completed:	10/10/17
		Logged By:	Nate Vogan
		Checked By:	TG 12/7/17
		Water Level:	NA
		Time:	1511

Sample Information		Monitoring		Sample Description and Classification	USCS Group Symbol	Remarks
Depth (feet bgs)	Sample Number	Penetration/Recovery (feet)				
0.0						
	01	4/3.4		0-0.8 moist, soft, med. dark brown clayey SILT; trace of sand, trace organics	ML	2.3' ±
				0.8-3.4 moist to wet, dense, med. brown; sandy SILT; some of sand, trace to trace clay layers	ML	
4.0						
	02	4/1		0-1.8 SAA (0.8-3.11)	ML	
				1.8-4 wet, soft, brownish gray; silty CLAY; trace of sand, cohesive, m. plastic	CL	
8.0						
	03	4/1.5		0-0.5 SAA (1.8-4)	CL	
				0.5-1.5 wet, soft, brownish gray, silty SAND (fin); little of sand + fine gravel; trace clay	SM	
12						
				ECB at 12 ft bgs		
				Samples:		
				0-2 (SS) 360109-DP050001		
				2.3 (WT) 360109-DP050002		
				4.9 (PID-bw) 360109-DP050005		
				5.8 (clay) 360109-DP050006		

NOTES:

SOIL BORING LOG

511 Congress Street, Portland Maine 04101

Client: NYSDEC

of: 1

Time: 1513

Sampler ID/00 311

NOTES:	5-8	Highest PII	360109- DP051006	(2.5 ppm)
	7-5	360109- DP051008	Top of clay	SOIL BORING LOG

SOIL BORING LOG

MACTEC

SOIL BORING LOG

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-DP012015	SAMPLE TIME 1745

LOCATION ID DP-12	DATE 10/10/17
START TIME 1610	END TIME 1755
SITE NAME/NUMBER 828149	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____	WELL INTEGRITY YES ☒ NO ☐ N/A ☐
TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____	CAP ☒ Casing ☒ LOCKED ☒ COLLAR ☒
MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____	
INITIAL DTW (BMP) 12.35 FT	FINAL DTW (BMP) 12.82 FT
WELL DEPTH (BMP) 20.38 FT	SCREEN LENGTH 10 FT
WATER COLUMN 8.03 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.019 GAL
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.33 GAL	TOTAL VOL. PURGED 3.96 GAL
	(mL per minute X total minutes X 0.00026 gal/mL)
PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.3 FT
PID AMBIENT AIR NA PPM	REFILL TIMER SETTING _____ SEC
PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING _____ SEC
DRAWDOWN/ TOTAL PURGED 0.005	PRESSURE TO PUMP _____ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1612	BEGIN PURGING									
1617	12.68	150	13.61	1.172	6.78	0.76	OVER	29.3	15	
1623	12.82	100	13.27	1.167	6.85	0.70	OVER	18.9	15	
1628	12.83	150	13.42	1.164	6.92	0.73	168	8.1	15	
1633	12.84	150	13.45	1.162	6.95	0.75	72.8	3.1	15	
1638	12.89	150	13.42	1.163	6.98	0.71	36.3	0.2	15	
1643	13.06	150	13.06	1.162	6.99	0.62	201	-0.5	15	
1648	13.33	140	12.89	1.162	6.99	0.61	288	0.2	15	
1653	13.36	150	12.97	1.162	7.00	0.66	300	-0.1	15	
1658	13.41	150	12.96	1.162	7.01	0.63	337	-0.8	15	Decreased flow
1703	13.45	125	12.97	1.162	7.02	0.63	171	-1.4	15	Decreased flow
1708	12.99	100	13.16	1.162	7.03	0.60	119	-1.7	15	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

13 1.17 7.1 0.7 10.5 4.6

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER WATERA ☐ OTHER ☐ OTHER	DECON FLUIDS USED ☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	TUBING/PUMP/BLADDER MATERIALS ☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER	EQUIPMENT USED ☒ WL METER ☐ PID ☒ WQ METER ☒ TURB. METER ☐ PUMP ☐ OTHER ☐ FILTERS NO. _____ TYPE _____
---	--	--	--

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
VOCs	82608	N	HCl	120ml	Y	N	828149-DP012015

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO	NUMBER OF GALLONS GENERATED 24
NO-PURGE METHOD UTILIZED ☐ YES ☒ NO	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]*

Print Name: **TOM GERHARD**

Checked By: *[Signature]*

Date: **10/24/17**



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		Town and Country Dry Cleaners
PROJECT NUMBER		3612132267
SAMPLE ID	SAMPLE TIME	
828149-DP014009	0910/10/11	

LOCATION ID DP 14	DATE 10/10/17 ~ 10
START TIME 1145 (10/10/17)	END TIME 9:20 (10/11/17)
SITE NAME/NUMBER T+C	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☒ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY		
YES	NO	N/A
☒	☐	☐
☐	☒	☐
☐	☐	☐

INITIAL DTW (BMP)	5.00 FT	FINAL DTW (BMP)	6.02 FT	PROT. CASING STICKUP (AGS)	NA FT	TOC/TOR DIFFERENCE	0.29 FT
WELL DEPTH (BMP)	10.06 FT	SCREEN LENGTH	NA FT	PID AMBIENT AIR	NA PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	5.06 FT	DRAWDOWN VOLUME	-0.21 ~~-0.042~~ GAL (initial DTW - final DTW X well diam. squared X 0.041)	PID WELL MOUTH	NA PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.207 GAL	TOTAL VOL. PURGED	0.207 ~~0.207~~ GAL (mL per minute X total minutes X 0.00026 gal/mL)	DRAWDOWN/ TOTAL PURGED	~~-0.003~~	PRESSURE TO PUMP	— PSI

[illegible]

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

☒	<u>TYPE OF PUMP</u>	☒	<u>DECON FLUIDS USED</u>	☐	<u>TUBING/PUMP/BLADDER MATERIALS</u>	☒	<u>EQUIPMENT USED</u>
☒	PERISTALTIC	☒	LIQUINOX	☐	☒	S. STEEL PUMP MATERIAL	WL METER MZ00-78
☐	SUBMERSIBLE	☐	DIIONIZED WATER	☐	☐	PVC PUMP MATERIAL	PID _____
☐	BLADDER	☐	POTABLE WATER	☐	☐	GEOPROBE SCREEN	WQ METER MOIS-10
☐		☐	NITRIC ACID	☐	☐	TEFLON BLADDER	TURB. METER MP24-55
☐	WATERA	☐	HEXANE	☒	☐	OTHER _____	PUMP SOOS-36
☐	OTHER _____	☐	METHANOL	☒	☐	OTHER _____	OTHER _____
☐	OTHER _____	☐	OTHER _____	☒	☐	OTHER _____	FILTERS NO. TYPE

[illegible]

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☒ YES ☐ NO

NUMBER OF GALLONS GENERATED *0.13* *1.00 ml*

If yes, purged approximately 1 standing volume prior to sampling or *0.50 ml* ml. For this sample location.

SKETCH/NOTES

Sampler Signature: _____ Print Name: _____

Checked By: Ms Date: 10/24/17



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		Town and Country Dry Cleaners
PROJECT NUMBER		3612132267
SAMPLE ID	SAMPLE TIME	
828149-DP015009	0910 (m)	

LOCATION ID PP15	DATE 10/10/17 - 10/11/17
START TIME 1200 (10/10)	END TIME 8:50 (10/11)
SITE NAME/NUMBER 828149	PAGE 1 OF 1

WELL INTEGRITY		
YES	NO	N/A
<u>X</u>	—	—
<u>X</u>	—	—
<u>X</u>	<u>X</u>	—

INITIAL DTW (BMP)	5.70 FT	FINAL DTW (BMP)	9.18 FT	PROT. CASING STICKUP (AGS)	NA FT	TOC/TOR DIFFERENCE	NM FT
WELL DEPTH (BMP)	9.36 FT	SCREEN LENGTH	NA FT	PID AMBIENT AIR	NA PPM	REFILL TIMER SETTING	NA SEC
WATER COLUMN	3.66 FT	DRAWDOWN VOLUME	-0.15 GAL	PID WELL MOUTH	NA PPM	DISCHARGE TIMER SETTING	NA SEC
CALCULATED GAL/VOL	0.15 GAL	(initial DTW- final DTW X well diam. squared X 0.041)		DRAWDOWN/ TOTAL PURGED	- 0.95 AK	PRESSURE TO PUMP	NA PSI
(column X well diameter squared X 0.041)		TOTAL VOL. PURGED	0.05 GAL				
		(mL per minute X total minutes X 0.0026 gal/mL)					

[illegible]

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒	PERISTALTIC	☒	LIQUINOX	☐	SILICON TUBING	☒	WL METER <u>M200-78</u>
☐	SUBMERSIBLE	☐	DEIONIZED WATER	☐	TEFLON TUBING	☒	PID
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING	☒	WQ METER <u>M015-10</u>
☐		☐	NITRIC ACID	☐	HDPE TUBING	☒	TURB. METER <u>M014-35</u>
☐	WATERERA	☐	HEXANE	☒	LDPE TUBING	☒	PUMP <u>S008-30</u>
☐	OTHER	☐	METHANOL	☒	OTHER <u>Silastic</u>	☐	OTHER
☐	OTHER	☐	OTHER	☐	OTHER	☐	FILTERS NO. TYPE

[illegible]

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED 0.15

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Print Name: _____

Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

LOCATION ID DP-16	DATE 10/10/17-10
START TIME 1050 (10/10)	END TIME 1007 (10/11)
SITE NAME/NUMBER T.C.	PAGE OF

WELL INTEGRITY		
YES	NO	N/A
~~X~~	—	—
~~X~~	—	—
~~X~~	~~X~~	—

INITIAL DTW (BMP)	5.63 FT	FINAL DTW (BMP)	8.48 FT	PROT. CASING STICKUP (AGS)	NA FT	TOC/TOR DIFFERENCE	0.55 FT
WELL DEPTH (BMP)	9.98 FT	SCREEN LENGTH	NA FT	PID AMBIENT AIR	NA PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	4.35 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.138 GAL	PID WELL MOUTH	NA PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.18 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	0.18 GAL	DRAWDOWN/ TOTAL PURGED	0.99	PRESSURE TO PUMP	— PS

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE OAPP)

[illegible]**FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

☒	PERISTALTIC	☒	LIQUINOX	☐	SILICON TUBING	☒	S. STEEL PUMP MATERIAL	☒	WL METER	M200-78
☐	SUBMERSIBLE	☐	DEIONIZED WATER	☐	TEFLON TUBING		PVC PUMP MATERIAL	☐	PID	
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING		GEOPROBE SCREEN	☒	WQ METER	M015-10
☐	WATERA	☐	NITRIC ACID	☐	HDPE TUBING		TEFLON BLADDER	☒	TURB. METER	M024-35
☐	OTHER	☐	HEXANE	☒	LDPE TUBING		OTHER	☒	PUMP	S009-56
☐	OTHER	☐	METHANOL	☒	OTHER <u>silastic</u>		OTHER	☐	OTHER	
☐	OTHER	☐	OTHER	☐	OTHER		OTHER	☐	FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

[illegible]

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED	YES ☒	NO ☐	NUMBER OF GALLONS GENERATED	<u>0.10</u>
NO-PURGE METHOD UTILIZED	YES ☐	NO ☒	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.	

SKETCH/NOTES

ASK

10124117



LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME **Town and Country Dry Cleaners**

PROJECT NUMBER **3612132267**

SAMPLE ID **828149-DP017015** SAMPLE TIME **1305**

LOCATION ID **DP-17** DATE **10/12/17**

START TIME **1045** END TIME **1324**

SITE NAME/NUMBER **82849** PAGE **1** OF **3**

0.041

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

YES NO N/A

CAP ☒ ☐ ☐

CASING ☒ ☐ ☐

LOCKED ☒ ☐ ☐

COLLAR ☒ ☐ ☐

INITIAL DTW (BMP) **6.74** FT FINAL DTW (BMP) **7.56** FT PROT. CASING STICKUP (AGS) **NA** FT

WELL DEPTH (BMP) **16.28** FT SCREEN LENGTH **10** FT PID AMBIENT AIR **N/A** PPM

WATER COLUMN **9.54** FT DRAWDOWN VOLUME **0.033** GAL (initial DTW - final DTW X well diam. squared X 0.041)

CALCULATED GAL/VOL **0.39** GAL TOTAL VOL. PURGED **8.84** GAL (mL per minute X total minutes X 0.00026 gal/mL)

PID WELL MOUTH **N/A** PPM

DRAWDOWN/ TOTAL PURGED **0.004**

TOC/TOR DIFFERENCE **0.12** FT

REFILL TIMER SETTING **NA** SEC

DISCHARGE TIMER SETTING **NA** SEC

PRESSURE TO PUMP **NA** PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1050	BEGIN PURGING									
1100	7.39	250	18.11	3.534	6.62	0.91	605	74.6		
1105	7.40	250	18.01	3.516	6.63	0.79	OVER	65.9		
1110	7.39	250	17.97	3.513	6.62	0.65	OVER	58.9		
1115	7.42	300	18.13	3.527	6.62	0.59	971	55.0		
1120	7.48	275	18.22	3.535	6.62	0.52	464	51.7		
1125	7.50	300	18.22	3.535	6.62	0.45	447	48.2		
1130	7.51	300	18.25	3.532	6.62	0.44	421	45.7		
1135	7.49	250	18.33	3.535	6.62	0.46	512	43.8		
1140	7.49	250	18.14	3.549	6.61	0.43	575	42.1		
1145	7.49	250	18.34	3.546	6.61	0.41	OVER	40.6		
1150	7.54	300	18.21	3.573	6.61	0.43	620	40.1		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

19 3.65 6.6 0.4 77.2 36

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC **05** ☐ SUBMERSIBLE ☐ BLADDER

DECON FLUIDS USED ☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER

TUBING/PUMP/BLADDER MATERIALS ☐ SILICON TUBING ☐ S. STEEL PUMP MATERIAL ☐ TEFLOX TUBING ☐ PVC PUMP MATERIAL ☐ TEFLOX LINED TUBING ☐ GEOPROBE SCREEN ☐ HDPE TUBING ☐ TEFLOX BLADDER ☐ LDPE TUBING ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED ☒ WL METER ☐ PID ☒ WQ METER **M015-02** ☒ TURB. METER **M024-28** ☐ PUMP ☐ OTHER ☐ FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
VOCs	8260B	N	HCL	120mL	✓	MS/MH	828149-DP017015
MNA		N			✓	N	
PFAS	537 MOD	N		500mL	✓	N	
1,4 DIOXANE	8260B SM	N	HCL	20mL	✓	N	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **~8**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]*

Print Name: **T. GERHARD**

Checked By: *[Signature]*

Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME **Town and Country Dry Cleaners**

PROJECT NUMBER **3612132267**

SAMPLE ID **828149-DP017015** SAMPLE TIME **1305**

LOCATION ID **DP17** DATE **10/12/17**

START TIME **1045** END TIME **1324**

SITE NAME/NUMBER **T+C** PAGE **2** OF **3**

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY
YES NO N/A

CAP _____

CASING _____

LOCKED _____

COLLAR _____

INITIAL DTW (BMP) **6.74** FT FINAL DTW (BMP) _____ FT PROT. CASING STICKUP (AGS) _____ FT TOC/TOR DIFFERENCE **0.12** FT

WELL DEPTH (BMP) _____ FT SCREEN LENGTH _____ FT PID _____ PPM REFILL TIMER SETTING _____ SEC

WATER COLUMN _____ FT DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) _____ GAL MOUTH _____ PPM DISCHARGE TIMER SETTING _____ SEC

CALCULATED GAL/VOL _____ GAL PURGED _____ GAL DRAWDOWN/TOTAL PURGED _____ PSI

(column X well diameter squared X 0.041) (mL per minute X total minutes X 0.00026 gal/mL)

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
BEGIN PURGING										
1155	7.58	275	18.39	3.605	6.6	0.41	364	40.0		
1200	7.6	275	18.42	3.602	6.61	0.40	165	39.5		
1205	7.62	250	18.52	3.613	6.60	0.42	270	39.1		
1210	7.62	250	18.74	3.628	6.60	0.49	184	38.9		
1215	7.63	250	18.84	3.649	6.60	0.48	112	38.1		
1220	7.66	250	18.74	3.656	6.59	0.43	40.5	39.0		
1225	7.66	250	18.92	3.650	6.59	0.43	28.6	38.8		
1230	7.67	275	18.86	3.649	6.59	0.48	52.8	38.7		
1235	7.72	250	18.91	3.645	6.59	0.47	23.4	38.3		
1240	7.64	200	18.79	3.649	6.59	0.48	52.9	37.4		
1245	7.60	200	18.63	3.614	6.58	0.43	757	37.1		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

19 3.65 6.6 0.4 77.2 36

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER _____

TUBING/PUMP/BLADDER MATERIALS: ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLOINED TUBING ☐ HDPE TUBING ☐ LDPE TUBING ☐ OTHER _____

EQUIPMENT USED: ☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER _____

WATER/A: ☐ WQ METER ☐ TURB. METER ☐ PUMP ☐ OTHER _____

OTHER: ☐ FILTERS NO. _____ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

SEE PG 1

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED: ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED: **8.9**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]* Print Name: **T. GORHARD**

Checked By: *[Signature]* Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-DP017015	SAMPLE TIME 1305

LOCATION ID DP 17	DATE 10/12/17
START TIME 1045	END TIME 1324
SITE NAME/NUMBER T+C	PAGE 3 OF 3

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER	WELL INTEGRITY YES NO N/A CAP _____ CASING _____ LOCKED _____ COLLAR _____
TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER	
MEASUREMENT POINT (MP) ☐ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER	
INITIAL DTW (BMP) 6.74 FT	FINAL DTW (BMP) _____ FT
WELL DEPTH (BMP) _____ FT	SCREEN LENGTH _____ FT
WATER COLUMN _____ FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) _____ GAL
CALCULATED GAL/VOL (column X well diameter squared X 0.041) _____ GAL	TOTAL VOL. _____ GAL
	PURGED _____ GAL
	(mL per minute X total minutes X 0.00026 gal/mL)
PROT. CASING STICKUP (AGS) _____ FT	TOC/TOR DIFFERENCE _____ FT
PID AMBIENT AIR _____ PPM	REFILL TIMER SETTING _____ SEC
PID WELL MOUTH _____ PPM	DISCHARGE TIMER SETTING _____ SEC
DRAWDOWN/ TOTAL PURGED _____	PRESSURE TO PUMP _____ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
BEGIN PURGING										
1250	7.55	200	18.61	3.616	6.59	0.42	707	36.5		
1255	7.55	200	18.71	3.625	6.59	0.42	388	35.8		
1300	7.55	200	18.67	3.651	6.59	0.44	826	35.6		
1305	7.56	SAMPLED								
1324			Post	Sample			77.2			
@ 1305, N. VOGAN ADVISED TO SAMPLE DUE TO PURGE TIME AND TOTAL VOLUME PURGED, TURB ONLY PARAMETER NOT STABLE, COLLECTED METALS + PFAS SAMPLE LAST.										

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

19 3.65 6.6 0.4 77.2 36

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATERA ☐ OTHER ☐ OTHER	DECON FLUIDS USED ☒ CIPROX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	TUBING/PUMP/BLADDER MATERIALS ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER	EQUIPMENT USED ☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER	EQUIPMENT USED ☐ WL METER ☐ PID ☐ WQ METER ☐ TURB. METER ☐ PUMP ☐ OTHER ☐ OTHER ☐ FILTERS NO. TYPE
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

SEE PG 1

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED	YES ☒ NO ☐	NUMBER OF GALLONS GENERATED	8.9
NO-PURGE METHOD UTILIZED	YES ☐ NO ☒	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.	

SKETCH/NOTES

Sampler Signature:

Print Name:

T. OERHARD

Checked By:

Date:

10/24/17



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-DP0180069	SAMPLE TIME

LOCATION ID DP18	DATE 10/10/17
START TIME 1319	END TIME
SITE NAME/NUMBER T+C	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☐	☐
☒	☐	☐

INITIAL DTW (BMP) 6.05 FT	FINAL DTW (BMP) 9.78 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.16 FT
WELL DEPTH (BMP) 10.39 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR NA PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 4.34 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.18 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.18 GAL	TOTAL VOL. PURGED 0.18 GAL	DRAWDOWN/ TOTAL PURGED 1	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1319	BEGIN PURGING									
1324	9.65	150	21.05	5.289	6.74	0.67	OVER	4.5		
1329	9.48	175	19.59	6.386	6.63	1.12	OVER	22.4		
1334	9.15	175	19.21	6.540	6.62	3.05	OVER	29.8		
1339	9.01	175	19.14	6.567	6.63	5.61	OVER	36.5		
1344	8.83	155	19.26	6.475	6.64	5.53	OVER	38.5		
1349	8.68	125	19.33	6.495	6.63	4.98	OVER	41.1		
1354	8.54	150	19.34	6.495	6.63	4.04	OVER	41.8		increased flow to 280 mL/min
1359	9.78	185	19.16	6.377	6.65	3.35	OVER	37.2		to purge turb.
1405	9.78	300	19.07	6.429	6.67	2.98	OVER	38.5		
1407	DRY									
			10/10/17	Sample	on	Page 2				

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

18 5.043 6.7 2.0 595 82

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC GEO ☐ SUBMERSIBLE ☐ BLADDER ☐ WATERA ☐ OTHER ☐ OTHER	DECON FLUIDS USED ☒ LIQUINOX ☒ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	TUBING/PUMP/BLADDER MATERIALS ☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER	EQUIPMENT USED ☒ WL METER ☐ PID ☒ WQ METER M015-02 ☒ TURB. METER M024-28 ☒ PUMP rental ☐ OTHER ☐ FILTERS NO. TYPE
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	3x 40mL	Y	N	828149-DP0180069

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **0.2**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]* Print Name: **Tom GERNARD**

Checked By: *[Signature]* Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

LOCATION ID DP18	DATE 10/11/17
START TIME	END TIME
SITE NAME/NUMBER T+C	PAGE 2 OF 2

	WELL INTEGRITY		
	YES	NO	N/A
G	_____	_____	_____
D	_____	_____	_____
R	_____	_____	_____

INITIAL DTW (BMP)	FT	FINAL DTW (BMP)	FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	FT	SCREEN LENGTH	FT	PID MOUTH	PPM	REFILL TIMER SETTING	SEC
WATER COLUMN	FT	DRAWDOWN VOLUME	GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	TOTAL VOL. PURGED	GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- .3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	BEGIN PURGING									
ID15	6.35	150	ARRIVE @ WELL							
ID30		PURGED TUBING	AAR COLLECTED (GRAB) SAMPLE							
ID38	8.13	150	18.43	5.043	6.69	2.03	595	81.8		POST COLLECTION
			*							

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

<u>TYPE OF PUMP</u>		<u>DECON FLUIDS USED</u>	<u>TUBING/PUMP/BLEEDER MATERIALS</u>	<u>EQUIPMENT USED</u>
☐	PERISTALTIC	☐ LIQUINOX	☐ SILICON TUBING	☐ WL METER
☐	SUBMERSIBLE	☐ DEIONIZED WATER	☐ TEFLON TUBING	☐ MID
☐	BLADDER	☐ POTABLE WATER	☐ TEFLON LINED TUBING	☐ WQ METER
		☐ NITRIC ACID	☒ HDPE TUBING	☐ TURB. METER
		☐ HEXANE	☐ LDPE TUBING	☐ PUMP
☐	WATTERA	☐ METHANOL	☐ OTHER	☐ OTHER
☐	OTHER	☐ OTHER	☐ OTHER	☐ FILTERS NO. TYPE
☐	OTHER			

ANALYTICAL PARAMETERS

[illegible]

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED	YES ☒	NO ☐	NUMBER OF GALLONS GENERATED	<u>0.2</u>
NO-PURGE METHOD UTILIZED	YES ☒	NO ☐	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.	

SKETCH/NOTES

10/24/17



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-DP019012	SAMPLE TIME 1418

LOCATION ID DP-19	DATE 10/11/17
START TIME 1320	END TIME 1437
SITE NAME/NUMBER 828149 (2)	PAGE 2 OF 4

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☒	☐
☒	☒	☐
☒	☒	☐

INITIAL DTW (BMP) 5.62 FT	FINAL DTW (BMP) 5.76 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.35 FT
WELL DEPTH (BMP) 1294 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 7.32 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) -0.006 GAL	PID WELL MOUTH PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.3 GAL	TOTAL VOL. PURGED 1.75 GAL	DRAWDOWN/ TOTAL PURGED -0.0034	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1322	BEGIN PURGING									
1330	5.74	120	15.57	1.297	7.06	0.94	51.0	84.4	12"	
1335	5.74	120	15.50	1.298	7.05	0.69	37.8	88.6		
1340	5.75	120	15.45	1.298	7.05	0.78	32.0	91.6		
1345	5.75	120	15.46	1.298	7.05	1.23	32.2	94.2		
1350	5.75	120	15.46	1.297	7.04	1.43	26.9	96.8		
1355	5.75	120	15.41	1.297	7.04	1.23	30.4	98.5		X heavy rain
1400	5.75	120	15.37	1.297	7.04	1.10	17.6	101.0		
1405	5.76	120	15.32	1.296	7.04	1.00	12.9	102.5		
1410	5.76	120	15.30	1.296	7.04	0.94	8.67	104.1		
1415	5.76	120	15.25	1.296	7.04	0.90	5.39	105.9		
1418	WELL STABLE, SAMPLED									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

15 1.30 7.0 0.9 5.4 110

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒ PERISTALTIC	☐ SUBMERSIBLE	☒ LIQUINOX	☐ DEIONIZED WATER	☐ SILICON TUBING	☒ S. STEEL PUMP MATERIAL	☒ WL METER	M200-28
☐ BLADDER	☐ WATER	☐ POTABLE WATER	☐ NITRIC ACID	☐ TEFLON TUBING	☐ PVC PUMP MATERIAL	☒ PID	
☐ WATTERA	☐ OTHER	☐ HEXANE	☐ METHANOL	☐ TEFLON LINED TUBING	☐ GEOPROBE SCREEN	☒ WQ METER	M015-10
☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ HDPE TUBING	☐ TEFLON BLADDER	☒ TURB. METER	M024-85
☐ OTHER	☐ OTHER	☒ OTHER	☐ OTHER	☐ LDPE TUBING	☐ OTHER	☒ PUMP	S008-86
☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	
☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl		✓	N	828149-DP019012
☒ MNA:		N	4°C		✓	N	828149-DP019012
☐ NO ₂ , NO ₃ , Cl, SO ₄			4°C				
☐ SULFIDE			4°C				
☐ Metals			HNO ₃				
☐ Alkalinity			4°C				
☐ TOC, RSK125, 140000			4°C				

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED 1.6

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *ASK*

Print Name: ASK

Checked By: *mm*

Date: 10/11/17

LOW FLOW GROUNDWATER SAMPLING RECORD

LOCATION ID 0P20	DATE 10/10/17
START TIME 1255	END TIME 1000 (101117)
SITE NAME/NUMBER T+c	PAGE 1 OF 1

WELL INTEGRITY		
YES	NO	N/A
☒	☐	☐
☒	☐	☐
☐	☒	☐
☒	☐	☐

INITIAL DTW (BMP)	13.81 FT	FINAL DTW (BMP)	Bot 14.7 FT	PROT. CASING STICKUP (AGS)	NA FT	TOC/TOR DIFFERENCE	0.38 FT
WELL DEPTH (BMP)	14.7 FT	SCREEN LENGTH	NA FT	PID AMBIENT AIR	NA PPM	REFILL TIMER SETTING	NA SEC
WATER COLUMN	0.89 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0.036 GAL	PID WELL MOUTH	in PPM	DISCHARGE TIMER SETTING	NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.036 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	0.04 GAL	DRAWDOWN/ TOTAL PURGED	~~NA~~ 1	PRESSURE TO PUMP	NA PS

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

[illegible]**FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒	PERISTALTIC	☒	LIQUINOX	☐	SILICON TUBING	☒	WL METER
☐	SUBMERSIBLE	☐	DEIONIZED WATER	☐	TEFLON TUBING	☐	PID
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING	☐	WQ METER
☐		☐	NITRIC ACID	☐	HDPE TUBING	☐	TURB. METER
☐	WATERA	☐	HEXANE	☐	LDPE TUBING	☐	PUMP
☐	OTHER	☐	METHANOL	☐	OTHER	☐	OTHER
☐	OTHER	☐	OTHER	☐	OTHER	☐	FILTERS
							NO.
							TYPE

ANALYTICAL PARAMETERS

[illegible]

PURGE OBSERVATIONS

SKETCH/NOTES

10/24/17



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID B2B149-GEMW001014	SAMPLE TIME 1032

LOCATION ID GEMW-1	DATE 10/10/17-10/11/17
START TIME 1005 (10/10)	END TIME 1045 AK 10:36 (10/11)
SITE NAME/NUMBER 1+C	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 6.83 FT	FINAL DTW (BMP) 7.45 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.1 FT
WELL DEPTH (BMP) 12.88 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR NA PPM	REFILL TIMER SETTING _____ SEC
WATER COLUMN 6.05 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.25 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING _____ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.25 GAL	TOTAL VOL. PURGED 0.25 GAL	DRAWDOWN/ TOTAL PURGED 1	PRESSURE TO PUMP _____ PSI

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1010	BEGIN PURGING									
1025	10.8	60	20.73	1.862	7.00	2.69	184	167.5	14'	PUMPING AIR
1030	11.14	40	21.42	1.886	7.04	4.85	166	156		AIR
1035	11.16	35	21.6	1.909	7.13	6.24	423	145.1		AIR
1040	11.36	40	21.67	1.925	7.17	6.54	OVER	49		
1044										DRY
10/11/17 - RETURN TO WELL @ 10:26, START PUMP @ 10:30, SAMPLE @ 10:32										
	DTW 6.98									
10:35	7.45	100	18.62	1.783	7.03	2.73	84.5	200.6		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

19 1.78 7.0 2.7 84.5 200

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLO LINED TUBING ☐ HDPE TUBING ☒ LDPE TUBING ☒ OTHER Silastic ☐ OTHER	☒ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLO BLADDER ☐ OTHER ☐ OTHER ☐ OTHER
☐ WATTEKA ☐ OTHER ☐ OTHER			☒ WL METER M200-78 ☐ PID ☒ WQ METER M015-10 ☒ TURB. METER M024-35 ☒ PUMP SC08-36 ☐ OTHER ☐ FILTERS NO. _____ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl		Y	N	828149-GEMW001014

PURGE OBSERVATIONS

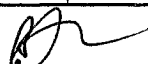
PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **0.070.25**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: 

Print Name: **ASR**

Checked By: 

Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-6EMW02014	SAMPLE TIME 0948

LOCATION ID 6EMW-2	DATE 10/10/2017
START TIME 0840	END TIME 0955
SITE NAME/NUMBER T+C	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☐	☐
☒	☐	☐

INITIAL DTW (BMP) 7.58 FT	FINAL DTW (BMP) 14.58 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.10 FT
WELL DEPTH (BMP) 15.12 FT	SCREEN LENGTH 4.8 FT	PID AMBIENT AIR _____ PPM	REFILL TIMER SETTING _____ SEC
WATER COLUMN 7.54 FT	DRAWDOWN VOLUME 0.3 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING _____ SEC
CALCULATED GAL/VOL 0.31 GAL	TOTAL VOL. PURGED 1.678 GAL	DRAWDOWN/ TOTAL PURGED 0.18	PRESSURE TO PUMP _____ PSI

(column X well diameter squared X 0.041) (mL per minute X total minutes X 0.00026 gal/mL)

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0850	BEGIN PURGING									
0900	9.99	125	18.59	0.981	7.11	5.65	899	203.8	14	
0905	11.50	125	18.53	0.988	7.09	4.87	838	197.4	14	
0910	12.23	150	18.50	1.002	7.08	4.34	222	191.7	14	
0915	12.89	135	18.35	1.025	7.08	3.91	108	185.6	14	
0920	13.38	150	18.27	1.034	7.08	3.72	73.6	181.5	14	
0925	14.03	160	18.20	1.048	7.09	3.60	172	177.1	14	
0930	14.56	125	18.13	1.056	7.10	4.81	65.7	173	14	
0935	14.56	125	18.17	1.066	7.10	5.2	20.2	169.4	14	
0940	14.56	125	18.22	1.072	7.10	5.4	9.92	166.5	14	
0945	14.58	125	18.23	1.082	7.10	5.45	17.20	163.5	14	
0948	SAMPLED - N. VOLCAN RECOMMENDED DUE TO LOW FLOW NATURE									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

18 **1.082** **7.1** **5.5** **17.2** **160**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 3 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER 6EO	DECON FLUIDS USED ☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER _____	TUBING/PUMP/BLADDER MATERIALS ☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☒ LDPE TUBING ☐ OTHER _____	EQUIPMENT USED ☒ WL METER M200-77 ☐ PID ☒ WQ METER M05-10 ☒ TURB. METER M024-25 ☒ PUMP S008-36 ☐ OTHER _____ FILTERS NO. _____ TYPE _____
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
VOCs	8260B	N	ACI	300mL	Y	N	828149-6EMW02014

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **1.7**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

- 5 well volumes purged

- turbidity < 25 ntu

- well previously was purged dry and sampled (October 2016)

Sampler Signature: *[Signature]*

Print Name: **Tom GERHARD**

Checked By: *[Signature]*

Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW001010	SAMPLE TIME 1818

LOCATION ID MW-1	DATE 10/10/17
START TIME 15:52 AK 1550	END TIME 1845
SITE NAME/NUMBER 828149 (A)	PAGE 1 OF 3

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☐	☐
☒	☒	☐
☒	☐	☐

INITIAL DTW (BMP) 3.45 FT	FINAL DTW (BMP) 5.72 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.27 FT
WELL DEPTH (BMP) 11.47 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR NA PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 8.02 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.09 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.33 GAL	TOTAL VOL. PURGED 4.72 GAL	DRAWDOWN/ TOTAL PURGED 0.02	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1552	BEGIN PURGING									
1600	4.64	120	18.76	2.607	6.83	3.62	90.5	52.9	10'	
1605	4.94	120	18.80	2.480	6.88	4.22	289	56.9		
1610	5.29	120	18.62	2.561	6.87	4.44	389	61.4		
1615	5.30	120	18.37	2.649	6.85	4.60	431	65.7		
1620	5.35	120	18.50	2.706	6.86	4.96	393	67.7		
1625	5.40	120	18.44	2.728	6.86	5.26	502	69.6		
1630	5.65	120	18.33	2.751	6.85	5.00	568	71.7		
1635	5.82	120	18.27	2.765	6.85	4.63	774	73.5		
1640	5.85	120	18.31	2.773	6.86	4.43	overrange	74.2		
1645	5.97	120	18.29	2.772	6.85	4.24	overrange	75.6		
1650	6.17	120	18.18	2.773	6.85	4.11	overrange	76.9		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

18 2.76 6.9 3.7 220 90

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATERA ☐ OTHER _____ ☐ OTHER _____	DECON FLUIDS USED ☒ LIQUINOX ☒ DEIONIZED WATER ☒ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER _____	TUBING/PUMP/BLADDER MATERIALS ☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER silastic ☐ OTHER _____	EQUIPMENT USED ☒ WL METER M200-77 ☐ PID ☒ WQ METER M015-10 ☒ TURB. METER M024-85 ☒ PUMP 5008-36 ☐ OTHER _____ ☐ FILTERS NO. _____ TYPE _____
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	3x40m	Y	N	
☒ MNA							

PURGE OBSERVATIONS

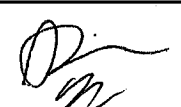
PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

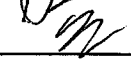
NUMBER OF GALLONS GENERATED **~5**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: 

Print Name: **ANGELA KIM**

Checked By: 

Date: **10/10/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 028149-MW061010	SAMPLE TIME 1818

LOCATION ID MW-1	DATE 10/10/17
START TIME 1550	END TIME 1815
SITE NAME/NUMBER 828149 (2)	PAGE 2 OF 3

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☒	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 3.45 FT	FINAL DTW (BMP) _____ FT	PROT. CASING STICKUP (AGS) _____ FT	TOC/TOR DIFFERENCE _____ FT
WELL DEPTH (BMP) _____ FT	SCREEN LENGTH _____ FT	AMBIENT AIR _____ PPM	REFILL TIMER SETTING _____ SEC
WATER COLUMN _____ FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) _____ GAL	PID WELL MOUTH _____ PPM	DISCHARGE TIMER SETTING _____ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) _____ GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL) _____ GAL	DRAWDOWN/ TOTAL PURGED _____	PRESSURE TO PUMP _____ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
BEGIN PURGING										
1655	6.44	140	18.32	2.773	6.85	3.97	overrange	77.9	10'	
1700	6.40	140	18.28	2.767	6.85	3.93	overrange	78.3		
1705	6.57	140	18.20	2.760	6.85	3.89	overrange	79.4		
1710	6.69	140	18.24	2.754	6.86	3.99	overrange	80.1		
1715	6.69	140	18.49	2.756	6.87	4.25	910	80.5		
1720	6.82	140	18.49	2.756	6.87	4.34	865	81.5		
1725	6.80	140	18.51	2.752	6.87	4.32	528	82.8		
1730	6.93	140	18.52	2.750	6.87	4.35	311	83.8		
1735	7.42	140	18.27	2.749	6.85	4.44	400	86.1		
1740	7.62	140	18.17	2.745	6.86	4.58	overrange	86.7		tried to lower purge rate - 100
1745	7.18	120	18.22	2.742	6.87	4.80	overrange	87.6		but shut off pump

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures [SF])

18 2.76 6.9 3.7 220 90

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER _____	☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☒ LDPE TUBING ☐ OTHER <u>Silastic</u> ☐ OTHER _____	☒ WL METER <u>M200-77</u> ☐ PID ☒ WQ METER <u>M015-10</u> ☒ TURB. METER <u>M024-35</u> ☒ PUMP <u>5008-36</u> ☐ OTHER _____ ☐ FILTERS NO. _____ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	3x40mL	u	☒	828149-MW061010-DUP
☒ MNA							

PURGE OBSERVATIONS

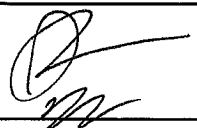
PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED 4.72

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: 

Print Name: ASK

Checked By: 

Date: 10/24/17



511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW001010	SAMPLE TIME 1818

LOCATION ID MW-6	DATE 10/10/17
START TIME 1550	END TIME 1845
SITE NAME/NUMBER 828149	PAGE 3 OF 3

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 3.45 FT	FINAL DTW (BMP) 5.72 FT	PROT. CASING STICKUP (AGS) _____ FT	TOC/TOR DIFFERENCE _____ FT
WELL DEPTH (BMP) _____ FT	SCREEN LENGTH _____ FT	PID AMBIENT AIR _____ PPM	REFILL TIMER SETTING _____ SEC
WATER COLUMN _____ FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) _____ GAL	PID WELL MOUTH _____ PPM	DISCHARGE TIMER SETTING _____ SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) _____ GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL) _____ GAL	DRAWDOWN/ TOTAL PURGED _____ GAL	PRESSURE TO PUMP _____ PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
BEGIN PURGING										
1750	6.96	120	18.14	2.744	6.87	4.99	671	88.4	10'	
1755	6.66	120	18.18	2.748	6.87	4.83	427	89.2		
1800	6.27	120	18.21	2.750	6.86	4.54	390	89.6		
1805	5.95	120	18.21	2.753	6.86	4.30	244	90.0		
1810	5.72	120	18.16	2.754	6.86	3.96	203	90.4		(pump shut off)
1815	5.72	120	18.14	2.755	6.86	3.72	220	90.2		
1820										
1818	NOT STABLE, > 2 hrs, sampled									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.096 = 0.096)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒ PERISTALTIC	☒ LIQUINOX	☐ SILICON TUBING	☒ S. STEEL PUMP MATERIAL	☒ WL METER	M200-77	☐ SUBMERSIBLE	☐ PID
☐ BLADDER	☐ DEIONIZED WATER	☐ TEFLON TUBING	☐ PVC PUMP MATERIAL	☒ WQ METER	M015-10	☐ WATERA	☒ TURB. METER
☐ OTHER	☐ POTABLE WATER	☐ TEFLON LINED TUBING	☐ GEOPROBE SCREEN	☒ PUMP	M024-35	☐ OTHER	☒ PUMP
☐ OTHER	☐ NITRIC ACID	☒ HDPE TUBING	☐ TEFLON BLADDER	☐ OTHER	5008-36	☐ OTHER	☐ OTHER
	☐ HEXANE	☒ LDPE TUBING	☐ OTHER	☐ OTHER		☐ OTHER	☐ OTHER
	☐ METHANOL	☐ OTHER	☒ elastic	☐ OTHER		☐ OTHER	☐ OTHER
	☐ OTHER	☐ OTHER		☐ OTHER		☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	3x40mL	4	4	828149-MW001010, 1 DUP
☒ MNA		N					828149-MW001010
☐ - SULFIDE							
☐ - TOC							
☐ - Metals							
☐ - alkalinity							

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **4.72**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: _____

Print Name: **ASK**

Checked By: _____

Date: **10/24/17**



311 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

[illegible]

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828144-MW02B020	SAMPLE TIME 1000

LOCATION ID MW-28	DATE 10/12/17
START TIME 0830	END TIME 1015
SITE NAME/NUMBER 828149	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☐	☐
☒	☐	☐

INITIAL DTW (BMP) 4.33 FT	FINAL DTW (BMP) 4.42 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.26 FT
WELL DEPTH (BMP) 22.53 FT	SCREEN LENGTH 5 FT	PID AMBIENT AIR N/A PPM	REFILL TIMER SETTING N/A SEC
WATER COLUMN 18.02 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 5.43 GAL	PID WELL MOUTH N/A PPM	DISCHARGE TIMER SETTING N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 2.95 GAL	TOTAL VOL. PURGED 5.43 GAL	DRAWDOWN/ TOTAL PURGED 0.003	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0830	BEGIN PURGING									
0835	4.48	400	14.8	1.065	6.92	1.64	4.57	61.9		TURNED ↓ PUMP
0840	4.4	200	14.93	1.075	6.96	1.00	5.23	35.3		
0845	4.42	230	14.98	1.077	6.95	0.99	3.25	33.3		
0850	4.41	250	15.08	1.079	6.95	0.94	4.27	27.3		
0855	4.42	250	15.04	1.080	6.95	0.88	7.15	14.1		
0900	4.46	325	15.03	1.079	6.96	0.68	2.21	9.4		PL
0905	4.42	200	15.03	1.079	6.97	0.64	3.35	5.6		
0910	4.42	250	15.03	1.079	6.98	0.60	3.49	3.5		
0915	4.41	200	15.02	1.078	6.97	0.55	3.89	2.7		
0920	4.41	200	14.99	1.078	6.98	0.52	3.03	1.4		
0925	4.35	200	14.65	1.081	6.98	0.50	3.15	-1.7		PUMP FROZE, TURNED ↑

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

15 1.073 7.0 0.4 3.6 -5.9

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 3 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC G60 ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	☒ SILICON TUBING ☐ TEFLOX TUBING ☐ TEFLOX LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER	☒ WL METER ☐ PID ☐ WQ METER ☐ TURB. METER ☐ PUMP ☐ OTHER ☐ FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
VOCs	8260B	N	HCl	120mL	Y	N	828144-MW02B020
MNA		N			Y	N	
PFA's	537 MOD	N		500mL	Y	N	
1,4 DIOXANE	8260B SIM	N	HCl	80mL	Y	N	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED ~5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]*

Print Name: T. GERHARD

Checked By: *[Signature]*

Date: 10/24/17

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW003009	SAMPLE TIME 1003

LOCATION ID MW- 3	DATE 10/12/17
START TIME 0830	END TIME 1020
SITE NAME/NUMBER 828149	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☒	☐
☒	☐	☐

INITIAL DTW (BMP) 5.12 FT	FINAL DTW (BMP) 6.09 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.45 FT
WELL DEPTH (BMP) 10.35 FT	SCREEN LENGTH ND FT	PID AMBIENT AIR NA PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 5.23 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) -0.04 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.214 GAL	TOTAL VOL. PURGED 2.867 GAL	DRAWDOWN/ TOTAL PURGED -0.014	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0840	BEGIN PURGING <i>change bat 6 (couldn't get rate low enough)</i>									
resume purge	852	175							9'	
900	start readings									
905	175	17.44	1.795	7.14	1.73	overrange	25.8			
910	175	17.84	1.793	7.14	2.05	overrange	14.5			
915	175	17.82	1.806	7.14	1.91	overrange	12.5			
920	175	17.75	1.812	7.14	1.71	overrange	10.8			
925	175	17.82	1.806	7.13	1.50	overrange	7.1			
930	175	17.83	1.820	7.14	1.38	overrange	3.8			
935	175	17.78	1.832	7.13	1.24	overrange	0.6			
940	175	17.65	1.838	7.12	1.19	overrange	-1.3			
945	175	17.80	1.846	7.13	1.17	overrange	-3.4			

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☒ OTHER <i>silastic</i>	☒ WL METER M200-78 ☒ PID ☒ WQ METER M015-10 ☒ TURB. METER M024-35 ☒ PUMP S008-36 ☐ OTHER ☐ FILTERS NO. _____ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ PFAS		N	4°C	500mL	Y	N	828149-MW003009
☒ 1,4 Dioxane	8260-55m	N	HCl	2x 40mL	Y	N	
☒ VOCs	8260	N	HCl	3x 40mL	Y	N	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES ☒ NO ☐

NO-PURGE METHOD UTILIZED YES ☐ NO ☒

NUMBER OF GALLONS GENERATED **23**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

** @ 900 - start 10 flow purge @ 175 mL/min - 0.500 gal purged.*

*** unable to do water levels due to large diameter tubing, 1" well &*

Sampler Signature: *[Signature]*

Print Name: **ASK**

Checked By: *[Signature]*

Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

LOCATION ID	DATE
MW-3	10/12/17
START TIME	END TIME
0830	1020
SITE NAME/NUMBER	PAGE
028149	3 OF 2

WELL DIAMETER (INCHES) ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY		
YES	NO	N/A
~~X~~	—	—
~~X~~	~~X~~	—
~~X~~	—	—

INITIAL DTW (BMP)	5.12 FT	FINAL DTW (BMP)	6.09 FT	PROT. CASING STICKUP (AGS)	N.A. FT	TOC/TOR DIFFERENCE	0.45 FT
WELL DEPTH (BMP)	10.35 FT	SCREEN LENGTH	N.A. FT	PID AMBIENT AIR	N.A. PPM	REFILL TIMER SETTING	N.A. SEC
WATER COLUMN	5.23 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041)	-0.04 GAL	PID WELL MOUTH	N.A. PPM	DISCHARGE TIMER SETTING	N.A. SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.214 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.867 GAL	DRAWDOWN/ TOTAL PURGED	-0.014	PRESSURE TO PUMP	N.A. PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE OAPP)

[illegible]**FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒	PERISTALTIC	☒	LIQUINOX	☐	SILICON TUBING	☒	WL. METER <u>M200-78</u>
☐	SUBMERSIBLE	☒	DEIONIZED WATER	☐	TEFLON TUBING	☒	PID
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING	☒	WQ. METER <u>M015-10</u>
☐		☐	NITRIC ACID	☒	HDPE TUBING	☒	TURB. METER <u>M024-35</u>
☐	WATER	☐	HEXANE	☒	LDPE TUBING	☒	PUMP <u>5008-36</u>
☐	OTHER	☐	METHANOL	☒	OTHER <u>Silastic</u>	☐	OTHER
☐	OTHER	☐	OTHER	☐	OTHER	☐	FILTERS NO. TYPE

ANALYTICAL PARAMETERS

[illegible]

PURGE OBSERVATIONS

PURGE WATER	YES ☒	NO ☐	NUMBER OF GALLONS	<u>203</u>
CONTAINERIZED	☒	☐	GENERATED	
NO-PURGE METHOD	YES ☐	NO ☐	If yes, purged approximately 1 standing volume prior	
UTILIZED	☐	☐	to sampling or	
			mL for this sample location.	

