July 14, 2017

U.S. Environmental Protection Agency Region II
290 Broadway – 20th Floor
New York, New York 10007

Attention: Isabel Rodrigues
Cayuga County Groundwater Contamination Superfund Site Remedial Project Manager
(1 electronic copy)

RE: Data Validation Memorandum – IS Semi-Annual Surface Water / Groundwater Sampling Event
FILE: CEP.612/65685

Dear Ms. Rodrigues:

Please find the enclosed data validation memorandum and final analytical results associated with the spring 2017 semi-annual surface water / groundwater sampling event performed in April and May 2017 in accordance with Investigation Study Work Plan. Please note, a copy of the preliminary analytical results from Pace Analytical Services, LLC. for this sampling event were previously submitted to the United States Environmental Protection Agency as part of the Monthly Progress Report for June 2017.

Very truly yours,
O'BRIEN & GERE ENGINEERS, INC.

David J. Carnevale
Managing Scientist

cc: New York/Caribbean Superfund Branch
Office of Regional Counsel
United States Environmental Protection Agency Region II
290 Broadway, 17th Floor
New York, New York 10007-1866

Attention: Argie Cirillo, Esq.
Attorney for Cayuga County Groundwater Contamination Site
(1 electronic copy)

Ms. Jessica LaClair
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Kirk Macfarlane, Esq., GE (via email)

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DATA VALIDATION MEMORANDUM

FROM:	KA Storne
RE:	Data Validation Results for Investigation Study Semi-Annual Surface Water/ Groundwater Monitoring Event and RESWELL-6 Baseline Monitoring Event, Cayuga County Groundwater Contamination Superfund Site, Sampling Performed April and May 2017
FILE:	612/65685.600.016
DATE:	July 14, 2017

This memorandum presents the results of data validation performed for the Investigation Study semi-annual surface water and groundwater monitoring event, the RESWELL-6 baseline monitoring event and the associated matrix spike/matrix spike duplicate (MS/MSD) sample pairs, field duplicate samples, and trip blanks collected by O'Brien & Gere Engineers, Inc. (OBG) in April and May 2017.

Pace Analytical Services, Inc. (Pace) (formerly TriMatrix Laboratories) of Grand Rapids, Michigan performed the laboratory analyses for these sampling events. The laboratory packages contain summary forms for quality control analysis and supportive raw data.

The analyses performed for the semi-annual and/or baseline sampling events are summarized in **Table 1** below.

Table 1. Analytical methods and reference

Parameter		Method	Reference
Volatile Organic Compounds (VOCs)	Surface Water / Groundwater	USEPA Methods 5030B/8260C	1
Dissolved Metals	Groundwater	USEPA Method 6010C	2
Chloride, Nitrate, Nitrite, Sulfate	Groundwater	USEPA Method 300.0/9056A	2/3
Sulfide	Groundwater	SM20 4500-S2D	4
Dissolved Gases	Groundwater	RSK-175	5
Dissolved Organic Carbon	Groundwater	SM20 5310C	4
Alkalinity	Groundwater	SM20 2320B	4

Note:

1. USEPA. 2006. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, SW-846, 3rd Edition, Washington D.C.
2. USEPA. 2007. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, SW-846, 3rd Edition, Update IV. Washington D.C.
3. USEPA. 1993. *Methods for the Determination of Inorganic Substances in Environmental Samples*, EPA-600/R-93/100. Washington, D.C.
4. AWWA, APHA and WEF. 1998. *Standard Methods for the Examination of Water and Wastewater*, 20th Edition. Washington, D.C.
5. RSK- 175- Kampbell, D.H., J.T. Wilson, S.A. Vandegrift. 1989. Dissolved Oxygen and Methane in Water by a GC Headspace Equilibration Technique, International Journal of Environmental Analytical Chemistry, Volume 36, pp 249-257.

In accordance with the Quality Assurance Project Plan (QAPP), the surface water and groundwater VOC sample data collected during the sampling events were submitted for data validation. These samples are summarized in attached **Table 2**. **Table 3** presents the specific data validation approach applied to data generated for these sampling events. **Table 4** presents the laboratory quality assurance / quality control (QA/QC) analysis definitions.

Full validation was performed on the VOC samples collected for these monitoring events.

The analytical data generated for this investigation were evaluated by OBG using the QA/QC information presented in the analytical methods and the following document:

- O'Brien & Gere. 2014. *Quality Assurance Project Plan, Cayuga County Groundwater Contamination Superfund Site*, Cayuga County, NY.

Data affected by excursions from the QA/QC criteria in the analytical methods were qualified using the following USEPA data validation guidance and professional judgment:

- USEPA. 2014. *USEPA Region II Standard Operating Procedure for the Validation of Organic Data Acquired Using SW-846 Method 8260B and 8260C*, SOP HW-24, Revision 4.

Qualifiers were applied to data that failed to meet the quality control criteria presented in the USEPA methods.

The validation included evaluation of the following parameters:

- QAPP compliance;
- Chain-of-custody record;
- Sample collection;
- Holding times;
- Calibrations;
- Blank analysis;
- Surrogate results;
- MS/MSD analysis;
- Laboratory control sample (LCS) analysis;
- Internal standards performance;
- Field duplicate analysis;
- Gas chromatography/mass spectrometry (GC/MS) instrument performance check;
- Target analyte quantitation, identification, and quantitation limits (QLs); and
- Documentation completeness.

The following sections of this memorandum present the results of the comparison of the analytical data to the QA/QC criteria specified above. Based on the QA/QC information review, an overall evaluation of data usability is also presented in the final section.

VOLATILE ORGANIC COMPOUND DATA EVALUATION SUMMARY

The following QA/QC parameters were found to meet method and validation criteria or did not result in additional qualification of sample results:

- QAPP compliance;
- Holding times;
- Surrogate results;
- MS/MSD analysis;
- LCS analysis;
- Internal standards performance;
- Field duplicate analysis;
- GC/MS instrument performance check;
- Target analyte identification; and
- Documentation completeness.

Excursions from method or validation criteria and additional observations are described below.

I. SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Although headspace was identified by Pace in some of the containers associated with samples 042717-TB, IS-RESWELL-5-PB-042717 and IS-RESWELL-5-PB-042717 MS, the laboratory indicated that sufficient zero headspace sample volume was available for sample analysis.

For the sample listed on the chain-of-custody record as X-1-051117, the sample tag listed the sample as 051117-FD. The laboratory utilized the sample identification listed on the chain-of-custody record.

