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September 10, 2015

Mr. Lucas Berresford
SCDHEC – State Voluntary Cleanup Section
Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201
803-896-4071

Subject: In-Situ Chemical Oxidation Pilot Test and Monitor Well Installation Report
Joslyn Clark Controls, LLC Facility
2013 West Meeting Street
Lancaster County, South Carolina

Dear Mr. Berresford:

On behalf of Joslyn Clark Controls, LLC, ERM NC, Inc. (ERM) is pleased to present one hard copy and one electronic copy of the In-Situ Chemical Oxidation Pilot Test and monitor Well Installation Report for the above referenced site. A copy of this report is also being submitted to Mr. Christopher Wargo at the UIC Section.

Should you have any questions or comments, feel free to contact us at (704) 541-8345.

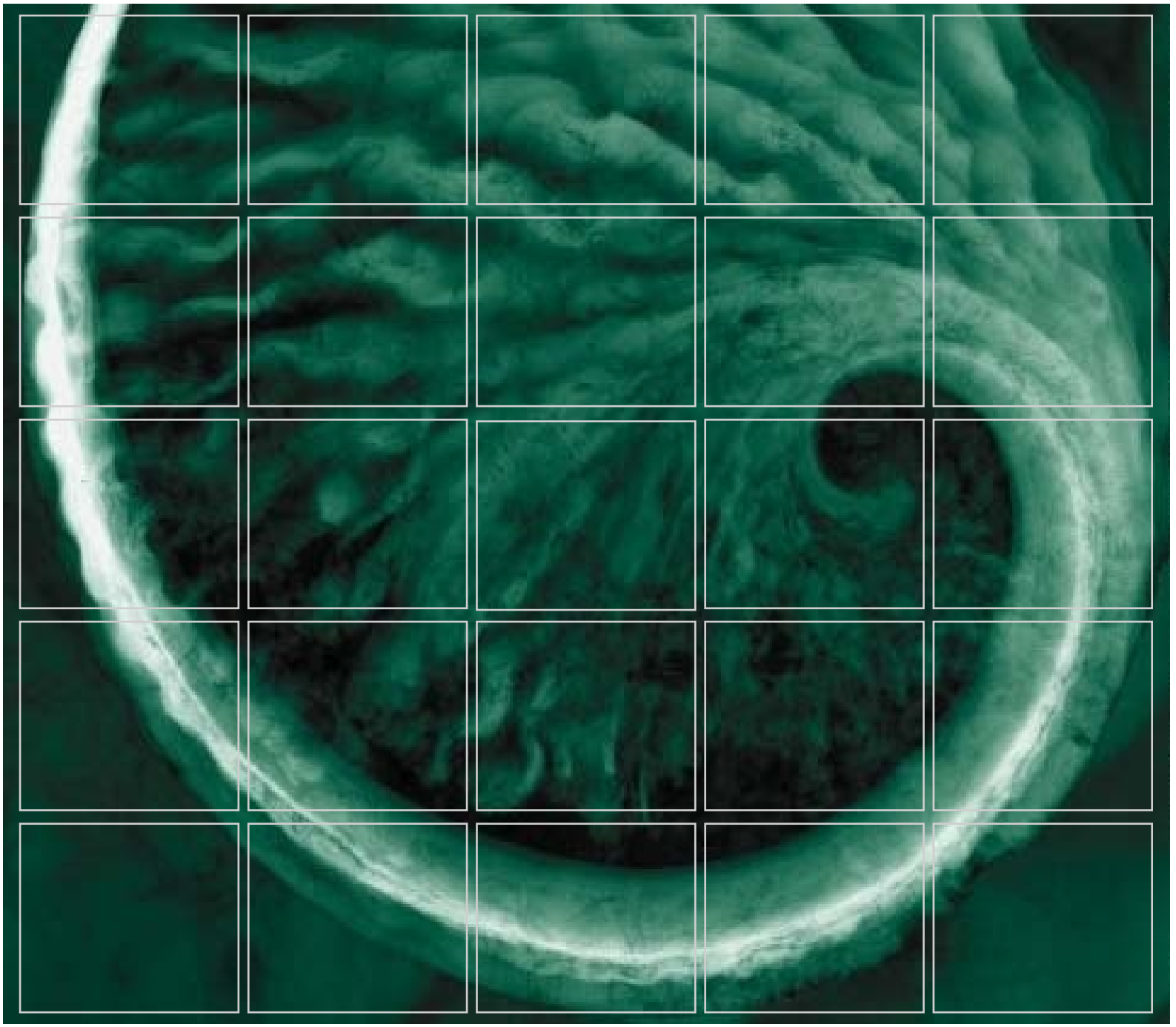
Sincerely,

Rick Tarravechia, P.G.
Partner in Charge

RICHARD J. TARRAVECHIA REGISTERED NO. 2060 SOUTH CAROLINA PROFESSIONAL GEOLOGIST

Michael Pressley, P.G.
Project Manager

cc: Mr. Carl Grabinski – Joslyn Clark Controls
cc: Mr. Christopher Wargo – SCDHEC UIC Section