SKETCH/NOTES

Sampler Signature:

Print Name: _____

Checked By:

Date:

PAGE 1



MACTEC

511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW010010	SAMPLE TIME 0920

LOCATION ID MW-10	DATE 10/10/17
START TIME 1245	END TIME
SITE NAME/NUMBER T+C	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 8.57 FT	FINAL DTW (BMP) BOTTOM FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.41 FT
WELL DEPTH (BMP) 9.54 FT	SCREEN LENGTH 5 FT	PID AMBIENT AIR N/A PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 0.97 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.16 GAL	PID WELL MOUTH N/A PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.16 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL) 0.16 GAL	DRAWDOWN/ TOTAL PURGED 1	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1250	BEGIN PURGING									
1255	DRY	HALF	FLOW	THRU	FILLED				10	
0910	8.58	ARRIVE AT WELL								
0920	PURGED TUBING AND COLLECTED SAMPLES.									
0925	9.45		16.31	1.464	7.06	6.97	14.6	133.2	10	POST COLLECTION
			</							

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

16. 1.46 7.0 7.0 14.6 130

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC 600 ☐ SUBMERSIBLE ☐ BLADDER ☐ WATERA ☐ OTHER ☐ OTHER	DECON FLUIDS USED ☒ LIQUINOX ☒ DEIONIZED WATER ☒ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	TUBING/PUMP/BLADDER MATERIALS ☒ SILICON TUBING ☐ TEFLOX TUBING ☐ TEFLOX LINED TUBING ☐ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER ☐ OTHER	EQUIPMENT USED ☒ WL METER ☒ PID ☒ WQ METER M016-02 ☒ TURB. METER M024-28 ☒ PUMP nutri ☐ OTHER ☐ FILTERS NO. TYPE
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	B260B	N	HCI	3x40mL	Y	N	828149-MW010010

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **0.2**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]* Print Name: **Tom GERHARD**

Checked By: *[Signature]* Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-mw013012	SAMPLE TIME 1255

LOCATION ID MW13	DATE 10/12/17
START TIME 10:47	END TIME 1455
SITE NAME/NUMBER 828149	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☒ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 10.01 FT	FINAL DTW (BMP) 12.90 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.40 FT
WELL DEPTH (BMP) 12.90 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR N.A. PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 2.89 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.47 GAL	PID WELL MOUTH N.A. PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 0.47 GAL	TOTAL VOL. PURGED 0.5 GAL	DRAWDOWN/ TOTAL PURGED 0.94	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1050	BEGIN PURGING									
1055	10.42	175	13.77	1.902	7.13	3.84	—	44.3	12'	Forgot turbidity reading
1100	10.66	160	13.88	1.902	7.13	16.9	77.2	35.4		X
1105	10.95	160	14.00	1.899	7.12	1.87	14.2	38.9		lowered purge after reading
1110	11.20	150	14.09	1.897	7.11	2.67	4.31	48.3		
1115	11.40	150	14.14	1.897	7.10	3.61	5.12	57.6		
1120	11.64	150	14.15	1.898	7.09	4.18	2.56	65.7		pump shutoff, took rate again
1125	11.84	125	14.15	1.898	7.09	4.09	2.37	73.0		
1130	12.04	125	14.17	1.898	7.08	3.47	2.19	80.6		
1135	12.41	125	14.19	1.899	7.09	2.50	7.38	84.7		
1140	12.74	125	14.21	1.898	7.06	3.38	30.1	62.1		
1145	12.74	125	14.28	1.900	7.07	4.80	17.7	54.7		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 3 SF (44.1 = 44, 191 = 190)

Well DRY, come BACK @ 90% RECHARGE @ 10:25

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒ PERISTALTIC	☐ SUBMERSIBLE BLADDER	☒ LIQUINOX	☐ DEIONIZED WATER	☐ SILICON TUBING	☒ S. STEEL PUMP MATERIAL	☒ WL. METER	M200-7B
☐ WATERA	☐ OTHER	☐ POTABLE WATER	☐ NITRIC ACID	☐ TEFLON TUBING	☐ PVC PUMP MATERIAL	☒ WQ METER	M015-10
☐ OTHER	☐ OTHER	☐ HEXANE	☐ METHANOL	☒ HDPE TUBING	☐ GEOPROBE SCREEN	☒ TURB. METER	M024-95
☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☒ LDPE TUBING	☐ TEFLON BLADDER	☒ PUMP	S008-36
				☒ OTHER silastic	☐ OTHER	☐ OTHER	
				☐ OTHER	☐ OTHER	☐ FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	120ml	Y	N	828149-MW013012
☒ MNA		N			Y	N	
☒ PFAS	537 MOD	N		500ml	Y	N	
☒ 1,4 Dioxane	8260B SIM	N	HCl	80ml	Y	N	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☐ NO

NUMBER OF GALLONS GENERATED 0.5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

* @ 1100, well volume (0.47) purged begin low flow purge

Sampler Signature:

Print Name: ASK

Checked By:

Date: 10/24/17

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW013B023	SAMPLE TIME 1635

LOCATION ID MW-13B	DATE 10/11/17
START TIME 1530	END TIME 1640
SITE NAME/NUMBER 828149	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 9.6 FT	FINAL DTW (BMP) 14.18 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE NA FT
WELL DEPTH (BMP) 24.94 FT	SCREEN LENGTH 5 FT	PID AMBIENT AIR N/A PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 15.34 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.75 GAL	PID WELL MOUTH N/A PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 2.51 GAL	TOTAL VOL. PURGED 1.86 GAL	DRAWDOWN/ TOTAL PURGED 0.4	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1530	BEGIN PURGING									
1540	11.49	150	12.46	1.053	6.98	1.08	9.6	-77.3		
1545	12.35	150	12.43	1.051	7.01	0.83	7.28	-78.1		
1550	12.94	150	12.41	1.051	7.02	0.78	6.73	-76.4		
1555	13.49	150	12.39	1.044	7.03	0.70	8.05	-83.1		
1600	13.87	150	12.36	1.037	7.03	0.59	7.53	-96.0		TURNED PUMP DOWN
1605	14.03	100	12.34	1.033	7.04	0.52	4.29	-90.5		
1610	14.03	100	12.34	1.031	7.05	0.53	3.95	-87.2		
1615	14.11	100	12.32	1.025	7.04	0.50	6.73	-100.9		
1620	14.11	125	12.32	1.024	7.05	0.47	5.24	-94.7		Replaced Bat.
1625	14.09	125	12.32	1.022	7.05	0.45	4.00	-93.6		
1635	14.18	SAMPLED								

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

12 1.022 7.1 0.5 4.0 -94

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER _____	☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☒ LDPE TUBING ☐ OTHER _____	☒ WL METER ☐ PID ☒ WQ METER ☒ TURB. METER ☒ PUMP ☐ OTHER _____ FILTERS NO. _____ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCL	120ml	0	N	828149-MW013B023
☒ MNA		N					
☐							
☐							
☐							
☐							
☐							
☐							
☐							

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES ☒ NO ☐

NO-PURGE METHOD UTILIZED YES ☐ NO ☒

NUMBER OF GALLONS GENERATED 22

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature:

Print Name:

Checked By:

Date:

MACTEC
511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW016B023	SAMPLE TIME 1525

LOCATION ID MW016B	DATE 10/10/17
START TIME 1442	END TIME 1529
SITE NAME/NUMBER 828149	PAGE 1 OF 1

WELL DIAMETER (INCHES) ☒ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY
YES NO N/A

CAP ☒ ☐ ☐

CASING ☒ ☐ ☐

LOCKED ☒ ☐ ☐

COLLAR ☒ ☐ ☐

INITIAL DTW (BMP) 6.55 FT	FINAL DTW (BMP) 6.52 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.20 FT
WELL DEPTH (BMP) 20.14 FT	SCREEN LENGTH 5 FT	PID AMBIENT AIR NA PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 13.59 FT	DRAWDOWN VOLUME 0.1 GAL (initial DTW - final DTW X well-diam. squared X 0.041)	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL 2.229 GAL (column X well diameter squared X 0.041)	TOTAL VOL. PURGED 1.5 GAL (mL per minute X total minutes X 0.00026 gal/mL)	DRAWDOWN/ TOTAL PURGED 0	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1445	BEGIN PURGING									
1455	6.52	120	19.87	1.036	7.04	0.76	29.7	32.4	23'	X pump kept shutting off
1500	6.52	125	19.65	1.039	7.14	1.15		1.0		< 120 mL/min
1505										missed reading, changed
1505	6.52	125	19.25	1.036	7.04	1.67	4.62	-34.6		batt. (kept shutters off)
1510	6.52	125	19.09	1.034	7.04	2.03	4.45	-73.7		
1515	6.52	140	18.96	1.034	7.03	2.11	3.99	-82.8		
1520	6.52	140	19.06	1.038	7.07	1.92	3.85	-72.1		
1525	stabilized; sampled									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures [SF])

19 1.038 7.1 1.9 3.9 -77

TEMP: nearest degree (ex. 10.1 = 10)
COND: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 3 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATERA ☐ OTHER ☐ OTHER	DECON FLUIDS USED ☒ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	TUBING/PUMP/BLADDER MATERIALS ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☒ LDPE TUBING ☒ OTHER silastic ☐ OTHER	EQUIPMENT USED ☒ WL METER 4200-77 ☐ PID ☒ WQ METER M015-10 ☒ TURB. METER M024-35 ☒ PUMP 5008-36 ☐ OTHER ☐ FILTERS NO. _____ TYPE _____
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ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8080B	N	HCl	3x40mL	Y	N	828149-MW016B023

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

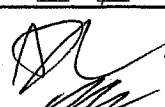
NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **1.5**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

• heavy rain on 10/9/17

Sampler Signature: 

Print Name: **Arac Kurn**

Checked By: 

Date: **10/24/17**

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-MW017B0186	SAMPLE TIME 1450

LOCATION ID MW-17B	DATE 10/11/17
START TIME 1325	END TIME 1455
SITE NAME/NUMBER T+C	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP	☒	☐	☐
CASING	☒	☐	☐
LOCKED	☒	☐	☐
COLLAR	☒	☐	☐

INITIAL DTW (BMP) 8.34 FT	FINAL DTW (BMP) 9.09 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.38 FT
WELL DEPTH (BMP) 27.22 FT	SCREEN LENGTH 5 FT	PID AMBIENT AIR N/A PPM	REFILL TIMER SETTING NA SEC
WATER COLUMN 18.88 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) 0.123 GAL	PID WELL MOUTH NA PPM	DISCHARGE TIMER SETTING NA SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 3.09 GAL	TOTAL VOL. PURGED 2.63 GAL	DRAWDOWN/ TOTAL PURGED 0.05	PRESSURE TO PUMP NA PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1335	BEGIN PURGING									
1340	9.83	250	16.08	0.592	6.96	0.86	10.2	-67.4		TURNED RAMP DOWN
1345	9.61	150	16.19	0.863	7.00	0.86	10.7	-100.7		
1350	9.35	150	15.99	0.909	7.02	0.87	4.26	-121.2		
1355	9.16	150	15.85	0.912	7.03	0.96	6.39	-131.5		
1400	9.14	150	15.74	0.914	7.03	0.75	6.46	-138.0		
1405	9.08	150	15.71	0.915	7.03	0.67	5.01	-142.6		
1410	8.89	100	15.67	0.916	7.04	0.61	4.36	-145.5		
1415	8.80	100	15.70	0.916	7.04	0.62	4.12	-147.1		Surfaced BAT
1420	9.78	100	15.60	0.917	7.03	0.56	3.59	-145.9		
1425	8.81	125	15.64	0.917	7.04	0.55	3.84	-144.3		
1430	8.90	150	15.69	0.916	7.04	0.51	5.91	-135.0		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS	EQUIPMENT USED
☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER	☒ LIQUINOX ☒ DEIONIZED WATER ☒ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER	☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☐ HDPE TUBING ☒ LDPE TUBING ☐ OTHER	☒ WL METER ☐ P/D ☒ WQ METER ☒ TURB. METER ☐ PUMP ☐ OTHER ☐ FILTERS

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8260B	N	HCl	3x40mL	Y	N	828149-MW017B0186

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED ~3

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: *[Signature]*

Print Name: TOM BERHARD

Checked By: *[Signature]*

Date: 10/11/17

MACTEC

511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	Town and Country Dry Cleaners	
PROJECT NUMBER	3612132267	
SAMPLE ID	828149-MW01780186	SAMPLE TIME 1450

LOCATION ID MW 7 B	DATE 10/11/17
START TIME 1325	END TIME 1455
SITE NAME/NUMBER	PAGE 2 OF 2

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

	WELL INTEGRITY		
	YES	NO	N/A
G	_____	_____	_____
D	_____	_____	_____
R	_____	_____	_____

INITIAL DTW (BMP)	8.34 FT	FINAL DTW (BMP)	9.09 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	SE
WATER COLUMN	FT	DRAWDOWN VOLUME	GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	SE
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	(initial DTW - final DTW X well diam. squared X 0.041) TOTAL VOL. PURGED	GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	PS

[illegible]

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED			
☐	PERISTALTIC	☐	LIQUINOX	☐	SILICON TUBING	☐	8-STEEL PUMP MATERIAL	☐	WL METER _____
☐	SUBMERSIBLE	☐	DIIONIZED WATER	☐	TEFLON TUBING	☐	PVC PUMP MATERIAL	☐	PLD _____
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING	☐	GEOPROBE SCREEN	☐	WQ METER _____
		☐	NITRIC ACID	☐	HDPE TUBING	☐	TEFLON BLADDER	☐	TURB. METER _____
☐	WATTERA	☐	HEXANE	☐	LDPE TUBING	☐	OTHER _____	☐	PUMP _____
☐	OTHER	☐	METHANOL	☐	OTHER	☐	OTHER _____	☐	OTHER _____
☐	OTHER	☐	METHANOL	☐	OTHER	☐	OTHER _____	☐	FILTERS NO. TYPE

[illegible]

PURGE WATER CONTAINERIZED	YES ☒	NO ☐	NUMBER OF GALLONS GENERATED	_____
NO-PURGE METHOD UTILIZED	YES ☒	NO ☐	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.	

Print Name:

Date:



MACTEC

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Town and Country Dry Cleaners	
PROJECT NUMBER 3612132267	
SAMPLE ID 828149-mw0198025	SAMPLE TIME 1253

LOCATION ID mw-195	DATE 10/11/17
START TIME 11:20	END TIME 1259
SITE NAME/NUMBER 828149 (m)	PAGE 1 OF 2

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

YES	NO	N/A
☒	☐	☐
☒	☐	☐
☒	☐	☐

INITIAL DTW (BMP) 5.83 FT	FINAL DTW (BMP) 6.07 FT	PROT. CASING STICKUP (AGS) NA FT	TOC/TOR DIFFERENCE 0.35 FT
WELL DEPTH (BMP) 21.0 FT	SCREEN LENGTH NA FT	PID AMBIENT AIR — PPM	REFILL TIMER SETTING — SEC
WATER COLUMN 15.17 FT	DRAWDOWN VOLUME (initial DTW - final DTW X well diam. squared X 0.041) -0.04 GAL	PID WELL MOUTH — PPM	DISCHARGE TIMER SETTING — SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041) 2.488 GAL	TOTAL VOL. PURGED 2.54 GAL	DRAWDOWN/ TOTAL PURGED -0.016	PRESSURE TO PUMP — PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O ₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:28	BEGIN PURGING									
11:35	6.01	115	15.52	1.273	7.03	0.97	3.67	88.0	25'	
11:40	6.01	115	15.53	1.274	7.04	0.72	3.04	86.9		
11:45	6.02	115	15.52	1.274	7.04	0.70	3.45	74.1		
11:50	6.03	115	15.44	1.274	7.04	0.63	2.65	41.2		
11:55	6.03	115	15.38	1.274	7.03	0.95	2.09	13.4		
12:00	6.04	115	15.30	1.276	7.03	1.70	2.80	12.1		
12:05	6.04	115	15.25	1.278	7.03	2.03	2.74	15.7		
12:10	6.05	115	15.26	1.279	7.03	1.93	3.20	17.9		
12:15	6.05	115	15.22	1.280	7.03	1.75	2.53	17.5		
12:20	6.05	115	15.23	1.280	7.03	1.63	2.21	1.7		
12:25	6.06	115	15.22	1.280	7.03	1.42	1.84	-6.4		

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))

15 **1.28** **7.0** **1.0** **1.4** **-17**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒ PERISTALTIC	☒ BLADDER	☒ LIQUINOX	☐ DEIONIZED WATER	☐ SILICON TUBING	☒ S. STEEL PUMP MATERIAL	☒ WL METER	M200-78
☐ WATERA	☐ OTHER	☐ POTABLE WATER	☐ NITRIC ACID	☐ TEFLON TUBING	☐ PVC PUMP MATERIAL	☒ PID	
☐ OTHER	☐ OTHER	☐ HEXANE	☐ HDPE TUBING	☐ TEFLON LINED TUBING	☐ GEOPROBE SCREEN	☒ WQ METER	M015-10
☐ OTHER	☐ OTHER	☐ METHANOL	☒ LDPE TUBING	☐ OTHER	☐ TEFLON BLADDER	☒ TURB. METER	M024-35
		☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☒ PUMP	5008-36
				☐ OTHER	☐ OTHER	☐ FILTERS	NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☒ VOCs	8240B	N	HCl		4	4	828149-mw0198025

PURGE OBSERVATIONS

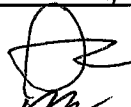
PURGE WATER CONTAINERIZED ☒ YES ☐ NO

NO-PURGE METHOD UTILIZED ☐ YES ☒ NO

NUMBER OF GALLONS GENERATED **2.26**

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

SKETCH/NOTES

Sampler Signature: 

Print Name: **ASK**

Checked By: 

Date: **10/24/17**

MACTEC

511 Congress Street, Portland Maine 04101

LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD

LOCATION ID MW-19B	DATE 10/4/17
START TIME 1120	END TIME 1259
SITE NAME/NUMBER	PAGE 2 OF 2

WELL INTEGRITY			
	YES	NO	N/A
G	~~X~~	—	—
D	~~X~~	—	—
R	~~X~~	~~X~~	—

INITIAL DTW (BMP)	5.83 FT	FINAL DTW (BMP)	6.07 FT	PROT. CASING STICKUP (AGS)	— FT	TOC/TOR DIFFERENCE	0.35 FT
WELL DEPTH (BMP)	21.0 FT	SCREEN LENGTH	NA FT	PID AMBIENT AIR	— PPM	REFILL TIMER SETTING	— SEC
WATER COLUMN	15.17 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	-0.04 GAL	PID WELL MOUTH	— PPM	DISCHARGE TIMER SETTING	— SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.488 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.54 GAL	DRAWDOWN/ TOTAL PURGED	-0.016	PRESSURE TO PUMP	— PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE OAPP)

[illegible]**FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))**

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP		DECON FLUIDS USED		TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED	
☒	PERISTALTIC	☒	LIQUINOX	☐	SILICON TUBING	☒	WL METER <u>M200-78</u>
☐	SUBMERSIBLE	☒	DEIONIZED WATER	☐	TEFLON TUBING	☐	PID
☐	BLADDER	☐	POTABLE WATER	☐	TEFLON LINED TUBING	☐	WQ METER <u>M015-10</u>
☐		☐	NITRIC ACID	☐	HDPE TUBING	☐	TURB. METER <u>M024-55</u>
☐	WATTERA	☐	HEXANE	☒	LDPE TUBING	☐	PUMP <u>S008-86</u>
☐	OTHER	☐	METHANOL	☒	OTHER <u>elastic</u>	☐	OTHER
☐	OTHER	☐	OTHER	☐	OTHER	☐	FILTERS NO. TYPE

ANALYTICAL PARAMETERS

[illegible]

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED	YES ☒	NO ☐	NUMBER OF GALLONS GENERATED	<u>112.6</u>
NO-PURGE METHOD UTILIZED	YES ☐	NO ☒	If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.	

ASK

10/24/17

SKETCH/NOTES



LOW FLOW GROUNDWATER SAMPLING RECORD

LOW FLOW GROUNDWATER SAMPLING RECORD										
PROJECT NAME Town and Country Dry Cleaners					LOCATION ID MW-21B		DATE 10/11/17			
PROJECT NUMBER 3612132267					START TIME 1120		END TIME 1155			
SAMPLE ID 828149-MW#21B#19					SAMPLE TIME 1200		SITE NAME/NUMBER 828149		PAGE 1 OF 1	
WELL DIAMETER (INCHES) : ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____ TUBING ID (INCHES) : ☒ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____ MEASUREMENT POINT (MP) : ☒ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____					WELL INTEGRITY YES NO N/A CAP / - - CASING / - - LOCKED / - - COLLAR / - -					
INITIAL DTW (BMP) 9.02 FT		FINAL DTW (BMP) 9.14 FT		PROT. CASING STICKUP (AGS) NA FT		TOC/TOR DIFFERENCE 0.35 FT				
WELL DEPTH (BMP) 19.48 FT		SCREEN LENGTH 5 FT		PID AMBIENT AIR NA PPM		REFILL TIMER SETTING NA SEC				
WATER COLUMN 10.46 FT		DRAWDOWN VOLUME 0.02 GAL (initial DTW - final DTW X well diam. squared X 0.041)		PID WELL MOUTH NA PPM		DISCHARGE TIMER SETTING NA SEC				
CALCULATED GAL/VOL 1.71 GAL (column X well diameter squared X 0.041)		TOTAL VOL. PURGED 1.48 GAL (ml. per minute X total minutes X 0.00026 gal/mL)		DRAWDOWN/ TOTAL PURGED 0.014		PRESSURE TO PUMP NA PSI				
FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)										
TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O₂ (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1125	BEGIN PURGING									
1130	9.14	175	14.34	1.129	7.00	2.27	0.67	104.4	19	
1135	9.15	200	14.34	1.123	7.02	1.65	0.58	97.7		
1140	9.14	150	14.31	1.117	7.04	1.34	0.36	93.4		TURNED AMP DOWN
1145	9.14	150	14.30	1.113	7.07	1.39	0.78	91.5		
1150	9.15	150	14.30	1.111	7.07	1.81	0.60	88.8		BEGAN RAINING
1155	9.14	150	14.19	1.111	7.08	1.35	0.41	85.0		
1200	9.14	COLLECTED								
FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures(SF))									TEMP.: nearest degree (ex. 10.1 = 10) COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696) pH: nearest tenth (ex. 5.53 = 5.5) DO: nearest tenth (ex. 3.51 = 3.5) TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101) ORP: 2 SF (44.1 = 44, 191 = 190)	
	14	1.11	7.1	1.4	0.4	85				
EQUIPMENT DOCUMENTATION										
TYPE OF PUMP ☒ PERISTALTIC 600 ☐ SUBMERSIBLE BLADDER ☐ WATERA ☐ OTHER		DECON FLUIDS USED ☒ LIQUINOX ☒ DEIONIZED WATER ☒ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER		TUBING/PUMP/BLENDER MATERIALS ☒ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☒ LDPE TUBING ☐ OTHER ☐ OTHER		EQUIPMENT USED ☒ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER		EQUIPMENT USED ☒ WL METER ☐ PID ☒ WQ METER MOIS-AZ ☒ TURB. METER MOZY-Z8 ☒ PUMP RENTAL ☐ OTHER ☐ FILTERS NO TYPE		
ANALYTICAL PARAMETERS										
☒	PARAMETER VOCs	METHOD NUMBER 8260B	FIELD FILTERED N	PRESERVATION METHOD HCI	VOLUME REQUIRED 3x40mL	SAMPLE COLLECTED Y	QC COLLECTED N	SAMPLE BOTTLE ID NUMBERS 828149-MW#21B#19		
PURGE OBSERVATIONS					SKETCH/NOTES					
PURGE WATER CONTAINERIZED ☒ YES ☐ NO		NO-PURGE METHOD UTILIZED ☐ YES ☒ NO		NUMBER OF GALLONS GENERATED ~1.5						
If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.										
Sampler Signature: <i>[Signature]</i>					Print Name: T. GERHAARD					
Checked By: <i>[Signature]</i>					Date: 10/14/17					

FIELD INSTRUMENTATION CALIBRATION RECORD - PORTLAND FOS

Please Retain For Project Records

PROJECT NAME: Town + Country Cleaners DATE: 10/4/17 TIME: _____
 PROJECT NUMBER: 3612132267.04.XXX CALIBRATED BY: BC

MULTI-PARAMETER WATER QUALITY METER METER TYPE YSI MODEL NO. 556 UNIT ID NO. _____

	Units	Standard Value	Meter Value	Acceptance Criteria*	Cal. Standard Lot #	Exp. Date
pH (4)	SU	4.0	_____	+/- 0.2 pH Units	_____	_____
pH (7)	SU	7.0	_____	+/- 0.2 pH Units	_____	_____
pH (10)	SU	10.0	_____	+/- 0.2 pH Units	_____	_____
Redox	+/- mV	240	_____	+/- 10 mV	_____	_____
Conductivity	mS/cm	1.413	_____	+/- 0.5% of standard	_____	_____
DO (saturated)	%	100	_____	+/- 2% of standard	DO Cal. Solution Source	Prep. Date
DO (saturated)	mg/L ¹	_____	_____	+/- 0.2 mg/L	Portland FOS	_____
DO (<0.1)	mg/L	<0.1	_____	≤ 0.5 mg/L	_____	_____
Baro. Press.	mmHg	_____	_____	_____	NIST Serial #	Certificate #
Temperature	°C	_____	_____	+/- 0.2 °C	4F2160	2448.01

TURBIDITY METER mg/L¹ METER TYPE HACH MODEL NO. 2100Q UNIT ID NO. Mo24-35

	Units	Standard Value	Meter Value	Acceptance Criteria*	Cal. Standard Lot #	Exp. Date
<0.1 Standard	NTU	<0.1	<u>9.97</u>	w/in 0.3 NTU	<u>A7195</u>	<u>10/18</u>
20 Standard	NTU	20	<u>19.8</u>	+/- 5% of standard	<u>A7188</u>	<u>10/18</u>
100 Standard	NTU	100	<u>98.8</u>	+/- 5% of standard	<u>A7202</u>	_____
800 Standard	NTU	800	<u>800</u>	+/- 5% of standard	<u>A7191</u>	<u>10/18</u>

PHOTOIONIZATION DETECTOR METER TYPE _____ MODEL NO. _____ UNIT ID NO. _____

Background (BG)	ppmv	<0.1	_____	within 5 ppmv of BG	Cal. Standard Lot #	Exp. Date
Span Gas	ppmv	100	_____	+/- 10% of standard	_____	_____

O₂-LEL 4 GAS METER METER TYPE _____ MODEL NO. _____ UNIT ID NO. _____

Methane	%	50	_____	+/- 10% of standard	_____	_____
O ₂	%	20.9	_____	+/- 10% of standard	Cal. Standard Lot #	Exp. Date
H ₂ S	ppmv	25	_____	+/- 10% of standard	_____	_____
CO	ppmv	50	_____	+/- 10% of standard	_____	_____

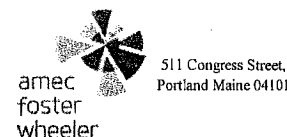


Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria** specified for each of the parameters listed above.

NOTES:



* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.

¹ = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

checked By:

Nare Vogan

10/24/17

2/5/2015

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM): PARTIALLY CLOUDY, MID 60s

WEATHER CONDITIONS (PM): P Cloudy, 65°

TASK NO: 04

DATE: 10/10/17

MACTEC CREW: T. B. NV, AK

SAMPLER NAME: T. BERNARD

SAMPLER SIGNATURE: [Signature]

CHECKED BY: MMW

DATE: 10/24/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE: YSI

MODEL NO.: 536

UNIT ID NO.: H015-02

AM CALIBRATION

Start Time: 0740 / End Time: 0815 AM

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)
pH (4)	SU	4.0	3.99	+/- 0.1 pH Units
pH (7)	SU	7.0	7.00	+/- 0.1 pH Units
pH (10)	SU	10.0	-	+/- 0.1 pH Units
Redox	+/- mV	240	240.1	+/- 10 mV
Conductivity	mS/cm	1.413	1.414	+/- 0.5 % of standard
DO (saturated)	%	100	-	+/- 2% of standard
DO (saturated)	mg/L ¹ (see Chart 1)	9.34	9.34	+/- 0.2 mg/L
DO (<0.1)	mg/L	<0.1	-	< 0.5 mg/L
Temperature	°C	-	17.94	
Baro. Press.	mmHg	-	752.3	

POST CALIBRATION CHECK

Start Time: 1805 / End Time: 1820

	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH	7.0	7.03	+/- 0.3 pH Units
Redox	240	244.2	+/- 10 mV
Conductivity	1.413	1.412	+/- 5% of standard
DO (saturated)	8.69	8.37	+/- 0.5 mg/L of standard
DO (<0.1)	21.4	752.7	

TURBIDITY METER

METER TYPE: HACH

MODEL NO.: 2100 Q

UNIT ID NO.: M024-28

	Units	Standard Value	Meter Value
<0.1 Standard	NTU	<0.1	9.56
20 Standard	NTU	20	19.9
100 Standard	NTU	100	99.3
800 Standard	NTU	800	782

	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1	<0.1	10.1	+/- 0.3 NTU of stan.
20	20	20.6	+/- 5% of standard
100	100	103	+/- 5% of standard
800	800	782	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE	Background	ppmv	<0.1
MODEL NO.			
UNIT ID NO.	Span Gas	ppmv	100

	<0.1	within 5 ppmv of BG
	100	+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE	Methane	%	50
MODEL NO.	O ₂	%	20.9
UNIT ID NO.	H ₂ S	ppmv	25
	CO	ppmv	50

	50	+/- 10% of standard
	20.9	+/- 10% of standard
	25	+/- 10% of standard
	50	+/- 10% of standard

OTHER METER

METER TYPE			
MODEL NO.			
UNIT ID NO.			

See Notes Below for Additional Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Portland FOS

Lot#/Date Produced: _____

Trip Blank Source: _____

Sample Preservatives Source: _____

Disposable Filter Type: 0.45µm cellulose

Calibration Fluids / Standard Source:

- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other _____
- Other _____
- Other _____

	Cal. Standard Lot Number	Exp. Date
pH (4)	76D788	4/19
pH (7)	66F140	6/19
pH (10)		
ORP	1600	5/22
Conductivity	76E476	5/18
<0.1 Turb. Stan.	A6246	12/17
20 Turb. Stan.	A6245	"
100 Turb. Stan.	"	"
800 Turb. Stan.	"	"
PID Span Gas		
O ₂ -LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.

1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.



511 Congress Street, Portland Maine 04101

FIELD INSTRUMENT CALIBRATION RECORD

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM):

WEATHER CONDITIONS (PM):

Cloudy, 70

PClowsy, 65

TASK NO:

DATE: 10/10/17

MACTEC CREW:

NV, AR, TG

SAMPLER NAME:

AK

SAMPLER SIGNATURE:

CHECKED BY:

DATE: 10/24/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE

YSI

MODEL NO.

556

UNIT ID NO.

M015-10

AM CALIBRATION

Start Time

740

/End Time

0815

POST CALIBRATION CHECK

Start Time

11830

/End Time

1845

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)
pH (4)	SU	4.0	4.00	+/- 0.1 pH Units
pH (7)	SU	7.0	7.01	+/- 0.1 pH Units
pH (10)	SU	10.0	—	+/- 0.1 pH Units
Redox	+/- mV	240	240.1	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard
DO (saturated)	%	100	98.9	+/- 2% of standard
DO (saturated) mg/L ¹ (see Chart 1)		9.28	9.28	+/- 0.2 mg/L
DO (<0.1)	mg/L	<0.1	—	< 0.5 mg/L
Temperature	°C		18.15	
Baro. Press.	mmHg		751.3	

Standard Value	Meter Value	*Acceptance Criteria (PM)
7.0	7.12	+/- 0.3 pH Units
240	236.4	+/- 10 mV
1.413	1.408	+/- 5% of standard
	8.06	+/- 0.5 mg/L of standard
	8.37	
	22.04	
	752.4	

TURBIDITY METER

METER TYPE

YSI

MODEL NO.

556

UNIT ID NO.

M024-35

	Units	Standard Value	Meter Value
<0.1 Standard	NTU	<0.1	9.79
20 Standard	NTU	20	20.1
100 Standard	NTU	100	99.3
800 Standard	NTU	800	802

Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1	9.65	+/- 0.3 NTU of stan.
20	19.7	+/- 5% of standard
100	97.3	+/- 5% of standard
800	803	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE

Background

ppmv

<0.1

MODEL NO.

UNIT ID NO.

Span Gas

ppmv

100

<0.1	within 5 ppmv of BG
100	+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE

Methane

%

50

MODEL NO.

O₂

%

20.9

UNIT ID NO.

H₂S

ppmv

25

CO

ppmv

50

50	+/- 10% of standard
20.9	+/- 10% of standard
25	+/- 10% of standard
50	+/- 10% of standard

OTHER METER

METER TYPE

MODEL NO.

UNIT ID NO.

See Notes Below
for Additional
Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source:

Portland FOS

Lot#/Date Produced:

Trip Blank Source:

Sample Preservatives Source:

Disposable Filter Type:

0.45µm cellulose

Calibration Fluids / Standard Source:

- DO Calibration Fluid (<0.1 mg/L)

Portland FOS

- Other

- Other

- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	76D789	4/19
pH (7)	66 F140	6/19
pH (10)		
ORP	1600	5/22
Conductivity	76E476	5/18
<0.1 Turb. Stan.	A7195	10/18
20 Turb. Stan.	A7188	10/18
100 Turb. Stan.	A7202	10/18
800 Turb. Stan.	A7191	10/18
PID Span Gas		
O ₂ -LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.

1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.



511 Congress Street, Portland Maine 04101

FIELD INSTRUMENT CALIBRATION RECORD

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM):

WEATHER CONDITIONS (PM):

60, PCloudy (M)
COLD, 65, RAIN

TASK NO: 04

DATE: 10/11/17

MACTEC CREW: TG, NV, AK

SAMPLER NAME: T. GERHARD

SAMPLER SIGNATURE: [Signature]

CHECKED BY: nmw

DATE: 10/11/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE: YSI

MODEL NO. 556

UNIT ID NO. M015-02

AM CALIBRATION

Start Time 0737 /End Time 0800 (M)

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)
pH (4)	SU	4.0	3.99	+/- 0.1 pH Units
pH (7)	SU	7.0	7.0	+/- 0.1 pH Units
pH (10)	SU	10.0		+/- 0.1 pH Units
Redox	+/- mV	240	240.1	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard
DO (saturated)	%	100	104.7	+/- 2% of standard
DO (saturated) mg/L ¹ (see Chart 1)		9.76	10.37	+/- 0.2 mg/L
DO (<0.1)	mg/L	<0.1		< 0.5 mg/L
Temperature	°C		16.12	
Baro. Press.	mmHg		754.8	

POST CALIBRATION CHECK

Start Time 1642 /End Time 1655

Standard Value	Meter Value	*Acceptance Criteria (PM)
7.0	7.00	+/- 0.3 pH Units
240	240.7	+/- 10 mV
1.413	1.413	+/- 5% of standard
10.43	10.42	+/- 0.5 mg/L of standard
	16	
	754.8	
	13.07	
	754.9	

TURBIDITY METER

METER TYPE: HAC14

MODEL NO. 2100 Q

UNIT ID NO. M024-28

Units	Standard Value	Meter Value
<0.1 Standard NTU	<0.1	10.1
20 Standard NTU	20	20.3
100 Standard NTU	100	102
800 Standard NTU	800	396

Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1	10.6	+/- 0.3 NTU of stan.
20	20.5	+/- 5% of standard
100	105	+/- 5% of standard
800	810	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE: Background

MODEL NO. Span Gas

UNIT ID NO. ppmv

ppmv	<0.1
100	

ppmv	<0.1	within 5 ppmv of BG
100		+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE: Methane

MODEL NO. O₂

UNIT ID NO. H₂S

%	50
%	20.9
ppmv	25
ppmv	50

%	50	+/- 10% of standard
%	20.9	+/- 10% of standard
ppmv	25	+/- 10% of standard
ppmv	50	+/- 10% of standard

OTHER METER

METER TYPE: See Notes Below

MODEL NO. for Additional

UNIT ID NO. Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Portland FOS

Lot#/Date Produced:

Trip Blank Source:

Sample Preservatives Source:

Disposable Filter Type: 0.45µm cellulose

Calibration Fluids / Standard Source:

- DO Calibration Fluid (<0.1 mg/L) Portland FOS

- Other

- Other

- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	76D788	4/19
pH (7)	66F140	6/19
pH (10)		
ORP	1600	5/22
Conductivity	765476	5/18
<0.1 Turb. Stan.	A6246	12/17
20 Turb. Stan.	A6245	"
100 Turb. Stan.	"	"
800 Turb. Stan.	"	"
PID Span Gas		
O ₂ -LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.

1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.



511 Congress Street, Portland Maine 04101

FIELD INSTRUMENT CALIBRATION RECORD

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM):

WEATHER CONDITIONS (PM):

TASK NO:

DATE: 10/11/17

MACTEC CREW:

SAMPLER NAME:

SAMPLER SIGNATURE:

CHECKED BY:

DATE: 10/24/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE

MODEL NO.

UNIT ID NO.

AM CALIBRATION

Start Time 7:39 /End Time 08:00

POST CALIBRATION CHECK

Start Time 15:48 /End Time 15:58

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)
pH (4)	SU	4.0	3.93	+/- 0.1 pH Units
pH (7)	SU	7.0	7.00	+/- 0.1 pH Units
pH (10)	SU	10.0	10.00	+/- 0.1 pH Units
Redox	+/- mV	240	240.5	+/- 10 mV
Conductivity	mS/cm	1.413	1.411	+/- 0.5 % of standard
DO (saturated)	%	100	92.8	+/- 2% of standard
DO (saturated) mg/L ¹ (see Chart 1)		9.76	9.76	+/- 0.2 mg/L
DO (<0.1)	mg/L	<0.1	16.23	< 0.5 mg/L
Temperature	°C		753.7	
Baro. Press.	mmHg			

	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH	7.0	7.00	+/- 0.3 pH Units
Redox	240	240.5	+/- 10 mV
Conductivity	1.413	1.411	+/- 5% of standard
DO (saturated)	10.41	10.41	+/- 0.5 mg/L of standard
DO (<0.1)		13.32	
Temperature		753.4	

TURBIDITY METER

METER TYPE

MODEL NO.

UNIT ID NO.

	Units	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1	9.68	+/- 0.3 NTU of stan.
20 Standard	NTU	20	20.2	+/- 5% of standard
100 Standard	NTU	100	97.9	+/- 5% of standard
800 Standard	NTU	800	799	+/- 5% of standard

	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1		10.1	+/- 0.3 NTU of stan.
20		20.9	+/- 5% of standard
100		101	+/- 5% of standard
800		800	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE

MODEL NO.

UNIT ID NO.

Background	ppmv	<0.1		
Span Gas	ppmv	100		

<0.1		within 5 ppmv of BG
100		+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE

MODEL NO.

UNIT ID NO.

Methane	%	50		
O ₂	%	20.9		
H ₂ S	ppmv	25		
CO	ppmv	50		

50		+/- 10% of standard
20.9		+/- 10% of standard
25		+/- 10% of standard
50		+/- 10% of standard

OTHER METER

METER TYPE

MODEL NO.

UNIT ID NO.

See Notes Below for Additional Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source:

Portland FOS

Lot#/Date Produced:

Trip Blank Source:

Sample Preservatives Source:

Disposable Filter Type:

0.45µm cellulose

Calibration Fluids / Standard Source:

- DO Calibration Fluid (<0.1 mg/L)

Portland FOS

- Other

- Other

- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	740788	4/18
pH (7)	68F140	6/19
pH (10)		
ORP	1680	5/22
Conductivity	74E476	5/18
<0.1 Turb. Stan.	A7195	10/18
20 Turb. Stan.	A7188	10/18
100 Turb. Stan.	A7202	
800 Turb. Stan.	A7191	10/18
PID Span Gas		
O ₂ -LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.

1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.



511 Congress Street, Portland Maine 04101

FIELD INSTRUMENT CALIBRATION RECORD

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM):

cold, Rainy 58

WEATHER CONDITIONS (PM):

Sunny 65°

TASK NO: 04

DATE: 10/12/17

MACTEC CREW: TG, NV, AK

SAMPLER NAME: T. GERHARD

SAMPLER SIGNATURE: [Signature]

CHECKED BY: nmw

DATE: 10/12/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE: YST

MODEL NO: 556

UNIT ID NO: M015-02

AM CALIBRATION

Start Time 0735 /End Time 0755

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)
pH (4)	SU	4.0	4.00	+/- 0.1 pH Units
pH (7)	SU	7.0	7.00	+/- 0.1 pH Units
pH (10)	SU	10.0	—	+/- 0.1 pH Units
Redox	+/- mV	240	240.1	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard
DO (saturated)	%	100	109.5	+/- 2% of standard
DO (saturated) mg/L ¹ (see Chart 1)		10.7	11.68	+/- 0.2 mg/L
DO (<0.1)	mg/L	<0.1	—	< 0.5 mg/L
Temperature	°C		17.35	
Baro. Press.	mmHg		757.5	

POST CALIBRATION CHECK

Start Time 1340 /End Time 1350

	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH	7.0	6.87	+/- 0.3 pH Units
Redox	240	232.1	+/- 10 mV
Conductivity	1.413	1.412	+/- 5% of standard
DO (saturated)	9.4	9.7	+/- 0.5 mg/L of standard
Temperature		17.85	
Baro. Press.		757.2	

TURBIDITY METER

METER TYPE: HACH

MODEL NO: 2100 G

UNIT ID NO: M024-28

	Units	Standard Value	Meter Value
<0.1 Standard	NTU	<0.1	11.5
20 Standard	NTU	20	21.0
100 Standard	NTU	100	102
800 Standard	NTU	800	783

	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1		13.6	+/- 0.3 NTU of stan.
20		22.7	+/- 5% of standard
100		103	+/- 5% of standard
800		756	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE: Background

MODEL NO: Span Gas

UNIT ID NO: ppmv

	Standard Value	Meter Value
<0.1	<0.1	—
100	100	—

<0.1	_____	within 5 ppmv of BG
100	_____	+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE: Methane

MODEL NO: O₂

UNIT ID NO: H₂S

Methane	%	50	
O ₂	%	20.9	
H ₂ S	ppmv	25	
CO	ppmv	50	

50	_____	+/- 10% of standard
20.9	_____	+/- 10% of standard
25	_____	+/- 10% of standard
50	_____	+/- 10% of standard

OTHER METER

METER TYPE: See Notes Below

MODEL NO: for Additional

UNIT ID NO: Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.

Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Portland FOS

Lot#/Date Produced: —

Trip Blank Source: —

Sample Preservatives Source: —

Disposable Filter Type: 0.45µm cellulose

Calibration Fluids / Standard Source: —

- DO Calibration Fluid (<0.1 mg/L) Portland FOS

- Other —

- Other —

- Other —

	Cal. Standard Lot Number	Exp. Date
pH (4)	76D788	4/19
pH (7)	66F140	6/19
pH (10)	—	—
ORP	1600	5/22
Conductivity	76E476	5/13
<0.1 Turb. Stan.	A6246	12/17
20 Turb. Stan.	A6245	12/17
100 Turb. Stan.	11	11
800 Turb. Stan.	11	11
PID Span Gas	—	—
O ₂ -LEL Span Gas	—	—
Other	—	—

NOTES:

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1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.



511 Congress Street, Portland Maine 04101

FIELD INSTRUMENT CALIBRATION RECORD

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Town and Country Dry Cleaners

PROJECT NUMBER: 3612132267

PROJECT LOCATION: Brighton, NY

WEATHER CONDITIONS (AM):

WEATHER CONDITIONS (PM):

COLD, RAINY 58
Sunny 65°

TASK NO: 04

DATE: 10/12/17

MACTEC CREW:

N, AK, TG

SAMPLER NAME:

ANGELA KIM

SAMPLER SIGNATURE:

CHECKED BY: NW

DATE: 10/24/17

MULTI-PARAMETER WATER QUALITY METER

METER TYPE

MODEL NO.

UNIT ID NO.

AM CALIBRATION				
		Start Time	740	/End Time 753
Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	
pH (4)	SU 4.0	4.00	+/- 0.1 pH Units	
pH (7)	SU 7.0	7.02	+/- 0.1 pH Units	
pH (10)	SU 10.0		+/- 0.1 pH Units	
Redox	+/- mV 240	240.0	+/- 10 mV	
Conductivity	mS/cm 1.413	1.412	+/- 0.5 % of standard	
DO (saturated)	% 100	99.4	+/- 2% of standard	
DO (saturated) mg/L ¹ (see Chart 1)	10.67	10.67	+/- 0.2 mg/L	
DO (<0.1)	mg/L <0.1		< 0.5 mg/L	
Temperature	°C	12.08		
Baro. Press.	mmHg	755.7		

POST CALIBRATION CHECK

Start Time 1328 /End Time 1338

Standard Value	Meter Value	*Acceptance Criteria (PM)
7.0	6.99	+/- 0.3 pH Units
240	240.9	+/- 10 mV
1.413	1.413	+/- 5% of standard
9.57	9.57	+/- 0.5 mg/L of standard
	17.05	
	756.4	

TURBIDITY METER

METER TYPE

MODEL NO.

UNIT ID NO.

Units	Standard Value	Meter Value
<0.1 Standard	NTU	<0.1
20 Standard	NTU	20.1
100 Standard	NTU	99.6
800 Standard	NTU	790

Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1	10.0	+/- 0.3 NTU of stan.
20	20.2	+/- 5% of standard
100	98.1	+/- 5% of standard
800	795	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE

MODEL NO.

UNIT ID NO.

Background	ppmv	<0.1
Span Gas	ppmv	100

<0.1		within 5 ppmv of BG
100		+/- 10% of standard

O₂-LEL 4 GAS METER

METER TYPE

MODEL NO.

UNIT ID NO.

Methane	%	50
O ₂	%	20.9
H ₂ S	ppmv	25
CO	ppmv	50

50		+/- 10% of standard
20.9		+/- 10% of standard
25		+/- 10% of standard
50		+/- 10% of standard

OTHER METER

METER TYPE

MODEL NO.

UNIT ID NO.

		See Notes Below for Additional Information



Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.



Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source:

Portland FOS

Lot#/Date Produced:

Trip Blank Source:

Sample Preservatives Source:

Disposable Filter Type:

0.45µm cellulose

Calibration Fluids / Standard Source:

- DO Calibration Fluid (<0.1 mg/L)

Portland FOS

- Other

- Other

- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	764D788	4/18
pH (7)	76F140	6/19
pH (10)		
ORP	1600	5/22
Conductivity	76E 476	5/18
<0.1 Turb. Stan.	A7195	10/18
20 Turb. Stan.	A7188	10/18
100 Turb. Stan.	A7202	
800 Turb. Stan.	A7191	10/18
PID Span Gas		
O ₂ -LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.

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FIELD INSTRUMENT CALIBRATION RECORD

ATTACHMENT 2

WASTE MANIFEST

KI-012462

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NYD981075690	2. Page 1 of 1	3. Emergency Response Phone 800-225-6750	4. Manifest Tracking Number 003041752 FLE			
5. Generator's Name and Mailing Address Town & Country Cleaners 2308 Monroe Ave., Rochester, NY 14618 Attn: Charles Staples (207) 828-3571			Generator's Site Address (if different than mailing address) 2308 Monroe Avenue Rochester, NY 14618					
6. Transporter 1 Company Name NRC NY Environmental Services, Inc.			U.S. EPA ID Number NYD980900753					
7. Transporter 2 Company Name			U.S. EPA ID Number					
8. Designated Facility Name and Site Address ENPRO Services of Vermont, Inc. 54 Avenue D Williston, VT 05405			U.S. EPA ID Number VTR000517052					
Facility's Phone: ~~447-898-4708~~ 802-560-1200 (18)								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
		No.	Type					
RQ	1. NA3082, Hazardous Waste, Liquid, N.O.S. (Tetrachloroethene and Water), 9, PGIII (ERG #171)	2	DM	110	G	D039	D040	F002
RQ	2. NA3077, Hazardous Waste, Solid, N.O.S. (Tetrachloroethene Impacted Soil, PPE, Lumber), 9, PGIII (ERG 171)	2	DM	800	P	D039	D040	F002
	3.							
	4.							
14. Special Handling Instructions and Additional Information 9a-1 PROFILE # 79501, PROCESS CODE # 3-DL3, APPROVAL CODE # VT-1117-27642 9a-2 Profile # 79502, Process Code DSS, Approval Code # VT-1117-27644 PO/JOB# 119986 -R PM: Frank Thomas, 585-278-1151								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offor's Printed/Typed Name Agent For MAATECH - [Signature]					Signature [Signature]		Month Day Year 11 16 17	
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name Mike Reilly					Signature [Signature]		Month Day Year 11 16 17	
Transporter 2 Printed/Typed Name					Signature		Month Day Year	
18. Discrepancy								
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection 1203								
Manifest Reference Number: _____								
18b. Alternate Facility (or Generator) U.S. EPA ID Number								
Facility's Phone: _____								
18c. Signature of Alternate Facility (or Generator) Month Day Year								
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. H141		2. H141		3.		4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name Jeffrey A Baker					Signature [Signature]		Month Day Year 11 27 17	

ENPRO Land Disposal Restriction Form

PAGE 1 of 1

Generator Name & Location:

Town & Country Cleaners, 2308 Monroe Ave., Rochester, N

ENPRO Job#: 119986-R

EPA ID #

NYD981075690

Manifest #

003041752 FLE

Waste Analysis Available:

Transporter:

ENPRO Services, Inc.

(A) Manifest Line Item (Line #)	(B) Profile#	(C) Non- Regulated List State Code if not regulated by RCRA	(D) RCRA Waste Codes (List all that apply)	(E) Treatability Group Circle One: NWW >1% TOC & >1% TSS	(F) F001-F005 Regulated Constituent (List numbers from Table 1)	(G) UHC's (See Table 2)
9a-1			D039, D040, D043, F002	NWW	21	
9a-2			D039, D040, D043, F002	NWW	21	

How must the waste streams above be managed? (Please check appropriate box(es) below)

- ☒ The wastes identified above must be treated to meet the applicable treatment standards in 40 CFR 268.40 in accordance with 40 CFR 268.7 (a) (2).
- ☐ The waste identified above is hazardous waste contaminated soil and does / does not require treatment to meet the soil treatment standards as provide by 40 CFR 268.49 (c).
- ☐ This hazardous debris identified above must be treated to the alternative treatment standards in 40 CFR 268.45
- ☐ Lab Pack wastes subject to alternative treatment standards under 40 CFR 268.42 (c).

I certify under penalty of law that the above information is accurate and true to the best of my knowledge and that the above information complies with all applicable LDR Certifications required under the 40 CFR.

Signature:

Frank Thomas
Agent for: Wastes/Town & Country Cleaners

Date

11/16/17

Print Name:

Frank Thomas - NRC



engineering and constructing a better tomorrow

Date: November 3, 2017

National Response Corporation
1260 Scottsville Road
Suite 102
Rochester, NY 14624

Re: Agent for Authorization

To whom it may concern:

I do hereby authorize National Response Corporation to sign Department of Transportation (DOT) required waste shipping documents and profiles on behalf of MACTEC, an authorized agent for the New York State Department of Environmental Conservation, for the transportation and disposal and/or recycling of Non Hazardous materials.

Should you have any questions or require additional information regarding the use of this authorization please contact the undersigned at 207-828-3571.

Company Phone No.

Sincerely Yours,
MACTEC Engineering and Consulting, P.C.
Company Name

Signature: 

Print: Charles Staples, MACTEC

Title: Senior Scientist, Project Manager

Level 1 QA/QC Report

DATE 11-28-17

TIME 1003

INITIALS CK

Manifest number: 003041752FLE

Waste Information Profile (WIP) Number: 79501

Drum Numbers in Batch: 2-209357 - 209358

Profile Description of Waste: Investigation Derived Groundwater / Decon

Description of Waste (Observed): clear liquid PH-8

Physical Characteristics/Screen Results:

DRUM#	SIZE	%LIQUIDS	%SOLIDS	%SLUDGE	COLOR	VISC	pH	FLASH	**%FUEL	**WEIGHT
209357	55 DM	100			CLR	L	8			413
209358	55 DM	100			CLR	L	8			475

Perform a visual inspection on each waste container, including covers and closure devices.
Check for visible cracks, holes, gaps, or other open spaces into the interior of the container when
The cover and closure devices are secured in the closed position.

Acceptable ☒ Unacceptable ☐

If "Unacceptable", explain corrective actions taken:

*Waste containing less than 1% fuel cannot be managed under VHWMR Section 7-204(1)

"Fuel to Fuel" exemption (i.e. the waste does not contain a recoverable amount of fuel)

**Record weight if noted on barcode label

\$185/55

Waste Information Profile Form



ENPRO Services of Maine, Inc.
106 Main Street
S. Portland, ME 04106
Phone: 207.799.0850 Fax: 207.779.5565
MED019051069

ENPRO Services of Vermont, Inc.
54 Avenue D
Williston, VT 05495
Phone: 802.860.1200 Fax: 802.860.7202
VTR000517052

Profile #: 79501 Process Code: 3-DLI Approval Code: VT-1117-27642

1. Generator Information:

Generator Name: Town & Country Cleaners
Mailing Address: 2308 Monroe Avenue
City: Rochester State: NY Zip: 14618 Phone: 585-244-4780
Site Address: 2308 Monroe Avenue
City: Rochester State: NY Zip: 14618
Technical Contact: _____ Phone: 585-244-4780
Site EPA ID: NYD981075690 NAICS Code: _____

2. Billing Information:

Customer Name: NRC NY Environmental Services, Inc.
Address: 6392 Deere Road
City: Syracuse State: NY Zip: 13206
Billing Contact: _____ Email: _____
Phone: _____ Fax: _____

3. Waste Description:

Common Name of Waste: Investigation Derived Groundwater / Decon Water
Process Generating Waste Investigation derived groundwater / decon water containing TCE

4. Physical & Chemical Properties

Color: <u>Clear</u>		Odor ☒ None ☐ Mild ☐ Strong Describe: <u>None</u>	
Flash ☐ <100 Point (F°) ☐ ≥100-140 ☐ ≥140-200 ☐ >200 ☒ N/A	BTU/lb ☐ <2000 ☐ 2,000-6,000 ☐ >6,000-10,000 ☐ >10000 ☒ N/A	☐ Solid ☒ Liquid ☐ Sludge ☐ Semi-solid ☐ Powder ☐ Gas	Free Liquids? ☒ Yes ☐ No _____% Solids <u>100.00</u> % Liquids Will waste dump out of drums? ☒ Yes ☐ No Is the waste pumpable? ☒ Yes ☐ No Debris?(List type in Section 7) ☐ Yes ☒ No Is the waste dusty? ☐ Yes ☒ No
Specific Gravity	Viscosity	pH	Other Components
☐ < 0.8 (Light oil) ☐ 0.8-1.0 (Water based) ☐ > 1.0 (Chlorinated Solvents) ☒ N/A	☒ Low (Water) ☐ Med (Pump on) ☐ High (Molasses) ☐ N/A	☐ ≤ 2.0 ☐ >2.0-5 ☐ >5-9 ☐ >9-12.49 ☐ ≥ 12.5	Total cyanides (ppm) <u>0.00</u> Total sulfides (ppm) <u>0.00</u> PCBs (ppm) <u>0.00</u> Total Halogens /HOC (%) <u>0.00</u> Total VOC (ppm) <u>0.00</u>

5. Hazardous Properties: (Check all that apply)

☒ None	☐ Radioactive	☐ Pyrophoric	☐ Oxidizer
☐ Water Reactive	☐ Dioxins	☐ Explosive	☐ Medical Waste/Infectious
☐ Shock Sensitive	☐ Air Reactive	☐ Reactive Cyanide	☐ Reactive Sulfide
☐ Asbestos	☐ Benzene NESHAP	☐ Pesticide/Herbicide	☐ Peroxide Forming Compound

6. Regulatory Status (Check all that apply)

☐ Y ☐ N
☒ ☐ USEPA Hazardous Waste per 40 CFR 261 (If yes list codes) D039, D040, F002, D043
☐ ☒ Do any state waste codes apply? (If yes list codes) _____
☒ ☐ Is this waste subject to land ban restrictions ?
Is this a ☐ wastewater ☒ non wastewater
☐ ☒ If DOO1-D043, are any underlying hazardous constituents (UHC) present
☐ ☒ Does this waste contain VOC's ≥ 500 ppm (subpart CC)
Form Code W101 Source Code G44

7. Composition of Waste: (List all haz. And non-haz. Constituents)

[illegible]

NA3082, Hazardous waste, liquid, n.o.s., (Tetrachloroethene and Water)

9, PGIII

Method of Shipment: ☐ Bulk Liquid ☐ Bulk Solid ☒ Drums ☐ Other Container type size: 55 Gallon Metal Drum

Volume per shipment: 110.00 ☐ Gallons ☐ Tons ☐ Drums ☒ Other

Frequency: ☐ One Time ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Yearly ☒ Other Semi-Annually

Does this material require any special handling? ☐ Yes ☒ No If yes, explain:

D004 Arsenic (5mg/l)	0.00	D011 Silver (5mg/l)	0.00	Manganese	0.00
D005 Barium (100mg/l)	0.00	Aluminum	0.00	Molybdenum	0.00
D006 Cadmium (1mg/l)	0.00	Antimony	0.00	Nickle	0.00
D007 Chromium (5mg/l)	0.00	Beryllium	0.00	Thallium	0.00
D007 Chromium-Hex	0.00	Cobalt	0.00	Tin	0.00
D008 Lead (5mg/l)	0.00	Copper	0.00	Zinc	0.00
D009 Mercury (0.2mg/l)	0.00				
D010 Selenium (1mg/l)	0.00				

D012 Endrin (0.02)	0.00	D023 o-Cresol (200)	0.00	D034 Hexachloroethane (3.0)	0.00
D013 Lindane (0.4)	0.00	D024 m-Cresol (200)	0.00	D035 Methyl ethyl ketone (200)	0.00
D014 Methoxychlor (10)	0.00	D025 p-Cresol (200)	0.00	D036 Nitrobenzene (2)	0.00
D015 Toxaphene (0.5)	0.00	D026 Cresol (200)	0.00	D037 Pentachlorophenol (100)	0.00
D016 2,4-D (10)	0.00	D027 1,4-Dichlorobenzene (7.5)	0.00	D038 Pyridine (5)	0.00
D017 2,4,5 TP Silvex (1)	0.00	D028 1,2- Dichloroethane (0.5)	0.00	D039 Tetrachloroethylene (0.7)	0.00
D018 Benzene (0.5)	0.00	D029 1,1-Dichloroethylene (0.7)	0.00	D040 Trichloroethylene	0.00
D019 Carbon Tetrachloride (0.5)	0.00	D030 2,4 Dinitrotoluene (0.3)	0.00	D041 2,4,5-Trichlorophenol	0.00
D020 Chlordane (0.03)	0.00	D031 Heptachlor (& epoxide) (0.008)	0.00	D042 2,4,6-Trichlorophenol	0.00
D021 Chlorobenzene (100)	0.00	D032 Hexachlorobenzene (0.13)	0.00	D043 Vinyl Chloride	0.00
D022 Chloroform (6.0)	0.00	D033 Hexachlorobutadiene (0.5)	0.00		

11. Attached Documents: ☐ Lab Data ☐ MSDS ☐ Packing List ☐ Other

12. Generator Certification: I hereby certify that I am the agent of the generator, and warrant on behalf of the generator, that all information submitted herein and attached documentation contains true, accurate and complete description of this material. Any sample submitted for analysis is representative of the material being offered for approval. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I will notify ENPRO of any changes in generator status, any information on this form, or any information on attachments. This certification and signature apply to this form, to all attachments checked in Section 11, and to the land disposal restriction notification (LDR) generated from this information.

from this information. *Agent For Town+Country/MacTech*


Signature

Frank Thomas
Printed Name

PAN

Title 11/16/17 Date

Level 1 QA/QC Report

DATE 11-28-17 TIME 1038 INITIALS CK

Manifest number: 003041752FLE

Waste Information Profile (WIP) Number: 79502

Drum Numbers in Batch: 2-209359-209360

Profile Description of Waste: Investigation Derived Soil

Description of Waste (Observed): Soil/Mod-Plastic + Debris

Physical Characteristics/Screen Results:

DRUM#	SIZE	%LIQUIDS	%SOLIDS	%SLUDGE	COLOR	VISC	pH	FLASH	*%FUEL	**WEIGHT
209359	SS DM	~~100~~ 2	98		~~GR~~ VARI	~~100~~				475
209360	SS DM	~~100~~	100		~~GR~~ VARI	~~100~~				413 84

Perform a visual inspection on each waste container, including covers and closure devices.
Check for visible cracks, holes, gaps, or other open spaces into the interior of the container when
The cover and closure devices are secured in the closed position.