II. CALIBRATIONS

The following results were qualified as approximate (J) due to a minor calibration verification accuracy excursion:

- Results for acetone in samples 042717-TB, IS-RESWELL-5-PB-042717, US-05-042717, US-06-042717, US-08-042717, IS-RESWELL-7-PB-042717, IS-042717-FD1 [IS-RESWELL-7-PB-042717] and IS-042717-FD2 [US-05-042717].

III. BLANK ANALYSIS

The following results were qualified as non-detected (U) due to minor blank representativeness excursions:

- Results for acetone and methylene chloride in samples IS-RESWELL-5-PB-042717, US-05-042717, US-06-042717, US-08-042717, IS-RESWELL-7-PB-042717, IS-042717-FD1 [IS-RESWELL-7-PB-042717] and IS-042717-FD2 [US-05-042717].
- Results for acetone in samples IS-RESWELL-6-051117 and X-1-051117 [IS-RESWELL-6-051117].

V. TARGET ANALYTE QUANTITATION AND QLS

Sample results detected at concentrations greater than laboratory method detection limits (MDLs) but less than laboratory QLs were qualified as approximate (J).

Based on a data validation request, the laboratory revised the QL for 1,2-dichloroethane from 0.6 micrograms per liter (µg/L) to 1.0 µg/L to reflect the lowest calibration standard concentration of 1.0 µg/L, as described in the QAPP. The revised sample results were reported for this project.

DATA USABILITY

No major excursions were identified in the data generation process that would have resulted in results being rejected, and therefore no data were considered unusable for either quantitative or qualitative purposes. Minor deficiencies in the data generation process were identified during the data validation and resulted in sample data being qualified as approximate or non-detected.

A discussion of the data quality with regards to the data usability parameters follows:

Precision: Data were not rejected or qualified for precision excursions.

Sensitivity: Sensitivity is established by QLs, which represent measurable concentrations of analytes that can be determined with a designated level of confidence that meet project requirements. Dilutions were not performed for sample analyses.

Accuracy: Results were not rejected due to major accuracy excursions. Results were qualified for a minor excursion, as discussed above.

Representativeness: Results were not rejected due to major representativeness excursions. Results were qualified for minor excursions, as discussed above.

Comparability: Data usability with respect to comparability is 100 percent as standardized analytical methods, QLs, reference materials, and data deliverables were used throughout the data generation process for this project.

Completeness: Overall data usability with respect to completeness is 100 percent for the complete data set. Therefore, the data were identified as usable for qualitative and quantitative purposes.

Based on the data validation performed, data validation qualifiers were required for some of the sample results. Sample result forms are provided in **Attachment 1**.

Table 2. Sample Cross Reference Table

Laboratory Name	Date Collected	Client Identification	Laboratory Identification	Matrix	Analysis Requested
Pace	4/27/2017	042717-TB	1704504-01	Aqueous	VOCs
Pace	4/27/2017	IS-RESWELL-5-PB-042717, MS/MSD	1704504-02	Groundwater	VOCs
Pace	4/27/2017	US-05-042717	1704504-03	Surface water	VOCs
Pace	4/27/2017	US-06-042717	1704504-04	Surface water	VOCs
Pace	4/27/2017	US-08-042717, MS/MSD	1704504-05	Surface water	VOCs
Pace	4/27/2017	IS-RESWELL-7-PB-042717	1704504-06	Groundwater	VOCs
Pace	4/27/2017	IS-042717-FD1 [IS-RESWELL-7-PB-042717]	1704504-07	Groundwater	VOCs
Pace	4/27/2017	IS-042717-FD2 [US-05-042717]	1704504-08	Groundwater	VOCs
Pace	5/11/2017	051117-TB	1705274-01	Aqueous	VOCs
Pace	5/11/2017	IS-RESWELL-6-051117	1705274-02	Groundwater	VOCs
Pace	5/11/2017	X-1-051117 [IS-RESWELL-6-051117]	1705274-03	Groundwater	VOCs
Pace	5/11/2017	051117-EB	1705247-04	Aqueous	VOCs

Note:

Pace indicates Pace Analytical Services, Inc. of Grand Rapids, Michigan.

VOCs indicates volatile organic compounds.

MS/MSD indicates matrix spike/matrix spike duplicate.

FD indicates field duplicate.

The sample identification utilized for field duplicate is shown in brackets.

EB indicates equipment blank.

TB indicates trip blank.

O'Brien & Gere Data Validation approach based on USEPA Region II Data validation guidelines for the following SW-846 analytical method: VOCs (8260C).	
General Validation Approach	The validation approach taken by O'Brien & Gere is a conservative one; qualifiers are applied to sample data to indicate both major and minor excursions so that data associated with any type of excursion are identified to the data user. Major excursions result in data being rejected (R), indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor excursions result in sample data being qualified as approximate (J, UJ, JN) or non-detected (U) that is otherwise usable for quantitative or qualitative purposes.
	Excursions are subdivided into excursions that are within the laboratory's control and those that are out of the laboratory's control. Excursions involving laboratory control sample recovery, calibration response, method blank excursions, low or high spike recovery due to inaccurate spiking solutions or poor instrument response, holding times, interpretation errors, and quantitation errors are within the control of the laboratory. Excursions resulting from matrix spike recovery, serial dilution recovery, surrogate, and internal standard performance due to interference from the matrix of the samples are examples of those excursions that are not within the laboratory's control if the laboratory has followed proper method procedures, including performing appropriate cleanup techniques.
Applying professional judgment	USEPA data validation directs professional judgment to be used when applying qualifiers in some cases. When utilizing professional judgment, provide justification for actions taken in the associated validation notes.
Validation Parameter	O'Brien & Gere Data Validation Approach based on Region II guidelines for SW-846 methods, current as of November 2014. Since Region II guidelines available for metals apply only to the CLP method, only the general approach to applying qualifiers was utilized for metals and inorganics.
Validation Qualifiers - Organics	U - The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the quantitation limit (QL). J - The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the QL). NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. UJ - The analyte was not detected at a level greater than or equal to the QL. However, the QL is approximate and may be inaccurate or imprecise. R - The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
Cooler Temperature	Results for samples submitted for organic and inorganic analyses that are impacted by coolers that did not contain ice, or if the ice melted upon receipt and the cooler temperatures are greater than 10°C, are qualified as approximate (UJ, J). If samples are delivered to the laboratory the same day as sample collection and samples did not have sufficient time to reach 10°C, samples are not qualified, unless proper preservation was not provided for samples between sample collection and sample receipt at the laboratory. Results for samples received at ambient temperature involved in extended shipment-day issues may be rejected, applying professional judgment.
Water sample collection for VOCs	If headspace or air bubbles are observed in VOC containers, the VOC data is qualified as approximate (UJ, J).
Holding Time for Organics	Results for samples properly preserved and analyzed outside of but less than two times the holding time window established in the method or the QAPP for preparation and/or analysis are qualified as approximate (UJ, J). Non-detected results for samples properly preserved and analyzed greater than two times the holding time window for preparation and/or analysis are rejected (R). Detected results for samples properly preserved and analyzed greater than two times the holding time window for preparation and/or analysis are qualified as approximate (J). The entire sample target list for a VOC sample impacted by a holding time excursion is qualified.