Acceptable ☒ Unacceptable ☐

If "Unacceptable", explain corrective actions taken:

*Waste containing less than 1% fuel cannot be managed under VHWMR Section 7-204(1)

"Fuel to Fuel" exemption (i.e. the waste does not contain a recoverable amount of fuel)

**Record weight if noted on barcode label

\$325/55

Waste Information Profile Form



ENPRO Services of Maine, Inc.
106 Main Street
S. Portland, ME 04106
Phone: 207.799.0850 Fax: 207.779.5565
MED019051069

ENPRO Services of Vermont, Inc.
54 Avenue D
Williston, VT 05495
Phone: 802.860.1200 Fax: 802.860.7202
VTR000517052

Profile #: 79502 Process Code: DSS Approval Code: VT-1117-27644

1. Generator Information:			
Generator Name: <u>Town & Country Cleaners</u>			
Mailing Address: <u>2308 Monroe Avenue</u>			
City: <u>Rochester</u>	State: <u>NY</u>	Zip: <u>14618</u>	Phone: <u>585-244-4780</u>
Site Address: <u>2308 Monroe Avenue</u>			
City: <u>Rochester</u>	State: <u>NY</u>	Zip: <u>14618</u>	
Technical Contact:		Phone: <u>585-244-4780</u>	
Site EPA ID: <u>NYD981075690</u>		NAICS Code:	
2. Billing Information:			
Customer Name: <u>NRC NY Environmental Services, Inc.</u>			
Address: <u>6392 Deere Road</u>			
City: <u>Syracuse</u>	State: <u>NY</u>	Zip: <u>13206</u>	
Billing Contact:		Email:	
Phone:		Fax:	
3. Waste Description:			
Common Name of Waste: <u>Investigation Derived Soil</u>			
Process Generating Waste <u>Investigation derived Soil containing TCE</u>			
4. Physical & Chemical Properties			
Color: <u>Varies</u>		Odor ☒ None ☐ Mild ☐ Strong Describe: <u>None</u>	
Flash ☐ <100	BTU/lb	☒ Solid	Free Liquids? ☒ Yes ☐ No
Point (F°) ☐ ≥100-140	☐ <2000	☐ Liquid	<u>100.00</u> % Solids <u>100.00</u> % Liquids
☐ ≥140-200	☐ 2,000-6,000	☐ Sludge	Will waste dump out of drums? ☒ Yes ☐ No
☐ >200	☐ >6,000-10,000	☐ Semi-solid	Is the waste pumpable? ☐ Yes ☒ No
☒ N/A	☐ >10000	☐ Powder	Debris?(List type in Section 7) ☒ Yes ☐ No
	☒ N/A	☐ Gas	Is the waste dusty? ☐ Yes ☒ No
Specific Gravity	Viscosity	pH	Other Components
☐ < 0.8 (Light oil)	☒ Low (Water)	☐ ≤ 2.0	Total cyanides (ppm) <u>0.00</u>
☐ 0.8-1.0 (Water based)	☐ Med (Pump on)	☐ >2.0-5	Total sulfides (ppm) <u>0.00</u>
☐ > 1.0 (Chlorinated Solvents)	☐ High (Molasses)	☐ >5-9	PCBs (ppm) <u>0.00</u>
☒ N/A	☐ N/A	☐ >9-12.49	Total Halogens /HOC (%) <u>0.00</u>
		☐ ≥ 12.5	Total VOC (ppm) <u>0.00</u>
5. Hazardous Properties: (Check all that apply)			
☒ None	☐ Radioactive	☐ Pyrophoric	☐ Oxidizer
☐ Water Reactive	☐ Dioxins	☐ Explosive	☐ Medical Waste/Infectious
☐ Shock Sensitive	☐ Air Reactive	☐ Reactive Cyanide	☐ Reactive Sulfide
☐ Asbestos	☐ Benzene NESHAP	☐ Pesticide/Herbicide	☐ Peroxide Forming Compound
6. Regulatory Status (Check all that apply)			
Y N			
☒ ☐ USEPA Hazardous Waste per 40 CFR 261 (If yes list codes) <u>D039, D040, D043, F002</u>			
☐ ☒ Do any state waste codes apply? (If yes list codes) _____			
☒ ☐ Is this waste subject to land ban restrictions ?			
Is this a ☐ wastewater ☒ non wastewater			
☐ ☒ If D001-D043, are any underlying hazardous constituents (UHC) present			
☐ ☒ Does this waste contain VOC's ≥ 500 ppm (subpart CC)			
Form Code <u>W101</u>		Source Code <u>G44</u>	


ENPRO

Profile #: 79502

7. Composition of Waste: (List all haz. And non-haz. Constituents)

Wood, Plastic, Metal debris	0.00 - 75.00 %		-	%
Soil - Drill Cuttings	0.00 - 24.00 %		-	%
Tetrachloroethene	0.00 - 1.00 %		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%

8. DOT Shipping Information: (include PG, UN/NA, and Haz. Class)

RQ NA3077, Hazardous waste, solid, n.o.s. (Tetrachloroethene impacted lumber plastic, PPE, soil)

9, PGIII(RQ: D039, D040, D043, F002)

Poison Inhalation Hazard: ☐ YES ☒ NO Zone: _____Method of Shipment: ☐ Bulk Liquid ☐ Bulk Solid ☒ Drums ☐ Other Container type size: 55 Gallon Metal DrumVolume per shipment: 800.00 ☐ Gallons ☐ Tons ☐ Drums ☒ Other PFrequency: ☐ One Time ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Yearly ☒ Other Semi-AnnuallyDoes this material require any special handling? ☐ Yes ☒ No If yes, explain:**9. Inorganic Metals:** ☒ None ☐ TCLP ☐ Totals ☐ Generator Knowledge in mg/l

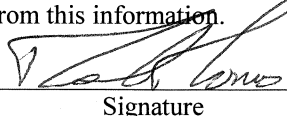
D004 Arsenic (5mg/l)	0.00	D011 Silver (5mg/l)	0.00	Manganese	0.00
D005 Barium (100mg/l)	0.00	Aluminum	0.00	Molybdenum	0.00
D006 Cadmium (1mg/l)	0.00	Antimony	0.00	Nickle	0.00
D007 Chromium (5mg/l)	0.00	Beryllium	0.00	Thallium	0.00
D007 Chromium-Hex	0.00	Cobalt	0.00	Tin	0.00
D008 Lead (5mg/l)	0.00	Copper	0.00	Zinc	0.00
D009 Mercury (0.2mg/l)	0.00				
D010 Selenium (1mg/l)	0.00				

10. Organic Compounds ☒ None ☐ TCLP ☐ Totals ☐ Generator Knowledge in mg/l

D012 Endrin (0.02)	0.00	D023 o-Cresol (200)	0.00	D034 Hexachloroethane (3.0)	0.00
D013 Lindane (0.4)	0.00	D024 m-Cresol (200)	0.00	D035 Methyl ethyl ketone (200)	0.00
D014 Methoxychlor (10)	0.00	D025 p-Cresol (200)	0.00	D036 Nitrobenzene (2)	0.00
D015 Toxaphene (0.5)	0.00	D026 Cresol (200)	0.00	D037 Pentachlorophenol (100)	0.00
D016 2,4-D (10)	0.00	D027 1,4-Dichlorobenzene (7.5)	0.00	D038 Pyridine (5)	0.00
D017 2,4,5 TP Silvex (1)	0.00	D028 1,2-Dichloroethane (0.5)	0.00	D039 Tetrachloroethylene (0.7)	0.00
D018 Benzene (0.5)	0.00	D029 1,1-Dichloroethylene (0.7)	0.00	D040 Trichloroethylene	0.00
D019 Carbon Tetrachloride (0.5)	0.00	D030 2,4 Dinitrotoluene (0.3)	0.00	D041 2,4,5-Trichlorophenol	0.00
D020 Chlordane (0.03)	0.00	D031 Heptachlor (& epoxide) (0.008)	0.00	D042 2,4,6-Trichlorophenol	0.00
D021 Chlorobenzene (100)	0.00	D032 Hexachlorobenzene (0.13)	0.00	D043 Vinyl Chloride	0.00
D022 Chloroform (6.0)	0.00	D033 Hexachlorobutadiene (0.5)	0.00		

11. Attached Documents: ☐ Lab Data ☐ MSDS ☐ Packing List ☐ Other

12. Generator Certification: I hereby certify that I am the agent of the generator, and warrant on behalf of the generator, that all information submitted herein and attached documentation contains true, accurate and complete description of this material. Any sample submitted for analysis is representative of the material being offered for approval. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I will notify ENPRO of any changes in generator status, any information on this form, or any information on attachments. This certification and signature apply to this form, to all attachments checked in Section 11, and to the land disposal restriction notification (LDR) generated from this information.



Signature

Agent For Town & Country MacTech

Frank Thomas

Printed Name

PM

Title

11/16/17

Date

ATTACHMENT 3

DATA USABILITY SUMMARY REPORT

**DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK**

1.0 INTRODUCTION

Groundwater and soil samples were collected in October 2017 at the Town and Country site in Brighton, New York, and submitted for off-site analysis. Samples were analyzed by ALS Environmental, located in Rochester, New York, and TestAmerica, Inc., located in Edison, New Jersey, and Sacramento, California. Samples were analyzed by one or more of the following methods:

- Volatile organic compounds (VOCs) by USEPA Method 8260C
- 1,4-Dioxane by USEPA Method 8260C-Selected Ion Monitoring (SIM)
- Per- and Polyfluorinated Alkyl Substances (PFAS) by Modified EPA Method 537
- Metals (iron and manganese) by USEPA Method 6010C
- Total organic carbon (TOC) by Standard Method SM5310C
- Sulfide by Standard Method SM4500-S2-F
- Anions (sulfate, chloride, nitrate, nitrite) by USEPA Method 300.0
- Alkalinity by Standard Method SM2320B
- Dissolved Gases (methane, ethane, ethene) by Method RSK-175

Results were reported in the following sample delivery groups (SDGs):

- R1709618
- R1709619
- R1709620
- R1709687
- R1709688
- 320-32376-1
- 460-143027-1

Data quality objectives are identified in the Pre-design Investigation Field Activities Plan (FAP) – Town and Country Dry Cleaners Site dated September 27, 2017 (MACTEC, 2017). A data usability summary report (DUSR) was completed for soil sample analyses based on the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation guidance (NYSDEC, 2010). A chemist review was performed for groundwater sample analyses. Sample event information included in this DUSR/chemist review is presented in the following tables:

- Table 1 – Summary of Samples and Analytical Methods
- Table 2 – Summary of Analytical Results
- Table 3 – Summary of Qualification Actions.

Laboratory deliverables included:

- Category B deliverables as defined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols (NYSDEC, 2005).

The DUSR review included the following evaluations.

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- Instrument Calibration (report narrative/lab qualifier review)
- QC Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Surrogate Spikes
- Field Duplicates
- Target Analyte Identification and Quantitation
- Raw Data (chromatograms), Calculation Checks and Transcription Verifications
- Reporting Limits
- Electronic Data Qualification and Verification

The Category A review included the following evaluations:

- Lab Report Narrative Review
- Data Package Completeness and COC records (Table 1 verification)
- Sample Preservation and Holding Times
- QC Blanks
- MS/MSD
- Surrogate Spikes
- Field Duplicates
- Reporting Limits
- Electronic Data Qualification and Verification

A table of project control limits is presented in Attachment A. DUSR and chemist review checklists and applicable laboratory QC summary forms are included in Attachment B to document checks and QC outliers associated with qualification actions.

Data qualification actions are applied when necessary based on general procedures in USEPA validation guidelines (USEPA, 2014) and the judgment of the project chemist. The following laboratory or data review qualifiers are used in the final data presentation:

U = target analyte is not detected at or above the reporting limit

J = concentration is estimated

UJ = the target compound was not detected and the reporting limit is considered to be estimated

Results are interpreted to be usable as reported by the laboratory or as qualified in the following sections.

2.0 POTENTIAL DATA LIMITATIONS

Based on the DUSR and Category A reviews conducted the data meet the data quality objectives; however, the following potential limitations were identified:

VOCs

- Low level detections of acetone in a subset of groundwater samples were qualified non-detect (U) based on contamination in the trip blank. Qualified results are included in Table 3 and were assigned reason code BL2.
- Low level detections of chloromethane in a subset of soil samples were qualified non-detect (U) based on contamination in the method blank. Qualified results are included in Table 3 and were assigned reason code BL1.
- Reporting limits for methyl acetate (acetic acid, methyl ester) in a subset of soil and groundwater samples were qualified estimated (UJ) due to LCS recoveries less than the 70-130 control limits. Qualified results are included in Table 3 with reason code LCS-L.
- Results for vinyl chloride in a subset of groundwater samples were qualified estimated (J) due to LCS recoveries greater than the 70-130 control limits. Qualified results are included in Table 3 with reason code LCS-H.
- Detections of trichloroethene and tetrachloroethene in soil sample 828149-DP053007 were qualified estimated (J) due to surrogate recovery greater than the 70-130 control limits. Qualified results are included in Table 3 and were assigned reason code SS-H.
- Inconsistent results were observed for cis-1,2-dichloroethene and tetrachloroethene in soil sample 828149-DP046011 and associated field duplicate 828149-DP046011D. Tetrachloroethene was reported at a concentration greater than the reporting limit in sample 828149-DP046011 but was not detected in the associated field duplicate, and cis-1,2-dichloroethene was reported at a concentration greater than the reporting limit in field duplicate 828149-DP046011D but was not detected in the associated parent sample. Positive and non-detect results for tetrachloroethene and cis-1,2-dichloroethene in sample 828149-DP046011 and field duplicate 828149-DP046011D were qualified estimated (J/UJ). Qualified results are included in Table 3 with reason code FD.
- The relative percent difference (RPD) between results for tetrachloroethene in soil sample 828149-DP044007 and associated field duplicate 828149-DP044007D was greater than the control limit of 100 (110) indicating sample non-homogeneity. Results for tetrachloroethene in sample 828149-DP044007 and field duplicate 828149-DP044007D were qualified estimated (J). Qualified results are included in Table 3 and were assigned reason code FD.
- Reporting limits for bromomethane and chloroethane in soil sample 828149-DP040002 were qualified estimated (UJ) based on MS/MSD percent recoveries less than the 70-130 control limits. Qualified results are summarized in Table 3 with reason code MS-L.
- The reporting limit for chloroethane in soil sample 828149-DP049002 was qualified estimated (UJ) based on MS/MSD percent recoveries less than the 70-

130 control limits. The qualified result is included in Table 3 with reason code MS-L.

- Detection limits for target compounds in a subset of VOC samples are elevated because samples were diluted due to concentrations of VOC target compounds. Actual sample reporting limits adjusted for dilution are included on Table 2.

PFAS

- The low level concentration of perfluorotetradecanoic acid in groundwater sample 828149-DP017015 was qualified non-detect (U) due to contamination in the associated method blank. The qualified result is included in Table 3 and was assigned reason code BL1.
- Positive and non-detect results for perfluorooctane sulfonamide in the following groundwater samples were qualified estimated (J/UJ) due to internal standard recoveries less than the control limits:

828149-MW003009
828149-MW02B020
828149-MW013012
828149-DP017015

Qualified results are included in Table 3 and were assigned reason code IS-L.

Natural Attenuation/General Chemistry

- Sample 828149-DP019012 was analyzed for nitrate and nitrite after expiration of the 48 hour holding time. The positive and non-detect results for nitrate and nitrite in sample 828149-DP019012 were qualified estimated (J/UJ). Qualified results are summarized in Table 3 with reason code HT.
- Detections of chloride in a subset of samples were qualified estimated (J) based on matrix spike recoveries greater than the 75-125 control limits. Qualified results are summarized in Table 3 with reason code MS-H.

3.0 ADDITIONAL QC EXCEEDANCES AND OBSERVATIONS

Additional observations and quality control exceedances not specifically addressed above (Section 2.0) or included in Table 3 are summarized below. Unless presented in Table 3, sample results are interpreted to be usable as reported by the laboratory.

Chain of Custody Documentation

The sample collection time for sample 828149-DP042004 (10/11/17 1002) was incorrectly logged into the laboratory and reported as 10/11/17 1000. The collection time was corrected in the MACTEC data base during data validation.

The 6-digit NYSDEC site identification for all soil samples was incorrectly entered on the chain of custody documentation during field sampling. The site identifications for all soil

samples were corrected from 360109 to 828149 on the chain of custody documentation and in the MACTEC data base, and laboratory data reports (reduced deliverables) were reissued by the laboratory with corrected sample identifications.

Instrument Calibration

The laboratory narratives noted the continuing calibration percent differences (%Ds) for a subset of VOC target analytes were outside control limit of 20. No laboratory qualifiers associated with calibration were reported with sample data, and the narratives indicated there was no impact to sample results. The calibration outliers are not interpreted to be significant data limitations and results were reported unqualified.

Reference:

New York State Department of Environmental Conservation (NYSDEC), 2005. "Analytical Services Protocols"; July 2005.

New York State Department of Environmental Conservation (NYSDEC), 2010. "Technical Guidance for Site Investigation and Remediation-Appendix 2B"; DER-10; Division of Environmental Remediation; May 2010.

U.S. Environmental Protection Agency (USEPA), 2014. "Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B and 8260C"; USEPA Region II; HW-24; Revision 4; October 2014.

Data Validator: Julie Ricardi

Date: November 28, 2017



Reviewed by: Christian Ricardi, NRCC-EAC

Date: December 1, 2017



TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

SDG	Location	Sample ID	Sample Date	Method Class		VOCs	SOLIDS
				Analysis Method		SW8260C	ALS SOP
				Media	Qc Code	Param_Count	Param_Count
R1709618	DP-012	828149-DP012015	10/10/2017	GW	FS	52	
R1709618	DP-017	828149-DP017015	10/12/2017	GW	FS	52	
R1709618	DP-019	828149-DP019012	10/11/2017	GW	FS	52	
R1709618	GEMW-2	828149-GEMW002014	10/10/2017	GW	FS	52	
R1709618	MW-1	828149-MW001010	10/10/2017	GW	FS	52	
R1709618	MW-1	828149-MW001010D	10/10/2017	GW	FD	52	
R1709618	MW-13	828149-MW013012	10/12/2017	GW	FS	52	
R1709618	MW-13B	828149-MW013B023	10/11/2017	GW	FS	52	
R1709618	MW-16B	828149-MW016B023	10/10/2017	GW	FS	52	
R1709618	MW-17B	828149-MW017B018	10/11/2017	GW	FS	52	
R1709618	MW-19B	828149-MW019B025	10/11/2017	GW	FS	52	
R1709618	MW-2B	828149-MW02B020	10/12/2017	GW	FS	52	
R1709618	MW-3	828149-MW003009	10/12/2017	GW	FS	52	
R1709618	MW-3	828149-MW003009D	10/12/2017	GW	FD	52	
R1709618	QC	828149-TBW-101017	10/10/2017	BW	TB	52	
R1709618	QC	828149-TBW-101117	10/11/2017	BW	TB	52	
R1709618	QC	828149-TBW-101217	10/12/2017	BW	TB	52	
R1709619	DP-046	828149-DP046002	10/10/2017	Soil	FS	52	1
R1709619	DP-046	828149-DP046004	10/10/2017	Soil	FS	52	1
R1709619	DP-046	828149-DP046008	10/10/2017	Soil	FS	52	1
R1709619	DP-046	828149-DP046011	10/10/2017	Soil	FS	52	1
R1709619	DP-046	828149-DP046011D	10/10/2017	Soil	FD	52	1
R1709619	DP-048	828149-DP048002	10/10/2017	Soil	FS	52	1
R1709619	DP-048	828149-DP048003	10/10/2017	Soil	FS	52	1
R1709619	DP-048	828149-DP048004	10/10/2017	Soil	FS	52	1
R1709619	DP-048	828149-DP048006	10/10/2017	Soil	FS	52	1
R1709619	DP-049	828149-DP049001	10/10/2017	Soil	FS	52	1
R1709619	DP-049	828149-DP049002	10/10/2017	Soil	FS	52	1
R1709619	DP-049	828149-DP049006	10/10/2017	Soil	FS	52	1
R1709619	DP-049	828149-DP049007	10/10/2017	Soil	FS	52	1
R1709619	DP-050	828149-DP050001	10/10/2017	Soil	FS	52	1
R1709619	DP-050	828149-DP050002	10/10/2017	Soil	FS	52	1
R1709619	DP-050	828149-DP050005	10/10/2017	Soil	FS	52	1
R1709619	DP-050	828149-DP050007	10/10/2017	Soil	FS	52	1
R1709619	DP-051	828149-DP051001	10/10/2017	Soil	FS	52	1
R1709619	DP-051	828149-DP051002	10/10/2017	Soil	FS	52	1
R1709619	DP-051	828149-DP051006	10/10/2017	Soil	FS	52	1
R1709619	DP-051	828149-DP051008	10/10/2017	Soil	FS	52	1
R1709619	DP-052	828149-DP052001	10/10/2017	Soil	FS	52	1
R1709619	DP-052	828149-DP052002	10/10/2017	Soil	FS	52	1
R1709619	DP-052	828149-DP052004	10/10/2017	Soil	FS	52	1
R1709619	DP-052	828149-DP052006	10/10/2017	Soil	FS	52	1
R1709619	DP-053	828149-DP053002	10/10/2017	Soil	FS	52	1
R1709619	DP-053	828149-DP053003	10/10/2017	Soil	FS	52	1
R1709619	DP-053	828149-DP053006	10/10/2017	Soil	FS	52	1
R1709619	DP-053	828149-DP053007	10/10/2017	Soil	FS	52	1
R1709620	DP-040	828149-DP040009	10/11/2017	Soil	FS	52	1
R1709620	DP-041	828149-DP041002	10/11/2017	Soil	FS	52	1
R1709620	DP-041	828149-DP041004	10/11/2017	Soil	FS		
R1709620	DP-041	828149-DP041005	10/11/2017	Soil	FS	52	1
R1709620	DP-041	828149-DP041008	10/11/2017	Soil	FS	52	1
R1709620	DP-041	828149-DP041009	10/11/2017	Soil	FS	52	1
R1709620	DP-041	828149-DP041012	10/11/2017	Soil	FS		
R1709620	DP-047	828149-DP047002	10/10/2017	Soil	FS	52	1
R1709620	DP-047	828149-DP047003	10/10/2017	Soil	FS	52	1
R1709620	DP-047	828149-DP047004	10/10/2017	Soil	FS		
R1709620	DP-047	828149-DP047007	10/10/2017	Soil	FS	52	1
R1709620	DP-047	828149-DP047008	10/10/2017	Soil	FS	52	1
R1709620	DP-047	828149-DP047009	10/10/2017	Soil	FS		
R1709620	QC	828149-TBS-101017	10/10/2017	NA-S	TB	52	
R1709620	QC	828149-TBS-101117	10/11/2017	NA-S	TB	52	
R1709687	DP-040	828149-DP040002	10/11/2017	Soil	FS	52	1
R1709687	DP-040	828149-DP040005	10/11/2017	Soil	FS	52	1
R1709687	DP-040	828149-DP040007	10/11/2017	Soil	FS	52	1
R1709687	DP-042	828149-DP042002	10/11/2017	Soil	FS	52	1

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

				Method Class		VOCs	SOLIDS
				Analysis Method		SW8260C	ALS SOP
SDG	Location	Sample ID	Sample Date	Media	Qc Code	Param_Count	Param_Count
R1709687	DP-042	828149-DP042004	10/11/2017	Soil	FS	52	1
R1709687	DP-042	828149-DP042008	10/11/2017	Soil	FS	52	1
R1709687	DP-042	828149-DP042009	10/11/2017	Soil	FS	52	1
R1709687	DP-043	828149-DP043002	10/11/2017	Soil	FS	52	1
R1709687	DP-043	828149-DP043002D	10/11/2017	Soil	FD	52	1
R1709687	DP-043	828149-DP043004	10/11/2017	Soil	FS	52	1
R1709687	DP-043	828149-DP043009	10/11/2017	Soil	FS	52	1
R1709687	DP-043	828149-DP043010	10/11/2017	Soil	FS	52	1
R1709687	DP-044	828149-DP044002	10/11/2017	Soil	FS	52	1
R1709687	DP-044	828149-DP044004	10/11/2017	Soil	FS	52	1
R1709687	DP-044	828149-DP044007	10/11/2017	Soil	FS	52	1
R1709687	DP-044	828149-DP044007D	10/11/2017	Soil	FD	52	1
R1709687	DP-044	828149-DP044010	10/11/2017	Soil	FS	52	1
R1709687	DP-045	828149-DP045002	10/11/2017	Soil	FS	52	1
R1709687	DP-045	828149-DP045004	10/11/2017	Soil	FS	52	1
R1709687	DP-045	828149-DP045007	10/11/2017	Soil	FS	52	1
R1709688	DP-010	828149-DP010008	10/11/2017	GW	FS	52	
R1709688	DP-014	828149-DP014009	10/11/2017	GW	FS	52	
R1709688	DP-015	828149-DP015009	10/11/2017	GW	FS	52	
R1709688	DP-016	828149-DP016009	10/11/2017	GW	FS	52	
R1709688	DP-018	828149-DP018009	10/11/2017	GW	FS	52	
R1709688	DP-020	828149-DP020012	10/11/2017	GW	FS	52	
R1709688	DP-021	828149-DP021009	10/11/2017	GW	FS	52	
R1709688	GEMW-1	828149-GEMW001014	10/11/2017	GW	FS	52	
R1709688	MW-10	828149-MW010010	10/11/2017	GW	FS	52	
R1709688	MW-2	828149-MW002010	10/11/2017	GW	FS	52	
R1709688	MW-21B	828149-MW021B019	10/11/2017	GW	FS	52	
GW = groundwater							
BW = blank water							
NA-S = methanol trip blank							
FS = field sample							
FD = field duplicate							
TB = trip blank							
Param_Count = number of target analytes reported							

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

				Method Class		1,4-Dioxane	PFAS
				Analysis Method		SW8260C-SIM	537 Modified
SDG	Location	Sample ID	Sample Date	Media	Qc Code	Param_Count	Param_Count
320-32376-1	DP-017	828149-DP017015	10/12/2017	GW	FS		18
320-32376-1	MW-13	828149-MW013012	10/12/2017	GW	FS		18
320-32376-1	MW-2B	828149-MW02B020	10/12/2017	GW	FS		18
320-32376-1	MW-3	828149-MW003009	10/12/2017	GW	FS		18
460-143027-1	DP-017	828149-DP017015	10/12/2017	GW	FS	1	
460-143027-1	MW-13	828149-MW013012	10/12/2017	GW	FS	1	
460-143027-1	MW-2B	828149-MW02B020	10/12/2017	GW	FS	1	
460-143027-1	MW-3	828149-MW003009	10/12/2017	GW	FS	1	
GW = groundwater							
BW = blank water							
NA-S = methanol trip blank							
FS = field sample							
FD = field duplicate							
TB = trip blank							
Param_Count = number of target analytes reported							

TABLE 1 - SUMMARY OF SAMPLES AND ANALYTICAL METHODS
 DATA USABILITY SUMMARY REPORT
 OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
 TOWN AND COUNTRY DRY CLEANERS SITE
 BRIGHTON, NEW YORK

				Method Class		Diss Gases	Metals	ALK	TOC	Anions	Sulfide
				Analysis Method		RSK175	SW6010C	SM 2320B	SM 5310C	E300	SM 4500-S2-F
				Media	Fraction	N	T	N	N	N	N
SDG	Location	Sample ID	Sample Date		Qc Code	Param_Count	Param_Count	Param_Count	Param_Count	Param_Count	Param_Count
R1709618	DP-017	828149-DP017015	10/12/2017	GW	FS	3	2	1	1	4	1
R1709618	DP-019	828149-DP019012	10/11/2017	GW	FS	3	2	1	1	4	1
R1709618	MW-1	828149-MW001010	10/10/2017	GW	FS	3	2	1	1	4	1
R1709618	MW-13	828149-MW013012	10/12/2017	GW	FS	3	2	1	1	4	1
R1709618	MW-13B	828149-MW013B023	10/11/2017	GW	FS	3	2	1	1	4	1
R1709618	MW-2B	828149-MW02B020	10/12/2017	GW	FS	3	2	1	1	4	1
GW = groundwater											
BW = blank water											
NA-S = methanol trip blank											
FS = field sample											
FD = field duplicate											
TB = trip blank											
Param_Count = number of target analytes reported											
T, N = total											

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	320-32376-1		320-32376-1		320-32376-1		320-32376-1	
		Location	DP-017		MW-13		MW-2B		MW-3	
		Sample Date	10/12/2017		10/12/2017		10/12/2017		10/12/2017	
		Sample ID	828149-DP017015		828149-MW013012		828149-MW02B020		828149-MW003009	
		Qc Code	FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
PFAS	Perfluorobutanesulfonic acid	ng/l	4.9		4.3		1.6	J	8.8	
PFAS	Perfluorobutanoic acid	ng/l	2.6		8.9		4.9		7.5	
PFAS	Perfluorodecanesulfonic acid	ng/l	2	U	2.1	U	2	U	2	U
PFAS	Perfluorodecanoic acid	ng/l	2	U	2.1	U	2	U	3.4	
PFAS	Perfluorododecanoic acid	ng/l	2	U	2.1	U	2	U	2	U
PFAS	Perfluoroheptanesulfonic acid	ng/l	2	U	2.1	U	2	U	1	J
PFAS	Perfluoroheptanoic acid	ng/l	2	U	2.3		2	U	9.9	
PFAS	Perfluorohexane sulfonic acid	ng/l	2	U	2.9		2	U	3.4	
PFAS	Perfluorohexanoic acid	ng/l	2	U	3.8		2	U	9.6	
PFAS	Perfluorononanoic acid	ng/l	2	U	2.1	U	2	U	5.1	
PFAS	Perfluorooctane sulfonamide	ng/l	41	UJ	41	UJ	0.72	J	2.4	J
PFAS	Perfluorooctanesulfonic acid (PFOS)	ng/l	2	U	6.3		2	U	87	
PFAS	Perfluorooctanoic acid (PFOA)	ng/l	2	U	7.4		2	U	17	
PFAS	Perfluoropentanoic acid	ng/l	2	U	3.9		2	U	11	
PFAS	Perfluorotetradecanoic acid	ng/l	2	U	2.1	U	2	U	2	U
PFAS	Perfluorotridecanoic acid	ng/l	2	U	2.1	U	2	U	2	U
PFAS	Perfluoroundecanoic acid	ng/l	2	U	2.1	U	2	U	2	U
PFAS	Sum PFOA and PFOS	ng/l	2	U	14		2	U	100	
ng/l = nanogram per liter										
U = not detected										
J = estimated value										

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
 DATA USABILITY SUMMARY REPORT
 OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
 TOWN AND COUNTRY DRY CLEANERS SITE
 BRIGHTON, NEW YORK

		SDG	460-143027-1		460-143027-1		460-143027-1		460-143027-1	
		Location	DP-017		MW-13		MW-2B		MW-3	
		Sample Date	10/12/2017		10/12/2017		10/12/2017		10/12/2017	
		Sample ID	828149-DP017015		828149-MW013012		828149-MW02B020		828149-MW003009	
		Qc Code	FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,4-Dioxane	1,4-Dioxane	ug/l	0.4	U	0.26	J	0.4	U	1.1	
ug/l = microgram per liter										
U = not detected										
J = estimated value										

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709618		R1709618		R1709618		R1709618		R1709618	
		Location	DP-012		DP-017		DP-019		GEMW-2		MW-1	
		Sample Date	10/10/2017		10/12/2017		10/11/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP012015		828149-DP017015		828149-DP019012		828149-GEMW002014		828149-MW001010	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,1,2-Trichloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,1-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,1-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2,3-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2,4-Trichlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2	U	2	U	2	U	2	U	100	U
VOCs	1,2-Dibromoethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2-Dichloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,2-Dichloropropane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,3-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,4-Dichlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	1,4-Dioxane	ug/l	40	U	40	U	40	U	40	U	2000	U
VOCs	2-Butanone	ug/l	5	U	5	U	5	U	5	U	250	U
VOCs	2-Hexanone	ug/l	5	U	5	U	5	U	5	U	250	U
VOCs	4-Methyl-2-pentanone	ug/l	5	U	5	U	5	U	5	U	250	U
VOCs	Acetic acid, methyl ester	ug/l	2	UJ	2	U	2	UJ	2	UJ	100	UJ
VOCs	Acetone	ug/l	5	U	5	U	5	U	5	U	250	U
VOCs	Benzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Bromochloromethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Bromodichloromethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Bromoform	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Bromomethane	ug/l	1	U	1	U	1	U	0.31	J	50	U
VOCs	Carbon disulfide	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Carbon tetrachloride	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Chlorobenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Chloroethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Chloroform	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Chloromethane	ug/l	1	U	1	U	1	U	1	U	13	J
VOCs	Cis-1,2-Dichloroethene	ug/l	1.7		1	U	12		3.3		340	
VOCs	Cis-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Cyclohexane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Dibromochloromethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Dichlorodifluoromethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Ethylbenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Isopropylbenzene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Methyl cyclohexane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Methyl Tertbutyl Ether	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Methylene chloride	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Styrene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Tetrachloroethene	ug/l	1	U	1	U	28		150		9700	
VOCs	Toluene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	trans-1,2-Dichloroethene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	trans-1,3-Dichloropropene	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Trichloroethene	ug/l	1	U	1	U	8.5		3.3		260	
VOCs	Trichlorofluoromethane	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Vinyl chloride	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Xylene, o	ug/l	1	U	1	U	1	U	1	U	50	U
VOCs	Xylenes (m&p)	ug/l	2	U	2	U	2	U	2	U	100	U
Metals	Iron	ug/l			2690		86.9	J			2070	
Metals	Manganese	ug/l			350		279				57.7	
ALK	Total Alkalinity, as CaCO3	mg/l			726		396				498	
Anions	Chloride	mg/l			711		168				617	J
Anions	Nitrate as N	mg/l			3.7		0.7	J			2.1	
Anions	Nitrite as N	mg/l			1	U	1	UJ			1	U
Anions	Sulfate	mg/l			173		65.5				86.1	
Diss Gas	Ethane	ug/l			1	U	1	U			0.21	J
Diss Gas	Ethene	ug/l			1	U	1	U			1	U
Diss Gas	Methane	ug/l			0.57	J	0.63	J			0.9	J
Sulfide	Sulfide	mg/l			0.2	J	0.21	J			0.3	J
TOC	Total Organic Carbon	mg/l			3.3		1	J			3.3	
ug/l = microgram per liter												
mg/l = milligram per liter												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709618		R1709618		R1709618		R1709618		R1709618		R1709618	
		Location	MW-1		MW-13		MW-13B		MW-16B		MW-17B		MW-19B	
		Sample Date	10/10/2017		10/12/2017		10/11/2017		10/10/2017		10/11/2017		10/11/2017	
		Sample ID	828149-MW001010D		828149-MW013012		828149-MW013B023		828149-MW016B023		828149-MW017B018		828149-MW019B025	
		Qc Code	FD		FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,1,2-Trichloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,1-Dichloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,1-Dichloroethene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2,3-Trichlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2,4-Trichlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	100	U	100	U	2	U	2	U	2	U	2	U
VOCs	1,2-Dibromoethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,2-Dichloropropane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,3-Dichlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,4-Dichlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	1,4-Dioxane	ug/l	2000	U	2000	U	40	U	40	U	40	U	40	U
VOCs	2-Butanone	ug/l	250	U	250	U	5	U	5	U	5	U	5	U
VOCs	2-Hexanone	ug/l	250	U	250	U	5	U	5	U	5	U	5	U
VOCs	4-Methyl-2-pentanone	ug/l	250	U	250	U	5	U	5	U	5	U	5	U
VOCs	Acetic acid, methyl ester	ug/l	100	UJ	100	U	2	UJ	2	UJ	2	UJ	2	UJ
VOCs	Acetone	ug/l	250	U	250	U	5	U	5	U	5	U	5	U
VOCs	Benzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Bromochloromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Bromodichloromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Bromoform	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Bromomethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Carbon disulfide	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Carbon tetrachloride	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Chlorobenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Chloroethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Chloroform	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Chloromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Cis-1,2-Dichloroethene	ug/l	310		770		2		0.42	J	1	U	12	
VOCs	Cis-1,3-Dichloropropene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Cyclohexane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Dibromochloromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Dichlorodifluoromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Ethylbenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Isopropylbenzene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Methyl cyclohexane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Methyl Tertbutyl Ether	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Methylene chloride	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Styrene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Tetrachloroethene	ug/l	9600		4100		3.3		0.39	J	1	U	13	
VOCs	Toluene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	trans-1,2-Dichloroethene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	trans-1,3-Dichloropropene	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Trichloroethene	ug/l	240		200		1.3		1	U	1	U	8.4	
VOCs	Trichlorofluoromethane	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Vinyl chloride	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Xylene, o	ug/l	50	U	50	U	1	U	1	U	1	U	1	U
VOCs	Xylenes (m&p)	ug/l	100	U	100	U	2	U	2	U	2	U	2	U
Metals	Iron	ug/l			31600		124							
Metals	Manganese	ug/l			777		11.5							
ALK	Total Alkalinity, as CaCO3	mg/l			490		366							
Anions	Chloride	mg/l			357	J	87	J						
Anions	Nitrate as N	mg/l			1	U	1	U						
Anions	Nitrite as N	mg/l			1	U	1	U						
Anions	Sulfate	mg/l			131		73.9							
Diss Gas	Ethane	ug/l			1	U	0.43	J						
Diss Gas	Ethene	ug/l			0.58	J	0.28	J						
Diss Gas	Methane	ug/l			1.1	U	11							
Sulfide	Sulfide	mg/l			0.25	J	2.6							
TOC	Total Organic Carbon	mg/l			7.2		0.9	J						
ug/l = microgram per liter														
mg/l = milligram per liter														
U = not detected														
J = estimated value														

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709618		R1709618		R1709618		R1709618		R1709618		R1709618	
		Location	MW-2B		MW-3		MW-3		QC		QC		QC	
		Sample Date	10/12/2017		10/12/2017		10/12/2017		10/10/2017		10/11/2017		10/12/2017	
		Sample ID	828149-MW02B020		828149-MW003009		828149-MW003009D		828149-TBW-101017		828149-TBW-101117		828149-TBW-101217	
		Qc Code	FS		FS		FD		TB		TB		TB	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,1,2-Trichloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,1-Dichloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,1-Dichloroethene	ug/l	1 U		8.5		8.2		1 U		1 U		1 U	
VOCs	1,2,3-Trichlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,2,4-Trichlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2 U		10 U		10 U		2 U		2 U		2 U	
VOCs	1,2-Dibromoethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,2-Dichlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,2-Dichloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,2-Dichloropropane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,3-Dichlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,4-Dichlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	1,4-Dioxane	ug/l	40 U		200 U		200 U		40 U		40 U		40 U	
VOCs	2-Butanone	ug/l	5 U		25 U		25 U		5 U		5 U		5 U	
VOCs	2-Hexanone	ug/l	5 U		25 U		25 U		5 U		5 U		5 U	
VOCs	4-Methyl-2-pentanone	ug/l	5 U		25 U		25 U		5 U		5 U		5 U	
VOCs	Acetic acid, methyl ester	ug/l	2 U		10 U		10 U		2 U		2 U		2 U	
VOCs	Acetone	ug/l	5 U		25 U		25 U		2.3 J		5 U		2.7 J	
VOCs	Benzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Bromochloromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Bromodichloromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Bromoform	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Bromomethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Carbon disulfide	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Carbon tetrachloride	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Chlorobenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Chloroethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Chloroform	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Chloromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Cis-1,2-Dichloroethene	ug/l	4.9		670		690		1 U		1 U		1 U	
VOCs	Cis-1,3-Dichloropropene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Cyclohexane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Dibromochloromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Dichlorodifluoromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Ethylbenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Isopropylbenzene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Methyl cyclohexane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Methyl Tertbutyl Ether	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Methylene chloride	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Styrene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Tetrachloroethene	ug/l	8.5		650		670		1 U		1 U		1 U	
VOCs	Toluene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	trans-1,2-Dichloroethene	ug/l	1 U		5.1		5.3		1 U		1 U		1 U	
VOCs	trans-1,3-Dichloropropene	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Trichloroethene	ug/l	3.5		310		320		1 U		1 U		1 U	
VOCs	Trichlorofluoromethane	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Vinyl chloride	ug/l	1 U		200 J		200 J		1 U		1 U		1 U	
VOCs	Xylene, o	ug/l	1 U		5 U		5 U		1 U		1 U		1 U	
VOCs	Xylenes (m&p)	ug/l	2 U		10 U		10 U		2 U		2 U		2 U	
Metals	Iron	ug/l	88.2 J											
Metals	Manganese	ug/l	9.3 J											
ALK	Total Alkalinity, as CaCO3	mg/l	394											
Anions	Chloride	mg/l	99.9 J											
Anions	Nitrate as N	mg/l	0.6 J											
Anions	Nitrite as N	mg/l	1 U											
Anions	Sulfate	mg/l	65											
Diss Gas	Ethane	ug/l	1 U											
Diss Gas	Ethene	ug/l	1 U											
Diss Gas	Methane	ug/l	1.1 U											
Sulfide	Sulfide	mg/l	0.4 J											
TOC	Total Organic Carbon	mg/l	0.9 J											
ug/l = microgram per liter														
mg/l = milligram per liter														
U = not detected														
J = estimated value														

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619		R1709619	
		Location	DP-046		DP-046		DP-046		DP-046		DP-046	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP046002		828149-DP046004		828149-DP046008		828149-DP046011		828149-DP046011D	
		Qc Code	FS		FS		FS		FS		FD	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	140	U	130	U	6100	U	140	U	140	U
VOCs	1,1,2-Trichloroethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,1-Dichloroethane	ug/kg	140	U	130	U	6100	U	140	U	140	U
VOCs	1,1-Dichloroethene	ug/kg	140	U	130	U	6300	U	150	U	150	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	210	U	200	U	9700	U	220	U	220	U
VOCs	1,2-Dibromoethane	ug/kg	130	U	130	U	5900	U	140	U	140	U
VOCs	1,2-Dichlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,2-Dichloroethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,2-Dichloropropane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,3-Dichlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,4-Dichlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	1,4-Dioxane	ug/kg	4300	U	4000	U	190000	U	4400	U	4400	U
VOCs	2-Butanone	ug/kg	530	U	500	U	24000	U	550	U	550	U
VOCs	2-Hexanone	ug/kg	530	U	500	U	24000	U	550	U	550	U
VOCs	4-Methyl-2-pentanone	ug/kg	530	U	500	U	24000	U	550	U	550	U
VOCs	Acetic acid, methyl ester	ug/kg	210	UJ	200	UJ	9700	UJ	220	UJ	220	UJ
VOCs	Acetone	ug/kg	530	U	500	U	24000	U	550	U	550	U
VOCs	Benzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Bromochloromethane	ug/kg	150	U	140	U	6600	U	160	U	160	U
VOCs	Bromodichloromethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Bromoform	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Bromomethane	ug/kg	150	U	140	UJ	6700	U	160	U	160	U
VOCs	Carbon disulfide	ug/kg	140	U	130	U	6100	U	140	U	140	U
VOCs	Carbon tetrachloride	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Chlorobenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Chloroethane	ug/kg	310	U	290	UJ	14000	U	320	U	320	U
VOCs	Chloroform	ug/kg	140	U	130	U	6200	U	140	U	140	U
VOCs	Chloromethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	110	U	100	U	4900	U	110	UJ	130	J
VOCs	Cis-1,3-Dichloropropene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Cyclohexane	ug/kg	150	U	140	U	6700	U	160	U	160	U
VOCs	Dibromochloromethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Dichlorodifluoromethane	ug/kg	210	U	190	U	9200	U	210	U	210	U
VOCs	Ethylbenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Isopropylbenzene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Methyl cyclohexane	ug/kg	130	U	120	U	5900	U	140	U	140	U
VOCs	Methyl Tertbutyl Ether	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Methylene chloride	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Styrene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Tetrachloroethene	ug/kg	110	U	100	U	2000000		170	J	110	UJ
VOCs	Toluene	ug/kg	110	U	100	U	4900	U	120	U	120	U
VOCs	trans-1,2-Dichloroethene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	trans-1,3-Dichloropropene	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Trichloroethene	ug/kg	110	U	110	U	4900	U	120	U	120	U
VOCs	Trichlorofluoromethane	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Vinyl chloride	ug/kg	200	U	190	U	9000	U	210	U	210	U
VOCs	Xylene, o	ug/kg	110	U	100	U	4900	U	110	U	110	U
VOCs	Xylenes (m&p)	ug/kg	210	U	200	U	9700	U	220	U	220	U
SOLIDS	Percent Solids	percent	81.5		80.2		80.4		82		75.9	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619		R1709619	
		Location	DP-048		DP-048		DP-048		DP-048		DP-049	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP048002		828149-DP048004		828149-DP048006		828149-DP048003		828149-DP049001	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	130 U		150 U		140 U		140 U		130 U	
VOCs	1,1,2-Trichloroethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,1-Dichloroethane	ug/kg	130 U		150 U		140 U		140 U		130 U	
VOCs	1,1-Dichloroethene	ug/kg	130 U		150 U		140 U		140 U		130 U	
VOCs	1,2,3-Trichlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,2,4-Trichlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	200 U		230 U		210 U		210 U		200 U	
VOCs	1,2-Dibromoethane	ug/kg	130 U		150 U		130 U		130 U		130 U	
VOCs	1,2-Dichlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,2-Dichloroethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,2-Dichloropropane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,3-Dichlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,4-Dichlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	1,4-Dioxane	ug/kg	4000 U		4700 U		4300 U		4300 U		4000 U	
VOCs	2-Butanone	ug/kg	500 U		590 U		530 U		540 U		500 U	
VOCs	2-Hexanone	ug/kg	500 U		590 U		530 U		540 U		500 U	
VOCs	4-Methyl-2-pentanone	ug/kg	500 U		590 U		530 U		540 U		500 U	
VOCs	Acetic acid, methyl ester	ug/kg	200 U		230 U		210 U		210 U		200 U	
VOCs	Acetone	ug/kg	500 U		590 U		530 U		540 U		500 U	
VOCs	Benzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Bromochloromethane	ug/kg	140 U		160 U		150 U		150 U		140 U	
VOCs	Bromodichloromethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Bromoform	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Bromomethane	ug/kg	140 U		170 U		150 U		150 U		140 U	
VOCs	Carbon disulfide	ug/kg	130 U		150 U		140 U		140 U		130 U	
VOCs	Carbon tetrachloride	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Chlorobenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Chloroethane	ug/kg	290 U		340 U		310 U		310 U		290 U	
VOCs	Chloroform	ug/kg	130 U		150 U		140 U		140 U		130 U	
VOCs	Chloromethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Cis-1,2-Dichloroethene	ug/kg	99 U		150		130		130		100 U	
VOCs	Cis-1,3-Dichloropropene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Cyclohexane	ug/kg	140 U		170 U		150 U		150 U		140 U	
VOCs	Dibromochloromethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Dichlorodifluoromethane	ug/kg	190 U		230 U		210 U		210 U		200 U	
VOCs	Ethylbenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Isopropylbenzene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Methyl cyclohexane	ug/kg	120 U		150 U		130 U		130 U		130 U	
VOCs	Methyl Tertbutyl Ether	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Methylene chloride	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Styrene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Tetrachloroethene	ug/kg	320		5400		8400		3100		100 U	
VOCs	Toluene	ug/kg	100 U		120 U		110 U		110 U		110 U	
VOCs	trans-1,2-Dichloroethene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	trans-1,3-Dichloropropene	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Trichloroethene	ug/kg	110 U		190		330		180		110 U	
VOCs	Trichlorofluoromethane	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Vinyl chloride	ug/kg	190 U		220 U		200 U		200 U		190 U	
VOCs	Xylene, o	ug/kg	99 U		120 U		110 U		110 U		100 U	
VOCs	Xylenes (m&p)	ug/kg	200 U		230 U		210 U		210 U		200 U	
SOLIDS	Percent Solids	percent	83.1		76.4		80.1		80.8		83.9	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619		R1709619	
		Location	DP-049		DP-049		DP-049		DP-050		DP-050	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP049002		828149-DP049006		828149-DP049007		828149-DP050001		828149-DP050002	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	150 U		150 U		130 U		140 U		140 U	
VOCs	1,1,2-Trichloroethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,1-Dichloroethane	ug/kg	150 U		150 U		130 U		140 U		150 U	
VOCs	1,1-Dichloroethene	ug/kg	150 U		150 U		140 U		150 U		150 U	
VOCs	1,2,3-Trichlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,2,4-Trichlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	230 U		230 U		210 U		220 U		220 U	
VOCs	1,2-Dibromoethane	ug/kg	150 U		140 U		130 U		140 U		140 U	
VOCs	1,2-Dichlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,2-Dichloroethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,2-Dichloropropane	ug/kg	120 U		110 U		110 U		110 U		110 U	
VOCs	1,3-Dichlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,4-Dichlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	1,4-Dioxane	ug/kg	4600 U		4500 U		4100 U		4500 U		4500 U	
VOCs	2-Butanone	ug/kg	580 U		570 U		520 U		560 U		560 U	
VOCs	2-Hexanone	ug/kg	580 U		570 U		520 U		560 U		560 U	
VOCs	4-Methyl-2-pentanone	ug/kg	580 U		570 U		520 U		560 U		560 U	
VOCs	Acetic acid, methyl ester	ug/kg	230 U		230 U		210 U		220 UJ		220 UJ	
VOCs	Acetone	ug/kg	580 U		570 U		520 U		560 U		560 U	
VOCs	Benzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Bromochloromethane	ug/kg	160 U		160 U		150 U		160 U		160 U	
VOCs	Bromodichloromethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Bromoform	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Bromomethane	ug/kg	170 U		160 U		150 U		160 U		160 U	
VOCs	Carbon disulfide	ug/kg	150 U		150 U		130 U		140 U		140 U	
VOCs	Carbon tetrachloride	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Chlorobenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Chloroethane	ug/kg	340 UJ		330 U		300 U		330 U		330 U	
VOCs	Chloroform	ug/kg	150 U		150 U		140 U		150 U		150 U	
VOCs	Chloromethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Cis-1,2-Dichloroethene	ug/kg	140		110 U		100 U		460		110 U	
VOCs	Cis-1,3-Dichloropropene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Cyclohexane	ug/kg	170 U		160 U		150 U		160 U		160 U	
VOCs	Dibromochloromethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Dichlorodifluoromethane	ug/kg	220 U		220 U		200 U		220 U		220 U	
VOCs	Ethylbenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Isopropylbenzene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Methyl cyclohexane	ug/kg	140 U		140 U		130 U		140 U		140 U	
VOCs	Methyl Tertbutyl Ether	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Methylene chloride	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Styrene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Tetrachloroethene	ug/kg	170		3100		2500		990		3200	
VOCs	Toluene	ug/kg	120 U		120 U		110 U		120 U		120 U	
VOCs	trans-1,2-Dichloroethene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	trans-1,3-Dichloropropene	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Trichloroethene	ug/kg	120 U		250		150		470		130	
VOCs	Trichlorofluoromethane	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Vinyl chloride	ug/kg	220 U		210 U		200 U		210 U		210 U	
VOCs	Xylene, o	ug/kg	120 U		110 U		100 U		110 U		110 U	
VOCs	Xylenes (m&p)	ug/kg	230 U		230 U		210 U		220 U		220 U	
SOLIDS	Percent Solids	percent	81.4		79.5		78.6		79.1		79.9	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619		R1709619	
		Location	DP-050		DP-050		DP-051		DP-051		DP-051	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP050005		828149-DP050007		828149-DP051001		828149-DP051002		828149-DP051006	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	140 U		120 U		140 U		130 U		130 U	
VOCs	1,1,2-Trichloroethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,1-Dichloroethane	ug/kg	140 U		120 U		140 U		130 U		130 U	
VOCs	1,1-Dichloroethene	ug/kg	150 U		120 U		140 U		140 U		130 U	
VOCs	1,2,3-Trichlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,2,4-Trichlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	220 U		180 U		220 U		200 U		200 U	
VOCs	1,2-Dibromoethane	ug/kg	140 U		120 U		140 U		130 U		120 U	
VOCs	1,2-Dichlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,2-Dichloroethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,2-Dichloropropane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,3-Dichlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,4-Dichlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	1,4-Dioxane	ug/kg	4400 U		3700 U		4300 U		4100 U		3900 U	
VOCs	2-Butanone	ug/kg	550 U		460 U		540 U		510 U		490 U	
VOCs	2-Hexanone	ug/kg	550 U		460 U		540 U		510 U		490 U	
VOCs	4-Methyl-2-pentanone	ug/kg	550 U		460 U		540 U		510 U		490 U	
VOCs	Acetic acid, methyl ester	ug/kg	220 UJ		180 UJ		220 U		200 U		200 U	
VOCs	Acetone	ug/kg	550 U		460 U		540 U		510 U		490 U	
VOCs	Benzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Bromochloromethane	ug/kg	150 U		130 U		150 U		140 U		140 U	
VOCs	Bromodichloromethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Bromoform	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Bromomethane	ug/kg	160 U		130 U		150 U		150 U		140 U	
VOCs	Carbon disulfide	ug/kg	140 U		120 U		140 U		130 U		130 U	
VOCs	Carbon tetrachloride	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Chlorobenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Chloroethane	ug/kg	320 U		270 U		320 U		300 U		290 U	
VOCs	Chloroform	ug/kg	140 U		120 U		140 U		130 U		130 U	
VOCs	Chloromethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Cis-1,2-Dichloroethene	ug/kg	110 U		92 U		110 U		110		320	
VOCs	Cis-1,3-Dichloropropene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Cyclohexane	ug/kg	160 U		130 U		150 U		150 U		140 U	
VOCs	Dibromochloromethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Dichlorodifluoromethane	ug/kg	210 U		180 U		210 U		200 U		190 U	
VOCs	Ethylbenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Isopropylbenzene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Methyl cyclohexane	ug/kg	140 U		120 U		140 U		130 U		120 U	
VOCs	Methyl Tertbutyl Ether	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Methylene chloride	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Styrene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Tetrachloroethene	ug/kg	3900		3800		110 U		100 U		400	
VOCs	Toluene	ug/kg	110 U		92 U		110 U		110 U		99 U	
VOCs	trans-1,2-Dichloroethene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	trans-1,3-Dichloropropene	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Trichloroethene	ug/kg	120 U		260		110 U		110 U		100	
VOCs	Trichlorofluoromethane	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Vinyl chloride	ug/kg	210 U		170 U		200 U		190 U		190 U	
VOCs	Xylene, o	ug/kg	110 U		92 U		110 U		100 U		98 U	
VOCs	Xylenes (m&p)	ug/kg	220 U		180 U		220 U		200 U		200 U	
SOLIDS	Percent Solids	percent	76.2		81.7		80.7		80.5		80.6	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619		R1709619	
		Location	DP-051		DP-052		DP-052		DP-052		DP-052	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP051008		828149-DP052001		828149-DP052002		828149-DP052004		828149-DP052006	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	130 U		130 U		140 U		140 U		130 U	
VOCs	1,1,2-Trichloroethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,1-Dichloroethane	ug/kg	130 U		130 U		140 U		140 U		130 U	
VOCs	1,1-Dichloroethene	ug/kg	140 U		140 U		140 U		140 U		140 U	
VOCs	1,2,3-Trichlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,2,4-Trichlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	210 U		210 U		210 U		210 U		210 U	
VOCs	1,2-Dibromoethane	ug/kg	130 U		130 U		130 U		130 U		130 U	
VOCs	1,2-Dichlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,2-Dichloroethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,2-Dichloropropane	ug/kg	110 U		100 U		110 U		110 U		110 U	
VOCs	1,3-Dichlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,4-Dichlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	1,4-Dioxane	ug/kg	4100 U		4100 U		4200 U		4300 U		4100 U	
VOCs	2-Butanone	ug/kg	520 U		520 U		530 U		540 U		520 U	
VOCs	2-Hexanone	ug/kg	520 U		520 U		530 U		540 U		520 U	
VOCs	4-Methyl-2-pentanone	ug/kg	520 U		520 U		530 U		540 U		520 U	
VOCs	Acetic acid, methyl ester	ug/kg	210 U		210 U		210 U		210 UJ		210 UJ	
VOCs	Acetone	ug/kg	520 U		520 U		530 U		540 U		520 U	
VOCs	Benzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Bromochloromethane	ug/kg	150 U		150 U		150 U		150 U		150 U	
VOCs	Bromodichloromethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Bromoform	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Bromomethane	ug/kg	150 U		150 U		150 U		150 U		150 U	
VOCs	Carbon disulfide	ug/kg	130 U		130 U		140 U		140 U		130 U	
VOCs	Carbon tetrachloride	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Chlorobenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Chloroethane	ug/kg	300 U		300 U		310 U		310 U		300 U	
VOCs	Chloroform	ug/kg	140 U		130 U		140 U		140 U		140 U	
VOCs	Chloromethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Cis-1,2-Dichloroethene	ug/kg	300		100 U		110 U		110 U		100 U	
VOCs	Cis-1,3-Dichloropropene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Cyclohexane	ug/kg	150 U		150 U		150 U		150 U		150 U	
VOCs	Dibromochloromethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Dichlorodifluoromethane	ug/kg	200 U		200 U		200 U		210 U		200 U	
VOCs	Ethylbenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Isopropylbenzene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Methyl cyclohexane	ug/kg	130 U		130 U		130 U		130 U		130 U	
VOCs	Methyl Tertbutyl Ether	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Methylene chloride	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Styrene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Tetrachloroethene	ug/kg	440		110		540		780		7300	
VOCs	Toluene	ug/kg	110 U		110 U		110 U		110 U		110 U	
VOCs	trans-1,2-Dichloroethene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	trans-1,3-Dichloropropene	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Trichloroethene	ug/kg	110 U		110 U		170		110 U		450	
VOCs	Trichlorofluoromethane	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Vinyl chloride	ug/kg	200 U		190 U		200 U		200 U		200 U	
VOCs	Xylene, o	ug/kg	100 U		100 U		110 U		110 U		100 U	
VOCs	Xylenes (m&p)	ug/kg	210 U		210 U		210 U		210 U		210 U	
SOLIDS	Percent Solids	percent	79.7		82		80.7		78.9		81.3	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709619		R1709619		R1709619		R1709619	
		Location	DP-053		DP-053		DP-053		DP-053	
		Sample Date	10/10/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP053002		828149-DP053003		828149-DP053006		828149-DP053007	
		Qc Code	FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	160	U	150	U	140	U	130	U
VOCs	1,1,2-Trichloroethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,1-Dichloroethane	ug/kg	170	U	150	U	140	U	140	U
VOCs	1,1-Dichloroethene	ug/kg	170	U	150	U	140	U	140	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	260	U	230	U	210	U	210	U
VOCs	1,2-Dibromoethane	ug/kg	160	U	140	U	130	U	130	U
VOCs	1,2-Dichlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,2-Dichloroethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,2-Dichloropropane	ug/kg	130	U	120	U	110	U	110	U
VOCs	1,3-Dichlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,4-Dichlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	1,4-Dioxane	ug/kg	5100	U	4500	U	4300	U	4200	U
VOCs	2-Butanone	ug/kg	640	U	570	U	540	U	520	U
VOCs	2-Hexanone	ug/kg	640	U	570	U	540	U	520	U
VOCs	4-Methyl-2-pentanone	ug/kg	640	U	570	U	540	U	520	U
VOCs	Acetic acid, methyl ester	ug/kg	260	U	230	U	210	U	210	U
VOCs	Acetone	ug/kg	640	U	570	U	540	U	520	U
VOCs	Benzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Bromochloromethane	ug/kg	180	U	160	U	150	U	150	U
VOCs	Bromodichloromethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	Bromoform	ug/kg	130	U	110	U	110	U	100	U
VOCs	Bromomethane	ug/kg	180	U	160	U	150	U	150	U
VOCs	Carbon disulfide	ug/kg	160	U	150	U	140	U	130	U
VOCs	Carbon tetrachloride	ug/kg	130	U	110	U	110	U	100	U
VOCs	Chlorobenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Chloroethane	ug/kg	370	U	330	U	310	U	300	U
VOCs	Chloroform	ug/kg	170	U	150	U	140	U	140	U
VOCs	Chloromethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Cis-1,3-Dichloropropene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Cyclohexane	ug/kg	180	U	160	U	150	U	150	U
VOCs	Dibromochloromethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	Dichlorodifluoromethane	ug/kg	250	U	220	U	210	U	200	U
VOCs	Ethylbenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Isopropylbenzene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Methyl cyclohexane	ug/kg	160	U	140	U	130	U	130	U
VOCs	Methyl Tertbutyl Ether	ug/kg	130	U	110	U	110	U	100	U
VOCs	Methylene chloride	ug/kg	130	U	110	U	110	U	100	U
VOCs	Styrene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Tetrachloroethene	ug/kg	130	U	110	U	330		230	J
VOCs	Toluene	ug/kg	130	U	120	U	110	U	110	U
VOCs	trans-1,2-Dichloroethene	ug/kg	130	U	110	U	110	U	100	U
VOCs	trans-1,3-Dichloropropene	ug/kg	130	U	110	U	110	U	100	U
VOCs	Trichloroethene	ug/kg	130	U	120	U	110	U	210	J
VOCs	Trichlorofluoromethane	ug/kg	130	U	110	U	110	U	100	U
VOCs	Vinyl chloride	ug/kg	240	U	210	U	200	U	200	U
VOCs	Xylene, o	ug/kg	130	U	110	U	110	U	100	U
VOCs	Xylenes (m&p)	ug/kg	260	U	230	U	210	U	210	U
SOLIDS	Percent Solids	percent	79.7		78.7		79.7		79	
ug/kg = microgram per kilogram										
U = not detected										
J = estimated value										