Calibration Actions for Organics	Due to relative standard deviation (RSD) calibration excursions, detected results for analytes in samples associated with the calibration are qualified as approximate (J). Non-detected results associated with RSD excursions may be qualified as approximate (UJ) based on professional judgment. If the RSD calibration excursion is greater than 90, detected results for analytes in samples associated with the calibration are qualified as approximate (J) and non-detected results may be rejected (R), applying professional judgment. Due to %D calibration verification excursions, detected and non-detected results for analytes in samples associated with the calibration are qualified as approximate (J, UJ). The response direction and detection of target analytes in associated sample may be considered in applying qualifiers. For response factor excursions, detected results are qualified as approximate (J) and non-detected results are rejected (R). For initial calibration verifications (ICV) excursions, detected and non-detected results for analytes in samples associated with the calibration are qualified as approximate (J, UJ). The response direction and detection of target analytes in associated sample may be considered in applying qualifiers.
VOCs Calibration Evaluation	VOC target analytes are evaluated using the criteria of 20 percent relative standard deviation (%RSD) or correlation coefficient of 0.990 for initial calibration curves. If RSD >20%, detected results are qualified as approximate (J) and non-detected results are qualified using professional judgment. Initial calibrations and calibration verifications are also evaluated using the response factor (RF) criteria listed in Table 4 or >0.050 for those compounds with no listed RRF and greater than 0.010 for ketones, alcohols, acrolein and 1,4-dioxane). If RRF is less than method requirements, qualify detected results as approximate (J) and non-detected results are unusable (R). ICV recoveries (opening CCV) are evaluated using laboratory control limits if available or 70 to 130% or a %D of less than 30. Calibration verifications (CCVs) are evaluated using a criterion of 20 percent difference (%D) for target analytes. If %D is not meet for ICV and CCV, qualify detected and non-detected results as approximate (J, UJ).
Associating samples with Field and Laboratory QC Samples	Trip blanks are associated with samples in the same sample cooler.
	Equipment blanks (Rinsate blanks) are associated with samples collected in the same day (or sampling event) using the same sample collection equipment and decontamination solutions. When sampling equipment or decontamination solutions are changed, a new equipment blank should be collected. Each sample should be associated with one equipment blank, which is collected as close to the sample collection date/time as possible. Use professional judgment.
	Field blanks are associated with the sample containers used to collect samples. When sampling container lots are changed, a new field blank should be collected.
	Method blanks are associated with samples prepared at the same time (if preparation is required) or analyzed in the same analytical batch as the samples. Method blanks should reflect the sample matrix type (aqueous, low level solid, medium level solid).
	LCSs are associated with samples prepared at the same time (if preparation is required) or analyzed in the same analytical batch as the samples.
Associating samples with Field and Laboratory QC Samples	MS/MSD and laboratory duplicate samples are collected in the field. The laboratory must prepare using project samples. MS/MSDs and laboratory duplicates are associated with samples prepared at the same time or close to the same time (if preparation is required) with the same matrix type.
	Field duplicates are collected in the field and are associated with samples of the same matrix type.
	In the case that insufficient QC samples are provided due to field or laboratory problems, use professional judgment to associate each sample with a QC sample that reflects the sample matrix and analysis conditions. If insufficient QC samples are available to properly associate samples, record the impact in the DV notes.
Evaluation and Action for MS/MSD, LCS, Surrogate and Laboratory Duplicate Data for VOCs	The laboratory control limit (CL) is used to assess MS/MSD, LCS, surrogate and laboratory duplicate data. Refer to Region II guidelines if laboratory control limits are not available.
	In the case that excursions are identified in more than one quality control sample of the same matrix within one sample delivery group, samples are batched according to sample preparation or analysis date and qualified accordingly (see batching description above).

	If percent recoveries are less than laboratory CLs but greater than 10%, non-detected and detected results are qualified as approximate (UJ, J).
	If percent recoveries are greater than laboratory CLs, detected results are qualified as approximate (J).
	If percent recoveries are less than 10%, detected results are qualified as approximate (J) and non-detected results are qualified as rejected (R).
	If RPDs for MSDs or laboratory duplicates are outside of laboratory CLs, detected results are qualified as approximate (J). Non-detected results may not be qualified, applying professional judgment.
Evaluation of MS/MSD, Surrogate, and Field Duplicate Data for VOCs	Qualification is performed only when both MS and MSD recoveries are outside of laboratory CLs.
	Organic data are rejected (R) in the case that both MS/MSD recoveries are less than 10%.
	Qualification is not performed if MS/MSD or surrogate recoveries are outside of laboratory CLs with an analysis that applied a dilution factor of 10 times or more, applying professional judgment.
	Qualification of data associated with MS/MSD or field duplicate excursions is limited to the un-spiked sample or the field duplicate pair, respectively.
	Field duplicate data are evaluated against relative percent difference (RPD) criteria of less than 50 percent for aqueous samples and less than 100 percent for soils when results are greater than or equal to five times the QL. When a field duplicate result is less than five times the QL, a control limit of plus or minus two times the QL (difference criterion) is applied. If RPDs or differences are outside of criterion, detected and non-detected results are qualified as approximate (UJ, J) to indicate minor excursions.
Evaluation and Actions for Blank Results (Method, Field, Equipment, Instrument, Storage) for Organics	Blanks are not qualified due to contamination of another blank. Sample results qualified as non-detected (U) are treated as hits when qualifying for surrogate or calibration excursions. The following approach is utilized for applying qualifiers, using twice the quantitation limit (QL) for methylene chloride, 2-butanone and acetone: 1. For blank results less than the QL, samples with concentrations less than the QL are reported at the QL and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL are not qualified or may apply the Blank Rule Option. 2. For blank results greater than the QL, samples with concentrations less than the QL are reported at the QL and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL and less than the blank contamination level are reported and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL and greater than or equal to the blank contamination level are not qualified or may apply the Blank Rule Option. 3. For blank results equal to the QL, sample concentrations less than the QL are reported at the QL value and qualified as non-detected (U). Samples greater than or equal to the QL are not qualified or may apply the Blank Rule Option.
Evaluation and Actions for Blank Results (Method, Field, Equipment, Instrument, Storage) for Organics	1. For gross contamination in blanks (saturated peaks, interference peaks, poor baselines), all associated sample detected results are rejected (R) or qualified as non-detected (U) using professional judgment. Blank Rule Option: If methylene chloride, acetone, 2-butanone are detected in the sample at a concentration that is less than ten times the concentration in the associated blank, the sample result is qualified as "U". If other target analytes are detected in the sample at a concentration that is less than five times the concentration detected in the associated blank, the sample result is qualified as "U".
	Organic data are rejected (R) in the case that both MS/MSD recoveries are less than 10%.
	Qualification is not performed if MS/MSD or surrogate recoveries are outside of laboratory CLs with an analysis that applied a dilution factor of 10 times or more, applying professional judgment.
	Qualification of data associated with MS/MSD or field duplicate excursions is limited to the un-spiked sample or the field duplicate pair, respectively.
	Field duplicate data are evaluated against relative percent difference (RPD) criteria of less than 50 percent for aqueous samples and less than 100 percent for soils when results are greater than or equal to five times the QL. When a field duplicate result is less than five times the QL, a control limit of plus or minus two times the QL (difference criterion) is applied. If RPDs or differences are outside of criterion, detected and non-detected results are qualified as approximate (UJ, J) to indicate minor excursions.