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709620		R1709620		R1709620		R1709620		R1709620	
		Location	DP-040		DP-041		DP-041		DP-041		DP-041	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP040009		828149-DP041002		828149-DP041005		828149-DP041008		828149-DP041009	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	1400	U	93	U	130	U	2400	U	1100	U
VOCs	1,1,2-Trichloroethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,1-Dichloroethane	ug/kg	1400	U	94	U	140	U	2400	U	1100	U
VOCs	1,1-Dichloroethene	ug/kg	1400	U	96	U	140	U	2500	U	1100	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	2200	U	150	U	210	U	3800	U	1700	U
VOCs	1,2-Dibromoethane	ug/kg	1400	U	91	U	130	U	2400	U	1100	U
VOCs	1,2-Dichlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,2-Dichloroethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,2-Dichloropropane	ug/kg	1100	U	75	U	110	U	1900	U	830	U
VOCs	1,3-Dichlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,4-Dichlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	1,4-Dioxane	ug/kg	44000	U	3000	U	4200	U	77000	U	33000	U
VOCs	2-Butanone	ug/kg	5500	U	370	U	520	U	9600	U	4100	U
VOCs	2-Hexanone	ug/kg	5500	U	370	U	520	U	9600	U	4100	U
VOCs	4-Methyl-2-pentanone	ug/kg	5500	U	370	U	520	U	9600	U	4100	U
VOCs	Acetic acid, methyl ester	ug/kg	2200	UJ	150	UJ	210	UJ	3800	UJ	1700	UJ
VOCs	Acetone	ug/kg	5500	U	370	U	520	U	9600	U	4100	U
VOCs	Benzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Bromochloromethane	ug/kg	1500	U	110	U	150	U	2700	U	1200	U
VOCs	Bromodichloromethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Bromoform	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Bromomethane	ug/kg	1600	U	110	U	150	U	2700	U	1200	U
VOCs	Carbon disulfide	ug/kg	1400	U	93	U	130	U	2400	U	1100	U
VOCs	Carbon tetrachloride	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Chlorobenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Chloroethane	ug/kg	3200	U	220	U	300	U	5600	U	2400	U
VOCs	Chloroform	ug/kg	1400	U	94	U	140	U	2500	U	1100	U
VOCs	Chloromethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	1100	U	75	U	190		1900	U	830	U
VOCs	Cis-1,3-Dichloropropene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Cyclohexane	ug/kg	1600	U	110	U	150	U	2700	U	1200	U
VOCs	Dibromochloromethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Dichlorodifluoromethane	ug/kg	2100	U	150	U	200	U	3700	U	1600	U
VOCs	Ethylbenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Isopropylbenzene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Methyl cyclohexane	ug/kg	1400	U	90	U	130	U	2400	U	1000	U
VOCs	Methyl Tertbutyl Ether	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Methylene chloride	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Styrene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Tetrachloroethene	ug/kg	100000		170		720		300000		180000	
VOCs	Toluene	ug/kg	1100	U	75	U	110	U	2000	U	830	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	trans-1,3-Dichloropropene	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Trichloroethene	ug/kg	1400		76	U	140		2000	U	1500	
VOCs	Trichlorofluoromethane	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Vinyl chloride	ug/kg	2100	U	140	U	200	U	3600	U	1600	U
VOCs	Xylene, o	ug/kg	1100	U	75	U	100	U	1900	U	830	U
VOCs	Xylenes (m&p)	ug/kg	2200	U	150	U	210	U	3800	U	1700	U
SOLIDS	Percent Solids	percent	77		93.2		80.6		79.7		81	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709620		R1709620		R1709620		R1709620		R1709620	
		Location	DP-041		DP-041		DP-047		DP-047		DP-047	
		Sample Date	10/11/2017		10/11/2017		10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP041004		828149-DP041012		828149-DP047002		828149-DP047003		828149-DP047004	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg					110	U	100	U		
VOCs	1,1,2,2-Tetrachloroethane	ug/kg					110	U	100	U		
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg					140	U	130	U		
VOCs	1,1,2-Trichloroethane	ug/kg					110	U	100	U		
VOCs	1,1-Dichloroethane	ug/kg					150	U	130	U		
VOCs	1,1-Dichloroethene	ug/kg					150	U	130	U		
VOCs	1,2,3-Trichlorobenzene	ug/kg					110	U	100	U		
VOCs	1,2,4-Trichlorobenzene	ug/kg					110	U	100	U		
VOCs	1,2-Dibromo-3-chloropropane	ug/kg					220	U	200	U		
VOCs	1,2-Dibromoethane	ug/kg					140	U	130	U		
VOCs	1,2-Dichlorobenzene	ug/kg					110	U	100	U		
VOCs	1,2-Dichloroethane	ug/kg					110	U	100	U		
VOCs	1,2-Dichloropropane	ug/kg					110	U	100	U		
VOCs	1,3-Dichlorobenzene	ug/kg					110	U	100	U		
VOCs	1,4-Dichlorobenzene	ug/kg					110	U	100	U		
VOCs	1,4-Dioxane	ug/kg					4500	U	4000	U		
VOCs	2-Butanone	ug/kg					560	U	500	U		
VOCs	2-Hexanone	ug/kg					560	U	500	U		
VOCs	4-Methyl-2-pentanone	ug/kg					560	U	500	U		
VOCs	Acetic acid, methyl ester	ug/kg					220	UJ	200	UJ		
VOCs	Acetone	ug/kg					560	U	500	U		
VOCs	Benzene	ug/kg					110	U	100	U		
VOCs	Bromochloromethane	ug/kg					160	U	140	U		
VOCs	Bromodichloromethane	ug/kg					110	U	100	U		
VOCs	Bromoform	ug/kg					110	U	100	U		
VOCs	Bromomethane	ug/kg					160	U	140	U		
VOCs	Carbon disulfide	ug/kg					140	U	130	U		
VOCs	Carbon tetrachloride	ug/kg					110	U	100	U		
VOCs	Chlorobenzene	ug/kg					110	U	100	U		
VOCs	Chloroethane	ug/kg					330	U	290	U		
VOCs	Chloroform	ug/kg					150	U	130	U		
VOCs	Chloromethane	ug/kg					110	U	100	U		
VOCs	Cis-1,2-Dichloroethene	ug/kg					110	U	100	U		
VOCs	Cis-1,3-Dichloropropene	ug/kg					110	U	100	U		
VOCs	Cyclohexane	ug/kg					160	U	140	U		
VOCs	Dibromochloromethane	ug/kg					110	U	100	U		
VOCs	Dichlorodifluoromethane	ug/kg					220	U	200	U		
VOCs	Ethylbenzene	ug/kg					110	U	100	U		
VOCs	Isopropylbenzene	ug/kg					110	U	100	U		
VOCs	Methyl cyclohexane	ug/kg					140	U	130	U		
VOCs	Methyl Tertbutyl Ether	ug/kg					110	U	100	U		
VOCs	Methylene chloride	ug/kg					110	U	100	U		
VOCs	Styrene	ug/kg					110	U	100	U		
VOCs	Tetrachloroethene	ug/kg					560		1000			
VOCs	Toluene	ug/kg					120	U	110	U		
VOCs	trans-1,2-Dichloroethene	ug/kg					110	U	100	U		
VOCs	trans-1,3-Dichloropropene	ug/kg					110	U	100	U		
VOCs	Trichloroethene	ug/kg					120	U	110	U		
VOCs	Trichlorofluoromethane	ug/kg					110	U	100	U		
VOCs	Vinyl chloride	ug/kg					210	U	190	U		
VOCs	Xylene, o	ug/kg					110	U	100	U		
VOCs	Xylenes (m&p)	ug/kg					220	U	200	U		
SOLIDS	Percent Solids	percent					83.3		79.5			
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709620		R1709620		R1709620	
		Location	DP-047		DP-047		DP-047	
		Sample Date	10/10/2017		10/10/2017		10/10/2017	
		Sample ID	828149-DP047007		828149-DP047008		828149-DP047009	
		Qc Code	FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	250	U	110	U		
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	250	U	110	U		
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	320	U	140	U		
VOCs	1,1,2-Trichloroethane	ug/kg	250	U	110	U		
VOCs	1,1-Dichloroethane	ug/kg	320	U	140	U		
VOCs	1,1-Dichloroethene	ug/kg	330	U	140	U		
VOCs	1,2,3-Trichlorobenzene	ug/kg	250	U	110	U		
VOCs	1,2,4-Trichlorobenzene	ug/kg	250	U	110	U		
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	500	U	210	U		
VOCs	1,2-Dibromoethane	ug/kg	310	U	130	U		
VOCs	1,2-Dichlorobenzene	ug/kg	250	U	110	U		
VOCs	1,2-Dichloroethane	ug/kg	250	U	110	U		
VOCs	1,2-Dichloropropane	ug/kg	250	U	110	U		
VOCs	1,3-Dichlorobenzene	ug/kg	250	U	110	U		
VOCs	1,4-Dichlorobenzene	ug/kg	250	U	110	U		
VOCs	1,4-Dioxane	ug/kg	10000	U	4300	U		
VOCs	2-Butanone	ug/kg	1300	U	530	U		
VOCs	2-Hexanone	ug/kg	1300	U	530	U		
VOCs	4-Methyl-2-pentanone	ug/kg	1300	U	530	U		
VOCs	Acetic acid, methyl ester	ug/kg	500	UJ	210	UJ		
VOCs	Acetone	ug/kg	1300	U	530	U		
VOCs	Benzene	ug/kg	250	U	110	U		
VOCs	Bromochloromethane	ug/kg	350	U	150	U		
VOCs	Bromodichloromethane	ug/kg	250	U	110	U		
VOCs	Bromoform	ug/kg	250	U	110	U		
VOCs	Bromomethane	ug/kg	350	U	150	U		
VOCs	Carbon disulfide	ug/kg	320	U	140	U		
VOCs	Carbon tetrachloride	ug/kg	250	U	110	U		
VOCs	Chlorobenzene	ug/kg	250	U	110	U		
VOCs	Chloroethane	ug/kg	730	U	310	U		
VOCs	Chloroform	ug/kg	320	U	140	U		
VOCs	Chloromethane	ug/kg	250	U	110	U		
VOCs	Cis-1,2-Dichloroethene	ug/kg	250	U	110	U		
VOCs	Cis-1,3-Dichloropropene	ug/kg	250	U	110	U		
VOCs	Cyclohexane	ug/kg	350	U	150	U		
VOCs	Dibromochloromethane	ug/kg	250	U	110	U		
VOCs	Dichlorodifluoromethane	ug/kg	480	U	210	U		
VOCs	Ethylbenzene	ug/kg	250	U	110	U		
VOCs	Isopropylbenzene	ug/kg	250	U	110	U		
VOCs	Methyl cyclohexane	ug/kg	310	U	130	U		
VOCs	Methyl Tertbutyl Ether	ug/kg	250	U	110	U		
VOCs	Methylene chloride	ug/kg	250	U	110	U		
VOCs	Styrene	ug/kg	250	U	110	U		
VOCs	Tetrachloroethene	ug/kg	23000		110	U		
VOCs	Toluene	ug/kg	260	U	110	U		
VOCs	trans-1,2-Dichloroethene	ug/kg	250	U	110	U		
VOCs	trans-1,3-Dichloropropene	ug/kg	250	U	110	U		
VOCs	Trichloroethene	ug/kg	550		110	U		
VOCs	Trichlorofluoromethane	ug/kg	250	U	110	U		
VOCs	Vinyl chloride	ug/kg	470	U	200	U		
VOCs	Xylene, o	ug/kg	250	U	110	U		
VOCs	Xylenes (m&p)	ug/kg	500	U	210	U		
SOLIDS	Percent Solids	percent	75.7		80.9			
ug/kg = microgram per kilogram								
U = not detected								
J = estimated value								

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709620		R1709620	
		Location	QC		QC	
		Sample Date	10/10/2017		10/11/2017	
		Sample ID	828149-TBS-101017		828149-TBS-101117	
		Qc Code	TB		TB	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1	U	1	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1	U	1	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1	U	1	U
VOCs	1,1,2-Trichloroethane	ug/l	1	U	1	U
VOCs	1,1-Dichloroethane	ug/l	1	U	1	U
VOCs	1,1-Dichloroethene	ug/l	1	U	1	U
VOCs	1,2,3-Trichlorobenzene	ug/l	1	U	1	U
VOCs	1,2,4-Trichlorobenzene	ug/l	1	U	1	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2	U	2	U
VOCs	1,2-Dibromoethane	ug/l	1	U	1	U
VOCs	1,2-Dichlorobenzene	ug/l	1	U	1	U
VOCs	1,2-Dichloroethane	ug/l	1	U	1	U
VOCs	1,2-Dichloropropane	ug/l	1	U	1	U
VOCs	1,3-Dichlorobenzene	ug/l	1	U	1	U
VOCs	1,4-Dichlorobenzene	ug/l	1	U	1	U
VOCs	1,4-Dioxane	ug/l	40	U	40	U
VOCs	2-Butanone	ug/l	5	U	5	U
VOCs	2-Hexanone	ug/l	5	U	5	U
VOCs	4-Methyl-2-pentanone	ug/l	5	U	5	U
VOCs	Acetic acid, methyl ester	ug/l	2	U	2	U
VOCs	Acetone	ug/l	2.3	J	5	U
VOCs	Benzene	ug/l	1	U	1	U
VOCs	Bromochloromethane	ug/l	1	U	1	U
VOCs	Bromodichloromethane	ug/l	1	U	1	U
VOCs	Bromoform	ug/l	1	U	1	U
VOCs	Bromomethane	ug/l	1	U	1	U
VOCs	Carbon disulfide	ug/l	1	U	1	U
VOCs	Carbon tetrachloride	ug/l	1	U	1	U
VOCs	Chlorobenzene	ug/l	1	U	1	U
VOCs	Chloroethane	ug/l	1	U	1	U
VOCs	Chloroform	ug/l	1	U	1	U
VOCs	Chloromethane	ug/l	1	U	1	U
VOCs	Cis-1,2-Dichloroethene	ug/l	1	U	1	U
VOCs	Cis-1,3-Dichloropropene	ug/l	1	U	1	U
VOCs	Cyclohexane	ug/l	1	U	1	U
VOCs	Dibromochloromethane	ug/l	1	U	1	U
VOCs	Dichlorodifluoromethane	ug/l	1	U	1	U
VOCs	Ethylbenzene	ug/l	1	U	1	U
VOCs	Isopropylbenzene	ug/l	1	U	1	U
VOCs	Methyl cyclohexane	ug/l	1	U	1	U
VOCs	Methyl Tertbutyl Ether	ug/l	1	U	1	U
VOCs	Methylene chloride	ug/l	1	U	1	U
VOCs	Styrene	ug/l	1	U	1	U
VOCs	Tetrachloroethene	ug/l	1	U	1	U
VOCs	Toluene	ug/l	1	U	1	U
VOCs	trans-1,2-Dichloroethene	ug/l	1	U	1	U
VOCs	trans-1,3-Dichloropropene	ug/l	1	U	1	U
VOCs	Trichloroethene	ug/l	1	U	1	U
VOCs	Trichlorofluoromethane	ug/l	1	U	1	U
VOCs	Vinyl chloride	ug/l	1	U	1	U
VOCs	Xylene, o	ug/l	1	U	1	U
VOCs	Xylenes (m&p)	ug/l	2	U	2	U
ug/l = microgram per liter						
U = not detected						
J = estimated value						

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709687		R1709687		R1709687		R1709687		R1709687	
		Location	DP-040		DP-040		DP-040		DP-042		DP-042	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP040002		828149-DP040005		828149-DP040007		828149-DP042002		828149-DP042004	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	97	U	140	U	14000	U	160	U	140	U
VOCs	1,1,2-Trichloroethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,1-Dichloroethane	ug/kg	97	U	140	U	14000	U	160	U	140	U
VOCs	1,1-Dichloroethene	ug/kg	100	U	140	U	15000	U	170	U	140	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	160	U	220	U	22000	U	250	U	210	U
VOCs	1,2-Dibromoethane	ug/kg	94	U	140	U	14000	U	160	U	130	U
VOCs	1,2-Dichlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,2-Dichloroethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,2-Dichloropropane	ug/kg	78	U	110	U	11000	U	130	U	110	U
VOCs	1,3-Dichlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,4-Dichlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	1,4-Dioxane	ug/kg	3100	U	4300	U	440000	U	5000	U	4200	U
VOCs	2-Butanone	ug/kg	390	U	540	U	55000	U	630	U	520	U
VOCs	2-Hexanone	ug/kg	390	U	540	U	55000	U	630	U	520	U
VOCs	4-Methyl-2-pentanone	ug/kg	390	U	540	U	55000	U	630	U	520	U
VOCs	Acetic acid, methyl ester	ug/kg	160	UJ	220	UJ	22000	UJ	250	UJ	210	UJ
VOCs	Acetone	ug/kg	390	U	540	U	55000	U	630	U	520	U
VOCs	Benzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Bromochloromethane	ug/kg	110	U	150	U	15000	U	180	U	150	U
VOCs	Bromodichloromethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Bromoform	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Bromomethane	ug/kg	110	UJ	160	U	16000	U	180	U	150	U
VOCs	Carbon disulfide	ug/kg	97	U	140	U	14000	U	160	U	140	U
VOCs	Carbon tetrachloride	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Chlorobenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Chloroethane	ug/kg	230	UJ	320	UJ	32000	U	370	U	310	U
VOCs	Chloroform	ug/kg	98	U	140	U	14000	U	160	U	140	U
VOCs	Chloromethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	78	U	110	U	11000	U	130	U	200	
VOCs	Cis-1,3-Dichloropropene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Cyclohexane	ug/kg	110	U	160	U	16000	U	180	U	150	U
VOCs	Dibromochloromethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Dichlorodifluoromethane	ug/kg	150	U	210	U	21000	U	240	U	200	U
VOCs	Ethylbenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Isopropylbenzene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Methyl cyclohexane	ug/kg	94	U	140	U	14000	U	160	U	130	U
VOCs	Methyl Tertbutyl Ether	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Methylene chloride	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Styrene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Tetrachloroethene	ug/kg	78	U	330		1300000		1100		1900	
VOCs	Toluene	ug/kg	78	U	110	U	11000	U	130	U	110	U
VOCs	trans-1,2-Dichloroethene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	trans-1,3-Dichloropropene	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Trichloroethene	ug/kg	79	U	110	U	12000	U	130	U	210	
VOCs	Trichlorofluoromethane	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Vinyl chloride	ug/kg	150	U	210	U	21000	U	240	U	200	U
VOCs	Xylene, o	ug/kg	78	U	110	U	11000	U	130	U	100	U
VOCs	Xylenes (m&p)	ug/kg	160	U	220	U	22000	U	250	U	210	U
SOLIDS	Percent Solids	percent	95.4		79.1		76.8		81.7		80.5	
	ug/kg = microgram per kilogram											
	U = not detected											
	J = estimated value											

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709687		R1709687		R1709687		R1709687		R1709687	
		Location	DP-042		DP-042		DP-043		DP-043		DP-043	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP042008		828149-DP042009		828149-DP043002		828149-DP043002D		828149-DP043004	
		Qc Code	FS		FS		FS		FD		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	150	U	570	U	140	U	130	U	140	U
VOCs	1,1,2-Trichloroethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,1-Dichloroethane	ug/kg	150	U	570	U	140	U	130	U	140	U
VOCs	1,1-Dichloroethene	ug/kg	150	U	590	U	150	U	130	U	140	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	230	U	910	U	220	U	200	U	210	U
VOCs	1,2-Dibromoethane	ug/kg	140	U	560	U	140	U	120	U	130	U
VOCs	1,2-Dichlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,2-Dichloroethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,2-Dichloropropane	ug/kg	120	U	450	U	110	U	98	U	110	U
VOCs	1,3-Dichlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,4-Dichlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	1,4-Dioxane	ug/kg	4600	U	18000	U	4400	U	3900	U	4200	U
VOCs	2-Butanone	ug/kg	570	U	2300	U	550	U	490	U	530	U
VOCs	2-Hexanone	ug/kg	570	U	2300	U	550	U	490	U	530	U
VOCs	4-Methyl-2-pentanone	ug/kg	570	U	2300	U	550	U	490	U	530	U
VOCs	Acetic acid, methyl ester	ug/kg	230	UJ	910	UJ	220	UJ	200	UJ	210	UJ
VOCs	Acetone	ug/kg	570	U	2300	U	550	U	490	U	530	U
VOCs	Benzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Bromochloromethane	ug/kg	160	U	620	U	150	U	140	U	150	U
VOCs	Bromodichloromethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Bromoform	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Bromomethane	ug/kg	160	U	630	U	160	U	140	U	150	U
VOCs	Carbon disulfide	ug/kg	150	U	570	U	140	U	130	U	140	U
VOCs	Carbon tetrachloride	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Chlorobenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Chloroethane	ug/kg	330	U	1400	UJ	320	U	290	U	310	U
VOCs	Chloroform	ug/kg	150	U	580	U	140	U	130	U	140	U
VOCs	Chloromethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	880		1100		110	U	98	U	160	
VOCs	Cis-1,3-Dichloropropene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Cyclohexane	ug/kg	160	U	630	U	160	U	140	U	150	U
VOCs	Dibromochloromethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Dichlorodifluoromethane	ug/kg	220	U	860	U	210	U	190	U	200	U
VOCs	Ethylbenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Isopropylbenzene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Methyl cyclohexane	ug/kg	140	U	550	U	140	U	120	U	130	U
VOCs	Methyl Tertbutyl Ether	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Methylene chloride	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Styrene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Tetrachloroethene	ug/kg	55000		50000		1200		920		2600	
VOCs	Toluene	ug/kg	120	U	460	U	110	U	99	U	110	U
VOCs	trans-1,2-Dichloroethene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	trans-1,3-Dichloropropene	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Trichloroethene	ug/kg	580		950		120	U	100	U	150	
VOCs	Trichlorofluoromethane	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Vinyl chloride	ug/kg	220	U	840	U	210	U	190	U	200	U
VOCs	Xylene, o	ug/kg	110	U	450	U	110	U	98	U	110	U
VOCs	Xylenes (m&p)	ug/kg	230	U	910	U	220	U	200	U	210	U
SOLIDS	Percent Solids	percent	77.8		79.6		82.5		81.6		79.4	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709687		R1709687		R1709687		R1709687		R1709687	
		Location	DP-043		DP-043		DP-044		DP-044		DP-044	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP043009		828149-DP043010		828149-DP044002		828149-DP044004		828149-DP044007	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	150	U	1400	U	120	U	140	U	1400	U
VOCs	1,1,2-Trichloroethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,1-Dichloroethane	ug/kg	150	U	1500	U	120	U	140	U	1400	U
VOCs	1,1-Dichloroethene	ug/kg	160	U	1500	U	120	U	140	U	1400	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	240	U	2300	U	190	U	220	U	2100	U
VOCs	1,2-Dibromoethane	ug/kg	150	U	1400	U	120	U	140	U	1300	U
VOCs	1,2-Dichlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,2-Dichloroethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,2-Dichloropropane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,3-Dichlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,4-Dichlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	1,4-Dioxane	ug/kg	4800	U	45000	U	3700	U	4400	U	43000	U
VOCs	2-Butanone	ug/kg	600	U	5600	U	460	U	550	U	5300	U
VOCs	2-Hexanone	ug/kg	600	U	5600	U	460	U	550	U	5300	U
VOCs	4-Methyl-2-pentanone	ug/kg	600	U	5600	U	460	U	550	U	5300	U
VOCs	Acetic acid, methyl ester	ug/kg	240	UJ	2300	UJ	190	UJ	220	UJ	2100	UJ
VOCs	Acetone	ug/kg	600	U	5600	U	460	U	550	U	5300	U
VOCs	Benzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Bromochloromethane	ug/kg	170	U	1600	U	130	U	150	U	1500	U
VOCs	Bromodichloromethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Bromoform	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Bromomethane	ug/kg	170	U	1600	U	130	U	160	U	1500	U
VOCs	Carbon disulfide	ug/kg	150	U	1400	U	120	U	140	U	1400	U
VOCs	Carbon tetrachloride	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Chlorobenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Chloroethane	ug/kg	350	U	3300	U	270	U	320	U	3100	UJ
VOCs	Chloroform	ug/kg	150	U	1500	U	120	U	140	U	1400	U
VOCs	Chloromethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	1000		1100	U	93	U	110	U	1100	U
VOCs	Cis-1,3-Dichloropropene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Cyclohexane	ug/kg	170	U	1600	U	130	U	160	U	1500	U
VOCs	Dibromochloromethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Dichlorodifluoromethane	ug/kg	230	U	2200	U	180	U	210	U	2100	U
VOCs	Ethylbenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Isopropylbenzene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Methyl cyclohexane	ug/kg	150	U	1400	U	120	U	140	U	1300	U
VOCs	Methyl Tertbutyl Ether	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Methylene chloride	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Styrene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Tetrachloroethene	ug/kg	180000		89000		420		1300		1000000	J
VOCs	Toluene	ug/kg	120	U	1200	U	93	U	110	U	1100	U
VOCs	trans-1,2-Dichloroethene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	trans-1,3-Dichloropropene	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Trichloroethene	ug/kg	910		1200	U	94	U	120	U	1100	U
VOCs	Trichlorofluoromethane	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Vinyl chloride	ug/kg	220	U	2100	U	180	U	210	U	2000	U
VOCs	Xylene, o	ug/kg	120	U	1100	U	93	U	110	U	1100	U
VOCs	Xylenes (m&p)	ug/kg	240	U	2300	U	190	U	220	U	2100	U
SOLIDS	Percent Solids	percent	75.6		78.6		83.4		79.3		79.8	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709687		R1709687		R1709687		R1709687		R1709687	
		Location	DP-044		DP-044		DP-045		DP-045		DP-045	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP044007D		828149-DP044010		828149-DP045002		828149-DP045004		828149-DP045007	
		Qc Code	FD		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/kg	2800	U	670	U	110	U	150	U	140	U
VOCs	1,1,2-Trichloroethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,1-Dichloroethane	ug/kg	2800	U	670	U	120	U	150	U	150	U
VOCs	1,1-Dichloroethene	ug/kg	2800	U	690	U	120	U	150	U	150	U
VOCs	1,2,3-Trichlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,2,4-Trichlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	4400	U	1100	U	180	U	230	U	230	U
VOCs	1,2-Dibromoethane	ug/kg	2700	U	650	U	110	U	150	U	140	U
VOCs	1,2-Dichlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,2-Dichloroethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,2-Dichloropropane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,3-Dichlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,4-Dichlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	1,4-Dioxane	ug/kg	87000	U	21000	U	3500	U	4700	U	4500	U
VOCs	2-Butanone	ug/kg	11000	U	2700	U	440	U	580	U	560	U
VOCs	2-Hexanone	ug/kg	11000	U	2700	U	440	U	580	U	560	U
VOCs	4-Methyl-2-pentanone	ug/kg	11000	U	2700	U	440	U	580	U	560	U
VOCs	Acetic acid, methyl ester	ug/kg	4400	UJ	1100	UJ	180	UJ	230	UJ	230	UJ
VOCs	Acetone	ug/kg	11000	U	2700	U	440	U	580	U	560	U
VOCs	Benzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Bromochloromethane	ug/kg	3000	U	730	U	130	U	160	U	160	U
VOCs	Bromodichloromethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Bromoform	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Bromomethane	ug/kg	3100	U	740	U	130	U	170	U	160	U
VOCs	Carbon disulfide	ug/kg	2800	U	670	U	110	U	150	U	140	U
VOCs	Carbon tetrachloride	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Chlorobenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Chloroethane	ug/kg	6300	UJ	1600	UJ	260	U	340	U	330	U
VOCs	Chloroform	ug/kg	2800	U	680	U	120	U	150	U	150	U
VOCs	Chloromethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Cis-1,2-Dichloroethene	ug/kg	2200	U	540	U	89	U	120	U	170	
VOCs	Cis-1,3-Dichloropropene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Cyclohexane	ug/kg	3100	U	740	U	130	U	170	U	160	U
VOCs	Dibromochloromethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Dichlorodifluoromethane	ug/kg	4200	U	1100	U	170	U	230	U	220	U
VOCs	Ethylbenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Isopropylbenzene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Methyl cyclohexane	ug/kg	2700	U	650	U	110	U	150	U	140	U
VOCs	Methyl Tertbutyl Ether	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Methylene chloride	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Styrene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Tetrachloroethene	ug/kg	290000	J	74000		3500		1200		70000	
VOCs	Toluene	ug/kg	2200	U	540	U	89	U	120	U	120	U
VOCs	trans-1,2-Dichloroethene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Trichloroethene	ug/kg	2300	U	1100		180		120	U	290	
VOCs	Trichlorofluoromethane	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Vinyl chloride	ug/kg	4100	U	990	U	170	U	220	U	210	U
VOCs	Xylene, o	ug/kg	2200	U	540	U	89	U	120	U	110	U
VOCs	Xylenes (m&p)	ug/kg	4400	U	1100	U	180	U	230	U	230	U
SOLIDS	Percent Solids	percent	79.6		81.2		93		80.4		78.1	
ug/kg = microgram per kilogram												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709688		R1709688		R1709688		R1709688		R1709688	
		Location	DP-010		DP-014		DP-015		DP-016		DP-018	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP010008		828149-DP014009		828149-DP015009		828149-DP016009		828149-DP018009	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1.8 J		50 U		50 U		1 U		1 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,1,2-Trichloroethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,1-Dichloroethane	ug/l	1.2 J		50 U		50 U		0.35 J		1 U	
VOCs	1,1-Dichloroethene	ug/l	5 U		50 U		50 U		2.1		1 U	
VOCs	1,2,3-Trichlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,2,4-Trichlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/l	10 U		100 U		100 U		2 U		2 U	
VOCs	1,2-Dibromoethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,2-Dichlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,2-Dichloroethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,2-Dichloropropane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,3-Dichlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,4-Dichlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	1,4-Dioxane	ug/l	200 U		2000 U		2000 U		40 U		40 U	
VOCs	2-Butanone	ug/l	25 U		250 U		250 U		5 U		5 U	
VOCs	2-Hexanone	ug/l	25 U		250 U		250 U		5 U		5 U	
VOCs	4-Methyl-2-pentanone	ug/l	25 U		250 U		250 U		5 U		5 U	
VOCs	Acetic acid, methyl ester	ug/l	10 U		100 U		100 U		2 U		2 U	
VOCs	Acetone	ug/l	9.4 J		250 U		250 U		1.8 J		1.7 J	
VOCs	Benzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Bromochloromethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Bromodichloromethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Bromoform	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Bromomethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Carbon disulfide	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Carbon tetrachloride	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Chlorobenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Chloroethane	ug/l	5 U		50 U		50 U		0.59 J		1 U	
VOCs	Chloroform	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Chloromethane	ug/l	5 U		50 U		50 U		1 U		0.23 J	
VOCs	Cis-1,2-Dichloroethene	ug/l	100		550		220		300		1 U	
VOCs	Cis-1,3-Dichloropropene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Cyclohexane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Dibromochloromethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Dichlorodifluoromethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Ethylbenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Isopropylbenzene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Methyl cyclohexane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Methyl Tertbutyl Ether	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Methylene chloride	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Styrene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Tetrachloroethene	ug/l	5300		12000		6800		140		3.1	
VOCs	Toluene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	trans-1,2-Dichloroethene	ug/l	5 U		50 U		50 U		1.8		1 U	
VOCs	trans-1,3-Dichloropropene	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Trichloroethene	ug/l	140		420		210		38		1 U	
VOCs	Trichlorofluoromethane	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Vinyl chloride	ug/l	5 U		50 U		50 U		36 J		1 U	
VOCs	Xylene, o	ug/l	5 U		50 U		50 U		1 U		1 U	
VOCs	Xylenes (m&p)	ug/l	10 U		100 U		100 U		2 U		2 U	
ug/l = microgram per liter												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709688		R1709688		R1709688		R1709688		R1709688	
		Location	DP-020		DP-021		GEMW-1		MW-10		MW-2	
		Sample Date	10/11/2017		10/11/2017		10/11/2017		10/11/2017		10/11/2017	
		Sample ID	828149-DP020012		828149-DP021009		828149-GEMW001014		828149-MW010010		828149-MW002010	
		Qc Code	FS		FS		FS		FS		FS	
Class	Parameter	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,1,2-Trichloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,1-Dichloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,1-Dichloroethene	ug/l	1 U		1 U		5.2		1 U		500 U	
VOCs	1,2,3-Trichlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,2,4-Trichlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2 U		2 U		10 U		2 U		1000 U	
VOCs	1,2-Dibromoethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,2-Dichlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,2-Dichloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,2-Dichloropropane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,3-Dichlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,4-Dichlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	1,4-Dioxane	ug/l	40 U		40 U		200 U		40 U		20000 U	
VOCs	2-Butanone	ug/l	5 U		5 U		25 U		5 U		2500 U	
VOCs	2-Hexanone	ug/l	5 U		5 U		25 U		5 U		2500 U	
VOCs	4-Methyl-2-pentanone	ug/l	5 U		5 U		25 U		5 U		2500 U	
VOCs	Acetic acid, methyl ester	ug/l	2 U		2 U		10 U		2 U		1000 U	
VOCs	Acetone	ug/l	4.2 J		1.8 J		25 U		1.4 J		2500 U	
VOCs	Benzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Bromochloromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Bromodichloromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Bromoform	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Bromomethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Carbon disulfide	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Carbon tetrachloride	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Chlorobenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Chloroethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Chloroform	ug/l	1 U		8.3		5 U		1 U		500 U	
VOCs	Chloromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Cis-1,2-Dichloroethene	ug/l	1 U		1 U		520		4.5		500 U	
VOCs	Cis-1,3-Dichloropropene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Cyclohexane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Dibromochloromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Dichlorodifluoromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Ethylbenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Isopropylbenzene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Methyl cyclohexane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Methyl Tertbutyl Ether	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Methylene chloride	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Styrene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Tetrachloroethene	ug/l	0.78 J		5.4		250		130		69000	
VOCs	Toluene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	trans-1,2-Dichloroethene	ug/l	1 U		1 U		3.5 J		1 U		500 U	
VOCs	trans-1,3-Dichloropropene	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Trichloroethene	ug/l	1 U		0.33 J		120		3		170 J	
VOCs	Trichlorofluoromethane	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Vinyl chloride	ug/l	1 U		1 U		15 J		1 U		500 U	
VOCs	Xylene, o	ug/l	1 U		1 U		5 U		1 U		500 U	
VOCs	Xylenes (m&p)	ug/l	2 U		2 U		10 U		2 U		1000 U	
ug/l = microgram per liter												
U = not detected												
J = estimated value												

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

		SDG	R1709688	
		Location	MW-21B	
		Sample Date	10/11/2017	
		Sample ID	828149-MW021B019	
		Qc Code	FS	
Class	Parameter	Units	Result	Qualifier
VOCs	1,1,1-Trichloroethane	ug/l	1	U
VOCs	1,1,2,2-Tetrachloroethane	ug/l	1	U
VOCs	1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/l	1	U
VOCs	1,1,2-Trichloroethane	ug/l	1	U
VOCs	1,1-Dichloroethane	ug/l	1	U
VOCs	1,1-Dichloroethene	ug/l	1	U
VOCs	1,2,3-Trichlorobenzene	ug/l	1	U
VOCs	1,2,4-Trichlorobenzene	ug/l	1	U
VOCs	1,2-Dibromo-3-chloropropane	ug/l	2	U
VOCs	1,2-Dibromoethane	ug/l	1	U
VOCs	1,2-Dichlorobenzene	ug/l	1	U
VOCs	1,2-Dichloroethane	ug/l	1	U
VOCs	1,2-Dichloropropane	ug/l	1	U
VOCs	1,3-Dichlorobenzene	ug/l	1	U
VOCs	1,4-Dichlorobenzene	ug/l	1	U
VOCs	1,4-Dioxane	ug/l	40	U
VOCs	2-Butanone	ug/l	5	U
VOCs	2-Hexanone	ug/l	5	U
VOCs	4-Methyl-2-pentanone	ug/l	5	U
VOCs	Acetic acid, methyl ester	ug/l	2	U
VOCs	Acetone	ug/l	2.2	J
VOCs	Benzene	ug/l	1	U
VOCs	Bromochloromethane	ug/l	1	U
VOCs	Bromodichloromethane	ug/l	1	U
VOCs	Bromoform	ug/l	1	U
VOCs	Bromomethane	ug/l	1	U
VOCs	Carbon disulfide	ug/l	1	U
VOCs	Carbon tetrachloride	ug/l	1	U
VOCs	Chlorobenzene	ug/l	1	U
VOCs	Chloroethane	ug/l	1	U
VOCs	Chloroform	ug/l	3.4	
VOCs	Chloromethane	ug/l	1	U
VOCs	Cis-1,2-Dichloroethene	ug/l	1	U
VOCs	Cis-1,3-Dichloropropene	ug/l	1	U
VOCs	Cyclohexane	ug/l	1	U
VOCs	Dibromochloromethane	ug/l	1	U
VOCs	Dichlorodifluoromethane	ug/l	1	U
VOCs	Ethylbenzene	ug/l	1	U
VOCs	Isopropylbenzene	ug/l	1	U
VOCs	Methyl cyclohexane	ug/l	1	U
VOCs	Methyl Tertbutyl Ether	ug/l	1	U
VOCs	Methylene chloride	ug/l	1	U
VOCs	Styrene	ug/l	1	U
VOCs	Tetrachloroethene	ug/l	8.3	
VOCs	Toluene	ug/l	1	U
VOCs	trans-1,2-Dichloroethene	ug/l	1	U
VOCs	trans-1,3-Dichloropropene	ug/l	1	U
VOCs	Trichloroethene	ug/l	0.73	J
VOCs	Trichlorofluoromethane	ug/l	1	U
VOCs	Vinyl chloride	ug/l	1	U
VOCs	Xylene, o	ug/l	1	U
VOCs	Xylenes (m&p)	ug/l	2	U
ug/l = microgram per liter				
U = not detected				
J = estimated value				

TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

SDG	Analysis Method	Lab Sample Id	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Val Reason Code	Result Units	Lab Id
320-32376-1	537 Modified	320-32376-1	828149-MW003009	Perfluorooctane sulfonamide	2.4	J	2.4	J	IS-L	ng/l	SAC
320-32376-1	537 Modified	320-32376-2	828149-MW02B020	Perfluorooctane sulfonamide	0.72	J	0.72	J	IS-L	ng/l	SAC
320-32376-1	537 Modified	320-32376-3	828149-MW013012	Perfluorooctane sulfonamide	41	U	41	UJ	IS-L	ng/l	SAC
320-32376-1	537 Modified	320-32376-4	828149-DP017015	Perfluorooctane sulfonamide	41	U	41	UJ	IS-L	ng/l	SAC
320-32376-1	537 Modified	320-32376-4	828149-DP017015	Perfluorotetradecanoic acid	0.22	J B	2	U	BL1	ng/l	SAC
R1709618	E300	R1709618-005	828149-MW001010	Chloride	617		617	J	MS-H	mg/l	ALSRNY
R1709618	E300	R1709618-008	828149-DP019012	Nitrate as N	0.7	J,*	0.7	J	HT	mg/l	ALSRNY
R1709618	E300	R1709618-008	828149-DP019012	Nitrite as N	1	U,*	1	UJ	HT	mg/l	ALSRNY
R1709618	E300	R1709618-011	828149-MW013B023	Chloride	87		87	J	MS-H	mg/l	ALSRNY
R1709618	E300	R1709618-012	828149-MW02B020	Chloride	99.9		99.9	J	MS-H	mg/l	ALSRNY
R1709618	E300	R1709618-016	828149-MW013012	Chloride	357		357	J	MS-H	mg/l	ALSRNY
R1709618	SW8260C	R1709618-001	828149-GEMW002014	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-002	828149-MW016B023	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-002	828149-MW016B023	Acetone	1.7	J	5	U	BL2	ug/l	ALSRNY
R1709618	SW8260C	R1709618-004	828149-DP012015	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-005	828149-MW001010	Acetic acid, methyl ester	100	U	100	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-006	828149-MW001010D	Acetic acid, methyl ester	100	U	100	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-007	828149-MW019B025	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-008	828149-DP019012	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-009	828149-MW017B018	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-011	828149-MW013B023	Acetic acid, methyl ester	2	U	2	UJ	LCS-L	ug/l	ALSRNY
R1709618	SW8260C	R1709618-012	828149-MW02B020	Acetone	1.4	J	5	U	BL2	ug/l	ALSRNY
R1709618	SW8260C	R1709618-013	828149-MW003009	Acetone	9	J	25	U	BL2	ug/l	ALSRNY
R1709618	SW8260C	R1709618-013	828149-MW003009	Vinyl chloride	200		200	J	LCS-H	ug/l	ALSRNY
R1709618	SW8260C	R1709618-014	828149-MW003009D	Vinyl chloride	200		200	J	LCS-H	ug/l	ALSRNY
R1709618	SW8260C	R1709618-017	828149-DP017015	Acetone	2.8	J	5	U	BL2	ug/l	ALSRNY
R1709619	SW8260C	R1709619-005	828149-DP049002	Chloroethane	340	U	340	UJ	MS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-005	828149-DP049002	Chloromethane	48	J	120	U	BL1	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-009	828149-DP051001	Chloromethane	48	J	110	U	BL1	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-012	828149-DP051008	Chloromethane	46	J	100	U	BL1	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-016	828149-DP053007	Tetrachloroethene	230		230	J	SS-H	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-016	828149-DP053007	Trichloroethene	210		210	J	SS-H	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-018	828149-DP052002	Chloromethane	51	J	110	U	BL1	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-019	828149-DP052004	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-020	828149-DP052006	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-021	828149-DP050001	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-022	828149-DP050002	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-023	828149-DP050005	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-024	828149-DP050007	Acetic acid, methyl ester	180	U	180	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-025	828149-DP046002	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-026	828149-DP046004	Acetic acid, methyl ester	200	U	200	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-026	828149-DP046004	Bromomethane	140	U	140	UJ	MS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-026	828149-DP046004	Chloroethane	290	U	290	UJ	MS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-027	828149-DP046008	Acetic acid, methyl ester	9700	U	9,700	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-028	828149-DP046011	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-028	828149-DP046011	Cis-1,2-Dichloroethene	110	U	110	UJ	FD	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-028	828149-DP046011	Tetrachloroethene	170		170	J	FD	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-029	828149-DP046011D	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-029	828149-DP046011D	Cis-1,2-Dichloroethene	130		130	J	FD	ug/kg	ALSRNY
R1709619	SW8260C	R1709619-029	828149-DP046011D	Tetrachloroethene	110	U	110	UJ	FD	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-001	828149-DP047002	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-002	828149-DP047003	Acetic acid, methyl ester	200	U	200	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-004	828149-DP047007	Acetic acid, methyl ester	500	U	500	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-005	828149-DP047008	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-008	828149-DP040009	Acetic acid, methyl ester	2200	U	2,200	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-009	828149-DP041002	Acetic acid, methyl ester	150	U	150	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-010	828149-DP041005	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-011	828149-DP041008	Acetic acid, methyl ester	3800	U	3,800	UJ	LCS-L	ug/kg	ALSRNY
R1709620	SW8260C	R1709620-012	828149-DP041009	Acetic acid, methyl ester	1700	U	1,700	UJ	LCS-L	ug/kg	ALSRNY

TABLE 3 - SUMMARY OF QUALIFICATION ACTIONS
DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK

SDG	Analysis Method	Lab Sample Id	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validation Qualifier	Val Reason Code	Result Units	Lab Id
R1709687	SW8260C	R1709687-001	828149-DP044002	Acetic acid, methyl ester	190	U	190	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-002	828149-DP044004	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-003	828149-DP044007	Acetic acid, methyl ester	2100	U	2,100	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-003	828149-DP044007	Chloroethane	3100	U	3,100	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-003	828149-DP044007	Tetrachloroethene	1000000	D	1,000,000	J	FD	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-004	828149-DP044007D	Acetic acid, methyl ester	4400	U	4,400	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-004	828149-DP044007D	Chloroethane	6300	U	6,300	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-004	828149-DP044007D	Tetrachloroethene	290000		290,000	J	FD	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-005	828149-DP044010	Acetic acid, methyl ester	1100	U	1,100	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-005	828149-DP044010	Chloroethane	1600	U	1,600	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-006	828149-DP045002	Acetic acid, methyl ester	180	U	180	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-007	828149-DP045004	Acetic acid, methyl ester	230	U	230	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-008	828149-DP045007	Acetic acid, methyl ester	230	U	230	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-009	828149-DP042002	Acetic acid, methyl ester	250	U	250	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-010	828149-DP042004	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-011	828149-DP042008	Acetic acid, methyl ester	230	U	230	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-012	828149-DP042009	Acetic acid, methyl ester	910	U	910	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-012	828149-DP042009	Chloroethane	1400	U	1,400	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-013	828149-DP043002	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-014	828149-DP043002D	Acetic acid, methyl ester	200	U	200	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-015	828149-DP043004	Acetic acid, methyl ester	210	U	210	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-016	828149-DP043009	Acetic acid, methyl ester	240	U	240	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-017	828149-DP043010	Acetic acid, methyl ester	2300	U	2,300	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-018	828149-DP040002	Acetic acid, methyl ester	160	U	160	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-018	828149-DP040002	Bromomethane	110	U	110	UJ	MS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-018	828149-DP040002	Chloroethane	230	U	230	UJ	LCS-L, MS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-019	828149-DP040005	Acetic acid, methyl ester	220	U	220	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-019	828149-DP040005	Chloroethane	320	U	320	UJ	LCS-L	ug/kg	ALSRNY
R1709687	SW8260C	R1709687-020	828149-DP040007	Acetic acid, methyl ester	22000	U	22,000	UJ	LCS-L	ug/kg	ALSRNY
R1709688	SW8260C	R1709688-007	828149-DP016009	Vinyl chloride	36		36	J	LCS-H	ug/l	ALSRNY
R1709688	SW8260C	R1709688-009	828149-GEMW001014	Vinyl chloride	15		15	J	LCS-H	ug/l	ALSRNY

HT = preparation or analysis holding time exceeded
BL2 = trip or field blank contamination
LCS-L = laboratory control sample recovery less than control limits
LCS-H = laboratory control sample recovery greater than control limits
MS-L = matrix spike recovery less than control limits
MS-H = matrix spike recovery greater than control limits
SS-H = surrogate recovery greater than control limits
IS-L = internal standard recovery less than control limits
FD = field duplicate precision goal not met

ATTACHMENT A
SUMMARY OF VALIDATION QC LIMITS FOR SURROGATES, SPIKES, AND DUPLICATES
BASED ON THE REGION 2 VALIDATION GUIDELINES

PARAMETER	QC TEST	ANALYTE	Soil	Soil	WATER	Water
			(%R)	(RPD)	(%R)	(RPD)
Volatiles	Surrogate	All Surrogate Compounds	70 - 130		80 - 120	
	LCS	All Target Compounds	70 - 130		70 - 130	
	MS/MSD	All Target Compounds	70 - 130	35	70 - 130	20
	Field Duplicate	All Target Compounds		100		50
1,4-Dioxane	Surrogate	All Surrogate Compounds	Lab Limits		Lab Limits	
	LCS	All Target Compounds	Lab Limits		Lab Limits	
	MS/MSD	All Target Compounds	Lab Limits	Lab Limits	Lab Limits	Lab Limits
	Field Duplicate	All Target Compounds		50		50
Per- and Polyfluorinated Alkyl Substances (PFAS)	Surrogate	All Surrogate Compounds	Lab Limits		Lab Limits	
	LCS	All Target Compounds	Lab Limits		Lab Limits	
	MS/MSD	All Target Compounds	Lab Limits	Lab Limits	Lab Limits	Lab Limits
	Field Duplicate	All Target Compounds		50		50
Inorganics-Metals	LCS	All Target Analytes	80 - 120		80 - 120	
	MS/MSD	All Target Analytes	75 -125	35	75 -125	20
	Lab Duplicate ²	All Target Analytes		35		20
	Field Duplicate ²	All Target Analytes		35		20

Notes:

LCS - Laboratory Control Sample

MS/MSD - Matrix spike/ Matrix Spike Duplicate

RPD = Relative percent difference

%R = percent recovery

QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

**DATA USABILITY SUMMARY REPORT
OCTOBER 2017 GROUNDWATER AND SOIL SAMPLING
TOWN AND COUNTRY DRY CLEANERS SITE
BRIGHTON, NEW YORK**

ATTACHMENT B

VOCs

PROJECT CATEGORY A REVIEW RECORD

Project: NYSDEC Town and Country
Method: SW-846 8260B

Laboratory: ALS Global

SDG(s): R1709618

Date: 11/15/17

Reviewer: Julie Ricardi

Review Level ☒ CATEGORY A

1. ☒ Case Narrative Review and COC/Data Package Completeness

COMMENTS

Were problems noted? CCV and LCS noted w/ no significant effect on date per lab comments

Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)

one COC missing from data package
Are Field Sample IDs and Locations assigned correctly? YES NO (circle one)

DP012015 logged in and reported as DP012015; corrected in TED

2. ☒ Holding time and Sample Collection

All samples were analyzed within the 14 day holding time. YES NO (circle one)

3. ☒ QC Blanks

Are method blanks free of contamination? YES NO (circle one)

R01710678-04 MB: 1,4-DCB 0.21 J USL; else all ND No detection of 1,4-DCB; no MB qual

Are Trip blanks free of contamination? YES NO (circle one)

TBW-101017: Acetone 2.3 J USL TBW-101217: Acetone 2.7 J USL

Are Rinse blanks free of contamination? YES NO NA (circle one)

TBW-101117: ND

MW016B023

MW02B020
MW003009

4. ☒ Matrix Spike - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)

Were MS/MSDs submitted/analyzed? YES NO

MW019B025 MS/MSD: OK; no qual

Were all results were within the Region II limits? YES NO NA (circle one)

DP017015 MS/MSD: OK; no qual

5. ☒ Field Duplicates - Region II Limits (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? YES NO

MW001010 / MW001010: OK

Were all results were within Region II Limits? YES NO NA (circle one)

MW003009 / MW003009D: OK

6. ☒ Reporting Limits: Were samples analyzed at a dilution?