Evaluation of Internal Standards for Organics	Internal standard recoveries are evaluated using control limits of from 50% of the lower standard area to 100% of the upper standard area of the associated calibration verification standard. The results associated with internal standard area recoveries 25% or greater but less than 50% are qualified as approximate (J, UJ). Non-detected results associated with internal standard area recoveries less than 25% are rejected (R), using professional judgment.
Target Analyte Identifications for Organics	If incorrect target analyte identifications were made due to data interpretation or laboratory transcription errors, the associated result will be corrected or rejected (R), applying professional judgment.

Source: O'Brien & Gere

TABLE 4 | LABORATORY QUALITY ASSURANCE/QUALITY CONTROL ANALYSIS DEFINITIONS

QA/QC Term	Definition
Quantitation limit (QL)	The level above which numerical results may be obtained with a specified degree of confidence; the minimum concentration of an analyte in a specific matrix that can be identified and quantified above the method detection limit and within specified limits of precision and bias during routine analytical operating conditions.
Method detection limit (MDL)	The minimum concentration of an analyte that undergoes preparation similar to the environmental samples and can be reported with a stated level of confidence that the analyte concentration is greater than zero.
Instrument detection limit (IDL)	The lowest concentration of a metal target analyte that, when directly inputted and processed on a specific analytical instrument, produces a signal/response that is statistically distinct from the signal/response arising from equipment "noise" alone.
Gas chromatography/mass spectrometry (GC/MS) instrument performance check	Performed to verify mass resolution, identification, and to some degree, instrument sensitivity. These criteria are not sample specific; conformance is determined using standard materials.
Calibration	Compliance requirements for satisfactory instrument calibration are established to verify that the instrument is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of analysis and calibration verifications document satisfactory maintenance and adjustment of the instrument on a day-to-day basis.
Relative Response Factor (RRF)	A measure of the relative mass spectral response of an analyte compared to its internal standard. Relative Response Factors are determined by analysis of standards and are used in the calculation of concentrations of analytes in samples.
Relative standard deviation (RSD)	The standard deviation divided by the mean; a unit-free measure of variability.
Correlation coefficient (CC)	A measure of the strength of the relationship between two variables.
Relative Percent Difference (RPD)	Used to compare two values; the relative percent difference is based on the mean of the two values, and is reported as an absolute value, *i.e.*, always expressed as a positive number or zero.
Percent Difference (%D)	Used to compare two values; the percent difference indicates both the direction and the magnitude of the comparison, *i.e.*, the percent difference may be either negative, positive, or zero.
Percent Deviation (%DEV)	The RF must be within 30% of the mean value measured in the initial calibration or the true value of the calibration verification standard.
Percent Recovery (%R)	The act of determining whether or not the methodology measures all of the target analytes contained in a sample.
Calibration blank (CB)	Consists of acids and reagent water used to prepare metal samples for analysis. This type of blank is analyzed to evaluate whether contamination is occurring during the preparation and analysis of the sample.
Method blank (MB)	A water or soil blank that undergoes the preparation procedures applied to a sample (*i.e.*, extraction, digestion, clean-up). These samples are analyzed to examine whether sample preparation, clean-up, and analysis techniques result in sample contamination.
Field/equipment (FB/EB)	Collected and submitted for laboratory analysis, where appropriate. Field/equipment blanks are handled in the same manner as environmental samples. Equipment/field blanks are analyzed to assess contamination introduced during field sampling procedures.
Trip blank (TB)	Consist of samples of analyte-free water that have undergone shipment from the sampling site to the laboratory in coolers with the environmental samples submitted for volatile organic compound (VOC) analysis. Trip blanks will be analyzed for VOCs to determine if contamination has taken place during sample handling and/or shipment. Trip blanks will be utilized at a frequency of one each per cooler sent to the laboratory for VOC analysis.
Internal standards (IS) performance	Compounds not found in environmental samples which are spiked into samples and quality control samples at the time of sample preparation for organic analyses. Internal standards must meet retention time and recovery criteria specified in the analytical method. Internal standards are used as the basis for quantitation of the target analytes.
Surrogate recovery	Compounds similar in nature to the target analytes but not expected to be detected in the environmental media which are spiked into environmental samples, blanks, and quality control samples prior to sample preparation for organic analyses. Surrogates are used to evaluate analytical efficiency by measuring recovery.

TABLE 4 | LABORATORY QUALITY ASSURANCE/QUALITY CONTROL ANALYSIS DEFINITIONS

QA/QC Term	Definition
Laboratory control sample (LCS) **Matrix spike blank analyses (MSB)**	Standard solutions that consist of known concentrations of the target analytes spiked into laboratory analyte-free water or sand. They are prepared or purchased from a certified manufacturer from a source independent from the calibration standards to provide an independent verification of the calibration procedure. They are prepared and analyzed following the same procedures employed for environmental sample analysis to assess method accuracy independently of sample matrix effects.
Laboratory duplicate	Two or more representative portions taken from one homogeneous sample by the analyst and analyzed in the same laboratory.
Matrix	The material of which the sample is composed or the substrate containing the analyte of interest, such as drinking water, waste water, air, soil/sediment, biological material.
Matrix Spike (MS)	An aliquot of a matrix (water or soil) fortified (spiked) with known quantities of specific target analytes and subjected to the entire analytical procedure in order to indicate the appropriateness of the method for the matrix by measuring recovery.
Matrix spike duplicate (MSD)	A second aliquot of the same matrix as the matrix spike that is spiked in order to determine the precision of the method.
Retention time (RT)	The time a target analyte is retained on a GC column before elution. The identification of a target analyte is dependent on a target compound's retention time falling within the specified retention time window established for that compound.
Relative retention time (RRT)	The ratio of the retention time of a compound to that of a standard.

Source: O'Brien & Gere

Qualified Sample Result Forms

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

042717-TB

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1704504-01 | File ID: 1704504-01.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/02/17 22:53

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	9.3	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.43	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

042717-TB

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1704504-01 | File ID: 1704504-01.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/02/17 22:53

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.7	97	85 - 118	
1,2-Dichloroethane-d4	40.0	40.5	101	87 - 122	
Toluene-d8	40.0	39.5	99	85 - 113	
4-Bromofluorobenzene	40.0	37.8	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	560868	6.016	103	6.013	
Chlorobenzene-d5	444131	10.38	103	10.38	
1,4-Dichlorobenzene-d4	222362	13.352	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-5-PB-042717

Laboratory: Pace Analytical Services, LLC — SDG: 1704504

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1704504-02 — File ID: 1704504-02.D

Sampled: 04/27/17 10:45 — Prepared: 05/02/17 20:00 — Analyzed: 05/02/17 23:18

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 — Sequence: 7E03013 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~3.3~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.25~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-5-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-02 | File ID: 1704504-02.D

Sampled: 04/27/17 10:45 | Prepared: 05/02/17 20:00 | Analyzed: 05/02/17 23:18

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.27	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.4	96	85 - 118	
1,2-Dichloroethane-d4	40.0	39.8	99	87 - 122	
Toluene-d8	40.0	39.2	98	85 - 113	
4-Bromofluorobenzene	40.0	38.0	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	562274	6.016	102	6.013	
Chlorobenzene-d5	444203	10.38	103	10.38	
1,4-Dichlorobenzene-d4	221973	13.353	96	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-05-042717

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Surface Water Laboratory ID: 1704504-03 File ID: 1704504-03.D

Sampled: 04/27/17 11:11 Prepared: 05/02/17 20:00 Analyzed: 05/02/17 23:42

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~5.6~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	7.6	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.43~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-05-042717

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Surface Water Laboratory ID: 1704504-03 File ID: 1704504-03.D

Sampled: 04/27/17 11:11 Prepared: 05/02/17 20:00 Analyzed: 05/02/17 23:42

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.90	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.3	96	85 - 118	
1,2-Dichloroethane-d4	40.0	39.3	98	87 - 122	
Toluene-d8	40.0	38.5	96	85 - 113	
4-Bromofluorobenzene	40.0	38.5	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	559866	6.016	102	6.013	
Chlorobenzene-d5	435404	10.38	101	10.38	
1,4-Dichlorobenzene-d4	217523	13.352	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-06-042717

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Projeet: Cayuga County Superfund Site

Matrix: Surface Water Laboratory ID: 1704504-04 File ID: 1704504-04.D

Sampled: 04/27/17 11:40 Prepared: 05/02/17 20:00 Analyzed: 05/03/17 00:07

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~3.2~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.1	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.26~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-06-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Surface Water | Laboratory ID: 1704504-04 | File ID: 1704504-04.D

Sampled: 04/27/17 11:40 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:07

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.42	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.9	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.8	102	87 - 122	
Toluene-d8	40.0	39.4	99	85 - 113	
4-Bromofluorobenzene	40.0	38.6	97	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	552993	6.016	101	6.013	
Chlorobenzene-d5	437240	10.38	102	10.38	
1,4-Dichlorobenzene-d4	217865	13.353	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-08-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Surface Water | Laboratory ID: 1704504-05 | File ID: 1704504-05.D

Sampled: 04/27/17 12:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:32

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~2.4~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	2.8	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.27~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-08-042717

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Surface Water Laboratory ID: 1704504-05 File ID: 1704504-05.D

Sampled: 04/27/17 12:00 Prepared: 05/02/17 20:00 Analyzed: 05/03/17 00:32

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.34	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.9	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.9	102	87 - 122	
Toluene-d8	40.0	38.8	97	85 - 113	
4-Bromofluorobenzene	40.0	38.3	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	562250	6.016	103	6.013	
Chlorobenzene-d5	443688	10.38	103	10.38	
1,4-Dichlorobenzene-d4	221241	13.352	96	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD1

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-07 | File ID: 1704504-07.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:21

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.66	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.8	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.6	101	87 - 122	
Toluene-d8	40.0	39.3	98	85 - 113	
4-Bromofluorobenzene	40.0	38.8	97	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	558184	6.016	102	6.013	
Chlorobenzene-d5	441392	10.38	103	10.38	
1,4-Dichlorobenzene-d4	223746	13.353	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD2

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Ground Water Laboratory ID: 1704504-08 File ID: 1704504-08.D

Sampled: 04/27/17 00:00 Prepared: 05/02/17 20:00 Analyzed: 05/03/17 01:46

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~2.6~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	8.1	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.24~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD2

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-08 | File ID: 1704504-08.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:46

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.89	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.3	96	85 - 118	
1,2-Dichloroethane-d4	40.0	40.1	100	87 - 122	
Toluene-d8	40.0	39.4	98	85 - 113	
4-Bromofluorobenzene	40.0	37.9	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	556090	6.016	102	6.013	
Chlorobenzene-d5	438216	10.38	102	10.38	
1,4-Dichlorobenzene-d4	214931	13.353	94	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-TB

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Water — Laboratory ID: 1705274-01 — File ID: 1705274-01.D

Sampled: 05/11/17 00:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 10:42

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	5.0	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.36	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-TB

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Water — Laboratory ID: 1705274-01 — File ID: 1705274-01.D

Sampled: 05/11/17 00:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 10:42

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.6	94	85 - 118	
1,2-Dichloroethane-d4	40.0	41.5	104	87 - 122	
Toluene-d8	40.0	38.3	96	85 - 113	
4-Bromofluorobenzene	40.0	38.2	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	605440	6.016	99	6.013	
Chlorobenzene-d5	450588	10.38	99	10.38	
1,4-Dichlorobenzene-d4	218158	13.352	94	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-6-051117

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1705274-02 — File ID: 1705274-02.D

Sampled: 05/11/17 14:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 11:06

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~2.0~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	5.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	1.0	0.24	1.0	U

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-6-051117

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1705274-02 — File ID: 1705274-02.D

Sampled: 05/11/17 14:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 11:06

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.49	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.1	95	85 - 118	
1,2-Dichloroethane-d4	40.0	41.6	104	87 - 122	
Toluene-d8	40.0	38.1	95	85 - 113	
4-Bromofluorobenzene	40.0	37.8	94	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	602563	6.016	98	6.013	
Chlorobenzene-d5	438659	10.38	96	10.38	
1,4-Dichlorohenzene-d4	211617	13.356	91	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