50x: MW001010, MW001010D, MW013012

5x: MW003009, MW003009D

7. ☒ Electronic Data Review and Edits

Does the EDD match the Form Is? YES NO (circle one)

8. ☒ Table Review

Table 1 (Samples and Analytical Methods)

Table 2 (Analytical Results)

Table 3 (Qualification Actions)

Were all tables produced and reviewed? YES NO (circle one)

Table 4 (TICs)

Did lab report TICs?

YES NO (circle one)

9. ☒ Surrogates: All OK

10. ☒ LCS: See attached summaries for qual

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05

Service Request: R1709618

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709618-001	828149-GEMW002014 ✓	10/10/2017	0948
R1709618-002	828149-MW016B023 ✓	10/10/2017	1525
R1709618-003	828149-TBW-101017 ✓	10/10/2017	0930
R1709618-004	828149-DP012015 ✓	10/10/2017	1745
R1709618-005	828149-MW001010 ✓	10/10/2017	1818
R1709618-006	828149-MW001010D ✓	10/10/2017	1818
R1709618-007	828149-MW019B025	10/11/2017	1253
R1709618-008	828149-DP019012	10/11/2017	1418
R1709618-009	828149-MW017B018	10/11/2017	1450
R1709618-010	828149-TBW-101117	10/11/2017	1500
R1709618-011	828149-MW013B023	10/11/2017	1635
R1709618-012	828149-MW02B020 ✓	10/12/2017	1000
R1709618-013	828149-MW003009 ✓	10/12/2017	1003
R1709618-014	828149-MW003009D ✓	10/12/2017	1003
R1709618-015	828149-TBW-101217 ✓	10/12/2017	1005
R1709618-016	828149-MW013012 ✓	10/12/2017	1255
R1709618-017	828149-DP017015 ✓ MS/MSD	10/12/2017	1305

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Collected: 10/11/17
Date Received: 10/11/17
Date Analyzed: 10/15/17

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 828149-MW019B025
Lab Code: R1709618-007
Analysis Method: 8260C

Units: ug/L
Basis: NA

Analyte Name	Matrix Spike RQ1710694-05				Duplicate Matrix Spike RQ1710694-06					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethylbenzene	1.0 U	55.1	50.0	110	56.2	50.0	112	72-134	2	30
Isopropylbenzene (Cumene)	1.0 U	53.8	50.0	108	56.3	50.0	113	76-136	4	30
Methyl Acetate	2.0 U	37.6	50.0	75	37.0	50.0	74	36-146	2	30
Methyl tert-Butyl Ether	1.0 U	48.5	50.0	97	50.2	50.0	100	74-130	3	30
Methylcyclohexane	1.0 U	54.1	50.0	108	53.8	50.0	108	45-146	<1	30
Styrene	1.0 U	52.6	50.0	105	55.1	50.0	110	34-156	5	30
Tetrachloroethene (PCE)	13	63.0	50.0	100	66.9	50.0	108	67-137	6	30
Toluene	1.0 U	51.1	50.0	102	51.8	50.0	104	79-125	1	30
Trichloroethene (TCE)	8.4	61.7	50.0	107	62.4	50.0	108	62-142	1	30
Trichlorofluoromethane (CFC 11)	1.0 U	57.3	50.0	115	57.5	50.0	115	72-142	<1	30
Vinyl Chloride	J+ (ND) 1.0 U	64.8	50.0	130	66.0	50.0	132	60-157	2	30
cis-1,2-Dichloroethene	12	63.2	50.0	102	64.1	50.0	104	72-133	1	30
cis-1,3-Dichloropropene	1.0 U	49.8	50.0	100	52.7	50.0	105	52-134	5	30
m,p-Xylenes	2.0 U	106	100	106	110	100	110	68-138	4	30
o-Xylene	1.0 U	50.9	50.0	102	54.2	50.0	108	68-134	6	30
trans-1,2-Dichloroethene	1.0 U	52.3	50.0	105	51.9	50.0	104	77-125	<1	30
trans-1,3-Dichloropropene	1.0 U	57.6	50.0	115	58.8	50.0	118	50-142	2	30

All else OK

ju
11/15/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Collected: 10/12/17
Date Received: 10/12/17
Date Analyzed: 10/16/17

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 828149-DP017015
Lab Code: R1709618-017
Analysis Method: 8260C

Units: ug/L
Basis: NA

Analyte Name	Matrix Spike RQ1710761-05				Duplicate Matrix Spike RQ1710761-06					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethylbenzene	1.0 U	57.9	50.0	116	58.3	50.0	117	72-134	<1	30
Isopropylbenzene (Cumene)	1.0 U	58.4	50.0	117	58.2	50.0	116	76-136	<1	30
Methyl Acetate	2.0 U	49.0	50.0	98	52.0	50.0	104	36-146	6	30
Methyl tert-Butyl Ether	1.0 U	51.9	50.0	104	56.2	50.0	112	74-130	8	30
Methylcyclohexane	1.0 U	51.5	50.0	103	53.5	50.0	107	45-146	4	30
Styrene	1.0 U	59.1	50.0	118	60.3	50.0	121	34-156	2	30
Tetrachloroethene (PCE)	1.0 U	57.4	50.0	115	57.9	50.0	116	67-137	<1	30
Toluene	1.0 U	57.5	50.0	115	59.8	50.0	120	79-125	4	30
Trichloroethene (TCE)	1.0 U	50.1	50.0	100	51.9	50.0	104	62-142	4	30
Trichlorofluoromethane (CFC 11)	1.0 U	59.3	50.0	119	61.5	50.0	123	72-142	4	30
Vinyl Chloride	1.0 U	68.4	50.0	137	73.7	50.0	147	60-157	7	30
cis-1,2-Dichloroethene	1.0 U	54.0	50.0	108	58.0	50.0	116	72-133	7	30
cis-1,3-Dichloropropene	1.0 U	50.3	50.0	101	54.1	50.0	108	52-134	7	30
m,p-Xylenes	2.0 U	117	100	117	119	100	119	68-138	2	30
o-Xylene	1.0 U	58.3	50.0	117	57.6	50.0	115	68-134	1	30
trans-1,2-Dichloroethene	1.0 U	54.7	50.0	109	58.4	50.0	117	77-125	6	30
trans-1,3-Dichloropropene	1.0 U	50.3	50.0	101	54.1	50.0	108	50-142	7	30

All else OK

11/15/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/17/17 11:55

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710678-04
Analysis Method: 8260C

Instrument ID: R-MS-14
File ID: I:\ACQUDATA\MSVOA14\Data\101717\C2224.D\
Analysis Lot: 566176

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710678-03	I:\ACQUDATA\MSVOA14\Data\101717\C2222.D\ C2224.D\	10/17/17 11:06
828149-MW003009	R1709618-013	I:\ACQUDATA\MSVOA14\Data\101717\C2240.D\ C2241.D\	10/17/17 18:22
828149-MW003009D	R1709618-014	I:\ACQUDATA\MSVOA14\Data\101717\C2241.D\ C2244.D\	10/17/17 18:52
828149-MW013012	R1709618-016	I:\ACQUDATA\MSVOA14\Data\101717\C2244.D\	10/17/17 20:27

Method Blank

1,4-DCB 0.21 J $\frac{ug}{L}$ (ND)

ju 11/15/17

Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1710678-04

Service Request: R1709618
Date Collected: NA
Date Received: NA

Units: ug/L

Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.36	1	10/17/17 11:55	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.25	1	10/17/17 11:55	
1,1,2-Trichloroethane	1.0 U	1.0	0.34	1	10/17/17 11:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	1.0	0.31	1	10/17/17 11:55	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.57	1	10/17/17 11:55	
1,2,3-Trichlorobenzene	1.0 U	1.0	0.82	1	10/17/17 11:55	
1,2,4-Trichlorobenzene	1.0 U	1.0	0.23	1	10/17/17 11:55	
1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	0.74	1	10/17/17 11:55	
1,2-Dibromoethane	1.0 U	1.0	0.24	1	10/17/17 11:55	
1,2-Dichlorobenzene	1.0 U	1.0	0.21	1	10/17/17 11:55	
1,2-Dichloroethane	1.0 U	1.0	0.36	1	10/17/17 11:55	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,3-Dichlorobenzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,4-Dichlorobenzene	0.21 J	1.0	0.20	1	10/17/17 11:55	
1,4-Dioxane	40 U	40	20	1	10/17/17 11:55	
2-Butanone (MEK)	5.0 U	5.0	0.81	1	10/17/17 11:55	
2-Hexanone	5.0 U	5.0	1.7	1	10/17/17 11:55	
4-Methyl-2-pentanone	5.0 U	5.0	0.67	1	10/17/17 11:55	
Acetone	5.0 U	5.0	1.3	1	10/17/17 11:55	
Benzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Bromochloromethane	1.0 U	1.0	0.32	1	10/17/17 11:55	
Bromodichloromethane	1.0 U	1.0	0.32	1	10/17/17 11:55	
Bromoform	1.0 U	1.0	0.42	1	10/17/17 11:55	
Bromomethane	1.0 U	1.0	0.29	1	10/17/17 11:55	
Carbon Disulfide	1.0 U	1.0	0.22	1	10/17/17 11:55	
Carbon Tetrachloride	1.0 U	1.0	0.45	1	10/17/17 11:55	
Chlorobenzene	1.0 U	1.0	0.29	1	10/17/17 11:55	
Chloroethane	1.0 U	1.0	0.24	1	10/17/17 11:55	
Chloroform	1.0 U	1.0	0.25	1	10/17/17 11:55	
Chloromethane	1.0 U	1.0	0.21	1	10/17/17 11:55	
Cyclohexane	1.0 U	1.0	0.25	1	10/17/17 11:55	
Dibromochloromethane	1.0 U	1.0	0.31	1	10/17/17 11:55	
Dichlorodifluoromethane (CFC 12)	1.0 U	1.0	0.46	1	10/17/17 11:55	
Dichloromethane	1.0 U	1.0	0.60	1	10/17/17 11:55	
Ethylbenzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Isopropylbenzene (Cumene)	1.0 U	1.0	0.20	1	10/17/17 11:55	
Methyl Acetate	2.0 U	2.0	0.43	1	10/17/17 11:55	
Methyl tert-Butyl Ether	1.0 U	1.0	0.29	1	10/17/17 11:55	
Methylcyclohexane	1.0 U	1.0	0.27	1	10/17/17 11:55	
Styrene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Tetrachloroethene (PCE)	1.0 U	1.0	0.30	1	10/17/17 11:55	
Toluene	1.0 U	1.0	0.20	1	10/17/17 11:55	

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/15/17 12:07

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710694-04

Instrument ID: R-MS-10
File ID: I:\ACQUDATA\msvoa10\data\101517\N8787.D\

Analysis Method: 8260C

Analysis Lot: 565901

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710694-03	I:\ACQUDATA\msvoa10\data\101517\N8785.D\	10/15/17 11:20
828149-TBW-101017	R1709618-003	I:\ACQUDATA\msvoa10\data\101517\N8797.D\	10/15/17 15:53
828149-TBW-101117	R1709618-010	I:\ACQUDATA\msvoa10\data\101517\N8798.D\	10/15/17 16:15
828149-MW016B023	R1709618-002	I:\ACQUDATA\msvoa10\data\101517\N8799.D\	10/15/17 16:36
828149-DPO12015	R1709618-004	I:\ACQUDATA\msvoa10\data\101517\N8800.D\	10/15/17 16:58
828149-MW019B025	R1709618-007	I:\ACQUDATA\msvoa10\data\101517\N8801.D\	10/15/17 17:20
828149-DP019012	R1709618-008	I:\ACQUDATA\msvoa10\data\101517\N8802.D\	10/15/17 17:42
828149-MW017B018	R1709618-009	I:\ACQUDATA\msvoa10\data\101517\N8803.D\	10/15/17 18:04
828149-MW013B023	R1709618-011	I:\ACQUDATA\msvoa10\data\101517\N8804.D\	10/15/17 18:25
828149-MW001010	R1709618-005	I:\ACQUDATA\msvoa10\data\101517\N8805.D\	10/15/17 18:47
828149-MW001010D	R1709618-006	I:\ACQUDATA\msvoa10\data\101517\N8806.D\	10/15/17 19:09
828149-GEMW002014	R1709618-001	I:\ACQUDATA\msvoa10\data\101517\N8807.D\	10/15/17 19:31
828149-MW019B025	RQ1710694-05	I:\ACQUDATA\msvoa10\data\101517\N8809.D\	10/15/17 20:15
828149-MW019B025	RQ1710694-06	I:\ACQUDATA\msvoa10\data\101517\N8810.D\	10/15/17 20:37

Method Blank ND

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dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/16/17 12:40

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710761-04

Instrument ID: R-MS-14

File ID: I:\ACQUDATA\MSVOA14\Data\101617\C2179.D\

Analysis Method: 8260C

Analysis Lot: 565993

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710761-03	I:\ACQUDATA\MSVOA14\Data\101617\C2177.D\	10/16/17 11:52
828149-TBW-101217	R1709618-015	I:\ACQUDATA\MSVOA14\Data\101617\C2180.D\	10/16/17 13:12
828149-MW02B020	R1709618-012	I:\ACQUDATA\MSVOA14\Data\101617\C2186.D\	10/16/17 15:34
828149-DP017015	R1709618-017	I:\ACQUDATA\MSVOA14\Data\101617\C2187.D\	10/16/17 15:57
828149-MW001010	R1709618-005	I:\ACQUDATA\MSVOA14\Data\101617\C2195.D\	10/16/17 18:54
828149-DP017015	RQ1710761-05	I:\ACQUDATA\MSVOA14\Data\101617\C2201.D\	10/16/17 21:08
828149-DP017015	RQ1710761-06	I:\ACQUDATA\MSVOA14\Data\101617\C2202.D\	10/16/17 21:30

Method Blank ND

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11/15/17

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/17/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710678-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	22.4	20.0	112	65-152
Dichloromethane	8260C	20.0	20.0	100	73-122
Ethylbenzene	8260C	21.2	20.0	106	76-120
Isopropylbenzene (Cumene)	8260C	21.2	20.0	106	78-126
Methyl Acetate	8260C	17.6	20.0	88	62-131
Methyl tert-Butyl Ether	8260C	19.4	20.0	97	78-125
Methylcyclohexane	8260C	19.9	20.0	100	51-129
Styrene	8260C	20.7	20.0	103	80-124
Tetrachloroethene (PCE)	8260C	20.5	20.0	103	78-124
Toluene	8260C	21.3	20.0	106	77-120
Trichloroethene (TCE)	8260C	19.5	20.0	97	78-123
Trichlorofluoromethane (CFC 11)	8260C	23.3	20.0	116	68-126
Vinyl Chloride	8260C	26.3	20.0	131	69-133
cis-1,2-Dichloroethene	8260C	20.3	20.0	101	80-121
cis-1,3-Dichloropropene	8260C	19.2	20.0	96	74-126
m,p-Xylenes	8260C	42.7	40.0	107	78-123
o-Xylene	8260C	20.9	20.0	104	80-120
trans-1,2-Dichloroethene	8260C	20.6	20.0	103	80-120
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	67-135

ju 11/15/17
All else OK

Applied to MW003009 (J)
MW003009 (J)
MW013012 ND

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dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/15/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710694-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.5	20.0	118	65-152
Dichloromethane	8260C	19.3	20.0	96	73-122
Ethylbenzene	8260C	20.6	20.0	103	76-120
Isopropylbenzene (Cumene)	8260C	21.3	20.0	107	78-126
Methyl Acetate	8260C	13.9	20.0	69	62-131
Methyl tert-Butyl Ether	8260C	18.5	20.0	93	78-125
Methylcyclohexane	8260C	20.9	20.0	105	51-129
Styrene	8260C	20.5	20.0	102	80-124
Tetrachloroethene (PCE)	8260C	20.9	20.0	104	78-124
Toluene	8260C	20.0	20.0	100	77-120
Trichloroethene (TCE)	8260C	21.3	20.0	107	78-123
Trichlorofluoromethane (CFC 11)	8260C	22.5	20.0	112	68-126
Vinyl Chloride	8260C	23.8	20.0	119	69-133
cis-1,2-Dichloroethene	8260C	19.1	20.0	95	80-121
cis-1,3-Dichloropropene	8260C	20.7	20.0	104	74-126
m,p-Xylenes	8260C	40.7	40.0	102	78-123
o-Xylene	8260C	19.6	20.0	98	80-120
trans-1,2-Dichloroethene	8260C	19.9	20.0	100	80-120
trans-1,3-Dichloropropene	8260C	23.4	20.0	117	67-135

All else OK

11/15/17

Applies to -1 thru -11 (45)
(-3 = TB
-10 = TB)

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Analyzed: 10/16/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710761-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.4	20.0	117	65-152
Dichloromethane	8260C	21.4	20.0	107	73-122
Ethylbenzene	8260C	21.3	20.0	106	76-120
Isopropylbenzene (Cumene)	8260C	21.6	20.0	108	78-126
Methyl Acetate	8260C	18.3	20.0	91	62-131
Methyl tert-Butyl Ether	8260C	19.6	20.0	98	78-125
Methylcyclohexane	8260C	19.9	20.0	100	51-129
Styrene	8260C	21.0	20.0	105	80-124
Tetrachloroethene (PCE)	8260C	21.1	20.0	106	78-124
Toluene	8260C	21.1	20.0	106	77-120
Trichloroethene (TCE)	8260C	19.2	20.0	96	78-123
Trichlorofluoromethane (CFC 11)	8260C	23.8	20.0	119	68-126
Vinyl Chloride J+	8260C	27.1	20.0	135*	69-133
cis-1,2-Dichloroethene	8260C	21.3	20.0	106	80-121
cis-1,3-Dichloropropene	8260C	20.1	20.0	100	74-126
m,p-Xylenes	8260C	43.1	40.0	108	78-123
o-Xylene	8260C	20.5	20.0	102	80-120
trans-1,2-Dichloroethene	8260C	21.5	20.0	108	80-120
trans-1,3-Dichloropropene	8260C	20.1	20.0	100	67-135

All else ok

gr
11/15/17

Applied to - 5, 12, 17

(ND)

VOCs

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: *Town and Country*

Method: *8260C*

Laboratory: *ALS Global*

Date: *11/15/17*

Reviewer: *Julie Ricciardi*

SDG(s): *R1709619*

Review Level ☒ NYSDEC DUSR

USEPA Region II Guideline

1. ☒ Case Narrative Review and COC/Data Package Completeness

COMMENTS

Were problems noted? *CCV noted w/ no significant data impact per lab*

Are Field Sample IDs and Locations assigned correctly? YES ☐ NO ☐ (circle one) *comments.*

Were all the samples on the COC analyzed for the requested analyses? *11046004 logged in and reported as DPO46004; corrected in database during loading* YES ☐ NO ☐ (circle one)

2. ☒ Holding time and Sample Collection

All samples were analyzed within the 14 day holding time. YES ☐ NO ☐ (circle one)

3. ☒ QC Blanks

Are method blanks free of contamination? YES ☐ NO ☐ (circle one) *cooler temp > 6° but samples rec'd @ lab on day of collection*

u subset of chloromethane results

Are Trip blanks free of contamination? YES ☐ NO ☐ (circle one) *N/A*

TBS - 101017 (SDG R1709620) Acetone 2.3 J us YES ☐ NO ☐ (circle one) *NO in samples; no qual*

Are Rinse blanks free of contamination? YES ☐ NO ☐ (circle one) *NA*

4. ☒ Instrument Tuning - Data Package Narrative Review

Did the laboratory narrative identify any results that were not within method criteria? YES ☐ NO ☐ (circle one) *11/16/17*

If yes, use professional judgment to evaluate data and qualify results if needed

5. ☒ Instrument Calibration - Data Package Narrative Review

Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES ☐ NO ☐ (circle one)

General comments in narrative; no specific compounds

Initial Calibration %RSD = 20% (30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC) *noted*

Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane, Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

Continuing Calibration %D = 20%

Did the laboratory qualify results based on initial or continuing calibration exceedances? YES ☐ NO ☐ (circle one)

If yes to above, use professional judgment to evaluate data and qualify results if needed

6. ☒ Internal Standards - Data Package Narrative Review

(Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL))

Did the laboratory narrative identify any sample internal standards that were not within criteria? YES ☐ NO ☐ (circle one)

Did the laboratory qualify results based on internal standard exceedances? YES ☐ NO ☐ (circle one)

If yes to above, use professional judgment to evaluate data and qualify results if needed

7. ☒ Surrogate Recovery - Region II limits (water 80-120%, soil 70-130%)

Were all results within Region II limits? YES ☐ NO ☐ (circle one) *See attached summary*

8. ☒ Matrix Spike - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)

Were MS/MSDs submitted/analyzed? YES ☐ NO ☐ (circle one)

Were all results within the Region II limits? YES ☐ NO ☐ NA ☐ (circle one)

See attached summaries for qual

9. ☒ **Duplicates - Region II Limits** (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? ☒ YES ☐ NO

DP046011 / DP046011D: All OK except PCE > RL in DP046011 and
Were all results within Region II limits? (soil RPD < 100, water RPD < 50) YES ☒ NO ☐ NA

10. ☒ **Laboratory Control Sample Results - Region II** (Water and soil 70-130%)

Were all results were within Region II control limits? YES ☒ NO ☐ (circle one)

11. ☒ **Raw Data Review and Calculation Checks**

12. ☒ **Electronic Data Review and Edits**

Does the EDD match the Form Is? ☒ YES ☐ NO (circle one)

13. ☒ **Tables and TIC Review**

Table 1 (Samples and Analytical Methods)

Table 2 (Analytical Results)

Table 3 (Qualification Actions)

Were all tables produced and reviewed? ☒ YES ☐ NO (circle one)

Table 4 (TICs) Did lab report TICs? YES ☒ NO ☐ (circle one)

	<u>DP046011</u>	^($\frac{ug}{kg}$) <u>DP046011D</u>	<u>MDL</u>	<u>ROL</u>	<u>RPD</u>
PCE	170	52 : u	98	110	106
C-1,1,2-DCE	81 : u	130	110	110	46

Quality both compounds J/uJ in sample
1/2 field dup.

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05

Service Request:R1709619

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709619-001	360109-DP048002	10/10/2017	0905
R1709619-002	360109-DP048003	10/10/2017	0915
R1709619-003	360109-DP048006	10/10/2017	0910
R1709619-004	360109-DP048004	10/10/2017	0908
R1709619-005	360109-DP049002 MS MSD	10/10/2017	0950
R1709619-006	360109-DP049001	10/10/2017	0945
R1709619-007	360109-DP049006	10/10/2017	0955
R1709619-008	360109-DP049007	10/10/2017	1000
R1709619-009	360109-DP051001	10/10/2017	1025
R1709619-010	360109-DP051002	10/10/2017	1028
R1709619-011	360109-DP051006	10/10/2017	1030
R1709619-012	360109-DP051008	10/10/2017	1032
R1709619-013	360109-DP053002	10/10/2017	1100
R1709619-014	360109-DP053003	10/10/2017	1102
R1709619-015	360109-DP053006	10/10/2017	1104
R1709619-016	360109-DP053007	10/10/2017	1106
R1709619-017	360109-DP052001	10/10/2017	1130
R1709619-018	360109-DP052002	10/10/2017	1132
R1709619-019	360109-DP052004	10/10/2017	1134
R1709619-020	360109-DP052006	10/10/2017	1136
R1709619-021	360109-DP050001	10/10/2017	1155
R1709619-022	360109-DP050002	10/10/2017	1158
R1709619-023	360109-DP050005	10/10/2017	1200
R1709619-024	360109-DP050007	10/10/2017	1205
R1709619-025	360109-DP046002	10/10/2017	1330
R1709619-026	360109-DP046004 MS MSD	10/10/2017	1335
R1709619-027	360109-DP046008	10/10/2017	1340
R1709619-028	360109-DP046011	10/10/2017	1345
R1709619-029	360109-DP046011D	10/10/2017	1345

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ALS Group USA, Corp.
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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5035A

70-130

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		51 - 136	63 - 138	66 - 138
360109-DP048002	R1709619-001	100	89	101
360109-DP048003	R1709619-002	102	94	101
360109-DP048006	R1709619-003	108	98	107
360109-DP048004	R1709619-004	98	81	99
360109-DP049002	R1709619-005	86	79	97
360109-DP049001	R1709619-006	100	91	100
360109-DP049006	R1709619-007	102	91	103
360109-DP049007	R1709619-008	101	92	100
360109-DP051001	R1709619-009	119	105	116
360109-DP051002	R1709619-010	99	87	99
360109-DP051006	R1709619-011	97	78	99
360109-DP051008	R1709619-012	100	84	98
360109-DP053002	R1709619-013	107	96	108
360109-DP053003	J+ (ND) R1709619-014	(133)	115	(132)
360109-DP053006	R1709619-015	114	105	114
360109-DP053007	(J+) PCE, TCE R1709619-016	(132)	97	(131)
360109-DP052001	R1709619-017	98	90	99
360109-DP052002	R1709619-018	97	75	98
360109-DP052004	R1709619-019	100	89	98
360109-DP052006	R1709619-020	101	90	100
360109-DP050001	R1709619-021	100	92	99
360109-DP050002	R1709619-022	102	91	101
360109-DP050005	R1709619-023	102	88	102
360109-DP050007	R1709619-024	102	89	103
360109-DP046002	R1709619-025	100	91	101
360109-DP046004	R1709619-026	99	87	100
360109-DP046008	R1709619-027	93	91	97
360109-DP046008 DL	R1709619-027	95	98	98
360109-DP046011	R1709619-028	100	87	101
360109-DP046011D	R1709619-029	104	90	102
Lab Control Sample	RQ1710688-07	96	104	100
360109-DP049002 MS	RQ1710688-09	110	93	110
360109-DP049002 DMS	RQ1710688-10	98	98	82
Method Blank	RQ1710688-11	101	93	100
Lab Control Sample	RQ1711036-07	97	99	97
Method Blank	RQ1711036-08	103	92	103
Lab Control Sample	RQ1711172-03	97	99	99

All else ok

Jan 11, 2017

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/16/17 11:51
Date Extracted:

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710688-11
Analysis Method: 8260C
Prep Method: EPA 5035A

Instrument ID: R-MS-10
File ID: I:\ACQU\DATA\MSVOA10\DATA\101617\N8821.D\

Analysis Lot: 566000

See attached for MB hit

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710688-07	I:\ACQU\DATA\MSVOA10\DATA\101617\N8819.D\	10/16/17 11:02
360109-DP048002	R1709619-001	I:\ACQU\DATA\MSVOA10\DATA\101617\N8825.D\	10/16/17 13:33
360109-DP048003	R1709619-002	I:\ACQU\DATA\MSVOA10\DATA\101617\N8826.D\	10/16/17 14:04
360109-DP048006	R1709619-003	I:\ACQU\DATA\MSVOA10\DATA\101617\N8827.D\	10/16/17 14:26
360109-DP048004	R1709619-004	I:\ACQU\DATA\MSVOA10\DATA\101617\N8828.D\	10/16/17 14:48
360109-DP049002	R1709619-005 (u)	I:\ACQU\DATA\MSVOA10\DATA\101617\N8829.D\	10/16/17 15:10
360109-DP049001	R1709619-006	I:\ACQU\DATA\MSVOA10\DATA\101617\N8830.D\	10/16/17 15:31
360109-DP049006	R1709619-007	I:\ACQU\DATA\MSVOA10\DATA\101617\N8831.D\	10/16/17 15:53
360109-DP049007	R1709619-008	I:\ACQU\DATA\MSVOA10\DATA\101617\N8832.D\	10/16/17 16:15
360109-DP051001	R1709619-009 (u)	I:\ACQU\DATA\MSVOA10\DATA\101617\N8833.D\	10/16/17 16:37
360109-DP051002	R1709619-010	I:\ACQU\DATA\MSVOA10\DATA\101617\N8834.D\	10/16/17 16:59
360109-DP051006	R1709619-011	I:\ACQU\DATA\MSVOA10\DATA\101617\N8835.D\	10/16/17 17:20
360109-DP051008	R1709619-012 (u)	I:\ACQU\DATA\MSVOA10\DATA\101617\N8836.D\	10/16/17 17:42
360109-DP053002	R1709619-013	I:\ACQU\DATA\MSVOA10\DATA\101617\N8837.D\	10/16/17 18:04
360109-DP053003	R1709619-014	I:\ACQU\DATA\MSVOA10\DATA\101617\N8838.D\	10/16/17 18:26
360109-DP053006	R1709619-015	I:\ACQU\DATA\MSVOA10\DATA\101617\N8839.D\	10/16/17 18:48
360109-DP053007	R1709619-016	I:\ACQU\DATA\MSVOA10\DATA\101617\N8840.D\	10/16/17 19:10
360109-DP052001	R1709619-017	I:\ACQU\DATA\MSVOA10\DATA\101617\N8841.D\	10/16/17 19:31
360109-DP052002	R1709619-018 (u)	I:\ACQU\DATA\MSVOA10\DATA\101617\N8842.D\	10/16/17 19:53
360109-DP049002	RQ1710688-09	I:\ACQU\DATA\MSVOA10\DATA\101617\N8843.D\	10/16/17 20:15

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/16/17 11:51
Date Extracted:

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710688-11
Analysis Method: 8260C
Prep Method: EPA 5035A

Instrument ID: R-MS-10
File ID: I:\ACQUDATA\MSVOA10\DATA\101617\N8821.D\
Analysis Lot: 566000

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
360109-DP049002	RQ1710688-10	I:\ACQUDATA\MSVOA10\DATA\101617\N8844.D\	10/16/17 20:37

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Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: RQ1710688-11

Service Request: R1709619
Date Collected: NA
Date Received: NA

Units: ug/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5035A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	50 U	50	37	50	10/16/17 11:51	
1,1,2,2-Tetrachloroethane	50 U	50	41	50	10/16/17 11:51	
1,1,2-Trichloroethane	50 U	50	37	50	10/16/17 11:51	
1,1,2-Trichloro-1,2,2-trifluoroethane	62 U	62	62	50	10/16/17 11:51	
1,1-Dichloroethane (1,1-DCA)	63 U	63	63	50	10/16/17 11:51	
1,1-Dichloroethene (1,1-DCE)	64 U	64	64	50	10/16/17 11:51	
1,2,3-Trichlorobenzene	50 U	50	31	50	10/16/17 11:51	
1,2,4-Trichlorobenzene	50 U	50	30	50	10/16/17 11:51	
1,2-Dibromo-3-chloropropane (DBCP)	100 U	100	94	50	10/16/17 11:51	
1,2-Dibromoethane	61 U	61	61	50	10/16/17 11:51	
1,2-Dichlorobenzene	50 U	50	31	50	10/16/17 11:51	
1,2-Dichloroethane	50 U	50	31	50	10/16/17 11:51	
1,2-Dichloropropane	50 U	50	49	50	10/16/17 11:51	
1,3-Dichlorobenzene	50 U	50	32	50	10/16/17 11:51	
1,4-Dichlorobenzene	50 U	50	28	50	10/16/17 11:51	
1,4-Dioxane	2000 U	2000	960	50	10/16/17 11:51	
2-Butanone (MEK)	250 U	250	120	50	10/16/17 11:51	
2-Hexanone	250 U	250	61	50	10/16/17 11:51	
4-Methyl-2-pentanone	250 U	250	49	50	10/16/17 11:51	
Acetone	250 U	250	150	50	10/16/17 11:51	
Benzene	50 U	50	15	50	10/16/17 11:51	
Bromochloromethane	68 U	68	68	50	10/16/17 11:51	
Bromodichloromethane	50 U	50	31	50	10/16/17 11:51	
Bromoform	50 U	50	47	50	10/16/17 11:51	
Bromomethane	69 U	69	69	50	10/16/17 11:51	
Carbon Disulfide	62 U	62	62	50	10/16/17 11:51	
Carbon Tetrachloride	50 U	50	46	50	10/16/17 11:51	
Chlorobenzene	50 U	50	15	50	10/16/17 11:51	
Chloroethane	150 U	150	150	50	10/16/17 11:51	
Chloroform	63 U	63	63	50	10/16/17 11:51	
Chloromethane	(u) in -5,9,12,18 22 J 50 U	50	20	50	10/16/17 11:51	
Cyclohexane	69 U	69	69	50	10/16/17 11:51	
Dibromochloromethane	50 U	50	37	50	10/16/17 11:51	
Dichlorodifluoromethane (CFC 12)	else N/D 95 U	95	95	50	10/16/17 11:51	
Dichloromethane	50 U	50	29	50	10/16/17 11:51	
Ethylbenzene	50 U	50	12	50	10/16/17 11:51	
Isopropylbenzene (Cumene)	50 U	50	34	50	10/16/17 11:51	
Methyl Acetate	100 U	100	88	50	10/16/17 11:51	
Methyl tert-Butyl Ether	50 U	50	47	50	10/16/17 11:51	
Methylcyclohexane	60 U	60	60	50	10/16/17 11:51	
Styrene	50 U	50	15	50	10/16/17 11:51	
Tetrachloroethene (PCE)	50 U	50	44	50	10/16/17 11:51	
Toluene	50 U	50	50	50	10/16/17 11:51	

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/23/17 13:30
Date Extracted:

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1711036-08
Analysis Method: 8260C
Prep Method: EPA 5035A

Instrument ID: R-MS-10
File ID: I:\ACQUDATA\msvoa10\data\102317\N9068.D\
Analysis Lot: 566996

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1711036-07	I:\ACQUDATA\msvoa10\data\102317\N9066.D\	10/23/17 12:42
360109-DP046008	R1709619-027	I:\ACQUDATA\msvoa10\data\102317\N9071.D\	10/23/17 14:35

Not
reported
from this run

Method Blank NID

g~
11/15/17

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/21/17 11:12
Date Extracted:

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1711172-04
Analysis Method: 8260C
Prep Method: EPA 5035A

Instrument ID: R-MS-10
File ID: I:\ACQUDATA\msvoa10\data\102117\N9022.D\
Analysis Lot: 566875

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1711172-03	I:\ACQUDATA\msvoa10\data\102117\N9020.D\	10/21/17 10:24
360109-DP052004	R1709619-019	I:\ACQUDATA\msvoa10\data\102117\N9023.D\	10/21/17 11:34
360109-DP052006	R1709619-020	I:\ACQUDATA\msvoa10\data\102117\N9024.D\	10/21/17 11:56
360109-DP050001	R1709619-021	I:\ACQUDATA\msvoa10\data\102117\N9025.D\	10/21/17 12:17
360109-DP050002	R1709619-022	I:\ACQUDATA\msvoa10\data\102117\N9026.D\	10/21/17 12:39
360109-DP050005	R1709619-023	I:\ACQUDATA\msvoa10\data\102117\N9027.D\	10/21/17 13:01
360109-DP050007	R1709619-024	I:\ACQUDATA\msvoa10\data\102117\N9028.D\	10/21/17 13:23
360109-DP046002	R1709619-025	I:\ACQUDATA\msvoa10\data\102117\N9029.D\	10/21/17 13:45
360109-DPO46004	R1709619-026	I:\ACQUDATA\msvoa10\data\102117\N9030.D\	10/21/17 14:06
360109-DP046011	R1709619-028	I:\ACQUDATA\msvoa10\data\102117\N9031.D\	10/21/17 14:28
360109-DP046011D	R1709619-029	I:\ACQUDATA\msvoa10\data\102117\N9032.D\	10/21/17 14:50
360109-DP046008	R1709619-027	I:\ACQUDATA\msvoa10\data\102117\N9042.D\	10/21/17 18:28
360109-DPO46004	RQ1711172-05	I:\ACQUDATA\msvoa10\data\102117\N9043.D\	10/21/17 18:50
360109-DPO46004	RQ1711172-06	I:\ACQUDATA\msvoa10\data\102117\N9044.D\	10/21/17 19:12

Method Blank ND

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Collected: 10/10/17
Date Received: 10/10/17
Date Analyzed: 10/16/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DP049002
Lab Code: R1709619-005
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

70-130 / 35

	Matrix Spike				Duplicate Matrix Spike						
	RQ1710688-09				RQ1710688-10						
	Sample		Spike			Spike	% Rec	% Rec	OK	RPD	
Analyte Name	Result	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit	
1,1,1-Trichloroethane (TCA)	120 U	5510	5800	95	5660	5800	98	51-132	3	30	
1,1,2,2-Tetrachloroethane	120 U	5490	5800	95	5700	5800	98	53-134	3	30	
1,1,2-Trichloroethane	120 U	6680	5800	115	6210	5800	107	62-126	7	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	150 U	6400	5800	110	5550	5800	96	45-136	14	30	
1,1-Dichloroethane (1,1-DCA)	150 U	6810	5800	117	5950	5800	102	53-131	14	30	
1,1-Dichloroethene (1,1-DCE)	150 U	6190	5800	107	5310	5800	91	61-139	16	30	
1,2,3-Trichlorobenzene	120 U	5770	5800	99	6190	5800	107	10-179	8	30	
1,2,4-Trichlorobenzene	120 U	5880	5800	101	6190	5800	107	10-179	6	30	
1,2-Dibromo-3-chloropropane (DBCP)	230 U	4730	5800	81	4890	5800	84	27-163	4	30	
1,2-Dibromoethane	150 U	5810	5800	100	6200	5800	107	52-137	7	30	
1,2-Dichlorobenzene	120 U	5540	5800	95	5820	5800	100	22-156	5	30	
1,2-Dichloroethane	120 U	5970	5800	103	6430	5800	111	59-125	7	30	
1,2-Dichloropropane	120 U	6240	5800	108	5860	5800	101	67-126	7	30	
1,3-Dichlorobenzene	120 U	5580	5800	96	5700	5800	98	29-146	2	30	
1,4-Dichlorobenzene	120 U	5640	5800	97	5830	5800	100	10-172	3	30	
1,4-Dioxane	4600 U	144000	116000	124	130000	116000	112	50-148	10	30	
2-Butanone (MEK)	580 U	6510	5800	112	5770	5800	99	43-134	12	30	
2-Hexanone	580 U	6060	5800	104	6300	5800	109	37-146	5	30	
4-Methyl-2-pentanone	580 U	7210	5800	124	5810	5800	100	47-145	21	30	
Acetone	580 U	7340	5800	126	6360	5800	110	11-183	14	30	
Benzene	120 U	4900	5800	84	5540	5800	96	63-126	13	30	
Bromochloromethane	160 U	6640	5800	114	5830	5800	100	60-119	13	30	
Bromodichloromethane	120 U	5800	5800	100	5590	5800	96	47-141	4	30	
Bromoform	120 U	4900	5800	84	5300	5800	91	26-157	8	30	
Bromomethane	170 U	5070	5800	87	4250	5800	73	10-137	18	30	
Carbon Disulfide	150 U	4550	5800	78	4480	5800	77	35-135	1	30	
Carbon Tetrachloride	120 U	4800	5800	83	5360	5800	92	46-137	10	30	
Chlorobenzene	120 U	5620	5800	97	5800	5800	100	51-132	3	30	
Chloroethane	340 U	3170	5800	55	2750	5800	47	45-132	16	30	
Chloroform	150 U	6760	5800	117	6000	5800	103	61-124	13	30	
Chloromethane	48 J	7480	5800	128	6560	5800	112	50-136	13	30	
Cyclohexane	170 U	6440	5800	111	6810	5800	117	40-142	5	30	
Dibromochloromethane	120 U	5020	5800	86	5520	5800	95	40-146	10	30	
Dichlorodifluoromethane (CFC 12)	220 U	6660	5800	115	5540	5800	95	44-138	19	30	
Dichloromethane	120 U	6410	5800	110	5670	5800	98	64-120	12	30	

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Collected: 10/10/17
Date Received: 10/10/17
Date Analyzed: 10/16/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DP049002
Lab Code: R1709619-005
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

70-130/35

Analyte Name	Sample Result	Matrix Spike RQ1710688-09			Duplicate Matrix Spike RQ1710688-10			% Rec Limits	OK RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ethylbenzene	120 U	5930	5800	102	6000	5800	103	44-131	<1	30
Isopropylbenzene (Cumene)	120 U	6120	5800	105	6160	5800	106	36-148	<1	30
Methyl Acetate	230 U	6570	5800	113	5720	5800	99	34-173	13	30
Methyl tert-Butyl Ether	120 U	6670	5800	115	5970	5800	103	62-130	11	30
Methylcyclohexane	140 U	7130	5800	123	6430	5800	111	33-148	10	30
Styrene	120 U	6110	5800	105	6160	5800	106	39-149	<1	30
Tetrachloroethene (PCE)	170	5750	5800	96	5580	5800	93	45-141	3	30
Toluene	120 U	6250	5800	108	4830	5800	83	50-140	26	30
Trichloroethene (TCE)	120 U	6330	5800	109	5970	5800	103	54-136	6	30
Trichlorofluoromethane (CFC 11)	120 U	5450	5800	94	4430	5800	76	47-129	21	30
Vinyl Chloride	220 U	8270	5800	142 *	7160	5800	123	53-128	14	30
cis-1,2-Dichloroethene	140	6600	5800	111	5710	5800	96	56-126	14	30
cis-1,3-Dichloropropene	120 U	5750	5800	99	4700	5800	81	31-150	20	30
m,p-Xylenes	230 U	11700	11600	101	11800	11600	102	45-141	<1	30
o-Xylene	120 U	5870	5800	101	5820	5800	100	46-139	<1	30
trans-1,2-Dichloroethene	120 U	6120	5800	105	5290	5800	91	52-128	14	30
trans-1,3-Dichloropropene	120 U	6330	5800	109	6340	5800	109	23-160	<1	30

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Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Collected: 10/10/17
Date Received: 10/10/17
Date Analyzed: 10/21/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DPO46004
Lab Code: R1709619-026
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

70-130/35

Analyte Name	Matrix Spike RQ1711172-05				Duplicate Matrix Spike RQ1711172-06				OK RPD	RPD Limit
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits		
1,1,1-Trichloroethane (TCA)	100 U	4650	4990	93	5570	4990	112	51-132	19	30
1,1,2,2-Tetrachloroethane	100 U	4900	4990	98	5370	4990	108	53-134	10	30
1,1,2-Trichloroethane	100 U	5300	4990	106	5870	4990	118	62-126	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	130 U	4870	4990	98	5420	4990	109	45-136	11	30
1,1-Dichloroethane (1,1-DCA)	130 U	5170	4990	104	5580	4990	112	53-131	7	30
1,1-Dichloroethene (1,1-DCE)	130 U	4670	4990	94	5150	4990	103	61-139	9	30
1,2,3-Trichlorobenzene	100 U	5260	4990	105	5870	4990	118	10-179	12	30
1,2,4-Trichlorobenzene	100 U	5430	4990	109	6030	4990	121	10-179	10	30
1,2-Dibromo-3-chloropropane (DBCP)	200 U	4220	4990	85	4670	4990	94	27-163	10	30
1,2-Dibromoethane	130 U	5280	4990	106	5680	4990	114	52-137	7	30
1,2-Dichlorobenzene	100 U	5010	4990	101	5410	4990	109	22-156	8	30
1,2-Dichloroethane	100 U	5350	4990	107	5880	4990	118	59-125	10	30
1,2-Dichloropropane	100 U	4910	4990	98	5440	4990	109	67-126	11	30
1,3-Dichlorobenzene	100 U	4860	4990	98	5420	4990	109	29-146	11	30
1,4-Dichlorobenzene	100 U	5020	4990	101	5440	4990	109	10-172	8	30
1,4-Dioxane	4000 U	112000	99800	113	124000	99800	125	50-148	10	30
2-Butanone (MEK)	500 U	4700	4990	94	4830	4990	97	43-134	3	30
2-Hexanone	500 U	5190	4990	104	5330	4990	107	37-146	3	30
4-Methyl-2-pentanone	500 U	5310	4990	106	5640	4990	113	47-145	6	30
Acetone	500 U	5960	4990	119	5970	4990	120	11-183	<1	30
Benzene	100 U	5150	4990	103	5760	4990	115	63-126	11	30
Bromochloromethane	140 U	4780	4990	96	4980	4990	100	60-119	4	30
Bromodichloromethane	100 U	4770	4990	96	5400	4990	108	47-141	12	30
Bromoform	100 U	4630	4990	93	5220	4990	105	26-157	12	30
Bromomethane J (UJ)	140 U	2680	4990	54	2830	4990	57	10-137	5	30
Carbon Disulfide	130 U	3830	4990	77	4230	4990	85	35-135	10	30
Carbon Tetrachloride	100 U	4320	4990	87	5440	4990	109	46-137	22	30
Chlorobenzene	100 U	5070	4990	102	5540	4990	111	51-132	8	30
Chloroethane J (UJ)	290 U	1710	4990	34 *	1800	4990	36 *	45-132	6	30
Chloroform	130 U	5240	4990	105	5610	4990	112	61-124	6	30
Chloromethane	100 U	4810	4990	96	5420	4990	109	50-136	13	30
Cyclohexane	140 U	5130	4990	103	5730	4990	115	40-142	11	30
Dibromochloromethane	100 U	4550	4990	91	5010	4990	100	40-146	9	30
Dichlorodifluoromethane (CFC 12)	190 U	4520	4990	91	5000	4990	100	44-138	9	30
Dichloromethane	100 U	4910	4990	98	5250	4990	105	64-120	7	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Collected: 10/10/17
Date Received: 10/10/17
Date Analyzed: 10/21/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DPO46004
Lab Code: R1709619-026
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

Analyte Name	Sample Result	Matrix Spike RQ1711172-05			Duplicate Matrix Spike RQ1711172-06			% Rec Limits	OK RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ethylbenzene	100 U	5500	4990	110	6010	4990	120	44-131	9	30
Isopropylbenzene (Cumene)	100 U	5530	4990	111	6060	4990	122	36-148	9	30
Methyl Acetate	200 U	5060	4990	102	4980	4990	100	34-173	2	30
Methyl tert-Butyl Ether	100 U	5280	4990	106	5580	4990	112	62-130	6	30
Methylcyclohexane	120 U	5350	4990	107	5620	4990	113	33-148	5	30
Styrene	100 U	5650	4990	113	6160	4990	124	39-149	9	30
Tetrachloroethene (PCE)	100 U	5190	4990	104	5710	4990	114	45-141	9	30
Toluene	100 U	5160	4990	103	5750	4990	115	50-140	11	30
Trichloroethene (TCE)	110 U	5070	4990	102	5690	4990	114	54-136	11	30
Trichlorofluoromethane (CFC 11)	100 U	4940	4990	99	5510	4990	110	47-129	11	30
Vinyl Chloride	190 U	5910	4990	118	6840	4990	137 *	53-128	15	30
cis-1,2-Dichloroethene	100 U	4700	4990	94	5040	4990	101	56-126	7	30
cis-1,3-Dichloropropene	100 U	4760	4990	96	5320	4990	107	31-150	11	30
m,p-Xylenes	200 U	10700	9980	107	11600	9980	116	45-141	8	30
o-Xylene	100 U	5240	4990	105	5730	4990	115	46-139	9	30
trans-1,2-Dichloroethene	100 U	4680	4990	94	5060	4990	102	52-128	8	30
trans-1,3-Dichloropropene	100 U	5110	4990	102	6010	4990	121	23-160	17	30

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Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711036-07

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	20.3	20.0	101	40-140
1,1,2,2-Tetrachloroethane	8260C	19.6	20.0	98	40-140
1,1,2-Trichloroethane	8260C	20.7	20.0	103	40-140
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	20.2	20.0	101	40-140
1,1-Dichloroethane (1,1-DCA)	8260C	19.2	20.0	96	40-140
1,1-Dichloroethene (1,1-DCE)	8260C	19.0	20.0	95	40-140
1,2,3-Trichlorobenzene	8260C	20.9	20.0	105	40-140
1,2,4-Trichlorobenzene	8260C	21.8	20.0	109	40-140
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.6	20.0	93	40-140
1,2-Dibromoethane	8260C	20.7	20.0	103	40-140
1,2-Dichlorobenzene	8260C	19.9	20.0	99	40-140
1,2-Dichloroethane	8260C	20.2	20.0	101	40-140
1,2-Dichloropropane	8260C	19.1	20.0	96	40-140
1,3-Dichlorobenzene	8260C	19.6	20.0	98	40-140
1,4-Dichlorobenzene	8260C	20.6	20.0	103	40-140
1,4-Dioxane	8260C	338	400	85	40-140
2-Butanone (MEK)	8260C	23.2	20.0	116	40-140
2-Hexanone	8260C	24.3	20.0	121	40-140
4-Methyl-2-pentanone	8260C	24.6	20.0	123	40-140
Acetone	8260C	24.2	20.0	121	40-140
Benzene	8260C	19.9	20.0	100	40-140
Bromochloromethane	8260C	18.8	20.0	94	40-140
Bromodichloromethane	8260C	20.8	20.0	104	40-140
Bromoform	8260C	22.6	20.0	113	40-140
Bromomethane	8260C	17.6	20.0	88	40-140
Carbon Disulfide	8260C	29.0	20.0	145 *	40-140
Carbon Tetrachloride	8260C	22.1	20.0	110	40-140
Chlorobenzene	8260C	20.1	20.0	100	40-140
Chloroethane	8260C	16.0	20.0	80	40-140
Chloroform	8260C	20.6	20.0	103	40-140
Chloromethane	8260C	17.7	20.0	88	40-140
Cyclohexane	8260C	19.2	20.0	96	40-140
Dibromochloromethane	8260C	20.7	20.0	104	40-140

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ALS Group USA, Corp.
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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711036-07