X-1-051117

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1705274-03 | File ID: 1705274-03.D

Sampled: 05/11/17 00:00 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:30

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~3.1~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	5.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	1.0	0.24	1.0	U

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

X-1-051117

Laboratory: Pace Analytical Services, LLC
SDG: 1705274
Client: O'Brien & Gere Engineers - New York
Project: Cayuga County Superfund Site
Matrix: Ground Water
Laboratory ID: 1705274-03
File ID: 1705274-03.D
Sampled: 05/11/17 00:00
Prepared: 05/16/17 08:00
Analyzed: 05/16/17 11:30
Solids: NA
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1704528
Sequence: 7E16023
Calibration: 7E03019
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.61	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.8	95	85 - 118	
1,2-Dichloroethane-d4	40.0	42.4	106	87 - 122	
Toluene-d8	40.0	38.3	96	85 - 113	
4-Bromofluorobenzene	40.0	38.6	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	614589	6.016	100	6.013	
Chlorobenzene-d5	450687	10.38	99	10.38	
1,4-Dichlorobenzene-d4	221470	13.356	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-EB

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1705274-04 | File ID: 1705274-04.D

Sampled: 05/11/17 11:30 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:54

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	7.7	1.9	20	U
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.50	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-EB

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1705274-04 | File ID: 1705274-04.D

Sampled: 05/11/17 11:30 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:54

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.6	94	85 - 118	
1,2-Dichloroethane-d4	40.0	41.8	105	87 - 122	
Toluene-d8	40.0	38.4	96	85 - 113	
4-Bromofluorobenzene	40.0	37.8	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	593348	6.016	97	6.013	
Chlorobenzene-d5	444030	10.38	98	10.38	
1,4-Dichlorobenzene-d4	216480	13.356	93	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

042717-TB

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1704504-01 | File ID: 1704504-01.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/02/17 22:53

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	9.3	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.43	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

042717-TB

Laboratory: Pace Analytical Services, LLC — SDG: 1704504

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Water — Laboratory ID: 1704504-01 — File ID: 1704504-01.D

Sampled: 04/27/17 00:00 — Prepared: 05/02/17 20:00 — Analyzed: 05/02/17 22:53

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 — Sequence: 7E03013 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.7	97	85 - 118	
1,2-Dichloroethane-d4	40.0	40.5	101	87 - 122	
Toluene-d8	40.0	39.5	99	85 - 113	
4-Bromofluorobenzene	40.0	37.8	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	560868	6.016	103	6.013	
Chlorobenzene-d5	444131	10.38	103	10.38	
1,4-Dichlorobenzene-d4	222362	13.352	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-5-PB-042717

Laboratory: Pace Analytical Services, LLC — SDG: 1704504

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1704504-02 — File ID: 1704504-02.D

Sampled: 04/27/17 10:45 — Prepared: 05/02/17 20:00 — Analyzed: 05/02/17 23:18

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 — Sequence: 7E03013 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	3.3	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.25	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-5-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-02 | File ID: 1704504-02.D

Sampled: 04/27/17 10:45 | Prepared: 05/02/17 20:00 | Analyzed: 05/02/17 23:18

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.27	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.4	96	85 - 118	
1,2-Dichloroethane-d4	40.0	39.8	99	87 - 122	
Toluene-d8	40.0	39.2	98	85 - 113	
4-Bromofluorobenzene	40.0	38.0	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	562274	6.016	103	6.013	
Chlorobenzene-d5	444203	10.38	103	10.38	
1,4-Dichlorobenzene-d4	221973	13.353	96	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-05-042717

Laboratory: Pace Analytical Services, LLC — SDG: 1704504

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1704504-03 — File ID: 1704504-03.D

Sampled: 04/27/17 11:11 — Prepared: 05/02/17 20:00 — Analyzed: 05/02/17 23:42

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 — Sequence: 7E03013 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	6.6	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	7.6	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.43	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-05-042717

Laboratory: Pace Analytical Services, LLC
SDG: 1704504
Client: O'Brien & Gere Engineers - New York
Project: Cayuga County Superfund Site
Matrix: Ground Water
Laboratory ID: 1704504-03
File ID: 1704504-03.D
Sampled: 04/27/17 11:11
Prepared: 05/02/17 20:00
Analyzed: 05/02/17 23:42
Solids: NA
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1703962
Sequence: 7E03013
Calibration: 7E03019
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.90	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.3	96	85 - 118	
1,2-Dichloroethane-d4	40.0	39.3	98	87 - 122	
Toluene-d8	40.0	38.5	96	85 - 113	
4-Bromofluorobenzene	40.0	38.5	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	559866	6.016	102	6.013	
Chlorobenzene-d5	435404	10.38	101	10.38	
1,4-Dichlorobenzene-d4	217523	13.352	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-06-042717

Laboratory: Pace Analytical Services, LLC SDG: 1704504

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Ground Water Laboratory ID: 1704504-04 File ID: 1704504-04.D

Sampled: 04/27/17 11:40 Prepared: 05/02/17 20:00 Analyzed: 05/03/17 00:07

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 Sequence: 7E03013 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~3.2~~ U	1.9	20	J J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.1	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	~~1.0~~	U
75-09-2	Methylene Chloride	1	~~0.26~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-06-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-04 | File ID: 1704504-04.D

Sampled: 04/27/17 11:40 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:07

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.42	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.9	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.8	102	87 - 122	
Toluene-d8	40.0	39.4	99	85 - 113	
4-Bromofluorobenzene	40.0	38.6	97	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	552993	6.016	101	6.013	
Chlorobenzene-d5	437240	10.38	102	10.38	
1,4-Dichlorobenzene-d4	217865	13.353	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-08-042717

Laboratory: Pace Analytical Services, LLC
SDG: 1704504
Client: O'Brien & Gere Engineers - New York
Project: Cayuga County Superfund Site
Matrix: Ground Water
Laboratory ID: 1704504-05
File ID: 1704504-05.D
Sampled: 04/27/17 12:00
Prepared: 05/02/17 20:00
Analyzed: 05/03/17 00:32
Solids: NA
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1703962
Sequence: 7E03013
Calibration: 7E03019
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	2.4	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	2.8	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.27	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

US-08-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-05 | File ID: 1704504-05.D

Sampled: 04/27/17 12:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:32

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.34	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.9	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.9	102	87 - 122	
Toluene-d8	40.0	38.8	97	85 - 113	
4-Bromofluorobenzene	40.0	38.3	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	562250	6.016	103	6.013	
Chlorobenzene-d5	443688	10.38	103	10.38	
1,4-Dichlorobenzene-d4	221241	13.352	96	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-7-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-06 | File ID: 1704504-06.D

Sampled: 04/27/17 13:20 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:56

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	2.2	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.2	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.24	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-7-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-06 | File ID: 1704504-06.D

Sampled: 04/27/17 13:20 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:56

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.62	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.4	98	85 - 118	
1,2-Dichloroethane-d4	40.0	41.0	103	87 - 122	
Toluene-d8	40.0	39.8	99	85 - 113	
4-Bromofluorobenzene	40.0	38.5	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	557785	6.016	102	6.013	
Chlorobenzene-d5	442142	10.38	103	10.38	
1,4-Dichlorobenzene-d4	222017	13.353	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD1

Laboratory: Pace Analytical Services, LLC
SDG: 1704504
Client: O'Brien & Gerc Engineers - New York
Project: Cayuga County Superfund Site
Matrix: Ground Water
Laboratory ID: 1704504-07
File ID: 1704504-07.D
Sampled: 04/27/17 00:00
Prepared: 05/02/17 20:00
Analyzed: 05/03/17 01:21
Solids: NA
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1703962
Sequence: 7E03013
Calibration: 7E03019
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~1.9~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.5	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.24~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD1

Laboratory: Pace Analytical Services. LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-07 | File ID: 1704504-07.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:21

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Triehloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.66	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.8	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.6	101	87 - 122	
Toluene-d8	40.0	39.3	98	85 - 113	
4-Bromofluorobenzene	40.0	38.8	97	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	558184	6.016	102	6.013	
Chlorobenzene-d5	441392	10.38	103	10.38	
1,4-Dichlorobenzene-d4	223746	13.353	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD2

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-08 | File ID: 1704504-08.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:46

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	2.6 U	1.9	20	J (J)
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	8.1	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.24 U	0.24	1.0	J

DQ

05/06

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD2

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-08 | File ID: 1704504-08.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:46

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 330

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.89	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Triehloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.3	96	85 - 118	
1,2-Dichloroethane-d4	40.0	40.1	100	87 - 122	
Toluene-d8	40.0	39.4	98	85 - 113	
4-Bromofluorobenzene	40.0	37.9	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	556090	6.016	102	6.013	
Chlorobenzene-d5	438216	10.38	102	10.38	
1,4-Dichlorobenzene-d4	214931	13.353	94	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-TB

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Water — Laboratory ID: 1705274-01 — File ID: 1705274-01.D

Sampled: 05/11/17 00:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 10:42

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	5.0	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.36	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-TB

Laboratory: Pace Analytical Services, LLC — SDG: 1705274

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Water — Laboratory ID: 1705274-01 — File ID: 1705274-01.D

Sampled: 05/11/17 00:00 — Prepared: 05/16/17 08:00 — Analyzed: 05/16/17 10:42

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 — Sequence: 7E16023 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.6	94	85 - 118	
1,2-Dichloroethane-d4	40.0	41.5	104	87 - 122	
Toluene-d8	40.0	38.3	96	85 - 113	
4-Bromofluorobenzene	40.0	38.2	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	605440	6.016	99	6.013	
Chlorobenzene-d5	450588	10.38	99	10.38	
1,4-Dichlorobenzene-d4	218158	13.352	94	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-6-051117

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1705274-02 | File ID: 1705274-02.D

Sampled: 05/11/17 14:00 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:06

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	2.0 U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	5.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	1.0	0.24	1.0	U

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-6-051117

Laboratory: Pace Analytical Services, LLC
SDG: 1705274
Client: O'Brien & Gere Engineers - New York
Project: Cayuga County Superfund Site
Matrix: Ground Water
Laboratory ID: 1705274-02
File ID: 1705274-02.D
Sampled: 05/11/17 14:00
Prepared: 05/16/17 08:00
Analyzed: 05/16/17 11:06
Solids: NA
Preparation: 5030B Aqueous Purge &
Initial/Final: 5 mL / 5 mL
QC Batch: 1704528
Sequence: 7E16023
Calibration: 7E03019
Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.49	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	38.1	95	85 - 118	
1,2-Dichloroethane-d4	40.0	41.6	104	87 - 122	
Toluene-d8	40.0	38.1	95	85 - 113	
4-Bromofluorobenzene	40.0	37.8	94	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	602563	6.016	98	6.013	
Chlorobenzene-d5	438659	10.38	96	10.38	
1,4-Dichlorobenzene-d4	211617	13.356	91	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

X-1-051117

Laboratory: Pace Analytical Services, LLC SDG: 1705274

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Ground Water Laboratory ID: 1705274-03 File ID: 1705274-03.D

Sampled: 05/11/17 00:00 Prepared: 05/16/17 08:00 Analyzed: 05/16/17 11:30

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 Sequence: 7E16023 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	3.1	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	5.3	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	1.0	0.24	1.0	U

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

X-1-051117

Laboratory: Pace Analytical Services, LLC SDG: 1705274

Client: O'Brien & Gere Engineers - New York Project: Cayuga County Superfund Site

Matrix: Ground Water Laboratory ID: 1705274-03 File ID: 1705274-03.D

Sampled: 05/11/17 00:00 Prepared: 05/16/17 08:00 Analyzed: 05/16/17 11:30

Solids: NA Preparation: 5030B Aqueous Purge & Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 Sequence: 7E16023 Calibration: 7E03019 Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.61	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.8	95	85 - 118	
1,2-Dichloroethane-d4	40.0	42.4	106	87 - 122	
Toluene-d8	40.0	38.3	96	85 - 113	
4-Bromofluorobenzene	40.0	38.6	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	614589	6.016	100	6.013	
Chlorobenzene-d5	450687	10.38	99	10.38	
1,4-Dichlorobenzene-d4	221470	13.356	95	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-EB

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1705274-04 | File ID: 1705274-04.D

Sampled: 05/11/17 11:30 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:54

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	7.7	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	0.60	0.27	0.60	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	1.0	0.25	1.0	U
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.50	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

051117-EB

Laboratory: Pace Analytical Services, LLC | SDG: 1705274

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Water | Laboratory ID: 1705274-04 | File ID: 1705274-04.D

Sampled: 05/11/17 11:30 | Prepared: 05/16/17 08:00 | Analyzed: 05/16/17 11:54

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1704528 | Sequence: 7E16023 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.17	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	1.0	0.26	1.0	U
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.6	94	85 - 118	
1,2-Dichloroethane-d4	40.0	41.8	105	87 - 122	
Toluene-d8	40.0	38.4	96	85 - 113	
4-Bromofluorobenzene	40.0	37.8	95	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	393348	6.016	97	6.013	
Chlorobenzene-d5	444030	10.38	98	10.38	
1,4-Dichlorobenzene-d4	216480	13.356	93	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-7-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-06 | File ID: 1704504-06.D