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	19.6	20.0	98	40-140
Dichloromethane	8260C	18.9	20.0	95	40-140
Ethylbenzene	8260C	21.1	20.0	105	40-140
Isopropylbenzene (Cumene)	8260C	21.2	20.0	106	40-140
Methyl Acetate	8260C	10.7	20.0	53	40-140
Methyl tert-Butyl Ether	8260C	18.8	20.0	94	40-140
Methylcyclohexane	8260C	20.2	20.0	101	40-140
Styrene	8260C	21.2	20.0	106	40-140
Tetrachloroethene (PCE)	8260C	20.7	20.0	103	40-140
Toluene	8260C	20.1	20.0	101	40-140
Trichloroethene (TCE)	8260C	19.4	20.0	97	40-140
Trichlorofluoromethane (CFC 11)	8260C	20.4	20.0	102	40-140
Vinyl Chloride	8260C	22.9	20.0	115	40-140
cis-1,2-Dichloroethene	8260C	18.3	20.0	92	40-140
cis-1,3-Dichloropropene	8260C	20.0	20.0	100	40-140
m,p-Xylenes	8260C	42.1	40.0	105	40-140
o-Xylene	8260C	19.9	20.0	99	40-140
trans-1,2-Dichloroethene	8260C	18.0	20.0	90	40-140
trans-1,3-Dichloropropene	8260C	22.0	20.0	110	40-140

JIUJ (NIA)
no issue,
sample
for methyl
acetate

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11/15/17

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709619
Date Analyzed: 10/21/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711172-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	19.0	20.0	95	40-140
Dichloromethane	8260C	19.3	20.0	97	40-140
Ethylbenzene	8260C	21.2	20.0	106	40-140
Isopropylbenzene (Cumene)	8260C	20.3	20.0	102	40-140
Methyl Acetate	8260C	12.2	20.0	61	40-140
Methyl tert-Butyl Ether	8260C	20.2	20.0	101	40-140
Methylcyclohexane	8260C	21.4	20.0	107	40-140
Styrene	8260C	21.2	20.0	106	40-140
Tetrachloroethene (PCE)	8260C	20.5	20.0	103	40-140
Toluene	8260C	20.3	20.0	101	40-140
Trichloroethene (TCE)	8260C	19.1	20.0	96	40-140
Trichlorofluoromethane (CFC 11)	8260C	19.2	20.0	96	40-140
Vinyl Chloride	8260C	22.1	20.0	110	40-140
cis-1,2-Dichloroethene	8260C	18.3	20.0	92	40-140
cis-1,3-Dichloropropene	8260C	20.9	20.0	105	40-140
m,p-Xylenes	8260C	41.1	40.0	103	40-140
o-Xylene	8260C	20.3	20.0	101	40-140
trans-1,2-Dichloroethene	8260C	17.4	20.0	87	40-140
trans-1,3-Dichloropropene	8260C	23.8	20.0	119	40-140

All elx OK

ju
11/15/17

Data Path : I:\ACQUDATA\msvoa10\data\102117\
 Data File : N9031.D
 Acq On : 21 Oct 2017 2:28 pm
 Operator : F. NAEGLER
 Sample : R1709619-028|91.0
 Misc : AMEC 8043 T4
 ALS Vial : 13 Sample Multiplier: 1

Inst : MSVOA10

Quant Time: Oct 27 11:03:26 2017
 Quant Method : I:\ACQUDATA\MSVOA10\METHODS\W082317.M
 Quant Title : MS#10 - 8260B WATERS 10mL Purge
 QLast Update : Thu Aug 24 16:00:37 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.397	168	273686	50.00	ug/L	0.00
41) 1,4-Difluorobenzene	6.494	114	381196	50.00	ug/L	0.00
70) d5-Chlorobenzene	9.805	117	339218	50.00	ug/L	0.00
90) 1,4-Dichlorobenzene-d4	11.853	152	183837	50.00	ug/L	0.00
System Monitoring Compounds						
43) surr4,Dibrflmethane	5.251	113	103722	43.32	ug/L	0.00
Spiked Amount	50.000	Range 89 - 119	Recovery	=	86.64%#	
46) surr1,1,2-dichloroetha...	5.787	65	147038	50.95	ug/L	0.00
Spiked Amount	50.000	Range 73 - 125	Recovery	=	101.90%	
64) SURR3,Toluene-d8	8.311	98	456351	50.46	ug/L	0.00
Spiked Amount	50.000	Range 87 - 121	Recovery	=	100.92%	
69) SURR2,BFB	10.878	95	183223	49.95	ug/L	0.00
Spiked Amount	50.000	Range 85 - 122	Recovery	=	99.90%	
Target Compounds						Qvalue
3) Chloromethane	1.288	50	1862	0.33	ug/L	85
15) Acetone	2.361	43	723	0.36	ug/L	78
33) cis-1,2-Dichloroethene	4.367	96	2079m	0.73	ug/L	< MDL
34) 2-Butanone	4.458	43	2992	1.05	ug/L	92
71) Tetrachloroethene	8.975	164	3029	1.51	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ju
11/16/17

Data Path : I:\ACQUDATA\msvoa10\data\102117\
 Data File : N9032.D
 Acq On : 21 Oct 2017 2:50 pm
 Operator : F. NAEGLER
 Sample : R1709619-029|84.0
 Misc : AMEC 8043 T4
 ALS Vial : 14 Sample Multiplier: 1

Inst : MSVOA10

Quant Time: Oct 27 11:05:21 2017
 Quant Method : I:\ACQUDATA\MSVOA10\METHODS\W082317.M
 Quant Title : MS#10 - 8260B WATERS 10mL Purge
 QLast Update : Thu Aug 24 16:00:37 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.397	168	264714	50.00	ug/L	0.00
41) 1,4-Difluorobenzene	6.494	114	369245	50.00	ug/L	0.00
70) d5-Chlorobenzene	9.805	117	327561	50.00	ug/L	0.00
90) 1,4-Dichlorobenzene-d4	11.853	152	182805	50.00	ug/L	0.00
System Monitoring Compounds						
43) surr4,Dibromomethane	5.251	113	103860	44.78	ug/L	0.00
Spiked Amount	50.000	Range 89 - 119	Recovery	=	89.56%	
46) surr1,1,2-dichloroetha...	5.793	65	143959	51.50	ug/L	0.00
Spiked Amount	50.000	Range 73 - 125	Recovery	=	103.00%	
64) SURR3,Toluene-d8	8.311	98	446881	51.01	ug/L	0.00
Spiked Amount	50.000	Range 87 - 121	Recovery	=	102.02%	
69) SURR2,BFB	10.878	95	184022	51.79	ug/L	0.00
Spiked Amount	50.000	Range 85 - 122	Recovery	=	103.58%	
Target Compounds						
						Qvalue
3) Chloromethane	1.288	50	1424	0.26	ug/L	77
4) Vinyl Chloride	1.373	62	940	0.25	ug/L	90
5) Bromomethane	1.593	94	1659	0.54	ug/L #	53
15) Acetone	2.361	43	1066	0.55	ug/L	80
25) Methyl-t-Butyl Ether	3.062	73	1479	0.20	ug/L #	66
33) cis-1,2-Dichloroethene	4.385	96	3198	1.17	ug/L	88
34) 2-Butanone	4.458	43	3022	1.10	ug/L #	57
71) Tetrachloroethene	8.982	164	915	0.47	ug/L #	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ju
11/16/17

Data Path : I:\ACQUDATA\msvoa10\data\101617\
 Data File : N8826.D
 Acq On : 16 Oct 2017 2:04 pm
 Operator : F. NAEGLER
 Sample : R1709619-002|86.5
 Misc : AMEC 8043 T4
 ALS Vial : 9 Sample Multiplier: 1

Inst : MSVOA10

Sample Calc

Quant Time: Oct 17 14:58:11 2017
 Quant Method : I:\ACQUDATA\MSVOA10\METHODS\W082317.M
 Quant Title : MS#10 - 8260B WATERS 10mL Purge
 QLast Update : Thu Aug 24 16:00:37 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	5.397	168	266425	50.00	ug/L	0.00
41) 1,4-Difluorobenzene	6.494	114	395751	50.00	ug/L	0.00
70) d5-Chlorobenzene	9.805	117	366897	50.00	ug/L	0.00
90) 1,4-Dichlorobenzene-d4	11.853	152	190514	50.00	ug/L	0.00
System Monitoring Compounds						
43) surr4,Dibrflmethane	5.251	113	117049	47.09	ug/L	0.00
Spiked Amount	50.000	Range 89 - 119	Recovery	=	94.18%	
46) surr1,1,2-dichloroetha...	5.787	65	157763	52.66	ug/L	0.00
Spiked Amount	50.000	Range 73 - 125	Recovery	=	105.32%	
64) SURR3,Toluene-d8	8.311	98	473935	50.48	ug/L	0.00
Spiked Amount	50.000	Range 87 - 121	Recovery	=	100.96%	
69) SURR2,BFB	10.878	95	193558	50.82	ug/L	0.00
Spiked Amount	50.000	Range 85 - 122	Recovery	=	101.64%	
Target Compounds						
3) Chloromethane	1.294	50	1816	0.33	ug/L	Qvalue 96
25) Methyl-t-Butyl Ether	3.050	73	1465	0.20	ug/L	87
33) cis-1,2-Dichloroethene	4.379	96	3296	1.19	ug/L	94
53) Trichloroethene	6.823	130	4532	1.67	ug/L	# 85
71) Tetrachloroethene	8.982	164	62773	28.90	ug/L	✓ 95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

$$\text{Conc TCE} = \frac{4532}{395751} \times \frac{50}{13425} = 1.67 \frac{\mu\text{g}}{\text{L}} \times 86.5 = \frac{144.6}{1.808} = 179 \frac{\mu\text{g}}{\text{L}}$$

OK

$$\text{Conc PCE} = \frac{62773}{366897} \times \frac{50}{1296} = 28.9 \frac{\mu\text{g}}{\text{L}} \times 86.5 = \frac{2499.9}{1.808} = 3094 \frac{\mu\text{g}}{\text{L}}$$

OK

11/28/17

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country

Service Request: R1709619
Calibration Date: 8/23/2017

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1700080
Instrument ID: R-MS-10

Signal ID: 1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Dichloromethane	TRG	Average RF	% RSD	7.8	≤20	0.4683	0.100
Ethylbenzene	TRG	Average RF	% RSD	6.3	≤20	0.5137	0.100
Isopropylbenzene (Cumene)	TRG	Average RF	% RSD	8.0	≤20	1.593	0.100
Methyl Acetate	TRG	Average RF	% RSD	3.3	≤20	1.033	0.100
Methyl tert-Butyl Ether	TRG	Average RF	% RSD	3.8	≤20	1.363	0.100
Methylcyclohexane	TRG	Average RF	% RSD	7.4	≤20	0.555	0.100
Styrene	TRG	Average RF	% RSD	7.2	≤20	1.065	0.300
Tetrachloroethene (PCE)	TRG	Average RF	% RSD	5.2 ✓	≤20	0.296 ✓	0.200
Toluene	TRG	Average RF	% RSD	3.9	≤20	1.345	0.400
Trichloroethene (TCE)	TRG	Average RF	% RSD	6.7 ✓	≤20	0.3425 ✓	0.200
Trichlorofluoromethane (CFC 11)	TRG	Average RF	% RSD	4.3	≤20	0.6639	0.100
Vinyl Chloride	TRG	Average RF	% RSD	8.0	≤20	0.702	0.100
cis-1,2-Dichloroethene	TRG	Average RF	% RSD	3.0	≤20	0.5177	0.100
cis-1,3-Dichloropropene	TRG	Average RF	% RSD	17.6	≤20	0.4468	0.200
m,p-Xylenes	TRG	Average RF	% RSD	5.8	≤20	0.6486	0.100
o-Xylene	TRG	Average RF	% RSD	3.8	≤20	0.6515	0.300
trans-1,2-Dichloroethene	TRG	Average RF	% RSD	5.3	≤20	0.4475	0.100
trans-1,3-Dichloropropene	TRG	Average RF	% RSD	19.5	≤20	0.3292	0.100
4-Bromofluorobenzene	SURR	Average RF	% RSD	8.4	≤20	0.4812	
Dibromofluoromethane	SURR	Average RF	% RSD	8.9	≤20	0.314	
Toluene-d8	SURR	Average RF	% RSD	9.3	≤20	1.186	

jr
11/28/17

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country

Service Request: R1709619
Calibration Date: 8/23/2017

Initial Calibration Summary
Volatile Organic Compounds by GC/MS

Calibration ID: RC1700080

Signal ID: 1

Instrument ID: R-MS-10

$$\overline{RRF} = 0.296 \quad \%RSD = \frac{0.0155}{0.296} = 5.24\% \quad \text{OK}$$

PCE

Analyte

Methyl Acetate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9751	02	1.000	1.016	03	2.000	1.085	04	5.000	1.021
05	50.000	1.067	06	100.000	1.028	07	150.000	1.045	08	200.000	1.022

Methyl tert-Butyl Ether

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.326	02	1.000	1.276	03	2.000	1.36	04	5.000	1.32
05	50.000	1.399	06	100.000	1.393	07	150.000	1.416	08	200.000	1.418

Methylcyclohexane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6154	02	1.000	0.5556	03	2.000	0.5117	04	5.000	0.5597
05	50.000	0.5018	06	100.000	0.5186	07	150.000	0.5908	08	200.000	0.5865

Styrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.9769	02	1.000	0.9571	03	2.000	1.032	04	5.000	1.048
05	50.000	1.118	06	100.000	1.071	07	150.000	1.165	08	200.000	1.154

Tetrachloroethene (PCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.3113	02	1.000	0.2893	03	2.000	0.3066	04	5.000	0.3081
05	50.000	0.2965	06	100.000	0.2622	07	150.000	0.298	08	200.000	0.2962

Toluene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	1.318	02	1.000	1.273	03	2.000	1.326	04	5.000	1.376
05	50.000	1.371	06	100.000	1.283	07	150.000	1.411	08	200.000	1.403

Trichloroethene (TCE)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.2968	02	1.000	0.329	03	2.000	0.3413	04	5.000	0.3575
05	50.000	0.356	06	100.000	0.3326	07	150.000	0.3634	08	200.000	0.3634

Trichlorofluoromethane (CFC 11)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.6287	02	1.000	0.667	03	2.000	0.6604	04	5.000	0.6697
05	50.000	0.6815	06	100.000	0.6154	07	150.000	0.6952	08	200.000	0.693

Vinyl Chloride

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.7008	02	1.000	0.6083	03	2.000	0.6448	04	5.000	0.6908
05	50.000	0.7523	06	100.000	0.693	07	150.000	0.7687	08	200.000	0.7577

cis-1,2-Dichloroethene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.500	0.531	02	1.000	0.4948	03	2.000	0.5183	04	5.000	0.519
05	50.000	0.5348	06	100.000	0.4945	07	150.000	0.5215	08	200.000	0.528

$$\overline{RRF} = 0.3425 \quad \%RSD = \frac{0.0228}{0.3425} = 6.67\% \quad \text{OK}$$

TCE

Method 5035 Tare Extraction Log

ALS Environmental - Rochester

Level: Medium

Folder #: R1709619

Instrument: Ohaus AV412

Lot # MeOH:

Lot # Sodium Bisulfate:

Comments:

$$DF = \frac{10 \text{ mL MeOH} + 6.49 \times (1 - .808)}{6.49} = 1.73 \text{ OK}$$

6.49

ju 4/24/17

Serial #	Sample ID	Order #	Final WT (g)	Tare WT (g)	Bottle Prep/Tare Date	Tare Analyst	Sample WT (g)	DIL	Extraction Date	Extraction Analyst	Final WT Date	Final WT	% Solid
17-241001113		R1709619-001	40.13	33.39		Manufacturer	6.74	1.65	10/10/2017	Field	10/12/2017	F. Naegler	83.1
17-241001031		R1709619-002	39.75	33.26		Manufacturer	6.49	1.73	10/10/2017	Field	10/12/2017	F. Naegler	80.8
17-241001111		R1709619-003	40.07	33.47		Manufacturer	6.60	1.71	10/10/2017	Field	10/12/2017	F. Naegler	80.1
17-241000939		R1709619-004	39.93	33.51		Manufacturer	6.42	1.79	10/10/2017	Field	10/12/2017	F. Naegler	76.4
17-241001116	MS/MSD	R1709619-005	39.03	33.16		Manufacturer	5.87	1.89	10/10/2017	Field	10/12/2017	F. Naegler	81.4
17-241001047		R1709619-005	39.67	33.43		Manufacturer	6.24	1.79	10/10/2017	Field	10/12/2017	F. Naegler	81.4
17-241001550		R1709619-005	40.15	33.07		Manufacturer	7.08	1.60	10/10/2017	Field	10/12/2017	F. Naegler	81.4
17-241001331		R1709619-006	39.73	33.17		Manufacturer	6.56	1.69	10/10/2017	Field	10/12/2017	F. Naegler	83.9
17-241001018		R1709619-007	39.49	33.22		Manufacturer	6.27	1.80	10/10/2017	Field	10/12/2017	F. Naegler	79.5
17-241001343		R1709619-008	40.45	33.38		Manufacturer	7.07	1.63	10/10/2017	Field	10/12/2017	F. Naegler	78.6
17-241001347		R1709619-009	39.90	33.46		Manufacturer	6.44	1.75	10/10/2017	Field	10/12/2017	F. Naegler	80.7
17-241001341		R1709619-010	40.51	33.60		Manufacturer	6.91	1.64	10/10/2017	Field	10/12/2017	F. Naegler	80.5
17-241001322		R1709619-011	40.76	33.53		Manufacturer	7.23	1.58	10/10/2017	Field	10/12/2017	F. Naegler	80.6
17-241001325		R1709619-012	40.46	33.56		Manufacturer	6.90	1.65	10/10/2017	Field	10/12/2017	F. Naegler	79.7
17-241001342		R1709619-013	38.91	33.49		Manufacturer	5.42	2.05	10/10/2017	Field	10/12/2017	F. Naegler	79.7
17-241001329		R1709619-014	39.43	33.08		Manufacturer	6.35	1.79	10/10/2017	Field	10/12/2017	F. Naegler	78.7
17-241001360		R1709619-015	39.87	33.25		Manufacturer	6.62	1.71	10/10/2017	Field	10/12/2017	F. Naegler	79.7
17-241001344		R1709619-016	40.24	33.30		Manufacturer	6.94	1.65	10/10/2017	Field	10/12/2017	F. Naegler	79.0
17-241000938		R1709619-017	40.01	33.37		Manufacturer	6.64	1.69	10/10/2017	Field	10/12/2017	F. Naegler	82.0
17-241000941		R1709619-018	40.09	33.47		Manufacturer	6.62	1.70	10/10/2017	Field	10/12/2017	F. Naegler	80.7
17-241001316		R1709619-019	40.07	33.32		Manufacturer	6.75	1.69	10/10/2017	Field	10/12/2017	F. Naegler	78.9
17-241000948		R1709619-020	40.20	33.49		Manufacturer	6.71	1.68	10/10/2017	Field	10/12/2017	F. Naegler	81.3
17-241001339		R1709619-021	39.82	33.43		Manufacturer	6.39	1.77	10/10/2017	Field	10/12/2017	F. Naegler	79.1

Med Level based on 10 mLs MeOH

Low Level based on 5 mL DI

Analysis:	8260 C	Analyst:	F. Naegele	pH strips:	—	Tune Method:	W082317.M
Date:	10/16/17	Balance ID:	02/07	ResCl strips:	—	Run Method:	↓
Instr.	MS10	50 mL Class A used for dilution FV		Syringes:	77158 / 18117	LIMS Run#:	566000

[illegible]

All samples =		5 mL +	5 uL combined IS/Surr.	5 mL purged	Combined IS/Surr
16 Primary	500	184537	-	5uL	Surrogate 50 : 184541
16 Primary		184947	-	5uL	Internal Std 50 : 184590
16 Primary		184539	-	5uL	Reagents:
16 Primary		184117	-	5uL	
Primary					

VOCs

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: Town & Country

Method: 8260C

Laboratory: ALS Global

SDG(s): R1709620

Date: 11/16/17

Reviewer: Julie Richard

Review Level ☒ NYSDEC DUSR

USEPA Region II Guideline

1. ☒ Case Narrative Review and COC/Data Package Completeness

COMMENTS

Were problems noted? CCVs noted for subset of target analytes w/no significant

Are Field Sample IDs and Locations assigned correctly? YES NO (circle one) data impact per narr.

Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)

2. ☒ Holding time and Sample Collection

All samples were analyzed within the 14 day holding time. YES NO (circle one)

3. ☒ QC Blanks

Are method blanks free of contamination? YES NO (circle one)

Are Trip blanks free of contamination? YES NO (circle one)

TBS-101017: Acetone 2,3 J 45% ND TBS-101117: ND

Are Rinse blanks free of contamination? YES NO NA (circle one)

4. ☒ Instrument Tuning - Data Package Narrative Review

Did the laboratory narrative identify any results that were not within method criteria? YES NO (circle one)

If yes, use professional judgment to evaluate data and qualify results if needed

5. ☒ Instrument Calibration - Data Package Narrative Review

Did the laboratory narrative identify compounds that were not within criteria in the initial and/or continuing calibration standards? YES NO (circle one)

no specific compounds noted; general statements in narrative

Initial Calibration %RSD = 20% (30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC)

Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane, Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane

Continuing Calibration %D = 20%

Did the laboratory qualify results based on initial or continuing calibration exceedances? YES NO (circle one)

If yes to above, use professional judgment to evaluate data and qualify results if needed

6. ☒ Internal Standards - Data Package Narrative Review

(Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL))

Did the laboratory narrative identify any sample internal standards that were not within criteria?

YES NO (circle one)

Did the laboratory qualify results based on internal standard exceedances? YES NO (circle one)

If yes to above, use professional judgment to evaluate data and qualify results if needed

7. ☒ Surrogate Recovery - Region II limits (water 80-120%, soil 70-130%)

Were all results within Region II limits? YES NO (circle one)

8. ☒ Matrix Spike - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)

Were MS/MSDs submitted/analyzed? YES NO (circle one)

Were all results within the Region II limits? YES NO NA (circle one)

9. ☒ **Duplicates - Region II Limits** (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? YES NO

Were all results within Region II limits? (soil RPD<100, water RPD<50) YES NO NA

10. ☒ **Laboratory Control Sample Results - Region II** (Water and soil 70-130%)

Were all results were within Region II control limits? YES NO (circle one)

11. ☒ **Raw Data Review and Calculation Checks**
See attached summaries for methyl acetate grabs 45 all soils

12. ☒ **Electronic Data Review and Edits**
See checklist for SDG R1709619

Does the EDD match the Form Is? YES NO (circle one)

13. ☒ **Tables and TIC Review**

Table 1 (Samples and Analytical Methods)

Table 2 (Analytical Results)

Table 3 (Qualification Actions)

Were all tables produced and reviewed? YES NO (circle one)

Table 4 (TICs) Did lab report TICs? YES NO (circle one)

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05

Service Request: R1709620

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709620-001	360109-DP047002	10/10/2017	1358
R1709620-002	360109-DP047003	10/10/2017	1405
R1709620-003	360109-DP047004	10/10/2017	1410
R1709620-004	360109-DP047007	10/10/2017	1415
R1709620-005	360109-DP047008	10/10/2017	1425
R1709620-006	360109-DP047009	10/10/2017	1430
R1709620-007	360109-TBS-101017	10/10/2017	0930
R1709620-008	360109-DP040009	10/11/2017	1100
R1709620-009	360109-DP041002	10/11/2017	1155
R1709620-010	360109-DP041005	10/11/2017	1200
R1709620-011	360109-DP041008	10/11/2017	1210
R1709620-012	360109-DP041009	10/11/2017	1215
R1709620-013	360109-DP041004	10/11/2017	1255
R1709620-014	360109-DP041012	10/11/2017	1300
R1709620-015	360109-TBS-101117	10/11/2017	1305

*Corrected during data loading
by BJS grullin*

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

70-130

Lab Control Sample
RQ1711036-07

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	20.3	20.0	101	40-140
1,1,2,2-Tetrachloroethane	8260C	19.6	20.0	98	40-140
1,1,2-Trichloroethane	8260C	20.7	20.0	103	40-140
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	20.2	20.0	101	40-140
1,1-Dichloroethane (1,1-DCA)	8260C	19.2	20.0	96	40-140
1,1-Dichloroethene (1,1-DCE)	8260C	19.0	20.0	95	40-140
1,2,3-Trichlorobenzene	8260C	20.9	20.0	105	40-140
1,2,4-Trichlorobenzene	8260C	21.8	20.0	109	40-140
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.6	20.0	93	40-140
1,2-Dibromoethane	8260C	20.7	20.0	103	40-140
1,2-Dichlorobenzene	8260C	19.9	20.0	99	40-140
1,2-Dichloroethane	8260C	20.2	20.0	101	40-140
1,2-Dichloropropane	8260C	19.1	20.0	96	40-140
1,3-Dichlorobenzene	8260C	19.6	20.0	98	40-140
1,4-Dichlorobenzene	8260C	20.6	20.0	103	40-140
1,4-Dioxane	8260C	338	400	85	40-140
2-Butanone (MEK)	8260C	23.2	20.0	116	40-140
2-Hexanone	8260C	24.3	20.0	121	40-140
4-Methyl-2-pentanone	8260C	24.6	20.0	123	40-140
Acetone	8260C	24.2	20.0	121	40-140
Benzene	8260C	19.9	20.0	100	40-140
Bromochloromethane	8260C	18.8	20.0	94	40-140
Bromodichloromethane	8260C	20.8	20.0	104	40-140
Bromoform	8260C	22.6	20.0	113	40-140
Bromomethane	8260C	17.6	20.0	88	40-140
Carbon Disulfide J+ (ND)	8260C	29.0	20.0	145 *	40-140
Carbon Tetrachloride	8260C	22.1	20.0	110	40-140
Chlorobenzene	8260C	20.1	20.0	100	40-140
Chloroethane	8260C	16.0	20.0	80	40-140
Chloroform	8260C	20.6	20.0	103	40-140
Chloromethane	8260C	17.7	20.0	88	40-140
Cyclohexane	8260C	19.2	20.0	96	40-140
Dibromochloromethane	8260C	20.7	20.0	104	40-140

ju 11/17/17

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711036-07

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	19.6	20.0	98	40-140
Dichloromethane	8260C	18.9	20.0	95	40-140
Ethylbenzene	8260C	21.1	20.0	105	40-140
Isopropylbenzene (Cumene)	8260C	21.2	20.0	106	40-140
Methyl Acetate	8260C	10.7	20.0	53	40-140
Methyl tert-Butyl Ether	8260C	18.8	20.0	94	40-140
Methylcyclohexane	8260C	20.2	20.0	101	40-140
Styrene	8260C	21.2	20.0	106	40-140
Tetrachloroethene (PCE)	8260C	20.7	20.0	103	40-140
Toluene	8260C	20.1	20.0	101	40-140
Trichloroethene (TCE)	8260C	19.4	20.0	97	40-140
Trichlorofluoromethane (CFC 11)	8260C	20.4	20.0	102	40-140
Vinyl Chloride	8260C	22.9	20.0	115	40-140
cis-1,2-Dichloroethene	8260C	18.3	20.0	92	40-140
cis-1,3-Dichloropropene	8260C	20.0	20.0	100	40-140
m,p-Xylenes	8260C	42.1	40.0	105	40-140
o-Xylene	8260C	19.9	20.0	99	40-140
trans-1,2-Dichloroethene	8260C	18.0	20.0	90	40-140
trans-1,3-Dichloropropene	8260C	22.0	20.0	110	40-140

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11/17/17

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Analyzed: 10/21/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711172-03

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	19.0	20.0	95	40-140
Dichloromethane	8260C	19.3	20.0	97	40-140
Ethylbenzene	8260C	21.2	20.0	106	40-140
Isopropylbenzene (Cumene)	8260C	20.3	20.0	102	40-140
Methyl Acetate	8260C	12.2	20.0	61	40-140
Methyl tert-Butyl Ether	8260C	20.2	20.0	101	40-140
Methylcyclohexane	8260C	21.4	20.0	107	40-140
Styrene	8260C	21.2	20.0	106	40-140
Tetrachloroethene (PCE)	8260C	20.5	20.0	103	40-140
Toluene	8260C	20.3	20.0	101	40-140
Trichloroethene (TCE)	8260C	19.1	20.0	96	40-140
Trichlorofluoromethane (CFC 11)	8260C	19.2	20.0	96	40-140
Vinyl Chloride	8260C	22.1	20.0	110	40-140
cis-1,2-Dichloroethene	8260C	18.3	20.0	92	40-140
cis-1,3-Dichloropropene	8260C	20.9	20.0	105	40-140
m,p-Xylenes	8260C	41.1	40.0	103	40-140
o-Xylene	8260C	20.3	20.0	101	40-140
trans-1,2-Dichloroethene	8260C	17.4	20.0	87	40-140
trans-1,3-Dichloropropene	8260C	23.8	20.0	119	40-140

All else OK

je 11/17/17

VOCs

NYSDEC DUSR PROJECT CHEMIST REVIEW RECORD

Project: Town & Country
Method: 8260C
Laboratory: ALS Global
Date: 11/16/17
Reviewer: Julie Ricardi

SDG(s): R1709687

Review Level ☒ NYSDEC DUSR

USEPA Region II Guideline

1. ☒ **Case Narrative Review and COC/Data Package Completeness** COMMENTS
Were problems noted? CCVs & LCS noted for subset of compounds w/ no significant
Are Field Sample IDs and Locations assigned correctly? YES NO (circle one) cant date impacts per
Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one) narrative
2. ☒ **Holding time and Sample Collection**
All samples were analyzed within the 14 day holding time. YES NO (circle one)
3. ☒ **QC Blanks** *cooler temp = 6° but samples delivered to lab on same day as collection w/ cooling in progress & OK*
Are method blanks free of contamination? YES NO (circle one)
Are Trip blanks free of contamination? YES NO (circle one)
TBS - 101117: ND (SDG R1709620)
Are Rinse blanks free of contamination? YES NO NA (circle one)
4. ☒ **Instrument Tuning - Data Package Narrative Review**
Did the laboratory narrative identify any results that were not within method criteria? YES NO
(circle one)
If yes, use professional judgment to evaluate data and qualify results if needed
5. ☒ **Instrument Calibration - Data Package Narrative Review**
Did the laboratory narrative identify compounds that were not within criteria in the initial and/or
continuing calibration standards? YES NO (circle one)
no specific compounds identified & no lab qualifiers applied - no action
Initial Calibration %RSD = 20% (30% for 1,1-DCE, chloroform, 1,2-DCP, toluene, ethylbenzene, VC)
Initial Avg RRF and Continuing RRF should be ≥ 0.05 and 0.10 for Chloromethane, 1,1-Dichloroethane,
Bromoform and 0.30 for Chlorobenzene and 1,1,2,2-Tetrachloroethane
Continuing Calibration %D = 20%
Did the laboratory qualify results based on initial or continuing calibration exceedances? YES NO
If yes to above, use professional judgment to evaluate data and qualify results if needed
6. ☒ **Internal Standards - Data Package Narrative Review**
(Area Limits = -50% to +100%, RTs within 30 seconds of daily CCAL standard (or ICAL mid-point if samples follow ICAL))
Did the laboratory narrative identify any sample internal standards that were not within criteria?
YES NO (circle one)
Did the laboratory qualify results based on internal standard exceedances? YES NO
If yes to above, use professional judgment to evaluate data and qualify results if needed
7. ☒ **Surrogate Recovery - Region II limits (water 80-120%, soil 70-130%)**
Were all results within Region II limits? YES NO (circle one)
8. ☒ **Matrix Spike - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)**
DP 040002 MS/MSD
Were MS/MSDs submitted/analyzed? YES NO
Were all results within the Region II limits? YES NO NA (circle one) *See attached summary for qualis*

9. ☒ **Duplicates - Region II Limits (water RPD 50, soil RPD 100)**
PP044007 / PP044070: PLE 1000000 / 290000 RPD = 110
Were Field Duplicates submitted/analyzed? YES NO (J) both results
PP043002 / PP043020: OK
Were all results within Region II limits? (soil RPD < 100, water RPD < 50) YES NO NA
10. ☒ **Laboratory Control Sample Results - Region II (Water and soil 70-130%)**
Were all results were within Region II control limits? YES NO (circle one)
See attached summaries for (quals)
11. ☒ **Raw Data Review and Calculation Checks**
See checklist for SDG R1709619
12. ☒ **Electronic Data Review and Edits**
Does the EDD match the Form Is? YES NO (circle one)
13. ☒ **Tables and TIC Review**
Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? YES NO (circle one)
Table 4 (TICs) Did lab report TICs? YES NO (circle one)

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267

Service Request: R1709687

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709687-001	360109-DP044002	10/11/2017	0905
R1709687-002	360109-DP044004	10/11/2017	0908
R1709687-003	360109-DP044007	10/11/2017	0910
R1709687-004	360109-DP044007D	10/11/2017	0910
R1709687-005	360109-DP044010	10/11/2017	0912
R1709687-006	360109-DP045002	10/11/2017	0935
R1709687-007	360109-DP045004	10/11/2017	0937
R1709687-008	360109-DP045007	10/11/2017	0939
R1709687-009	360109-DP042002	10/11/2017	1000
R1709687-010	360109-DP042004	10/11/2017	(1000) 1002
R1709687-011	360109-DP042008	10/11/2017	1004
R1709687-012	360109-DP042009	10/11/2017	1006
R1709687-013	360109-DP043002	10/11/2017	1025
R1709687-014	360109-DP043002D	10/11/2017	1025
R1709687-015	360109-DP043004	10/11/2017	1027
R1709687-016	360109-DP043009	10/11/2017	1029
R1709687-017	360109-DP043010	10/11/2017	1031
R1709687-018	360109-DP040002 MS/MSD	10/11/2017	1055
R1709687-019	360109-DP040005	10/11/2017	1057
R1709687-020	360109-DP040007	10/11/2017	1059

corrected in MACTEC
database during
validation

for
11/17/17

for
11/17/17

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Collected: 10/11/17
Date Received: 10/11/17
Date Analyzed: 10/24/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DP040002
Lab Code: R1709687-018
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

70-130/35

Analyte Name	Matrix Spike RQ1711079-05				Duplicate Matrix Spike RQ1711079-06					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane (TCA)	78 U	3210	3880	83	4140	3880	107	51-132	25	30
1,1,2,2-Tetrachloroethane	78 U	3780	3880	97	4050	3880	104	53-134	7	30
1,1,2-Trichloroethane	78 U	3910	3880	101	4280	3880	110	62-126	9	30
1,1,2-Trichloro-1,2,2-trifluoroethane	97 U	3300	3880	85	4300	3880	111	45-136	27	30
1,1-Dichloroethane (1,1-DCA)	97 U	3490	3880	90	4230	3880	109	53-131	19	30
1,1-Dichloroethene (1,1-DCE)	100 U	3350	3880	86	4090	3880	105	61-139	20	30
1,2,3-Trichlorobenzene	78 U	4060	3880	105	4530	3880	117	10-179	11	30
1,2,4-Trichlorobenzene	78 U	4120	3880	106	4500	3880	116	10-179	9	30
1,2-Dibromo-3-chloropropane (DBCP)	160 U	3410	3880	88	3700	3880	95	27-163	8	30
1,2-Dibromoethane	94 U	3940	3880	102	4180	3880	108	52-137	6	30
1,2-Dichlorobenzene	78 U	3690	3880	95	4060	3880	105	22-156	10	30
1,2-Dichloroethane	78 U	3780	3880	98	4130	3880	107	59-125	9	30
1,2-Dichloropropane	78 U	3460	3880	89	4000	3880	103	67-126	15	30
1,3-Dichlorobenzene	78 U	3660	3880	94	4090	3880	106	29-146	12	30
1,4-Dichlorobenzene	78 U	3700	3880	95	4120	3880	106	10-172	11	30
1,4-Dioxane	3100 U	85900	77600	111	95400	77600	123	50-148	10	30
2-Butanone (MEK)	390 U	3530	3880	91	3880	3880	100	43-134	9	30
2-Hexanone	390 U	3940	3880	101	4060	3880	105	37-146	4	30
4-Methyl-2-pentanone	390 U	3930	3880	101	4290	3880	111	47-145	9	30
Acetone	390 U	4570	3880	118	4800	3880	124	11-183	5	30
Benzene	78 U	3570	3880	92	4170	3880	108	63-126	16	30
Bromochloromethane	110 U	3300	3880	85	3890	3880	100	60-119	16	30
Bromodichloromethane	78 U	3410	3880	88	4130	3880	107	47-141	19	30
Bromoform	78 U	3650	3880	94	4100	3880	106	26-157	12	30
Bromomethane (UJ) MS-L	110 U	1820	3880	47	2260	3880	58	10-137	21	30
Carbon Disulfide	97 U	3030	3880	78	3410	3880	88	35-135	12	30
Carbon Tetrachloride	78 U	3030	3880	78	3820	3880	98	46-137	23	30
Chlorobenzene (UJ) MS-L	78 U	3630	3880	94	4120	3880	106	51-132	12	30
Chloroethane no RPD wat single	230 U	844	3880	22 *	1390	3880	36 *	45-132	48 *	30
Chloroform ND	98 U	3670	3880	95	4230	3880	109	61-124	14	30
Chloromethane	78 U	3150	3880	81	4100	3880	106	50-136	27	30
Cyclohexane	110 U	3580	3880	92	3660	3880	94	40-142	2	30
Dibromochloromethane	78 U	3490	3880	90	3820	3880	99	40-146	10	30
Dichlorodifluoromethane (CFC 12)	150 U	2920	3880	75	3810	3880	98	44-138	27	30
Dichloromethane	78 U	3450	3880	89	4030	3880	104	64-120	16	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Collected: 10/11/17
Date Received: 10/11/17
Date Analyzed: 10/24/17
Date Extracted: NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name: 360109-DP040002
Lab Code: R1709687-018
Analysis Method: 8260C
Prep Method: EPA 5035A

Units: ug/Kg
Basis: Dry

70-130/35

Analyte Name	Matrix Spike RQ1711079-05				Duplicate Matrix Spike RQ1711079-06					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Ethylbenzene	78 U	3780	3880	97	4430	3880	114	44-131	16	30
Isopropylbenzene (Cumene)	78 U	3860	3880	100	4570	3880	118	36-148	17	30
Methyl Acetate	160 U	3710	3880	96	3690	3880	95	34-173	1	30
Methyl tert-Butyl Ether	78 U	3890	3880	100	4430	3880	114	62-130	13	30
Methylcyclohexane	94 U	3780	3880	97	4000	3880	103	33-148	6	30
Styrene	78 U	4060	3880	105	4610	3880	119	39-149	13	30
Tetrachloroethene (PCE)	78 U	3720	3880	96	4250	3880	109	45-141	13	30
Toluene	78 U	3600	3880	93	4150	3880	107	50-140	14	30
Trichloroethene (TCE)	79 U	3550	3880	92	4130	3880	107	54-136	15	30
Trichlorofluoromethane (CFC 11)	78 U	3280	3880	85	4230	3880	109	47-129	25	30
Vinyl Chloride	5+ (ND) 150 U	3940	3880	102	5120	3880	132 *	53-128	26	30
cis-1,2-Dichloroethene	78 U	3360	3880	87	4050	3880	104	56-126	18	30
cis-1,3-Dichloropropene	78 U	3370	3880	87	4090	3880	105	31-150	19	30
m,p-Xylenes	160 U	7610	7760	98	8780	7760	113	45-141	14	30
o-Xylene	78 U	3740	3880	96	4330	3880	112	46-139	15	30
trans-1,2-Dichloroethene	78 U	3280	3880	84	3920	3880	101	52-128	18	30
trans-1,3-Dichloropropene	78 U	3710	3880	96	4230	3880	109	23-160	13	30

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Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687

Date Analyzed: 10/24/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg

Basis:Dry

Lab Control Sample
RQ1711079-03

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	18.5	20.0	92	40-140
1,1,2,2-Tetrachloroethane	8260C	19.9	20.0	100	40-140
1,1,2-Trichloroethane	8260C	19.6	20.0	98	40-140
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	17.9	20.0	89	40-140
1,1-Dichloroethane (1,1-DCA)	8260C	17.6	20.0	88	40-140
1,1-Dichloroethene (1,1-DCE)	8260C	16.6	20.0	83	40-140
1,2,3-Trichlorobenzene	8260C	21.0	20.0	105	40-140
1,2,4-Trichlorobenzene	8260C	21.7	20.0	108	40-140
1,2-Dibromo-3-chloropropane (DBCP)	8260C	20.8	20.0	104	40-140
1,2-Dibromoethane	8260C	21.0	20.0	105	40-140
1,2-Dichlorobenzene	8260C	19.1	20.0	95	40-140
1,2-Dichloroethane	8260C	22.1	20.0	111	40-140
1,2-Dichloropropane	8260C	18.2	20.0	91	40-140
1,3-Dichlorobenzene	8260C	18.7	20.0	94	40-140
1,4-Dichlorobenzene	8260C	19.7	20.0	98	40-140
1,4-Dioxane	8260C	388	400	97	40-140
2-Butanone (MEK)	8260C	16.7	20.0	84	40-140
2-Hexanone	8260C	19.3	20.0	97	40-140
4-Methyl-2-pentanone	8260C	18.7	20.0	94	40-140
Acetone	8260C	20.6	20.0	103	40-140
Benzene	8260C	18.8	20.0	94	40-140
Bromochloromethane	8260C	17.4	20.0	87	40-140
Bromodichloromethane	8260C	20.5	20.0	103	40-140
Bromoform	8260C	22.0	20.0	110	40-140
Bromomethane	8260C	15.5	20.0	77	40-140
Carbon Disulfide	8260C	19.0	20.0	95	40-140
Carbon Tetrachloride	8260C	18.5	20.0	93	40-140
Chlorobenzene	8260C	19.3	20.0	96	40-140
Chloroethane	8260C	13.4	20.0	67	40-140
Chloroform	8260C	18.6	20.0	93	40-140
Chloromethane	8260C	15.4	20.0	77	40-140
Cyclohexane	8260C	19.4	20.0	97	40-140
Dibromochloromethane	8260C	20.3	20.0	101	40-140

Printed 10/27/2017 11:46:31 AM

Superset Reference:17-0000440875 rev 00

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687

Date Analyzed: 10/24/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg

Basis:Dry

Lab Control Sample
RQ1711079-03

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	17.3	20.0	87	40-140
Dichloromethane	8260C	18.7	20.0	94	40-140
Ethylbenzene	8260C	19.7	20.0	99	40-140
Isopropylbenzene (Cumene)	8260C	19.3	20.0	96	40-140
Methyl Acetate	8260C	12.5	20.0	62	40-140
Methyl tert-Butyl Ether	8260C	19.9	20.0	99	40-140
Methylcyclohexane	8260C	20.7	20.0	103	40-140
Styrene	8260C	20.0	20.0	100	40-140
Tetrachloroethene (PCE)	8260C	19.5	20.0	97	40-140
Toluene	8260C	18.8	20.0	94	40-140
Trichloroethene (TCE)	8260C	17.5	20.0	88	40-140
Trichlorofluoromethane (CFC 11)	8260C	17.4	20.0	87	40-140
Vinyl Chloride	8260C	19.1	20.0	96	40-140
cis-1,2-Dichloroethene	8260C	17.0	20.0	85	40-140
cis-1,3-Dichloropropene	8260C	18.8	20.0	94	40-140
m,p-Xylenes	8260C	38.4	40.0	96	40-140
o-Xylene	8260C	18.9	20.0	95	40-140
trans-1,2-Dichloroethene	8260C	17.2	20.0	86	40-140
trans-1,3-Dichloropropene	8260C	21.6	20.0	108	40-140

Jan 4/17/17

ALS Group USA, Corp.

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Analyzed: 10/24/17 12:22
Date Extracted:

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name: Lab Control Sample
Lab Code: RQ1711079-03
Analysis Method: 8260C
Prep Method: EPA 5035A

Instrument ID: R-MS-10
File ID: I:\ACQUDATA\msvoa10\data\102417\N9112.D\

Analysis Lot: 567158

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1711079-04	I:\ACQUDATA\msvoa10\data\102417\N9114.D\	10/24/17 13:12
360109-DP040002	R1709687-018 ✓	I:\ACQUDATA\msvoa10\data\102417\N9120.D\	10/24/17 15:34
360109-DP040005	R1709687-019 ✓	I:\ACQUDATA\msvoa10\data\102417\N9121.D\	10/24/17 15:56
360109-DP044007	R1709687-003 ✓	I:\ACQUDATA\msvoa10\data\102417\N9122.D\	10/24/17 16:17
360109-DP045007	R1709687-008 ✓	I:\ACQUDATA\msvoa10\data\102417\N9128.D\	10/24/17 18:43
360109-DP042008	R1709687-011 ✓	I:\ACQUDATA\msvoa10\data\102417\N9129.D\	10/24/17 19:05
360109-DP043009	R1709687-016 ✓	I:\ACQUDATA\msvoa10\data\102417\N9130.D\	10/24/17 19:26
360109-DP044007	R1709687-003 ✓	I:\ACQUDATA\msvoa10\data\102417\N9131.D\	10/24/17 19:48
360109-DP044007D	R1709687-004 ✓	I:\ACQUDATA\msvoa10\data\102417\N9132.D\	10/24/17 20:10
360109-DP044010	R1709687-005 ✓	I:\ACQUDATA\msvoa10\data\102417\N9133.D\	10/24/17 20:32
360109-DP042009	R1709687-012 ✓	I:\ACQUDATA\msvoa10\data\102417\N9134.D\	10/24/17 20:54
360109-DP040002	RQ1711079-05	I:\ACQUDATA\msvoa10\data\102417\N9135.D\	10/24/17 21:16
360109-DP040002	RQ1711079-06	I:\ACQUDATA\msvoa10\data\102417\N9136.D\	10/24/17 21:38

* chloroethane & methyl acetate not reported from this run

Jul 17/17

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Analyzed: 10/25/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711134-03

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	18.4	20.0	92	40-140
Dichloromethane	8260C	18.8	20.0	94	40-140
Ethylbenzene	8260C	20.4	20.0	102	40-140
Isopropylbenzene (Cumene)	8260C	20.7	20.0	103	40-140
Methyl Acetate	8260C	11.1	20.0	56	40-140
Methyl tert-Butyl Ether	8260C	19.8	20.0	99	40-140
Methylcyclohexane	8260C	20.1	20.0	101	40-140
Styrene	8260C	20.8	20.0	104	40-140
Tetrachloroethene (PCE)	8260C	20.3	20.0	102	40-140
Toluene	8260C	19.6	20.0	98	40-140
Trichloroethene (TCE)	8260C	18.8	20.0	94	40-140
Trichlorofluoromethane (CFC 11)	8260C	19.0	20.0	95	40-140
Vinyl Chloride	8260C	21.3	20.0	106	40-140
cis-1,2-Dichloroethene	8260C	17.4	20.0	87	40-140
cis-1,3-Dichloropropene	8260C	19.0	20.0	95	40-140
m,p-Xylenes	8260C	41.0	40.0	102	40-140
o-Xylene	8260C	20.1	20.0	100	40-140
trans-1,2-Dichloroethene	8260C	17.2	20.0	86	40-140
trans-1,3-Dichloropropene	8260C	22.3	20.0	112	40-140

All else OK

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711036-07

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	20.3	20.0	101	40-140
1,1,2,2-Tetrachloroethane	8260C	19.6	20.0	98	40-140
1,1,2-Trichloroethane	8260C	20.7	20.0	103	40-140
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	20.2	20.0	101	40-140
1,1-Dichloroethane (1,1-DCA)	8260C	19.2	20.0	96	40-140
1,1-Dichloroethene (1,1-DCE)	8260C	19.0	20.0	95	40-140
1,2,3-Trichlorobenzene	8260C	20.9	20.0	105	40-140
1,2,4-Trichlorobenzene	8260C	21.8	20.0	109	40-140
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.6	20.0	93	40-140
1,2-Dibromoethane	8260C	20.7	20.0	103	40-140
1,2-Dichlorobenzene	8260C	19.9	20.0	99	40-140
1,2-Dichloroethane	8260C	20.2	20.0	101	40-140
1,2-Dichloropropane	8260C	19.1	20.0	96	40-140
1,3-Dichlorobenzene	8260C	19.6	20.0	98	40-140
1,4-Dichlorobenzene	8260C	20.6	20.0	103	40-140
1,4-Dioxane	8260C	338	400	85	40-140
2-Butanone (MEK)	8260C	23.2	20.0	116	40-140
2-Hexanone	8260C	24.3	20.0	121	40-140
4-Methyl-2-pentanone	8260C	24.6	20.0	123	40-140
Acetone	8260C	24.2	20.0	121	40-140
Benzene	8260C	19.9	20.0	100	40-140
Bromochloromethane	8260C	18.8	20.0	94	40-140
Bromodichloromethane	8260C	20.8	20.0	104	40-140
Bromoform	8260C	22.6	20.0	113	40-140
Bromomethane	8260C	17.6	20.0	88	40-140
Carbon Disulfide	8260C	29.0	20.0	145 *	40-140
Carbon Tetrachloride	8260C	22.1	20.0	110	40-140
Chlorobenzene	8260C	20.1	20.0	100	40-140
Chloroethane	8260C	16.0	20.0	80	40-140
Chloroform	8260C	20.6	20.0	103	40-140
Chloromethane	8260C	17.7	20.0	88	40-140
Cyclohexane	8260C	19.2	20.0	96	40-140
Dibromochloromethane	8260C	20.7	20.0	104	40-140

gullin

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Soil

Service Request: R1709687
Date Analyzed: 10/23/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/Kg
Basis:Dry

Lab Control Sample
RQ1711036-07

70-130

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	19.6	20.0	98	40-140
Dichloromethane	8260C	18.9	20.0	95	40-140
Ethylbenzene	8260C	21.1	20.0	105	40-140
Isopropylbenzene (Cumene)	8260C	21.2	20.0	106	40-140
Methyl Acetate	8260C	10.7	20.0	53	40-140
Methyl tert-Butyl Ether	8260C	18.8	20.0	94	40-140
Methylcyclohexane	8260C	20.2	20.0	101	40-140
Styrene	8260C	21.2	20.0	106	40-140
Tetrachloroethene (PCE)	8260C	20.7	20.0	103	40-140
Toluene	8260C	20.1	20.0	101	40-140
Trichloroethene (TCE)	8260C	19.4	20.0	97	40-140
Trichlorofluoromethane (CFC 11)	8260C	20.4	20.0	102	40-140
Vinyl Chloride	8260C	22.9	20.0	115	40-140
cis-1,2-Dichloroethene	8260C	18.3	20.0	92	40-140
cis-1,3-Dichloropropene	8260C	20.0	20.0	100	40-140
m,p-Xylenes	8260C	42.1	40.0	105	40-140
o-Xylene	8260C	19.9	20.0	99	40-140
trans-1,2-Dichloroethene	8260C	18.0	20.0	90	40-140
trans-1,3-Dichloropropene	8260C	22.0	20.0	110	40-140

g m m m m

VOCs

PROJECT CATEGORY A REVIEW RECORD

Project: NYSDEL Town & Country

Method: SW-846 8260B

Laboratory: ALS Global

SDG(s): R1709688

Date: 11/15/17

Reviewer: Julie Ricardi

Review Level ☒ CATEGORY A

1. ☒ **Case Narrative Review and COC/Data Package Completeness** COMMENTS

Were problems noted? CCV and LCS noted w/ no significant effect on data per lab comments

Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)

Are Field Sample IDs and Locations assigned correctly? YES NO (circle one)

2. ☒ **Holding time and Sample Collection**

All samples were analyzed within the 14 day holding time. YES NO (circle one)

3. ☒ **QC Blanks** *cooler temp > 6° but sample received on day of collection so OK*

Are method blanks free of contamination? YES NO (circle one)

See attached for qual for chloromethane in DPO16009 (u) no qual

Are Trip blanks free of contamination? YES NO (circle one) N/A

TBW-10117 (SDG R1709688) 11/16/17

Are Rinse blanks free of contamination? YES NO NA (circle one)

4. ☒ **Matrix Spike** - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)

Were MS/MSDs submitted/analyzed? YES NO

Were all results were within the Region II limits? YES NO NA (circle one)

5. ☒ **Field Duplicates** - Region II Limits (water RPD 50, soil RPD 100)

Were Field Duplicates submitted/analyzed? YES NO

Were all results were within Region II Limits? YES NO NA (circle one)

6. ☒ **Reporting Limits**: Were samples analyzed at a dilution? YES NO (circle one)

Yes; elevated RL for ND result in subset of samples

7. ☒ **Electronic Data Review and Edits**

Does the EDD match the Form Is? YES NO (circle one)

8. ☒ **Table Review**

Table 1 (Samples and Analytical Methods)

Table 2 (Analytical Results)

Table 3 (Qualification Actions)

Were all tables produced and reviewed? YES NO (circle one)

Table 4 (TICs) Did lab report TICs? YES NO (circle one)

9. ☐ Surrogates: All OK

10. ☐ LCS: See attached for qual

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267

Service Request: R1709688

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709688-001	828149-DP010008	10/11/2017	0840
R1709688-002	828149-DP015009	10/11/2017	0840
R1709688-003	828149-DP014009	10/11/2017	0910
R1709688-004	828149-MW010010	10/11/2017	0920
R1709688-005	828149-MW002010	10/11/2017	0940
R1709688-006	828149-DP020012	10/11/2017	0955
R1709688-007	828149-DP016009	10/11/2017	1002
R1709688-008	828149-DP018009	10/11/2017	1030
R1709688-009	828149-GEMW001014	10/11/2017	1032
R1709688-010	828149-MW021B019	10/11/2017	1200
R1709688-011	828149-DP021009	10/11/2017	1240

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/17/17 11:55

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710678-04
Analysis Method: 8260C

Instrument ID: R-MS-14
File ID: I:\ACQUDATA\MSVOA14\Data\101717\C2224.D\
Analysis Lot: 566176

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710678-03	I:\ACQUDATA\MSVOA14\Data\101717\C2222.D\	10/17/17 11:06
828149-DP016009	R1709688-007	I:\ACQUDATA\MSVOA14\Data\101717\C2238.D\	10/17/17 17:33
828149-GEMW001014	R1709688-009	I:\ACQUDATA\MSVOA14\Data\101717\C2239.D\	10/17/17 17:56
828149-DP014009	R1709688-003	I:\ACQUDATA\MSVOA14\Data\101717\C2242.D\	10/17/17 19:43

Method Blank:

1,4 - Dichlorobenzene 0.21 J $\frac{49}{L}$

ND in samples

ju
11/15/17

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Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ1710678-04

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.36	1	10/17/17 11:55	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.25	1	10/17/17 11:55	
1,1,2-Trichloroethane	1.0 U	1.0	0.34	1	10/17/17 11:55	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	1.0	0.31	1	10/17/17 11:55	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.57	1	10/17/17 11:55	
1,2,3-Trichlorobenzene	1.0 U	1.0	0.82	1	10/17/17 11:55	
1,2,4-Trichlorobenzene	1.0 U	1.0	0.23	1	10/17/17 11:55	
1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	0.74	1	10/17/17 11:55	
1,2-Dibromoethane	1.0 U	1.0	0.24	1	10/17/17 11:55	
1,2-Dichlorobenzene	1.0 U	1.0	0.21	1	10/17/17 11:55	
1,2-Dichloroethane	1.0 U	1.0	0.36	1	10/17/17 11:55	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,3-Dichlorobenzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
1,4-Dichlorobenzene	0.21 J	1.0	0.20	1	10/17/17 11:55	
1,4-Dioxane	40 U	40	20	1	10/17/17 11:55	
2-Butanone (MEK)	5.0 U	5.0	0.81	1	10/17/17 11:55	
2-Hexanone	5.0 U	5.0	1.7	1	10/17/17 11:55	
4-Methyl-2-pentanone	5.0 U	5.0	0.67	1	10/17/17 11:55	
Acetone	5.0 U	5.0	1.3	1	10/17/17 11:55	
Benzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Bromochloromethane	1.0 U	1.0	0.32	1	10/17/17 11:55	
Bromodichloromethane	1.0 U	1.0	0.32	1	10/17/17 11:55	
Bromoform	1.0 U	1.0	0.42	1	10/17/17 11:55	
Bromomethane	1.0 U	1.0	0.29	1	10/17/17 11:55	
Carbon Disulfide	1.0 U	1.0	0.22	1	10/17/17 11:55	
Carbon Tetrachloride	1.0 U	1.0	0.45	1	10/17/17 11:55	
Chlorobenzene	1.0 U	1.0	0.29	1	10/17/17 11:55	
Chloroethane	1.0 U	1.0	0.24	1	10/17/17 11:55	
Chloroform	1.0 U	1.0	0.25	1	10/17/17 11:55	
Chloromethane	1.0 U	1.0	0.21	1	10/17/17 11:55	
Cyclohexane	1.0 U	1.0	0.25	1	10/17/17 11:55	
Dibromochloromethane	1.0 U	1.0	0.31	1	10/17/17 11:55	
Dichlorodifluoromethane (CFC 12)	1.0 U	1.0	0.46	1	10/17/17 11:55	
Dichloromethane	1.0 U	1.0	0.60	1	10/17/17 11:55	
Ethylbenzene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Isopropylbenzene (Cumene)	1.0 U	1.0	0.20	1	10/17/17 11:55	
Methyl Acetate	2.0 U	2.0	0.43	1	10/17/17 11:55	
Methyl tert-Butyl Ether	1.0 U	1.0	0.29	1	10/17/17 11:55	
Methylcyclohexane	1.0 U	1.0	0.27	1	10/17/17 11:55	
Styrene	1.0 U	1.0	0.20	1	10/17/17 11:55	
Tetrachloroethene (PCE)	1.0 U	1.0	0.30	1	10/17/17 11:55	
Toluene	1.0 U	1.0	0.20	1	10/17/17 11:55	

ju 11/15/17

All else ND

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/16/17 12:40

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710761-04
Analysis Method: 8260C
Instrument ID: R-MS-14
File ID: I:\ACQUDATA\MSVOA14\Data\101617\C2179.D\
Analysis Lot: 565993

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710761-03	I:\ACQUDATA\MSVOA14\Data\101617\C2177.D\	10/16/17 11:52
828149-DP018009	R1709688-008	I:\ACQUDATA\MSVOA14\Data\101617\C2181.D\	10/16/17 13:44
828149-MW021B019	R1709688-010	I:\ACQUDATA\MSVOA14\Data\101617\C2182.D\	10/16/17 14:06
828149-DP021009	R1709688-011	I:\ACQUDATA\MSVOA14\Data\101617\C2183.D\	10/16/17 14:28
828149-MW010010	R1709688-004	I:\ACQUDATA\MSVOA14\Data\101617\C2184.D\	10/16/17 14:50
828149-DP020012	R1709688-006	I:\ACQUDATA\MSVOA14\Data\101617\C2185.D\	10/16/17 15:12
828149-DP010008	R1709688-001	I:\ACQUDATA\MSVOA14\Data\101617\C2197.D\	10/16/17 19:39
828149-DP015009	R1709688-002	I:\ACQUDATA\MSVOA14\Data\101617\C2198.D\	10/16/17 20:01
828149-DP014009	R1709688-003	I:\ACQUDATA\MSVOA14\Data\101617\C2199.D\	10/16/17 20:23
828149-MW002010	R1709688-005	I:\ACQUDATA\MSVOA14\Data\101617\C2200.D\	10/16/17 20:45

Method Blank ND

Jr
11/15/17

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/18/17 11:21

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: RQ1710854-04
Analysis Method: 8260C

Instrument ID: R-MS-14
File ID: I:\ACQUDATA\MSVOA14\Data\101817\C2252.D\
Analysis Lot: 566351

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ1710854-03	I:\ACQUDATA\MSVOA14\Data\101817\C2250.D\	10/18/17 10:28
828149-DP010008	R1709688-001 not reported	I:\ACQUDATA\MSVOA14\Data\101817\C2257.D\	10/18/17 13:49
828149-DP016009	R1709688-007	I:\ACQUDATA\MSVOA14\Data\101817\C2258.D\	10/18/17 14:11

Method Blank:

Chloromethane 0.23 J $\frac{45}{2}$

for
11/15/17

~~DP 016009~~ or 11/15/17
else not reported

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Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1710854-04

Service Request: R1709688
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.0 U	1.0	0.36	1	10/18/17 11:21	
1,1,2,2-Tetrachloroethane	1.0 U	1.0	0.25	1	10/18/17 11:21	
1,1,2-Trichloroethane	1.0 U	1.0	0.34	1	10/18/17 11:21	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	1.0	0.31	1	10/18/17 11:21	
1,1-Dichloroethane (1,1-DCA)	1.0 U	1.0	0.20	1	10/18/17 11:21	
1,1-Dichloroethene (1,1-DCE)	1.0 U	1.0	0.57	1	10/18/17 11:21	
1,2,3-Trichlorobenzene	1.0 U	1.0	0.82	1	10/18/17 11:21	
1,2,4-Trichlorobenzene	1.0 U	1.0	0.23	1	10/18/17 11:21	
1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	0.74	1	10/18/17 11:21	
1,2-Dibromoethane	1.0 U	1.0	0.24	1	10/18/17 11:21	
1,2-Dichlorobenzene	1.0 U	1.0	0.21	1	10/18/17 11:21	
1,2-Dichloroethane	1.0 U	1.0	0.36	1	10/18/17 11:21	
1,2-Dichloropropane	1.0 U	1.0	0.20	1	10/18/17 11:21	
1,3-Dichlorobenzene	1.0 U	1.0	0.20	1	10/18/17 11:21	
1,4-Dichlorobenzene	1.0 U	1.0	0.20	1	10/18/17 11:21	
1,4-Dioxane	40 U	40	20	1	10/18/17 11:21	
2-Butanone (MEK)	5.0 U	5.0	0.81	1	10/18/17 11:21	
2-Hexanone	5.0 U	5.0	1.7	1	10/18/17 11:21	
4-Methyl-2-pentanone	5.0 U	5.0	0.67	1	10/18/17 11:21	
Acetone	5.0 U	5.0	1.3	1	10/18/17 11:21	
Benzene	1.0 U	1.0	0.20	1	10/18/17 11:21	
Bromochloromethane	1.0 U	1.0	0.32	1	10/18/17 11:21	
Bromodichloromethane	1.0 U	1.0	0.32	1	10/18/17 11:21	
Bromoform	1.0 U	1.0	0.42	1	10/18/17 11:21	
Bromomethane	1.0 U	1.0	0.29	1	10/18/17 11:21	
Carbon Disulfide	1.0 U	1.0	0.22	1	10/18/17 11:21	
Carbon Tetrachloride	1.0 U	1.0	0.45	1	10/18/17 11:21	
Chlorobenzene	1.0 U	1.0	0.29	1	10/18/17 11:21	
Chloroethane	1.0 U	1.0	0.24	1	10/18/17 11:21	
Chloroform	1.0 U	1.0	0.25	1	10/18/17 11:21	
Chloromethane	0.23 J	1.0	0.21	1	10/18/17 11:21	
Cyclohexane	1.0 U	1.0	0.25	1	10/18/17 11:21	
Dibromochloromethane	1.0 U	1.0	0.31	1	10/18/17 11:21	
Dichlorodifluoromethane (CFC 12)	1.0 U	1.0	0.46	1	10/18/17 11:21	
Dichloromethane	1.0 U	1.0	0.60	1	10/18/17 11:21	
Ethylbenzene	1.0 U	1.0	0.20	1	10/18/17 11:21	
Isopropylbenzene (Cumene)	1.0 U	1.0	0.20	1	10/18/17 11:21	
Methyl Acetate	2.0 U	2.0	0.43	1	10/18/17 11:21	
Methyl tert-Butyl Ether	1.0 U	1.0	0.29	1	10/18/17 11:21	
Methylcyclohexane	1.0 U	1.0	0.27	1	10/18/17 11:21	
Styrene	1.0 U	1.0	0.20	1	10/18/17 11:21	
Tetrachloroethene (PCE)	1.0 U	1.0	0.30	1	10/18/17 11:21	
Toluene	1.0 U	1.0	0.20	1	10/18/17 11:21	

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/17/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710678-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	22.4	20.0	112	65-152
Dichloromethane	8260C	20.0	20.0	100	73-122
Ethylbenzene	8260C	21.2	20.0	106	76-120
Isopropylbenzene (Cumene)	8260C	21.2	20.0	106	78-126
Methyl Acetate	8260C	17.6	20.0	88	62-131
Methyl tert-Butyl Ether	8260C	19.4	20.0	97	78-125
Methylcyclohexane	8260C	19.9	20.0	100	51-129
Styrene	8260C	20.7	20.0	103	80-124
Tetrachloroethene (PCE)	8260C	20.5	20.0	103	78-124
Toluene	8260C	21.3	20.0	106	77-120
Trichloroethene (TCE)	8260C	19.5	20.0	97	78-123
Trichlorofluoromethane (CFC 11)	8260C	23.3	20.0	116	68-126
Vinyl Chloride	8260C	26.3	20.0	131	69-133
cis-1,2-Dichloroethene	8260C	20.3	20.0	101	80-121
cis-1,3-Dichloropropene	8260C	19.2	20.0	96	74-126
m,p-Xylenes	8260C	42.7	40.0	107	78-123
o-Xylene	8260C	20.9	20.0	104	80-120
trans-1,2-Dichloroethene	8260C	20.6	20.0	103	80-120
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	67-135

Handwritten notes:
J+ (circled)
DP 016009
DP 014009
GEMW001014
All else ok
11/15/17
J+ (circled)

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QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/16/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710761-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.4	20.0	117	65-152
Dichloromethane	8260C	21.4	20.0	107	73-122
Ethylbenzene	8260C	21.3	20.0	106	76-120
Isopropylbenzene (Cumene)	8260C	21.6	20.0	108	78-126
Methyl Acetate	8260C	18.3	20.0	91	62-131
Methyl tert-Butyl Ether	8260C	19.6	20.0	98	78-125
Methylcyclohexane	8260C	19.9	20.0	100	51-129
Styrene	8260C	21.0	20.0	105	80-124
Tetrachloroethene (PCE)	8260C	21.1	20.0	106	78-124
Toluene	8260C	21.1	20.0	106	77-120
Trichloroethene (TCE)	8260C	19.2	20.0	96	78-123
Trichlorofluoromethane (CFC 11)	8260C	23.8	20.0	119	68-126
Vinyl Chloride J+ (ND)	8260C	27.1	20.0	135 *	69-133
cis-1,2-Dichloroethene	8260C	21.3	20.0	106	80-121
cis-1,3-Dichloropropene	8260C	20.1	20.0	100	74-126
m,p-Xylenes	8260C	43.1	40.0	108	78-123
o-Xylene	8260C	20.5	20.0	102	80-120
trans-1,2-Dichloroethene	8260C	21.5	20.0	108	80-120
trans-1,3-Dichloropropene	8260C	20.1	20.0	100	67-135

All else OK

J 11/15/17

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267
Sample Matrix: Water

Service Request: R1709688
Date Analyzed: 10/18/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1710854-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	22.6	20.0	113	65-152
Dichloromethane	8260C	21.2	20.0	106	73-122
Ethylbenzene	8260C	21.4	20.0	107	76-120
Isopropylbenzene (Cumene)	8260C	21.7	20.0	108	78-126
Methyl Acetate	8260C	17.7	20.0	89	62-131
Methyl tert-Butyl Ether	8260C	20.0	20.0	100	78-125
Methylcyclohexane	8260C	20.8	20.0	104	51-129
Styrene	8260C	21.6	20.0	108	80-124
Tetrachloroethene (PCE)	8260C	21.6	20.0	108	78-124
Toluene	8260C	21.2	20.0	106	77-120
Trichloroethene (TCE)	8260C	19.3	20.0	96	78-123
Trichlorofluoromethane (CFC 11)	8260C	23.7	20.0	119	68-126
Vinyl Chloride	8260C	26.2	20.0	131	69-133
cis-1,2-Dichloroethene	8260C	20.8	20.0	104	80-121
cis-1,3-Dichloropropene	8260C	19.6	20.0	98	74-126
m,p-Xylenes	8260C	43.8	40.0	109	78-123
o-Xylene	8260C	20.8	20.0	104	80-120
trans-1,2-Dichloroethene	8260C	21.0	20.0	105	80-120
trans-1,3-Dichloropropene	8260C	19.6	20.0	98	67-135

All else OK

ju
11/15/17

No Quads

for 11/20/17

VOCs

1,4-Dioxane only

PROJECT CATEGORY A REVIEW RECORD

Project: Town and Country

Method: SW-846 8260B

Laboratory: TAL

SDG(s): 460-143027-1

Date: 11/17/17

Reviewer: Julie Ricardi

Review Level ☒ CATEGORY A

1. ☒ **Case Narrative Review and COC/Data Package Completeness** COMMENTS
Were problems noted? OK; no impact on data
Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)
Are Field Sample IDs and Locations assigned correctly? YES NO (circle one)
2. ☒ **Holding time and Sample Collection**
All samples were analyzed within the 14 day holding time. YES NO (circle one)
3. ☒ **QC Blanks**
Are method blanks free of contamination? YES NO (circle one)
Are Trip blanks free of contamination? YES NO (circle one)
N/A
Are Rinse blanks free of contamination? YES NO NA (circle one)
4. ☒ **Matrix Spike - Region II limits (water and soil 70-130%, water RPD 20, soil RPD 35)**
Were MS/MSDs submitted/analyzed? YES NO
Were all results were within the Region II limits? YES NO NA (circle one)
5. ☒ **Field Duplicates - Region II Limits (water RPD 50, soil RPD 100)**
Were Field Duplicates submitted/analyzed? YES NO
Were all results were within Region II Limits? YES NO NA (circle one)
6. ☒ **Reporting Limits: Were samples analyzed at a dilution?** YES NO (circle one)
7. ☒ **Electronic Data Review and Edits**
Does the EDD match the Form Is? YES NO (circle one)
8. ☒ **Table Review**
Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? YES NO (circle one)
Table 4 (TICs) Did lab report TICs? YES NO (circle one)

9. ☒ **Surrogates: All OK**

Case Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: NYSDEC Town and Country Dry Cleaners

TestAmerica Job ID: 460-143027-1

Job ID: 460-143027-1

Laboratory: TestAmerica Edison

Narrative

Job Narrative
460-143027-1

Comments

No additional comments.

Receipt

The samples were received on 10/13/2017 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. No container totals recorded on the COC.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

PFAS

NYSDEC PROJECT CATEGORY A REVIEW RECORD

Project: Town & Country

Method: Modified 537

Laboratory and SDG(s): TAL

SDG# 320-32376-1

Date: 11/17/17

Reviewer: Julie Riccardi

Review Level ☒ CATEGORY A

1. ☒ **Case Narrative Review and Data Package Completeness** COMMENTS
Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)

Are Field Sample IDs and Locations assigned correctly? YES NO (circle one)
Narrative OK
2. ☒ **Holding time and Sample Collection**
Were all water samples extracted within the 14 day holding time, and extracts analyzed within 28 days? YES NO (circle one)
3. ☒ **QC Blanks**
Are method blanks free of contamination? YES NO (circle one)
PFTeA 0.212 J NGL u DP017015 else ND
Are field reagent blanks free of contamination? YES NO NA (circle one)
4. ☒ **Matrix Spike** (water & soil limits: lab limits)
Were MS/MSDs submitted/analyzed? YES NO

Were all results were within limits? YES NO NA (circle one)
5. ☒ **Field Duplicates** (RPD limits = water:50, soil:100)
Were Field Duplicates submitted/analyzed? YES NO

Were RPDs within criteria. YES NO NA (circle one)
6. ☒ **Reporting Limits:** Were samples analyzed at a dilution? YES NO (circle one)
7. ☒ **Electronic Data Review and Edits:** Does the EDD match the Form I's? YES NO (circle one)
8. **Table Review**
Table 1 (Samples and Analytical Methods)
Table 2 (Analytical Results)
Table 3 (Qualification Actions)
Were all tables produced and reviewed? YES NO (circle one)
9. ☒ **Isotope Dilution/Surrogates:** All OK (lab limits)
except 13CB-FOSA (S-232) J/UT professional
judgment all FOSA results

Isotope Dilution Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: NYSDEC Town and Country Dry Cleaners

TestAmerica Job ID: 320-32376-1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C4 PFB/ (25-150)	3C5 PFPe (25-150)	3C2 PFHx (25-150)	3C4-PFHp (25-150)	3C4 PFO/ (25-150)	3C5 PFNA (25-150)	3C2 PFD/ (25-150)	3C2 PFUn (25-150)
320-32376-1	828149-MW003009	34	62	75	86	94	95	99	98
320-32376-2	828149-MW02B020	67	89	95	102	89	90	91	88
320-32376-3	828149-MW013012	37	65	82	95	95	94	91	86
320-32376-4	828149-DP017015	32	62	79	90	90	84	82	78
LCS 320-190301/2-A	Lab Control Sample	109	106	108	118	108	108	107	103
LCSD 320-190301/3-A	Lab Control Sample Dup	112	108	110	115	112	111	117	107
MB 320-190301/1-A	Method Blank	112	109	112	120	114	115	124	118

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		3C2 PFDo (25-150)	C2-PFTeI (25-150)	3C3-PFB/ (25-150)	8O2 PFHx (25-150)	3C4 PFO/ (25-150)	3C8 FOS/ (25-150)		
320-32376-1	828149-MW003009	81	95	87	103	103	7*	J/W	FOSA
320-32376-2	828149-MW02B020	82	108	109	115	105	23*		
320-32376-3	828149-MW013012	77	97	91	112	107	5*		
320-32376-4	828149-DP017015	69	87	89	103	102	9*		
LCS 320-190301/2-A	Lab Control Sample	102	113	111	116	106	56		
LCSD 320-190301/3-A	Lab Control Sample Dup	99	102	113	117	109	59		
MB 320-190301/1-A	Method Blank	106	115	113	118	110	62		

Surrogate Legend

13C4 PFBA = 13C4 PFBA
13C5 PFPeA = 13C5 PFPeA
13C2 PFHxA = 13C2 PFHxA
13C4-PFHpA = 13C4-PFHpA
13C4 PFOA = 13C4 PFOA
13C5 PFNA = 13C5 PFNA
13C2 PFDA = 13C2 PFDA
13C2 PFUnA = 13C2 PFUnA
13C2 PFDaA = 13C2 PFDaA
13C2-PFTeDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
18O2 PFHxS = 18O2 PFHxS
13C4 PFOS = 13C4 PFOS
13C8 FOSA = 13C8 FOSA

11/17/17

GENERAL CHEMISTRY

NYSDEC PROJECT CATEGORY A REVIEW RECORD

Project: Town and Country
Method: MNA Parameters 6
Laboratory and SDG(s): ALS R1709818
Date: 11/20/17
Reviewer: Julie Ricciardi 11/20/17
Review Level ☒ Category A Review

1. ☒ Case Narrative Review and Data Package Completeness

Were all the samples on the COC analyzed for the requested analyses? YES NO (circle one)

Are Field Sample IDs and Locations assigned correctly? YES NO (circle one)

2. Holding time and Sample Collection

Were all samples properly preserved? YES NO (circle one)

Were all samples analyzed within the method/project holding times? YES NO (circle one)

*w exception of NO₂/NO₃ in At DP019012, J NO₂ & NO₃
UT

3. ☒ QC Blanks

Are method blanks free of contamination? YES NO (circle one)

Alkalinity 1.2 J ms (MB3)
Are Rinse blanks free of contamination? YES NO NA (circle one) No quals needed

4. ☒ Matrix Spike (Lab Limits)

Were MS/MSDs submitted/analyzed? YES NO (circle one)

Were all results were within limits? YES NO NA (circle one)

See attached for chloride qual
5. ☒ Field Duplicates (RPD limits for soil=100, water=50)

Were Field Duplicates submitted/analyzed? YES NO

Were RPDs within the limits? YES NO NA (circle one)

6. ☒ Reporting Limits: Were samples analyzed at a dilution? YES NO (circle one)

7. ☒ Electronic Data Review and Edits

Does the EDD match the Form Is? YES NO (circle one)

8. ☒ Table Review:

Table 1 (Samples and Analytical Methods)

Table 2 (Analytical Results)

Table 3 (Qualification Actions)

Were all tables produced and reviewed? YES NO (circle one)

9. ☒ LCS: 010

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1709618-MB3

Service Request: R1709618
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	1.2 J	mg/L	2.0	1.0	1	10/16/17 18:07	
Chloride	300.0	0.20 U	mg/L	0.20	0.02	1	10/13/17 04:11	
Nitrate as Nitrogen	300.0	0.10 U	mg/L	0.10	0.004	1	10/13/17 04:11	
Nitrite as Nitrogen	300.0	0.10 U	mg/L	0.10	0.02	1	10/13/17 04:11	
Sulfate	300.0	0.20 U	mg/L	0.20	0.02	1	10/13/17 04:11	

All samples > action level
no grab needed

gr
11/20/17

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Water

Service Request: R1709618
Date Collected: 10/10/17
Date Received: 10/10/17
Date Analyzed: 10/12/17

Duplicate Matrix Spike Summary
Chloride

Sample Name: 828149-MW001010
Lab Code: R1709618-005
Analysis Method: 300.0

Units: mg/L
Basis: NA

Analyte Name			Matrix Spike R1709618-005MS		Result	Duplicate Matrix Spike R1709618-005DMS		% Rec Limits	RPD	RPD Limit
	Sample Result	Result	Spike Amount	% Rec		Spike Amount	% Rec			
Chloride	617	837	200	110	887	200	135 *	90-110	6	20
<i>J+</i> <i>Mw samples</i> <i>ju 11/20/17</i>										

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ATTACHMENT 4

GEOTECHNICAL SOIL SAMPLE RESULTS



ALS Environmental
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October 31, 2017

Analytical Report for Service Request No: R1709620

Janice Jaeger
ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623

RE: NYSDEC Town and Country / 3612132267.05

Dear Janice Jaeger,

Enclosed are the results of the sample(s) submitted to our laboratory October 11, 2017
For your reference, these analyses have been assigned our service request number **R1709620**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager



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Table of Contents

Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

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General Chemistry

Raw Data

 General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS ro USA Cor ba ALS En iron enta ALS e so
State Certifications Accreditations and Licenses

A enc	eb Site	N ber
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
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ALS ENVIRONMENTAL

Client: AMEC Foster Wheeler E & I
Project: NYSDEC Town and Country/ 3612132267.05
Sample Matrix: Soil

Service Request No.: R1709620
Date Received: 10/17/17

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Four soil samples were received for analysis at ALS Environmental in Kelso, Washington on 10/17/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by _____





Chain of Custody

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Intra-Network Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

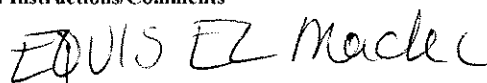
ALS Contact: Janice Jaeger

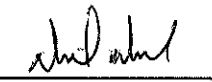
Project Name: NYSDEC Town and Country
Project Number: 3612132267.05
Project Manager: Chuck Staples
Company: AMEC Environmental & Infrastructure
QAP: LAB QAP

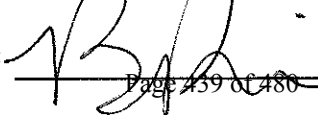
Part Size
ASTM D422

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample		Date Received	Send To	
				Date	Time			
R1709620-003	360109-DP047004	1	Soil	10/10/17	1410	10/10/17	KELSO	IV
R1709620-006	360109-DP047009	1	Soil	10/10/17	1430	10/10/17	KELSO	IV
R1709620-013	360109-DP041004	1	Soil	10/11/17	1255	10/11/17	KELSO	IV
R1709620-014	360109-DP041012	1	Soil	10/11/17	1300	10/11/17	KELSO	IV

Folder Comments:
report TICs on EDD

Special Instructions/Comments  pH Checked _____	Turnaround Requirements ☐ RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 ☒ STANDARD Requested FAX Date: _____ Requested Report Date: 10/27/17	Report Requirements ☐ I. Results Only ☐ II. Results + QC Summaries ☐ III. Results + QC and Calibration Summaries ☒ IV. Data Validation Report with Raw Data PQL/MDL/J <u>N</u> EDD <u>Y</u>	Invoice Information PO# 58R1709620 Bill to
--	---	---	---

Relinquished By:  10/16/17/1306

Received By: 

Airbill Number: _____

R1709620

 **Ship To: KELSO**
ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626

PC  Date 10/13/17
SMO _____ Date _____

Instructions:

Ice _____
Dry Ice _____
No Ice _____

Bill to Client Account _____

Shipping:

Overnight _____
2nd Day _____
Ground _____

Comments:



PC _____

Cooler Receipt and Preservation Form

Client ALS-DUMESTER Service Request K17
Received: 10/17/17 Opened: 10/17/17 By: BR Unloaded: 10/17/17 By: BR

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.6	-0.6	—	—	0.0	364	NA	182680227930		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/10/2017
Date Received: 10/10/2017
Date Analyzed: 10/24/2017

Particle Size Determination
ASTM D422

Sample Name: 360109-DP047004
Lab Code: R1709620-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	No.3/4" (19.0 mm)	0.0000	100.00
Gravel (9.50 mm)	No.3/8" (9.50 mm)	0.0000	100.00
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.00
Gravel, Fine	No.10 (2.00 mm)	0.0000	100.00
Sand, Very Coarse	No.20 (0.850 mm)	0.0448	99.86
Sand, Coarse	No.40 (0.425 mm)	0.0300	99.76
Sand, Medium	No.60 (0.250 mm)	0.0513	99.59
Sand, Fine	No.140 (0.106 mm)	0.3034	98.61
Sand, Very Fine	No.200 (0.0750 mm)	0.2356	97.85

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	97.45
0.005 mm	47.47
0.001 mm	17.62

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/10/2017
Date Received: 10/10/2017
Date Analyzed: 10/24/2017

Particle Size Determination
ASTM D422

Sample Name: 360109-DP047009
Lab Code: R1709620-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	No.3/4" (19.0 mm)	0.0000	99.94
Gravel (9.50 mm)	No.3/8" (9.50 mm)	1.7905	94.16
Gravel, Medium	No.4 (4.75 mm)	0.5204	92.48
Gravel, Fine	No.10 (2.00 mm)	0.4399	91.06
Sand, Very Coarse	No.20 (0.850 mm)	1.2778	86.93
Sand, Coarse	No.40 (0.425 mm)	0.5597	85.12
Sand, Medium	No.60 (0.250 mm)	0.5331	83.40
Sand, Fine	No.140 (0.106 mm)	1.7237	77.83
Sand, Very Fine	No.200 (0.0750 mm)	1.4042	73.30

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	70.58
0.005 mm	31.93
0.001 mm	8.84

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

Particle Size Determination
ASTM D422

Sample Name: 360109-DP041004
Lab Code: R1709620-013

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	No.3/4" (19.0 mm)	0.0000	100.00
Gravel (9.50 mm)	No.3/8" (9.50 mm)	0.0000	100.00
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.00
Gravel, Fine	No.10 (2.00 mm)	0.0000	100.00
Sand, Very Coarse	No.20 (0.850 mm)	0.0638	99.79
Sand, Coarse	No.40 (0.425 mm)	0.0585	99.61
Sand, Medium	No.60 (0.250 mm)	0.0327	99.50
Sand, Fine	No.140 (0.106 mm)	0.0936	99.20
Sand, Very Fine	No.200 (0.0750 mm)	0.0477	99.04

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	94.33
0.005 mm	38.41
0.001 mm	5.01

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

Particle Size Determination
ASTM D422

Sample Name: 360109-DP041012
Lab Code: R1709620-014

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	No.3/4" (19.0 mm)	0.0000	100.00
Gravel (9.50 mm)	No.3/8" (9.50 mm)	0.0000	100.00
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.00
Gravel, Fine	No.10 (2.00 mm)	0.0918	99.71
Sand, Very Coarse	No.20 (0.850 mm)	0.0972	99.40
Sand, Coarse	No.40 (0.425 mm)	0.1027	99.08
Sand, Medium	No.60 (0.250 mm)	0.0655	98.88
Sand, Fine	No.140 (0.106 mm)	0.1215	98.49
Sand, Very Fine	No.200 (0.0750 mm)	0.0381	98.37

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	97.01
0.005 mm	46.56
0.001 mm	16.42

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

Particle Size Determination
ASTM D422

Sample Name: 360109-DP041012
Lab Code: R1709620-014DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	No.3/4" (19.0 mm)	0.0000	100.00
Gravel (9.50 mm)	No.3/8" (9.50 mm)	0.0000	100.00
Gravel, Medium	No.4 (4.75 mm)	0.0000	100.00
Gravel, Fine	No.10 (2.00 mm)	0.0175	99.95
Sand, Very Coarse	No.20 (0.850 mm)	0.1445	99.49
Sand, Coarse	No.40 (0.425 mm)	0.0863	99.22
Sand, Medium	No.60 (0.250 mm)	0.0649	99.02
Sand, Fine	No.140 (0.106 mm)	0.1259	98.62
Sand, Very Fine	No.200 (0.0750 mm)	0.0603	98.44

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
0.074 mm	96.97
0.005 mm	47.30
0.001 mm	17.64



Raw Data

ALS Environmental—Kelso Laboratory
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General Chemistry

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ALS Group USA, Corp.

dba ALS Environmental

567296

Sample Name : 360109-DP047004
 Lab Code: R1709620-003
 Client: AMEC Foster Wheeler E & I (MACTEC)
 Project: SDEC Town and Country/3612132267.05
 Sample Matrix: Soil

Service Request: R1709620
 Method: D421 / D422
 Date Collected: 10/10/2017
 Date Received: 10/10/2017
 Date Analyzed: 10/24/2017

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 31.0252 (3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000
 (2) Coarse Material (6.2)
 Coarse material + Tare. (g) 1.3035 (4) Selected portion of fine material. (g) (7.1) 31.0252
 Tare weight. (g) 1.3035

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.0448
Gravel 0.425 mm	40	0.0300
Gravel 0.250 mm	60	0.0513
Gravel 0.106 mm	140	0.3034
Gravel 0.075 mm	200	0.2356
Pan	-	0.0383

Analysis of fine material.

Hydrometer corrections. (7.3)

Hydro 1 Hydro 2
 Reading: 4 0

Hygroscopic moisture. (8.1)

Air dried (g) 10.9442
 Tare (g) 1.3097
 Oven dried + Tare 12.2415

Weight of Fine material

Dry wt.+Tare (g)	128.0931
Tare (g)	127.3852
Fine material (g)	0.7079

Thermometer ID# C65669

Sieve % & Sum 99.4% 0.7034

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity	Table 1 a	Table 3 K
2	33	4	19	2.21	1.14	0.01570
5	32		19			0.01570
15	25		19			0.01570
30	20		19			0.01570
60	16		19			0.01570
250	12		19			0.01570
1440	10		20			0.01551

Balance ID# K-Balance-35

Reagent: Grain\1-34-R

Analyst: SC/AP Date: 10/24/2017
 Reviewed by:  Date: 10/28/17

Comments:

ALS Group USA, Corp.

dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/10/2017
Date Received: 10/10/2017
Date Analyzed: 10/24/2017

ASTM Method D422 Particle Size

Sample Name: 360109-DP047004 **Lab Code:** R1709620-003

Initial Weight of air-dried sample. (6.1)	31.0252
Mass retained on the No. 4 sieve. (6.2)	0.0000
Air-dried portion of fine material. (7.1)	31.0252

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)	Sieve #	Weight (g)	% Passing	Mass Passing
Gravel 19.0 mm	3/4"	0.0000	100.0	31.0252
Gravel 9.50 mm	3/8"	0.0000	100.0	31.0252
Medium Gravel 4.75 mm	4	0.0000	100.0	31.0252
Fine Gravel 2.00 mm	10	0.0000	100.0	31.0252

Fine sieving (11.1)

V.C. Sand 0.850 mm	20	0.0448	99.9	30.9452
C. Sand 0.425 mm	40	0.0300	99.8	30.9152
M. Sand 0.250 mm	60	0.0513	99.6	30.8639
F. Sand 0.106 mm	140	0.3034	98.6	30.5605
V.F. Sand 0.075 mm	200	0.2356	97.9	30.3249

(16.2)

Calculated amount retained on the # 10 sieve. (16.1) 0.0000

Total Recovered (g)	30.9900
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.9442
Oven dried sample (g)	10.9318
Hygroscopic Moisture (13.1)	0.9989

(W) (14.2)	30.9900
------------	---------

Oven-Dried Sample used in hydrometer analysis. (g) (14.1) 30.9900

Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia- meter
2	33	4	19	2.21	29	1.14	11.5	0.0156998	106.4	0.0377
5	32	4	19	2.21	28	1.14	11.7	0.0156998	102.7	0.0240
15	25	4	19	2.21	21	1.14	12.9	0.0156998	77.1	0.0145
30	20	4	19	2.21	16	1.14	13.7	0.0156998	58.7	0.0106
60	16	4	19	2.21	12	1.14	14.3	0.0156998	44.0	0.0077
250	12	4	19	2.21	8	1.14	15.0	0.0156998	29.4	0.0038
1440	10	4	20	2.21	6	1.14	15.3	0.0155093	22.0	0.0016

Comments:

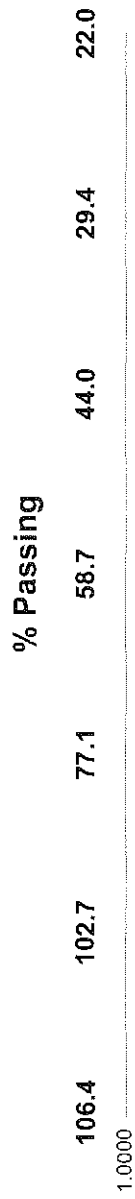
ALS Group USA, Corp.
dba ALS Environmental

	X	Y		
	arithmetic	logarithmic	Convert Y	Value of Y
	Percent Passing	Particle Diameter	mm to nm	Log form
<u>Sieve</u>	<u>(%)</u>	<u>(mm)</u>	<u>(nm)</u>	<u>(log)</u>
3/4"	100.0	19.0	19000000	7.279
3/8"	100.0	9.50	9500000	6.978
4	100.0	4.75	4750000	6.677
10	100.0	2.00	2000000	6.301
20	99.9	0.850	850000	5.929
40	99.8	0.425	425000	5.628
60	99.6	0.250	250000	5.398
140	98.6	0.106	106000	5.025
200	97.9	0.075	75000	4.875
2	106.4	0.0377	37720.10645	4.577
5	102.7	0.0240	24025.03403	4.381
15	77.1	0.0145	14534.5574	4.162
30	58.7	0.0106	10599.98833	4.025
60	44.0	0.0077	7672.881183	3.885
250	29.4	0.0038	3843.94594	3.585
1440	22.0	0.0016	1599.423599	3.204

determined hydrometer

<u>mm</u>	<u>mm to nm</u>	<u>log hyd x</u>	<u>% Passing</u>
0.074	74000	4.87	97.5
0.005	5000	3.70	47.5
0.001	1000	3.00	17.6

Sample Name: 360109-DP047004
Lab Code: R1709620-003



Diameter

Hydrometer Analysis

ALS Group USA, Corp.

dba ALS Environmental

Sample Name : 360109-DP047009
 Lab Code: R1709620-006
 Client: AMEC Foster Wheeler E & I (MACTEC)
 Project: SDEC Town and Country/3612132267.05
 Sample Matrix: Soil

Service Request: R1709620
 Method: D421 / D422
 Date Collected: 10/10/2017
 Date Received: 10/10/2017
 Date Analyzed: 10/24/2017

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 30.9726 (3) Mass retained on the No. 4 sieve. (g) (6.2) 0.5204
 (2) Coarse Material (6.2)
 Coarse material + Tare. (g) 4.0750 (4) Selected portion of fine material. (g) (7.1) 28.2218
 Tare weight. (g) 1.3052

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	1.7905
Gravel 4.75 mm	4	0.5204
Gravel 2.00 mm	10	0.4399

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	1.2778
Gravel 0.425 mm	40	0.5597
Gravel 0.250 mm	60	0.5331
Gravel 0.106 mm	140	1.7237
Gravel 0.075 mm	200	1.4042
Pan	-	0.0792

Analysis of fine material.

Hydrometer corrections. (7.3)

Hydro 1 Hydro 2
 Reading: 4 0

Hygroscopic moisture. (8.1)

Air dried (g) 10.8916
 Tare (g) 1.3002
 Oven dried + Tare 12.1802

Weight of Fine material

Dry wt.+Tare (g)	106.0810
Tare (g)	100.4524
Fine material (g)	5.6286

Thermometer ID# C65669

Sieve % & Sum 99.1% 5.5777

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity	Table 1 a	Table 3 K
2	22	4	19	2.25	1.12	0.01553
5	20		19			0.01553
15	17		19			0.01553
30	15		19			0.01553
60	14		19			0.01553
250	11		19			0.01553
1440	9		20			0.01534

Balance ID# K-Balance-35

Reagent: Grain\1-34-R

Analyst: SC/AP Date: 10/24/2017
 Reviewed by:  Date: 10/26/17

Comments:

ALS Group USA, Corp.

dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/10/2017
Date Received: 10/10/2017
Date Analyzed: 10/24/2017

ASTM Method D422 Particle Size

Sample Name: 360109-DP047009 **Lab Code:** R1709620-006

Initial Weight of air-dried sample. (6.1)	30.9726
Mass retained on the No. 4 sieve. (6.2)	0.5204
Air-dried portion of fine material. (7.1)	28.2218

Course Sieving ASTM D421 (6.2)	
Mass of coarse material (g)	2.7698
Percent Recovered	99.3

Coarse sieving (6.1)	Sieve #	Weight (g)	% Passing	Mass Passing
Gravel 19.0 mm	3/4"	0.0000	99.9	30.9536
Gravel 9.50 mm	3/8"	1.7905	94.2	29.1631
Medium Gravel 4.75 mm	4	0.5204	92.5	28.6427
Fine Gravel 2.00 mm	10	0.4399	91.1	28.2028

Fine sieving (11.1)					(16.2)
V.C. Sand 0.850 mm	20	1.2778	86.9	26.9139	
C. Sand 0.425 mm	40	0.5597	85.1	26.3542	
M. Sand 0.250 mm	60	0.5331	83.4	25.8211	
F. Sand 0.106 mm	140	1.7237	77.8	24.0974	
V.F. Sand 0.075 mm	200	1.4042	73.3	22.6932	

Calculated amount retained on the # 10 sieve. (16.1)	2.7687
--	--------

Total Recovered (g)	30.9425
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)	
Air-dried sample (g)	10.8916
Oven dried sample (g)	10.8800
Hygroscopic Moisture (13.1)	0.9989

(W) (14.2)	30.9605
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Oven-Dried Sample used in hydrometer analysis. (g) (14.1)	28.1917
---	---------

Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia- meter
2	22	4	19	2.25	18	1.12	13.3	0.0155315	65.2	0.0401
5	20	4	19	2.25	16	1.12	13.7	0.0155315	57.9	0.0257
15	17	4	19	2.25	13	1.12	14.2	0.0155315	47.1	0.0151
30	15	4	19	2.25	11	1.12	14.5	0.0155315	39.8	0.0108
60	14	4	19	2.25	10	1.12	14.7	0.0155315	36.2	0.0077
250	11	4	19	2.25	7	1.12	15.2	0.0155315	25.3	0.0038
1440	9	4	20	2.25	5	1.12	15.5	0.0153429	18.1	0.0016

Comments:

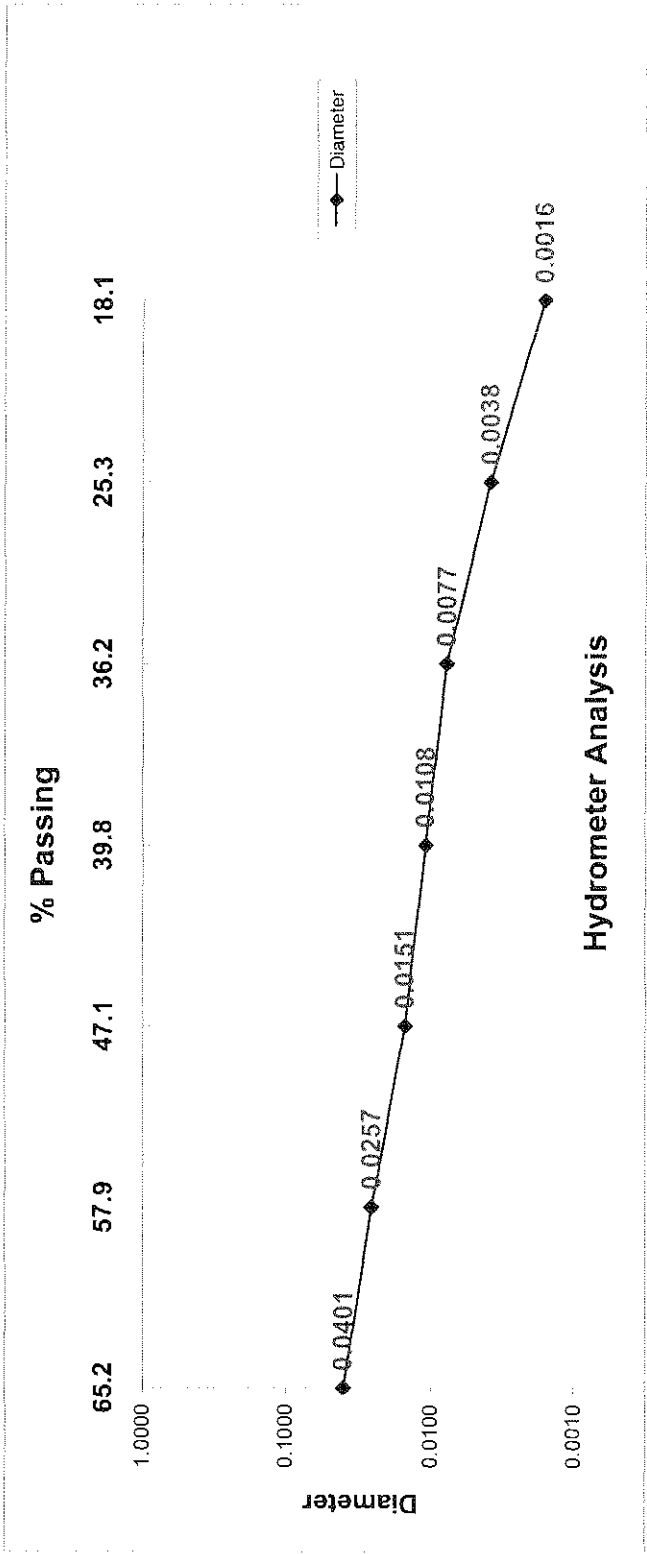
ALS Group USA, Corp.
dba ALS Environmental

	X	Y		
	arithmetic	logarithmic	Convert Y	Value of Y
	Percent Passing	Particle Diameter	mm to nm	Log form
<u>Sieve</u>	<u>(%)</u>	<u>(mm)</u>	<u>(nm)</u>	<u>(log)</u>
3/4"	99.9	19.0	19000000	7.279
3/8"	94.2	9.50	9500000	6.978
4	92.5	4.75	4750000	6.677
10	91.1	2.00	2000000	6.301
20	86.9	0.850	850000	5.929
40	85.1	0.425	425000	5.628
60	83.4	0.250	250000	5.398
140	77.8	0.106	106000	5.025
200	73.3	0.075	75000	4.875
2	65.2	0.0401	40123.87133	4.603
5	57.9	0.0257	25686.27774	4.410
15	47.1	0.0151	15094.2277	4.179
30	39.8	0.0108	10796.00214	4.033
60	36.2	0.0077	7676.964438	3.885
250	25.3	0.0038	3823.484436	3.582
1440	18.1	0.0016	1590.707619	3.202

determined hydrometer

<u>mm</u>	<u>mm to nm</u>	<u>log hyd x</u>	<u>% Passing</u>
0.074	74000	4.87	70.6
0.005	5000	3.70	31.9
0.001	1000	3.00	8.8

Sample Name: 360109-DP047009
Lab Code: R1709620-006



ALS Group USA, Corp.

dba ALS Environmental

Sample Name : 360109-DP041004
 Lab Code: R1709620-013
 Client: AMEC Foster Wheeler E & I (MACTEC)
 Project: SDEC Town and Country/3612132267.05
 Sample Matrix: Soil

Service Request: R1709620
 Method: D421 / D422
 Date Collected: 10/11/2017
 Date Received: 10/11/2017
 Date Analyzed: 10/24/2017

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 31.0617 (3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000
 (2) Coarse Material (6.2)
 Coarse material + Tare. (g) 1.3061 (4) Selected portion of fine material. (g) (7.1) 31.0617
 Tare weight. (g) 1.3061

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0000

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.0638
Gravel 0.425 mm	40	0.0585
Gravel 0.250 mm	60	0.0327
Gravel 0.106 mm	140	0.0936
Gravel 0.075 mm	200	0.0477
Pan	-	0.0066

Analysis of fine material.

Hydrometer corrections. (7.3)

Hydro 1 Hydro 2
 Reading: 4 0

Hygroscopic moisture. (8.1)

Air dried (g) 10.9349
 Tare (g) 1.3102
 Oven dried + Tare 12.2301

Weight of Fine material

Dry wt.+Tare (g)	99.6414
Tare (g)	99.3317
Fine material (g)	0.3097

Thermometer ID# C65669

Sieve % & Sum 97.8% 0.3029

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity	Table 1 a	Table 3 K
2	32	4	19	2.11	1.18	0.01612
5	29		19			0.01612
15	20		19			0.01612
30	16		19			0.01612
60	13		19			0.01612
250	10		19			0.01612
1440	9		20			0.01593

Balance ID# K-Balance-35

Reagent: Grain\1-34-R

Analyst: SC/AP Date: 10/24/2017
 Reviewed by:  Date: 10/28/17

Comments:

ALS Group USA, Corp.

dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

ASTM Method D422 Particle Size

Sample Name: 360109-DP041004 **Lab Code:** R1709620-013

Initial Weight of air-dried sample. (6.1)	31.0617
Mass retained on the No. 4 sieve. (6.2)	0.0000
Air-dried portion of fine material. (7.1)	31.0617

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0000
Percent Recovered	#DIV/0!

Coarse sieving (6.1)	Sieve #	Weight (g)	% Passing	Mass Passing
Gravel 19.0 mm	3/4"	0.0000	100.0	31.0617
Gravel 9.50 mm	3/8"	0.0000	100.0	31.0617
Medium Gravel 4.75 mm	4	0.0000	100.0	31.0617
Fine Gravel 2.00 mm	10	0.0000	100.0	31.0617

Fine sieving (11.1)

V.C. Sand 0.850 mm	20	0.0638	99.8	30.9553
C. Sand 0.425 mm	40	0.0585	99.6	30.8968
M. Sand 0.250 mm	60	0.0327	99.5	30.8641
F. Sand 0.106 mm	140	0.0936	99.2	30.7705
V.F. Sand 0.075 mm	200	0.0477	99.0	30.7228

(16.2)

Calculated amount retained on the # 10 sieve. (16.1) 0.0000

Total Recovered (g)	31.0191
Total Recovered (%)	100.0

Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.9349
Oven dried sample (g)	10.9199
Hygroscopic Moisture (13.1)	0.9986

(W) (14.2)	31.0191
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Oven-Dried Sample used in hydrometer analysis. (g) (14.1) 31.0191

Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia- meter
2	32	4	19	2.11	28	1.18	11.7	0.0161204	106.8	0.0390
5	29	4	19	2.11	25	1.18	12.2	0.0161204	95.4	0.0252
15	20	4	19	2.11	16	1.18	13.7	0.0161204	61.1	0.0154
30	16	4	19	2.11	12	1.18	14.3	0.0161204	45.8	0.0111
60	13	4	19	2.11	9	1.18	14.8	0.0161204	34.3	0.0080
250	10	4	19	2.11	6	1.18	15.3	0.0161204	22.9	0.0040
1440	9	4	20	2.11	5	1.18	15.5	0.0159253	19.1	0.0017

Comments:

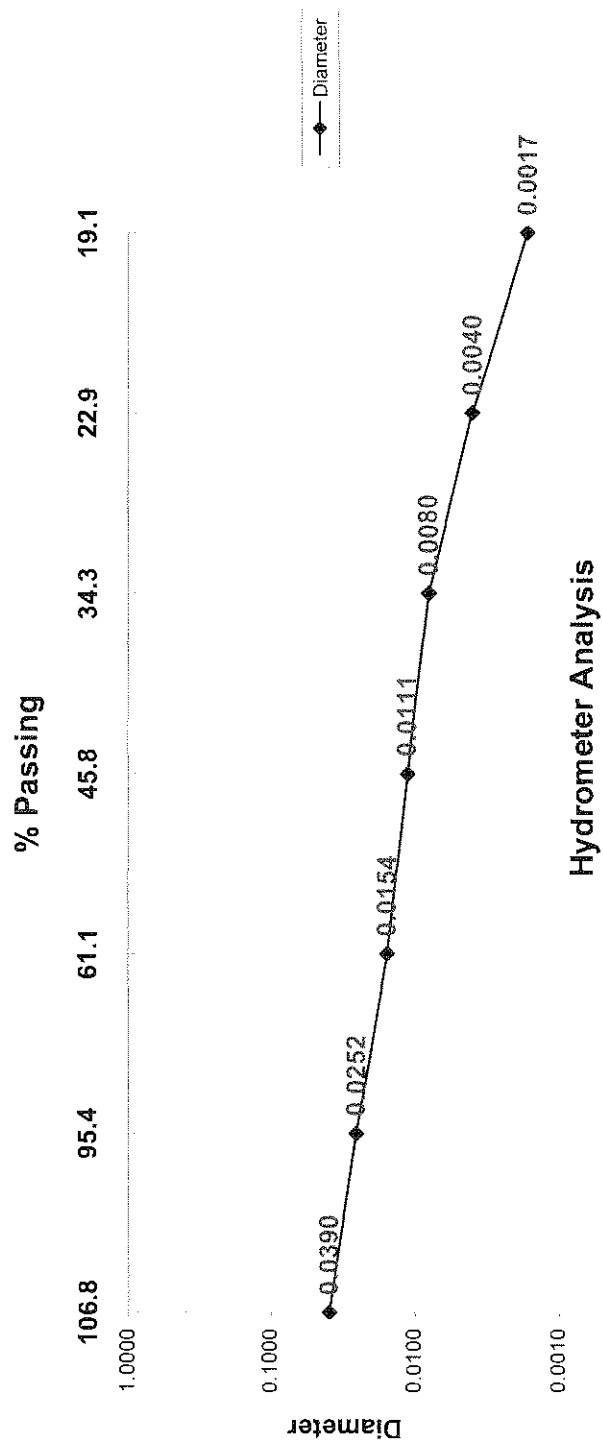
ALS Group USA, Corp.
dba ALS Environmental

	X	Y		
	arithmetic	logarithmic	Convert Y	Value of Y
	Percent Passing	Particle Diameter	mm to um	Log form
Sieve	(%)	(mm)	(nm)	(log)
3/4"	100.0	19.0	19000000	7.279
3/8"	100.0	9.50	9500000	6.978
4	100.0	4.75	4750000	6.677
10	100.0	2.00	2000000	6.301
20	99.8	0.850	850000	5.929
40	99.6	0.425	425000	5.628
60	99.5	0.250	250000	5.398
140	99.2	0.106	106000	5.025
200	99.0	0.075	75000	4.875
2	106.8	0.0390	39004.76176	4.591
5	95.4	0.0252	25181.4217	4.401
15	61.1	0.0154	15392.31699	4.187
30	45.8	0.0111	11141.84428	4.047
60	34.3	0.0080	8012.488103	3.904
250	22.9	0.0040	3989.87471	3.601
1440	19.1	0.0017	1651.08921	3.218

determined hydrometer

mm	mm to nm	log hyd x	% Passing
0.074	74000	4.87	94.3
0.005	5000	3.70	38.4
0.001	1000	3.00	5.0

Sample Name: 360109-DP041004
Lab Code: R1709620-013



ALS Group USA, Corp.

dba ALS Environmental

Sample Name : 360109-DP041012
 Lab Code: R1709620-014
 Client: AMEC Foster Wheeler E & I (MACTEC)
 Project: SDEC Town and Country/3612132267.05
 Sample Matrix: Soil

Service Request: R1709620
 Method: D421 / D422
 Date Collected: 10/11/2017
 Date Received: 10/11/2017
 Date Analyzed: 10/24/2017

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 31.8939 (3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000
 (2) Coarse Material (6.2)
 Coarse material + Tare. (g) 1.3942 (4) Selected portion of fine material. (g) (7.1) 31.8021
 Tare weight. (g) 1.3014

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0918

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.0972
Gravel 0.425 mm	40	0.1027
Gravel 0.250 mm	60	0.0655
Gravel 0.106 mm	140	0.1215
Gravel 0.075 mm	200	0.0381
Pan	-	0.0227

Analysis of fine material.