Sampled: 04/27/17 13:20 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:56

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	2.2 U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.2	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	0.24 U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-RESWELL-7-PB-042717

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-06 | File ID: 1704504-06.D

Sampled: 04/27/17 13:20 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 00:56

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
78-93-3	2-Butanone (MEK)	1	5.0	1.4	5.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1	5.0	1.4	5.0	U
100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.62	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	39.4	98	85 - 118	
1,2-Dichloroethane-d4	40.0	41.0	103	87 - 122	
Toluene-d8	40.0	39.8	99	85 - 113	
4-Bromofluorobenzene	40.0	38.5	96	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	557785	6.016	102	6.013	
Chlorobenzene-d5	442142	10.38	103	10.38	
1,4-Dichlorobenzene-d4	222017	13.353	97	13.352	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD1

Laboratory: Pace Analytical Services, LLC — SDG: 1704504

Client: O'Brien & Gere Engineers - New York — Project: Cayuga County Superfund Site

Matrix: Ground Water — Laboratory ID: 1704504-07 — File ID: 1704504-07.D

Sampled: 04/27/17 00:00 — Prepared: 05/02/17 20:00 — Analyzed: 05/03/17 01:21

Solids: NA — Preparation: 5030B Aqueous Purge & — Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 — Sequence: 7E03013 — Calibration: 7E03019 — Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
67-64-1	Acetone	1	~~1.9~~ U	1.9	20	J
71-43-2	Benzene	1	1.0	0.23	1.0	U
74-97-5	Bromochloromethane	1	1.0	0.29	1.0	U
75-27-4	Bromodichloromethane	1	1.0	0.21	1.0	U
75-25-2	Bromoform	1	1.0	0.23	1.0	U
74-83-9	Bromomethane	1	1.0	0.29	1.0	U
75-15-0	Carbon Disulfide	1	5.0	0.24	5.0	U
56-23-5	Carbon Tetrachloride	1	1.0	0.28	1.0	U
108-90-7	Chlorobenzene	1	1.0	0.20	1.0	U
75-00-3	Chloroethane	1	1.0	0.27	1.0	U
67-66-3	Chloroform	1	1.0	0.23	1.0	U
74-87-3	Chloromethane	1	1.0	0.24	1.0	U
110-82-7	Cyclohexane	1	1.0	0.27	1.0	U
124-48-1	Dibromochloromethane	1	1.0	0.26	1.0	U
106-93-4	1,2-Dibromoethane	1	1.0	0.22	1.0	U
95-50-1	1,2-Dichlorobenzene	1	1.0	0.11	1.0	U
541-73-1	1,3-Dichlorobenzene	1	1.0	0.27	1.0	U
106-46-7	1,4-Dichlorobenzene	1	1.0	0.16	1.0	U
75-71-8	Dichlorodifluoromethane	1	1.0	0.24	1.0	U
75-34-3	1,1-Dichloroethane	1	1.0	0.20	1.0	U
107-06-2	1,2-Dichloroethane	1	1.0	0.27	1.0	U
75-35-4	1,1-Dichloroethene	1	1.0	0.22	1.0	U
156-59-2	cis-1,2-Dichloroethene	1	4.5	0.25	1.0	
156-60-5	trans-1,2-Dichloroethene	1	1.0	0.26	1.0	U
78-87-5	1,2-Dichloropropane	1	1.0	0.22	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1	1.0	0.13	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1	1.0	0.26	1.0	U
100-41-4	Ethylbenzene	1	1.0	0.13	1.0	U
591-78-6	2-Hexanone	1	5.0	0.61	5.0	U
98-82-8	Isopropylbenzene	1	1.0	0.12	1.0	U
79-20-9	Methyl Acetate	1	5.0	0.24	5.0	U
1634-04-4	Methyl tert-Butyl Ether	1	1.0	0.24	1.0	U
108-87-2	Methylcyclohexane	1	1.0	0.22	1.0	U
75-09-2	Methylene Chloride	1	~~0.24~~ U	0.24	1.0	J

ORGANIC ANALYSIS DATA SHEET
USEPA-8260C

IS-042717-FD1

Laboratory: Pace Analytical Services, LLC | SDG: 1704504

Client: O'Brien & Gere Engineers - New York | Project: Cayuga County Superfund Site

Matrix: Ground Water | Laboratory ID: 1704504-07 | File ID: 1704504-07.D

Sampled: 04/27/17 00:00 | Prepared: 05/02/17 20:00 | Analyzed: 05/03/17 01:21

Solids: NA | Preparation: 5030B Aqueous Purge & | Initial/Final: 5 mL / 5 mL

QC Batch: 1703962 | Sequence: 7E03013 | Calibration: 7E03019 | Instrument: 350

CAS No.	Analyte	Dilution	CONC. (ug/L)	MDL	MRL	Q
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100-42-5	Styrene	1	1.0	0.16	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	0.22	1.0	U
127-18-4	Tetrachloroethene	1	1.0	0.26	1.0	U
108-88-3	Toluene	1	1.0	0.13	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1	1.0	0.31	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1	1.0	0.17	1.0	U
71-55-6	1,1,1-Trichloroethane	1	1.0	0.28	1.0	U
79-00-5	1,1,2-Trichloroethane	1	1.0	0.24	1.0	U
79-01-6	Trichloroethene	1	0.66	0.26	1.0	J
75-69-4	Trichlorofluoromethane	1	1.0	0.20	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1	1.0	0.24	1.0	U
75-01-4	Vinyl Chloride	1	1.0	0.27	1.0	U
179601-23-1	Xylene, Meta + Para	1	2.0	0.24	2.0	U
95-47-6	Xylene, Ortho	1	1.0	0.20	1.0	U

System Monitoring Compound	ADDED (ug/L)	CONC (ug/L)	% REC.	QC Limits	Q
Dibromofluoromethane	40.0	37.8	95	85 - 118	
1,2-Dichloroethane-d4	40.0	40.6	101	87 - 122	
Toluene-d8	40.0	39.3	98	85 - 113	
4-Bromofluorobenzene	40.0	38.8	97	82 - 110	

* Values outside of QC limits

Internal Standard	Area	RT	% REC.	Ref. RT	Q
Fluorobenzene	558184	6.016	102	6.013	
Chlorobenzene-d5	441392	10.38	103	10.38	
1,4-Dichlorobenzene-d4	223746	13.353	97	13.352	

* Values outside of QC limits