Hydrometer corrections. (7.3)

Hydro 1 Hydro 2
 Reading: 4 0

Hygroscopic moisture. (8.1)

Air dried (g) 10.8932
 Tare (g) 1.3038
 Oven dried + Tare 12.1837

Weight of Fine material

Dry wt.+Tare (g)	101.8446
Tare (g)	101.4009
Fine material (g)	0.4437

Thermometer ID# C65669

Sieve % & Sum 100.9% 0.4477

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity	Table 1 a	Table 3 K
2	34	4	19	2.09	1.19	0.01620
5	30		19			0.01620
15	23		19			0.01620
30	20		19			0.01620
60	16		19			0.01620
250	12		19			0.01620
1440	10		20			0.01601

Balance ID# K-Balance-35

Reagent: Grain1-34-R

Analyst: SC/AP Date: 10/24/2017
 Reviewed by:  Date: 10/28/17

Comments:

ALS Group USA, Corp.

dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

ASTM Method D422 Particle Size

Sample Name: 360109-DP041012 **Lab Code:** R1709620-014

Initial Weight of air-dried sample. (6.1)	31.8939
Mass retained on the No. 4 sieve. (6.2)	0.0000
Air-dried portion of fine material. (7.1)	31.8021

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0928
Percent Recovered	98.9

Coarse sieving (6.1)	Sieve #	Weight (g)	% Passing	Mass Passing
Gravel 19.0 mm	3/4"	0.0000	100.0	31.8929
Gravel 9.50 mm	3/8"	0.0000	100.0	31.8929
Medium Gravel 4.75 mm	4	0.0000	100.0	31.8929
Fine Gravel 2.00 mm	10	0.0918	99.7	31.8011

Fine sieving (11.1)

V.C. Sand 0.850 mm	20	0.0972	99.4	31.6661
C. Sand 0.425 mm	40	0.1027	99.1	31.5634
M. Sand 0.250 mm	60	0.0655	98.9	31.4979
F. Sand 0.106 mm	140	0.1215	98.5	31.3764
V.F. Sand 0.075 mm	200	0.0381	98.4	31.3383

(16.2)

Calculated amount retained on the # 10 sieve. (16.1) 0.0927

Hygroscopic Moisture (8.1)

Total Recovered (g)	31.8551
Total Recovered (%)	100.0

Air-dried sample (g)	10.8932
Oven dried sample (g)	10.8799
Hygroscopic Moisture (13.1)	0.9988

(W) (14.2)	31.8560
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Oven-Dried Sample used in hydrometer analysis. (g) (14.1) 31.7633

Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia- meter
2	34	4	19	2.09	30	1.19	11.4	0.0162046	112.4	0.0387
5	30	4	19	2.09	26	1.19	12.0	0.0162046	97.4	0.0251
15	23	4	19	2.09	19	1.19	13.2	0.0162046	71.2	0.0152
30	20	4	19	2.09	16	1.19	13.7	0.0162046	60.0	0.0109
60	16	4	19	2.09	12	1.19	14.3	0.0162046	45.0	0.0079
250	12	4	19	2.09	8	1.19	15.0	0.0162046	30.0	0.0040
1440	10	4	20	2.09	6	1.19	15.3	0.0160085	22.5	0.0017

Comments:

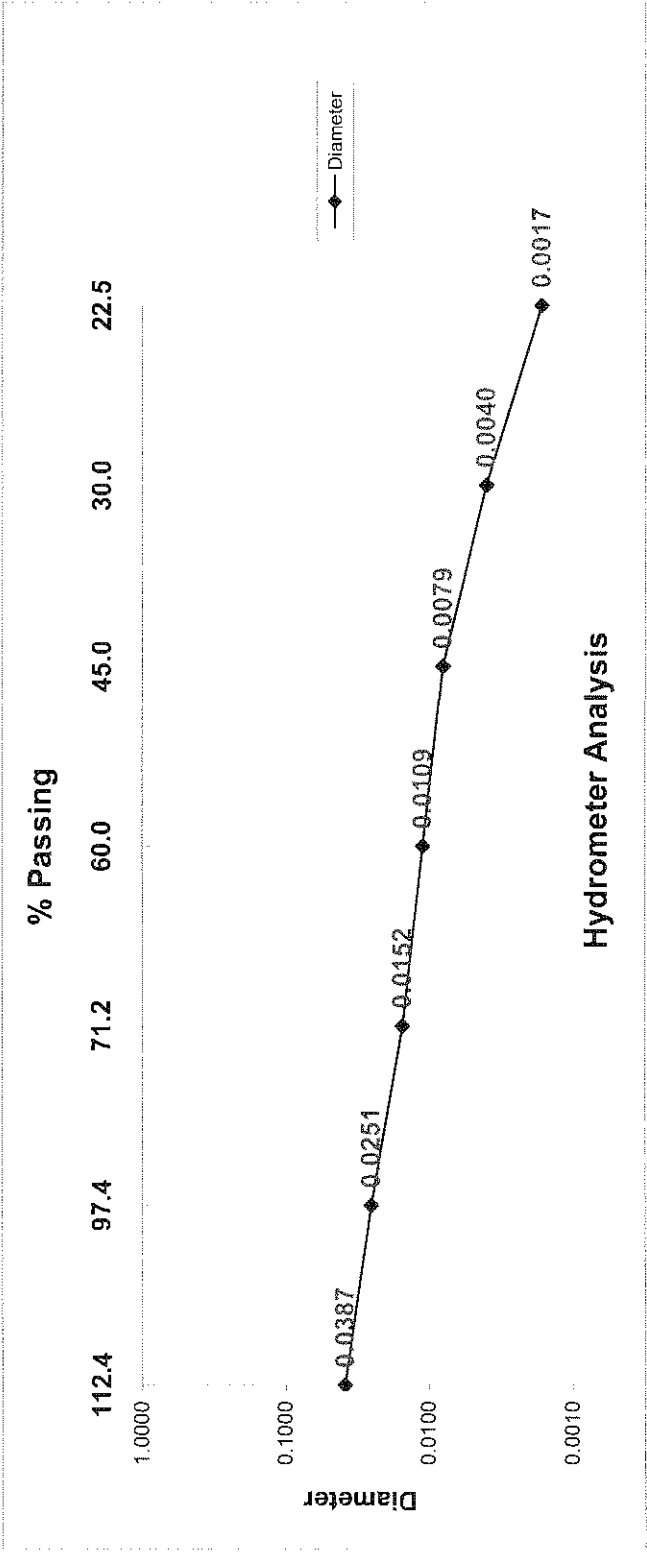
ALS Group USA, Corp.
dba ALS Environmental

	X	Y		
	arithmetic	logarithmic	Convert Y	Value of Y
	Percent Passing	Particle Diameter	mm to nm	Log form
<u>Sieve</u>	<u>(%)</u>	<u>(mm)</u>	<u>(nm)</u>	<u>(log)</u>
3/4"	100.0	19.0	19000000	7.279
3/8"	100.0	9.50	9500000	6.978
4	100.0	4.75	4750000	6.677
10	99.7	2.00	2000000	6.301
20	99.4	0.850	850000	5.929
40	99.1	0.425	425000	5.628
60	98.9	0.250	250000	5.398
140	98.5	0.106	106000	5.025
200	98.4	0.075	75000	4.875
2	112.4	0.0387	38655.59626	4.587
5	97.4	0.0251	25142.2462	4.400
15	71.2	0.0152	15191.94864	4.182
30	60.0	0.0109	10940.8164	4.039
60	45.0	0.0079	7919.592142	3.899
250	30.0	0.0040	3967.542744	3.599
1440	22.5	0.0017	1650.904503	3.218

determined hydrometer

<u>mm</u>	<u>mm to nm</u>	<u>log hyd x</u>	<u>% Passing</u>
0.074	74000	4.87	97.0
0.005	5000	3.70	46.6
0.001	1000	3.00	16.4

Sample Name: 360109-DP041012
Lab Code: R1709620-014



ALS Group USA, Corp.

dba ALS Environmental

Sample Name : 360109-DP041012
 Lab Code: R1709620-014DUP
 Client: AMEC Foster Wheeler E & I (MACTEC)
 Project: SDEC Town and Country/3612132267.05
 Sample Matrix: Soil

Service Request: R1709620
 Method: D421 / D422
 Date Collected: 10/11/2017
 Date Received: 10/11/2017
 Date Analyzed: 10/24/2017

Sample Preparation (ASTM D421-85)

(1) Mass of total test sample. (g) (6.1) 31.9544 (3) Mass retained on the No. 4 sieve. (g) (6.2) 0.0000
 (2) Coarse Material (6.2)
 Coarse material + Tare. (g) 1.3259 (4) Selected portion of fine material. (g) (7.1) 31.9369
 Tare weight. (g) 1.3085

Particle Analysis (ASTM D422-63)

Sieve Analysis Of Coarse Material. (6.1)

Gravel 19.0 mm	3/4"	0.0000
Gravel 9.50 mm	3/8"	0.0000
Gravel 4.75 mm	4	0.0000
Gravel 2.00 mm	10	0.0175

Sieve Analysis Of Fine Material. (11.1)

Gravel 0.850 mm	20	0.1445
Gravel 0.425 mm	40	0.0863
Gravel 0.250 mm	60	0.0649
Gravel 0.106 mm	140	0.1259
Gravel 0.075 mm	200	0.0603
Pan	-	0.0068

Analysis of fine material.

Hydrometer corrections. (7.3)

Hydro 1 Hydro 2
 Reading: 4 0

Hygroscopic moisture. (8.1)

Air dried (g) 10.8400
 Tare (g) 1.2939
 Oven dried + Tare 12.1228

Weight of Fine material

Dry wt.+Tare (g)	111.2701
Tare (g)	110.7812
Fine material (g)	0.4889

Thermometer ID# C65669

Sieve % & Sum 100.0% 0.4887

Determination of Silt/Clay Fraction. (10.2) (10.3) (10.4)

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Specific Gravity	Table 1 a	Table 3 K
2	33	4	19	2.09	1.19	0.01620
5	30		19			0.01620
15	24		19			0.01620
30	20		19			0.01620
60	17		19			0.01620
250	12		19			0.01620
1440	10		20			0.01601

Balance ID# K-Balance-35

Reagent: Grain1-34-R

Analyst: SC/AP Date: 10/24/2017
 Reviewed by:  Date: 10/28/17

Comments:

ALS Group USA, Corp.

dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05
Sample Matrix: Soil

Service Request: R1709620
Date Collected: 10/11/2017
Date Received: 10/11/2017
Date Analyzed: 10/24/2017

ASTM Method D422 Particle Size

Sample Name: 360109-DP041012 **Lab Code:** R1709620-014DUP

Initial Weight of air-dried sample. (6.1)	31.9544
Mass retained on the No. 4 sieve. (6.2)	0.0000
Air-dried portion of fine material. (7.1)	31.9369

Course Sieving ASTM D421 (6.2)

Mass of coarse material (g)	0.0174
Percent Recovered	100.6

Coarse sieving (6.1)	Sieve #	Weight (g)	% Passing	Mass Passing
Gravel 19.0 mm	3/4"	0.0000	100.0	31.9545
Gravel 9.50 mm	3/8"	0.0000	100.0	31.9545
Medium Gravel 4.75 mm	4	0.0000	100.0	31.9545
Fine Gravel 2.00 mm	10	0.0175	99.9	31.9370

Fine sieving (11.1)					
V.C. Sand 0.850 mm	20	0.1445	99.5	31.7597	
C. Sand 0.425 mm	40	0.0863	99.2	31.6734	
M. Sand 0.250 mm	60	0.0649	99.0	31.6085	
F. Sand 0.106 mm	140	0.1259	98.6	31.4826	
V.F. Sand 0.075 mm	200	0.0603	98.4	31.4223	(16.2)

Calculated amount retained on the # 10 sieve. (16.1)	0.0174
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Total Recovered (g)	31.9217
Total Recovered (%)	100.0

(W) (14.2)	31.9216
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Hygroscopic Moisture (8.1)

Air-dried sample (g)	10.8400
Oven dried sample (g)	10.8289
Hygroscopic Moisture (13.1)	0.9990

Oven-Dried Sample used in hydrometer analysis. (g) (14.1)	31.9042
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Determination of Silt/Clay Fraction

(10.2) T (Min)	(10.2) Hydro Reading	(7.3) Corr. Fact.	(10.4) Temp °C	Table 1 Specific Gravity	H (Net)	(14.3) a	Table 2 L Eff. Depth	Table 3 K	(14.3) % Passing = H/Wa * 100	(15.1) Dia- meter
2	33	4	19	2.09	29	1.19	11.5	0.0162046	108.5	0.0389
5	30	4	19	2.09	26	1.19	12.0	0.0162046	97.2	0.0251
15	24	4	19	2.09	20	1.19	13.0	0.0162046	74.8	0.0151
30	20	4	19	2.09	16	1.19	13.7	0.0162046	59.8	0.0109
60	17	4	19	2.09	13	1.19	14.2	0.0162046	48.6	0.0079
250	12	4	19	2.09	8	1.19	15.0	0.0162046	29.9	0.0040
1440	10	4	20	2.09	6	1.19	15.3	0.0160085	22.4	0.0017

Comments:

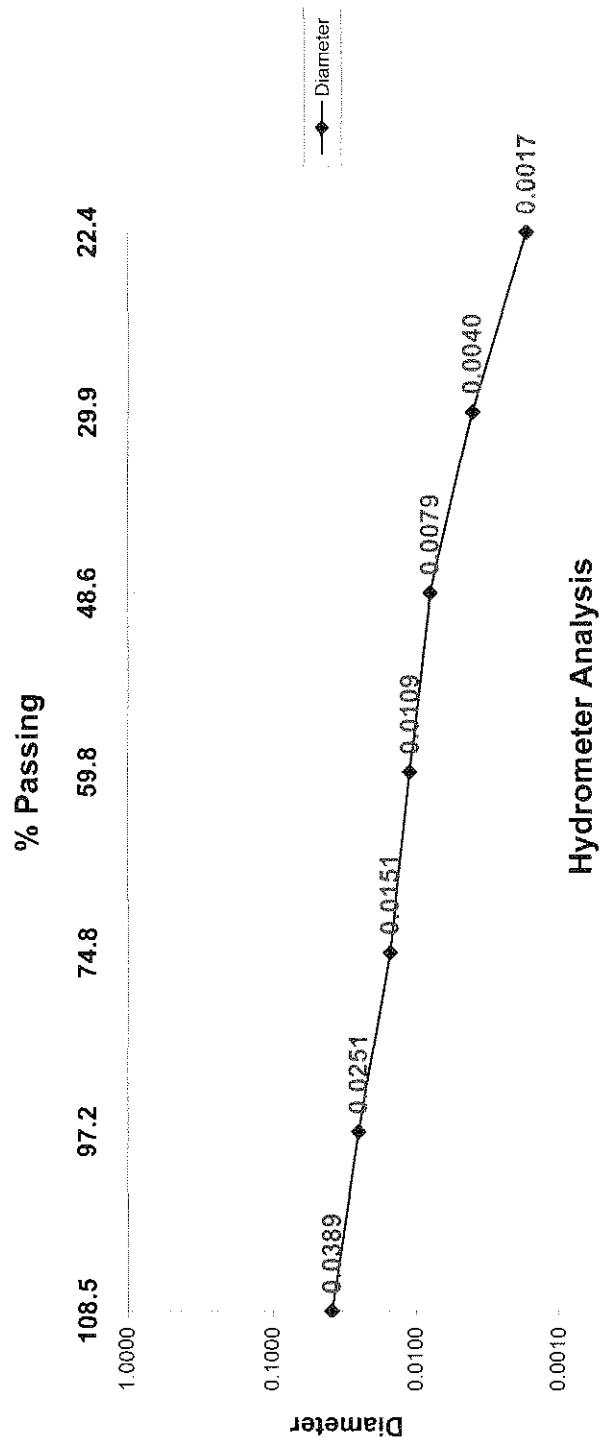
ALS Group USA, Corp.
dba ALS Environmental

	X	Y		
	arithmetic	logarithmic	Convert Y	Value of Y
	Percent Passing	Particle Diameter	mm to nm	Log form
<u>Sieve</u>	<u>(%)</u>	<u>(mm)</u>	<u>(nm)</u>	<u>(log)</u>
3/4"	100.0	19.0	19000000	7.279
3/8"	100.0	9.50	9500000	6.978
4	100.0	4.75	4750000	6.677
10	99.9	2.00	2000000	6.301
20	99.5	0.850	850000	5.929
40	99.2	0.425	425000	5.628
60	99.0	0.250	250000	5.398
140	98.6	0.106	106000	5.025
200	98.4	0.075	75000	4.875
2	108.5	0.0389	38932.94468	4.590
5	97.2	0.0251	25142.2462	4.400
15	74.8	0.0151	15097.22145	4.179
30	59.8	0.0109	10940.8164	4.039
60	48.6	0.0079	7874.175367	3.896
250	29.9	0.0040	3967.542744	3.599
1440	22.4	0.0017	1650.904503	3.218

determined hydrometer

<u>mm</u>	<u>mm to nm</u>	<u>log hyd x</u>	<u>% Passing</u>
0.074	74000	4.87	97.0
0.005	5000	3.70	47.3
0.001	1000	3.00	17.6

Sample Name: 360109-DP041012
Lab Code: R1709620-014DUP



Columbia Analytical Services Inc.

Service Request #: R1709620

Method: ASTM D 854

Analysis For: Specific Gravity

Sample	Weight of DIW (Corrected) [W _w]	Weight of Wet sample (g)	Weight of Wet Sample and DIW(g) [W _L]	Specific Gravity	Total Solids	Weight of Dry sample (g) [W _s]	Weight of Dry sample & beaker (g)	Weight of beaker (g)
R1709620-003	100.2314	10.9085	106.1994	2.21	100.0%	0		
R1709620-006	100.2314	10.8628	106.2720	2.25	100.0%	0		
R1709620-013	100.2314	11.2497	106.1530	2.11	100.0%	0		
R1709620-014	100.2314	10.8707	105.8975	2.09	100.0%	0		
R1709620-014DUP	100.2314	10.8188	106.0516	2.16	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			0.00	100.0%	0		
	100.2314			#DIV/0!	#DIV/0!	0		

Comments: Weight of 100mL DIW (g) = 100.2314 Thermometer ID# C65669

Correction Factor =	1.0004	Temp. °C	Temp. Correction F
		18	1.0004
Water Temperature =	19	19	1.0002
		20	1.0000
		21	0.9998
		22	0.9996
		23	0.9993

$$\text{Specific Gravity} = \frac{W_p}{[W_p + (W_a - W_b)]}$$

Analyzed By:	SC/AP	Date:	10/25/17
Reviewed By:		Date:	10/26/17



November 06, 2017

Service Request No:R1709620

Mr. Chuck Staples
AMEC Environmental & Infrastructure
511 Congress Street, Suite 200
Portland, ME 041101

Laboratory Results for: NYSDEC Town and Country

Dear Mr.Staples,

Enclosed are the results of the sample(s) submitted to our laboratory October 10, 2017
For your reference, these analyses have been assigned our service request number **R1709620**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS 3860 S. Palo Verde Road, Suite 302, Tucson, AZ 85714
PHONE +1 520 573 1061 | FAX +1 520 573 1063
ALS Group USA, Corp.
dba ALS Environmental

Client: AMEC Foster Wheeler E & I (MACTEC)
Project: NYSDEC Town and Country/3612132267.05

Service Request:R1709620

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1709620-001	360109-DPO47002	10/10/2017	1358
R1709620-002	360109-DP047003	10/10/2017	1405
R1709620-003	360109-DP047004	10/10/2017	1410
R1709620-004	360109-DP047007	10/10/2017	1415
R1709620-005	360109-DP047008	10/10/2017	1425
R1709620-006	360109-DP047009	10/10/2017	1430
R1709620-007	360109-TBS-101017	10/10/2017	0930
R1709620-008	360109-DP040009	10/11/2017	1100
R1709620-009	360109-DP041002	10/11/2017	1155
R1709620-010	360109-DP041005	10/11/2017	1200
R1709620-011	360109-DP041008	10/11/2017	1210
R1709620-012	360109-DP041009	10/11/2017	1215
R1709620-013	360109-DP041004	10/11/2017	1255
R1709620-014	360109-DP041012	10/11/2017	1300
R1709620-015	360109-TBS-101117	10/11/2017	1305

Data Qualifiers

Lab Standard

- + Possible Tedlar bag artifact.
- A TIC is a suspected aldol-condensation product
- B Analyte found in the associated method blank as well as in the sample.
- BC Reported results are not blank corrected.
- BH The back section of the tube yielded higher results than the front.
- BT Results indicated possible breakthrough; back section $\geq 10\%$ front section.
- C Result identification confirmed.
- D Compound identified in an analysis at a secondary dilution factor
- D Spike was diluted out
- DE Reported results are corrected for desorption efficiency.
- E Estimated value. Concentration above calibration range
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- H1 Sample analysis performed past holding time. See case narrative.
- H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
- H3 Sample was received and analyzed past holding time.
- H4 Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
- I Internal standard not within the specified limits. See case narrative.
- J Estimated Value. Concentration found below MRL.
- K A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
- K Analyte was detected above the method reporting limit prior to normalization.
- L1 Laboratory control sample recovery outside the specified limits; results may be biased high.
- L2 Laboratory control sample recovery outside the specified limits; results may be biased low.
- L3 Laboratory control sample recovery outside the specified limits.
- M Matrix interference; results may be biased high.
- M The duplicate injection precision not met.
- M1 Matrix interference due to coelution with a non-target compound; results may be biased high.
- N Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- P Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
- P Pesticide/Aroclor target analyte $> 40\%$ difference for detected concentrations between GC columns
- Q Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
- R Duplicate Precision not met.
- R1 Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
- S Surrogate recovery not within specified limits.

Data Qualifiers

Lab Standard

- S The reported value was determined by the Method of Standard Additions (MSA).
- T Analyte is a tentatively identified compound, result is estimated.
- U Compound was analyzed for, but was not detected (ND).
- V1 The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
- V2 The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
- W Result quantified, but the corresponding peak was detected outside the generated retention time window.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- X See case narrative.
- Y Recovery outside limits
- Y The chromatogram resembles a petroleum product but does not match the calibration standard.
- Z The chromatogram does not resemble a petroleum product.
- i The MRL/MDL has been elevated due to a matrix interference.

Intra-Network Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

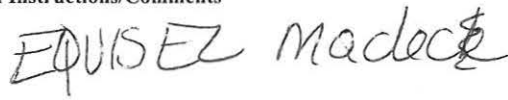
ALS Contact: Janice Jaeger

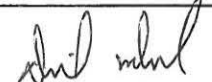
Project Name: NYSDEC Town and Country
Project Number: 3612132267.05
Project Manager: Chuck Staples
Company: AMEC Environmental & Infrastructure
QAP: LAB QAP

After Limits
ASTM D4318

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample		Date Received	Send To	
				Date	Time			
R1709620-003	360109-DP047004	1	Soil	10/10/17	1410	10/10/17	TUCSON	IV
R1709620-006	360109-DP047009	1	Soil	10/10/17	1430	10/10/17	TUCSON	IV
R1709620-013	360109-DP041004	1	Soil	10/11/17	1255	10/11/17	TUCSON	IV
R1709620-014	360109-DP041012	1	Soil	10/11/17	1300	10/11/17	TUCSON	IV

Folder Comments:
report TICs on EDD

Special Instructions/Comments  pH Checked _____	Turnaround Requirements ☐ RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 ☒ STANDARD Requested FAX Date: _____ Requested Report Date: 10/27/17	Report Requirements ☐ I. Results Only ☐ II. Results + QC Summaries ☐ III. Results + QC and Calibration Summaries ☒ IV. Data Validation Report with Raw Data PQL/MDL/J <u>N</u> EDD <u>Y</u>	Invoice Information PO# 58R1709620 Bill to
---	---	---	--

Relinquished By:  10/16/17/1306

Received By:  10/17/17

Airbill Number: _____

R1709620

A **Ship To: TUCSON**
ALS Environmental
3860 S. Palo Verde Rd.
Suite 302
Tucson, AZ 85714

PC

Q/W

Date

10/13/17

SMO

Date

Instructions:

Ice _____

Dry Ice _____

No Ice _____

Shipping:

Overnight _____

2nd Day _____

Ground _____

Bill to Client Account _____

Comments:



3860 S. Palo Verde Road, Suite 302

Tucson, AZ 85714

T: +1 520 573 1061

F: +1 520 573 1063

Sample Receipt Form

R1709620

5

AMEC Environmental & Infrastructure
NYSDEC Town and CountryClient/Project: **ALS Rochester**

Work Order Number:

Received by: **Vincent Pagar**Date & Time: **10/17/17 9:15**Matrix: **Solid**

Samples were received via?:

FedEx

Samples were received in:

Cooler

Were custody seals on containers?

☐ Yes ☒ No ☐ NA

If yes, how many and where?

n/a

If present were custody seals intact?

☐ Yes ☒ No

If present, were they signed and dated?

☐ Yes ☒ No

Cooler Temp C	Temp Blank C	Tracking Number
2.5	1.8	682680227929

Packing material used? **Wet Ice**

Did all the bottles arrive in good condition (unbroken)?

☒ Yes ☐ No ☐ NA

If No, record comments below

Did all sample labels and tags agree with COC?

☒ Yes ☐ No ☐ NA

If No, record discrepancies below

Were all the appropriate containers and volumes received for the tests indicated?

☒ Yes ☐ No ☐ NA

Are samples received deemed acceptable?

☒ Yes ☐ No

Comments:

4 glass containers.

Notes, discrepancies, & resolutions:

Samples in Fridge A.

As a part of ISO 17025 protocols, ALS must notify clients that the quoted analytical methods performed by ALS may have minor modifications from the methods as published. These modifications are written into our Standard Operating Procedures and do not impact the quality of the data. Receipt of this document will be considered an acceptance of the procedures used by the laboratory for analysis unless notified by the client.

Modifications may include, but are not limited to:

- The analysis of a sample matrix that differs from that stated in the published method (example - ASTM D5865 Standard Test Method for Gross Calorific Value of Coal and Coke is used for other matrices such as biomass, Tire Derived Fuel, etc.).
- Analyzing a sample mass that differs from those in the published method (example - to accommodate samples with high concentrations of analyte, samples of limited volume, or to comply with the instrument manufacturer's operating guidelines).
- Instruments used for the analysis may differ from those listed in the published method (example - using ICP-OES when the method references flame Atomic Absorption Spectroscopy)



Client: AMEC Foster Wheeler E & I (MACTEC)
511 Congress Street, Suite 200
Portland, ME 041101

Attn: Chuck Staples
Project: NYSDEC Town and Country

Date Received: 10/10 - 10/11/17

Certificate of Analysis

Client ID:	Sample Date and Time:	Lab #:	Atterberg Limits			
			Liquid Limit	Plastic Limit	Plastic Index	
			ASTM D4318			
			wt%	wt%	wt%	
360109-DP047004	10/10/17 1410	R1709620-003	25.0	18.3	6.7	
360109-DP047009	10/10/17 1430	R1709620-006	20.8	14.1	6.8	
360109-DP041004	10/11/17 1255	R1709620-013	21.3	NP	NP	
360109-DP041012	10/11/17 1300	R1709620-014	24.6	17.3	7.3	
360109-DP041012	10/11/17 1300	R1709620-014	Duplicate			
		OV1	24.68	17.19	7.49	
		OV2	24.59	17.39	7.20	
		%RPD	0.4	1.2	3.9	

Notes:

Samples were air dried at 40°C and lightly ground through a soil flail mill and sieve to < 2mm. Samples for the Atterberg Limit Test were further sieved to < 40 mesh. Reported values are the average of duplicate analyses.

ALS Environmental - Tucson, AZ

Atterberg Limits

ASTM D4318 Method B One Point

Liquid and Plastic Limit of Soil

Analyst RVP

Analysis Date 11/5/17

Analyst Review RVP 11/6/17

Secondary Review h 11/6/17

Oven	Temp °C	Start Date /Time	Start Date /Time
Oven #2	106.9 / 106.5	11/5/2017 17:45	11/6/2017 8:25

SX Type	Sample Number	Cup No.	Cruc. Wt g	Cruc. & Wet Sx Wt g	Cruc. & Dried Sx Wt g	Moisture, Total wt%	Total Moist RPD	Number of Drops	Liquid Limit wt%	Liquid Limit avg wt%	Remarks
sx	R1709620-003	1	1.165	14.552	11.895	24.76		28	25.10	24.98	
dup	R1709620-003	1d	1.166	11.593	9.525	24.74	0.1	26	24.86		
sx	R1709620-006	2	1.161	8.383	7.155 ~~7.165~~ RVP 11/6/17	20.29		29	20.65	20.88 20.77	
dup	R1709620-006	2d	1.151	8.847	7.532	20.61	1.6	28	20.89		
sx	R1709620-013	3	1.149	11.242	9.467	21.34		26	21.44	21.26	
dup	R1709620-013	3d	1.153	9.814	8.293	21.30	0.2	23	21.09		
sx	R1709620-014	4	1.160	12.576	10.325	24.56		26	24.68	24.63	
dup	R1709620-014	4d	1.150	12.110	9.963	24.36	0.8	27	24.59		

SX Type	Sample Number	Cup No.	Cruc. Wt g	Cruc. & Wet Sx Wt g	Cruc. & Dried Sx Wt g	Moisture, Total wt%	Total Moist RPD	Plastic Limit avg wt%	Plastic Index wt%	Remarks
sx	R1709620-003	1	1.148	9.451	8.143	18.70		18.33	6.65	
dup	R1709620-003	1d	1.148	8.798	7.633	17.96	4.0			
sx	R1709620-006	2	1.161	8.059	7.208	14.07		14.12	6.75 6.65	RVP 11/6/17
dup	R1709620-006	2d	1.146	8.911	7.947	14.17	0.7			
sx	R1709620-013	3	1.155	9.090	7.757	20.19		20.32	0.94	NP = Non-plastic soil - particles would not stick together.
dup	R1709620-013	3d	1.173	10.242	8.702	20.45	1.3			
sx	R1709620-014	4	1.147	11.728	10.176	17.19		17.29	7.34	
dup	R1709620-014	4d	1.161	10.989	9.533	17.39	1.2			

Note: the SX type needs to be "dup" to allow for the spreadsheet to calculate the RPD. The Total Solids % is adjusted to include the ADL Moisture. A temperature > 150 C will change the columns to be for ash not moisture/TS. For ash determinations, the moisture column is used to get a dry wt % for the ash.

ALS Environmental - Tucson, AZ

Atterberg Limits

ASTM D4318 Method B One Point

Liquid and Plastic Limit of Soil

Analyst RVP

Analysis Date 11/5/17

Analyst Review

Secondary Review

Oven	Temp °C	Start Date /Time	Start Date /Time
Oven #2	106.9/106.5	11/5/17 17:45	11/6/17 8:25

SX Type	Sample Number	Cup No.	Cruc. Wt. g	Cruc. & Wet Sx Wt. g	Cruc. & Dried Sx Wt. g	Moisture, Total wt%	Total Moist RPD	Number of Drops	Liquid Limit wt%	Liquid Limit avg wt%	Remarks
sx	R1709620-003	1	1.165	14.552	11.895	#DIV/0!		28	#DIV/0!	#DIV/0!	
dup	R1709620-003	1d	1.166	11.543	9.525	#DIV/0!	#####	26	#DIV/0!		
sx	R1709620-006	2	1.161	8.383	7.155	#DIV/0!		29	#DIV/0!	#DIV/0!	
dup	R1709620-006	2d	1.151	8.847	7.532	#DIV/0!	#####	28	#DIV/0!		
sx	R1709620-013	3	1.149	11.242	9.467	#DIV/0!		26	#DIV/0!	#DIV/0!	
dup	R1709620-013	3d	1.153	9.814	8.293	#DIV/0!	#####	23	#DIV/0!		
sx	R1709620-014	4	1.160	12.576	10.325	#DIV/0!		26	#DIV/0!	#DIV/0!	
dup	R1709620-014	4d	1.150	12.110	9.963	#DIV/0!	#####	27	#DIV/0!		

SX Type	Sample Number	Cup No.	Cruc. Wt. g	Cruc. & Wet Sx Wt. g	Cruc. & Dried Sx Wt. g	Moisture, Total wt%	Total Moist RPD	Plastic Limit avg wt%	Plastic Index wt%	Remarks
sx	R1709620-003	1	1.148	9.451	8.143	#DIV/0!		#DIV/0!	#DIV/0!	
dup	R1709620-003	1d	1.148	8.798	7.633	#DIV/0!	#####			
sx	R1709620-006	2	1.161	8.059	7.208	#DIV/0!		#DIV/0!	#DIV/0!	
dup	R1709620-006	2d	1.146	8.911	7.947	#DIV/0!	#####			
sx	R1709620-013	3	1.155	9.090	7.757	#DIV/0!		#DIV/0!	#DIV/0!	NP
dup	R1709620-013	3d	1.173	10.242	8.702	#DIV/0!	#####			NP
sx	R1709620-014	4	1.147	11.728	10.176	#DIV/0!		#DIV/0!	#DIV/0!	
dup	R1709620-014	4d	1.161	10.989	9.533	#DIV/0!	#####			

Note: the SX type needs to be "dup" to allow for the spreadsheet to calculate the RPD. The Total Solids % is adjusted to include the ADL Moisture. A temperature > 150 C will change the columns to be for ash not moisture/TS. For ash determinations, the moisture column is used to get a dry wt % for the ash.

ATTACHMENT 5

BIOCHLOR DATA SHEETS

Natural Attenuation Screening Protocol		Interpretation	Score	Score: 6 Scroll to End of Table	
The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.		Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5		
		Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14		
		Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20		
		Strong evidence for anaerobic biodegradation* of chlorinated organics	>20		
Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	☐	☒	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	☐	☒	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	☒	☐	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	☐	☒	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Sulfide*	>1 mg/L	Reductive pathway possible	☐	☒	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	☐	☒	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	☐	☒	0
	<-100mV	Reductive pathway likely	☐	☒	0
pH*	5 < pH < 9	Optimal range for reductive pathway	☒	☐	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	☐	☒	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	☐	☒	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	☐	☐	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	☐	☒	0
Chloride*	>2x background	Daughter product of organic chlorine	☐	☒	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	☐	☐	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	☐	☐	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	☐	☐	
PCE*		Material released	☒	☐	0
TCE*		Daughter product of PCE ^{a/}	☒	☐	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE ^{a/} ; 1,1-DCE can be a chem. reaction product of TCA	☒	☐	2
VC*		Daughter product of DCE ^{a/}	☐	☒	0
1,1,1-Trichloroethane*		Material released	☐	☒	0
DCA		Daughter product of TCA under reducing conditions	☐	☒	0
Carbon Tetrachloride		Material released	☐	☐	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	☐	☐	
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	☐	☒	0
	>0.1 mg/L	Daughter product of VC/ethene	☐	☒	0
Chloroform		Daughter product of Carbon Tetrachloride	☐	☒	0
Dichloromethane		Daughter product of Chloroform	☐	☐	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE

Reset

Natural Attenuation Screening Protocol The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.		Interpretation	Score	Score: 7 Scroll to End of Table	
		Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5		
		Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14		
		Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20		
		Strong evidence for anaerobic biodegradation* of chlorinated organics	>20		
Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	☐	☒	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	☐	☒	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	☒	☐	3
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Sulfide*	>1 mg/L	Reductive pathway possible	☐	☒	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	☐	☒	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	☐	☒	0
	<-100mV	Reductive pathway likely	☐	☒	0
pH*	5 < pH < 9	Optimal range for reductive pathway	☒	☐	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	☐	☒	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	☐	☒	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	☐	☐	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	☐	☒	0
Chloride*	>2x background	Daughter product of organic chlorine	☐	☒	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	☐	☐	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	☐	☐	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	☐	☐	
PCE*		Material released	☒	☐	0
TCE*		Daughter product of PCE ^{a/}	☒	☐	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE ^{a/} ; 1,1-DCE can be a chem. reaction product of TCA	☒	☐	2
VC*		Daughter product of DCE ^{a/}	☐	☒	0
1,1,1-Trichloroethane*		Material released	☐	☒	0
DCA		Daughter product of TCA under reducing conditions	☐	☒	0
Carbon Tetrachloride		Material released	☐	☐	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	☐	☒	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	☐	☒	0
	>0.1 mg/L	Daughter product of VC/ethene	☐	☒	0
Chloroform		Daughter product of Carbon Tetrachloride	☐	☒	0
Dichloromethane		Daughter product of Chloroform	☐	☐	

Natural Attenuation Screening Protocol The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.		Interpretation	Score	Score: 10 <i>Scroll to End of Table</i>	
		Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5		
		Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14		
		Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20		
		Strong evidence for anaerobic biodegradation* of chlorinated organics	>20		
Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	☒	☐	3
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	☐	☒	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	☒	☐	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	☐	☒	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Sulfide*	>1 mg/L	Reductive pathway possible	☐	☒	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	☐	☒	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	☒	☐	1
	<-100mV	Reductive pathway likely	☐	☒	0
pH*	5 < pH < 9	Optimal range for reductive pathway	☒	☐	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	☐	☒	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	☐	☒	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	☐	☐	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	☐	☒	0
Chloride*	>2x background	Daughter product of organic chlorine	☐	☒	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	☐	☐	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	☐	☐	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	☐	☐	
PCE*		Material released	☒	☐	0
TCE*		Daughter product of PCE ^{a/}	☒	☐	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE ^{a/} ; 1,1-DCE can be a chem. reaction product of TCA	☒	☐	2
VC*		Daughter product of DCE ^{a/}	☐	☒	0
1,1,1-Trichloroethane*		Material released	☐	☒	0
DCA		Daughter product of TCA under reducing conditions	☐	☒	0
Carbon Tetrachloride		Material released	☐	☐	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	☐	☒	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	☐	☒	0
	>0.1 mg/L	Daughter product of VC/ethene	☐	☒	0
Chloroform		Daughter product of Carbon Tetrachloride	☐	☒	0
Dichloromethane		Daughter product of Chloroform	☐	☐	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE

Reset

End of Form

Natural Attenuation Screening Protocol The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.		Interpretation	Score	Score: 9 Scroll to End of Table	
		Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5		
		Limited evidence for anaerobic biodegradation* of chlorinated organics	6 to 14		
		Adequate evidence for anaerobic biodegradation* of chlorinated organics	15 to 20		
		Strong evidence for anaerobic biodegradation* of chlorinated organics	>20		
Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
Oxygen*	<0.5 mg/L	Tolerated, suppresses the reductive pathway at higher concentrations	☐	☒	0
	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	☐	☒	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	☒	☐	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	☒	☐	3
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Sulfide*	>1 mg/L	Reductive pathway possible	☐	☒	0
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	☐	☒	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	☐	☒	0
	<-100mV	Reductive pathway likely	☐	☒	0
pH*	5 < pH < 9	Optimal range for reductive pathway	☒	☐	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	☐	☒	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	☐	☒	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	☐	☐	
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	☐	☒	0
Chloride*	>2x background	Daughter product of organic chlorine	☐	☒	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	☐	☐	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	☐	☐	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	☐	☐	
PCE*		Material released	☒	☐	0
TCE*		Daughter product of PCE ^{a/}	☒	☐	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE ^{a/} ; 1,1-DCE can be a chem. reaction product of TCA	☒	☐	2
VC*		Daughter product of DCE ^{a/}	☐	☒	0
1,1,1-Trichloroethane*		Material released	☐	☒	0
DCA		Daughter product of TCA under reducing conditions	☐	☒	0
Carbon Tetrachloride		Material released	☐	☐	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	☐	☒	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	☐	☒	0
	>0.1 mg/L	Daughter product of VC/ethene	☐	☒	0
Chloroform		Daughter product of Carbon Tetrachloride	☐	☒	0
Dichloromethane		Daughter product of Chloroform	☐	☐	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE

Reset

End of Form

Natural Attenuation Screening Protocol		Interpretation	Score	Score: 10 Scroll to End of Table	
The following is taken from the USEPA protocol (USEPA, 1998). The results of this scoring process have no regulatory significance.		Inadequate evidence for anaerobic biodegradation* of chlorinated organics	0 to 5		
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Analysis	Concentration in Most Contam. Zone	Interpretation	Yes	No	Points Awarded
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	> 5mg/L	Not tolerated; however, VC may be oxidized aerobically	☐	☒	0
Nitrate*	<1 mg/L	At higher concentrations may compete with reductive pathway	☒	☐	2
Iron II*	>1 mg/L	Reductive pathway possible; VC may be oxidized under Fe(III)-reducing conditions	☐	☒	0
Sulfate*	<20 mg/L	At higher concentrations may compete with reductive pathway	☐	☒	0
Sulfide*	>1 mg/L	Reductive pathway possible	☒	☐	3
Methane*	>0.5 mg/L	Ultimate reductive daughter product, VC Accumulates	☐	☒	0
Oxidation Reduction Potential* (ORP)	<50 millivolts (mV)	Reductive pathway possible	☒	☐	1
	<-100mV	Reductive pathway likely	☐	☒	0
pH*	5 < pH < 9	Optimal range for reductive pathway	☒	☐	0
TOC	>20 mg/L	Carbon and energy source; drives dechlorination; can be natural or anthropogenic	☐	☒	0
Temperature*	>20°C	At T >20°C biochemical process is accelerated	☐	☒	0
Carbon Dioxide	>2x background	Ultimate oxidative daughter product	☐	☒	0
Alkalinity	>2x background	Results from interaction of carbon dioxide with aquifer minerals	☐	☒	0
Chloride*	>2x background	Daughter product of organic chlorine	☐	☒	0
Hydrogen	>1 nM	Reductive pathway possible, VC may accumulate	☐	☐	
Volatile Fatty Acids	>0.1 mg/L	Intermediates resulting from biodegradation of aromatic compounds; carbon and energy source	☐	☐	
BTEX*	>0.1 mg/L	Carbon and energy source; drives dechlorination	☐	☐	
PCE*		Material released	☒	☐	0
TCE*		Daughter product of PCE ^{a/}	☒	☐	2
DCE*		Daughter product of TCE. If cis is greater than 80% of total DCE it is likely a daughter product of TCE ^{a/} ; 1,1-DCE can be a chem. reaction product of TCA	☒	☐	2
VC*		Daughter product of DCE ^{a/}	☐	☒	0
1,1,1-Trichloroethane*		Material released	☐	☒	0
DCA		Daughter product of TCA under reducing conditions	☐	☒	0
Carbon Tetrachloride		Material released	☐	☐	
Chloroethane*		Daughter product of DCA or VC under reducing conditions	☐	☒	0
Ethene/Ethane	>0.01 mg/L	Daughter product of VC/ethene	☐	☒	0
	>0.1 mg/L	Daughter product of VC/ethene	☐	☒	0
Chloroform		Daughter product of Carbon Tetrachloride	☐	☒	0
Dichloromethane		Daughter product of Chloroform	☐	☐	

* required analysis.

a/ Points awarded only if it can be shown that the compound is a daughter product (i.e., not a constituent of the source NAPL).

SCORE

Reset

End of Form

ATTACHMENT 6

BIO-TRAP MICROBIAL ANALYSIS RESULTS



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Charles Staples
Wood PLC
511 Congress Street
Portland, ME 04101

Phone: 207-775-5401

Fax: 207-772-4762

Identifier: 0500K

Date Rec: 11/14/2017

Report Date: 11/20/2017

Client Project #: 3612132267.04

Client Project Name: NYSDEC - Town & Country Dry Cleaner

Purchase Order #: C012505935

Analysis Requested: CENSUS, Standard Bio-Trap

Reviewed By:

A handwritten signature in black ink, appearing to read 'Joan Spence', written over a light gray rectangular background.

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Wood PLC
Project: NYSDEC - Town & Country Dry Cleaner

MI Project Number: 0500K
Date Received: 11/14/2017

Sample Information

Client Sample ID:	GEMW-1	GEMW-2	MW-3
Sample Date:	11/13/2017	11/13/2017	11/13/2017
Units:	cells/bead	cells/bead	cells/bead
Analyst/Reviewer:	CB	CB	CB

Dechlorinating Bacteria

<i>Dehalococcoides</i>	DHC	2.88E+01	<2.50E+01	<2.50E+01
tceA Reductase	TCE	<2.50E+01	<2.50E+01	<2.50E+01
BAV1 Vinyl Chloride Reductase	BVC	<2.50E+01	<2.50E+01	<2.50E+01
Vinyl Chloride Reductase	VCR	1.58E+01 (J)	<2.50E+01	<2.50E+01

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

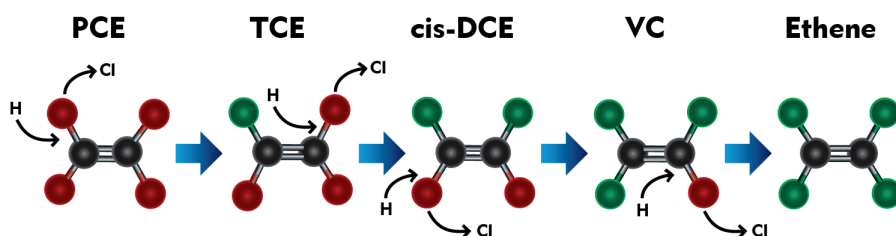
Samples Received 11/14/2017

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	11/14/2017	11/20/2017	2 °C	105%	non-detect	non-detect
BVC	11/14/2017	11/20/2017	2 °C	105%	non-detect	non-detect
TCE	11/14/2017	11/20/2017	2 °C	103%	non-detect	non-detect
VCR	11/14/2017	11/20/2017	2 °C	100%	non-detect	non-detect

DHC Interpretation

Dehalococcoides 16S rRNA gene (qDHC)

Under anaerobic conditions, tetrachloroethene (PCE) and trichloroethene (TCE) can undergo sequential reductive dechlorination through the daughter products *cis*-dichloroethene (*cis*-DCE) and vinyl chloride to nontoxic ethene (1,2).



While a number of bacterial cultures capable of utilizing PCE and TCE as growth supporting electron acceptors have been isolated (3-7), *Dehalococcoides* spp. may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene (8). In fact, the presence of *Dehalococcoides* spp. has been associated with complete dechlorination to ethene at sites across North America and Europe (9).

Status	<i>Dehalococcoides</i> spp.	Observation
	$\geq 10^4$ (cells/mL)	Lu et al. proposed that a concentration of 1×10^4 DHC cells/mL could be used as a screening criterion to identify sites where reductive dechlorination will yield a generally useful biodegradation rate (10). Similarly, in an internal study conducted with nearly 1000 groundwater samples obtained from sites across the US, ethene production was observed in approximately 80% of samples in which CENSUS® qDHC results were greater than or equal to 10^4 DHC cells/mL.
	10^1 to $< 10^4$ (cells/mL)	When vinyl chloride reductase genes (See DHC functional genes discussion below) are also detected, complete reductive dechlorination of PCE and TCE to ethene may still occur even with moderate DHC concentrations. When the DHC population is below the 10^4 cells/mL criterion proposed by Lu et al. (10), project managers should carefully consider other site-specific data to determine whether subsurface conditions may be limiting reductive dechlorination. For example, the addition of an electron donor may be able to stimulate DHC growth and enhance anaerobic bioremediation.
	$< 10^1$ (cells/mL)	DHC concentrations are low suggesting that complete reductive dechlorination of PCE and TCE to ethene is unlikely to occur under existing conditions. Enhanced anaerobic bioremediation options (biostimulation or bioaugmentation) may need to be considered.

DHC Functional Genes (*tceA*, *bvcA*, *vcrA*)

A “stall” where daughter products *cis*-DCE and vinyl chloride accumulate can occur at PCE- and TCE-impacted sites especially under MNA conditions. The accumulation of vinyl chloride, generally considered more carcinogenic than the parent compounds, is particularly problematic. Although elevated *Dehalococcoides* concentrations correspond to ethene production in numerous studies, the range of chlorinated ethenes metabolized and cometabolized varies among species and strains within the *Dehalococcoides* genus. For example, *Dehalococcoides ethenogenes* str. 195 metabolizes PCE, TCE, and *cis*-DCE and cometabolizes vinyl chloride (8) to produce ethene. Conversely, *Dehalococcoides* sp. CBDB1 utilizes PCE and TCE but does not cometabolize additional chloroethenes (11). Other *Dehalococcoides* strains, such as BAV1, GT and VS, are known to fully dechlorinate *cis*-DCE and VC to ethene (14,16,19). Quantification of reductive dehalogenase genes is used to more definitively confirm the potential for reductive dechlorination of TCE, *cis*-DCE, and vinyl chloride (12-15).

Functional Gene

Observation

TCE Reductase

<i>tceA</i> gene	The <i>tceA</i> gene encodes the enzyme responsible for reductive dechlorination of TCE to <i>cis</i>-DCE in some strains of <i>Dehalococcoides</i>. Absence of <i>tceA</i> does not preclude the potential for reductive dechlorination of TCE in the field since the <i>tceA</i> gene is not universally distributed among all DHC and is not present in other microorganisms capable of reductive dechlorination of TCE (e.g. <i>Dehalobacter</i>). Detection of the <i>tceA</i> gene provides an additional line of evidence indicating the potential for dechlorination of TCE.
-------------------------	---

Vinyl Chloride Reductase

<i>bvcA</i> gene	The <i>bvcA</i> gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of vinyl chloride to ethene by <i>Dehalococcoides</i> sp. str. BAV1 (16). Presence of <i>bvcA</i> gene indicates the potential for reductive dechlorination of VC to ethene. Absence of both <i>bvcA</i> and <i>vcrA</i> genes suggests VC may accumulate. An internal study with ~1,000 samples showed ethene production was observed in 80% of the samples that the DHC population was greater than or equal to 10⁴ cells/mL. The <i>bvcA</i> gene was detected in over 50% of these samples. Van Der Zaan et al (17) noted that the <i>bvcA</i> gene was the only VC reductase gene detected at three of their sites. Alfred Spormann’s laboratory at Stanford University (18) reported that the <i>bvcA</i> gene was the most abundant and active at the outflow of a PCE fed column study. This section of the column was in the DCE to VC stages of reductive dechlorination thus confirming the importance of the <i>bvcA</i> gene for complete reductive dechlorination.
<i>vcrA</i> gene	The <i>vcrA</i> gene encodes the vinyl chloride reductase enzyme responsible for reductive dechlorination of <i>cis</i>-DCE and vinyl chloride by <i>Dehalococcoides</i> sp. strain VS (14). Presence of <i>vcrA</i> gene indicates the potential for reductive dechlorination of DCE and/or VC to ethene. Absence of both <i>bvcA</i> and <i>vcrA</i> genes suggest VC may accumulate. As with the <i>bvcA</i> gene, detection of the <i>vcrA</i> gene is associated with ethene production in internal studies (67%) and vinyl chloride reduction in independent studies (14, 17).

Reporting

Microbial Insights can provide a variety of data packages and reporting levels to suit the needs of any project. Data packages range from simple analytical reports with results only to more complex data packages that include a report narrative, analytical results, QC data, and supporting materials including all raw data and chain-of-custody documentation. The figure below shows our standard report and explains the way values are reported.

Microbial Insights, Inc.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: Company Name
Project: Your Project Name

MI Project Number: Unique Laboratory Identifier
Date Received: Date Samples Arrived

Sample Information

Client Sample ID:	Sample A	Sample B	Sample C
Sample Date:	00/00/0000	00/00/0000	00/00/0000
Units:	cells/mL	cells/mL	cells/mL
Analyst:	Intials	Intials	Intials
Dechlorinating Bacteria			
<i>Dehalococcoides spp.</i>	DHC	1.84E+05	2.76E+02
			2.28E+01 (J)
Functional Genes			
tceA Reductase	TCE	6.00E+01	3.23E+01
bvcA Reductase	BVC	1.17E+04	1.81E+01
vcrA Reductase	VCR	8.42E+04	1.74E+02
			<4.00E-01
			<4.00E-01
			<4.00E-01

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL
< = Result not detected

"J" value

Result is an estimated value. This data qualifier (flag) is used when the target gene is detected but at a concentration or abundance below the practical quantification limit (PQL).

< value

The target gene was not detected at the limit of quantitation (LOQ) reported for that sample.

I = Inhibited

"I" value

QA Procedure indicated that the sample may have exhibited PCR inhibition. Although relatively rare, PCR inhibition can occur due to the presence of metals or humic acids at high concentrations in the sample.

Quality Assurance

Microbial Insights' comprehensive Quality Assurance (QA) Program is the foundation of all laboratory analyses, ensuring that our clients receive high-quality analytical services that are timely, reliable, and meet their intended purpose in a cost effective manner. MI is committed to providing quality data that surpasses regulatory and industry standards, thus enabling the client to make well-informed decisions. MI maintains strict standard operating procedures and QA/QC measures throughout all of the analyses offered. The following Table details specific QA/QC procedures that are used for CENSUS.

QA/QC	Description
Date of Extraction	DNA and RNA extractions are performed the day the samples are received by MI to minimize the possibility of any changes to the microbial community prior to analysis.
Laboratory Method Blanks	An extraction blank (no sample added) is processed alongside each set of field samples from DNA extraction through CENSUS® analysis to ensure that cross contamination has not occurred. Although MI has never experienced this issue, the detection of the CENSUS® target (e.g. <i>Dehalococcoides</i>) in an extraction blank is direct evidence of cross contamination with a sample or contamination of a reagent and would invalidate the results. If this were to occur, MI would re-extract the sample. If not possible to re-extract, MI would contact the client immediately and notate it on the laboratory report.
Laboratory Control Samples (LCS)	A laboratory control sample (LCS) or positive control (target DNA) is included with each CENSUS® plate to confirm amplification and as a continuing calibration check.
Negative Controls	A negative control (no DNA) is included with each CENSUS plate to ensure that cross contamination has not occurred during amplification. As with the extraction blank, detection of CENSUS target (e.g. DHC) in a negative control is direct evidence of contamination and would invalidate the results. If this were to occur, MI would rerun the analysis.

References

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