Joslyn Clark Controls, LLC

Pilot Test Results and Monitor Well Installation Report
September 10, 2015

Joslyn Clark Controls, LLC Facility
2013 W. Meeting Street
Lancaster, South Carolina

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Delivering sustainable solutions in a more competitive world

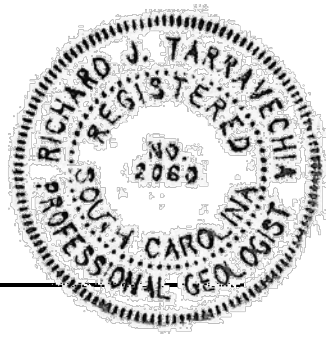
Joslyn Clark Controls, LLC

Pilot Test Results and Monitor Well Installation Report

Joslyn Clark Controls, LLC Facility
2013 W. Meeting Street
Lancaster, South Carolina
VCC 13-5875-RP

September 10, 2015

Project No. 0253066



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ACRONYMS AND ABBREVIATIONS

1,4D	1, 4-dioxane
DCA	dichloroethane
DCE	dichloroethene
ERM	ERM NC, Inc.
ESA	Environmental Site Assessment
FS	Feasibility Study
HHRA	Human Health Risk Assessment
ISCO	In-Situ Chemical Oxidation
Joslyn Clark	Joslyn Clark Controls, LLC
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
PCE	tetrachloroethene
QA	Quality Assurance
RI	Remedial Investigation
RSL	Risk Screening Level
SCDHEC	South Carolina Department of Health and Environmental Control
SGS	soil gas survey
SRS	sensitive receptor survey
TCA	trichloroethane
TCE	trichloroethene
UIC	Underground Injection Control
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
VCC	Voluntary Cleanup Contract
VI	vapor intrusion
VOC	volatile organic compound

1.0 INTRODUCTION

This *Pilot Test Results and Monitor Well Installation* report was prepared by ERM NC, Inc. (ERM) on behalf of Joslyn Clark Controls, LLC (Joslyn Clark) for the Joslyn Clark facility (Site) located at 2013 W. Meeting Street, Lancaster, Lancaster County, South Carolina (see Figure 1). The *In-Situ Chemical Oxidation (ISCO) Pilot Test Work Plan* (ERM April 2014) was approved by South Carolina Department of Health and Environmental Control (SCDHEC) per the requirements of the Voluntary Cleanup Contract (VCC) 13-5875-RP executed October 2, 2013 between the SCDHEC and Joslyn Clark. The purpose of this report is to document the results of the Pilot Test conducted at the Site.

1.1 SITE DESCRIPTION AND BACKGROUND

The subject property consists of 23 acres of land and is developed with two buildings. The now vacant former manufacturing building was constructed in 1964 and consists of approximately 180,000 square feet of floor space. The now vacant former warehouse/storage building was constructed in 1967 and consists of approximately 14,400 square feet of floor space. The subject property has been used to manufacture electrical control equipment for fire safety purposes since its construction in 1964. Figure 2 illustrates the general property layout.

The principal raw materials for manufacturing onsite included sheet metal, copper wire, pre-manufactured metal and plastic components, electrostatic paint, and oil-based paint. Joslyn Clark's primary production activities included the fabrication of metal cabinets, which were finished with various electrical, plastic, and metal components purchased from other off-site manufacturers. The Joslyn Clark facility had been a regulated source of air emissions, industrial wastewater discharge, and a generator of hazardous waste.

1.2 ENVIRONMENTAL INVESTIGATION HISTORY

Previous site assessment and remediation activities have included:

- A *Phase I Environmental Site Assessment* (ESA) was conducted by ERM in January 2009 that identified potential environmental concerns related to a former metal plating operation and a former degreasing operation which used trichloroethene (TCE) as a solvent.
- *Phase II ESA* activities conducted in 2009 which included the installation of 15 soil borings and seven permanent groundwater monitoring wells (MW-1 through MW-7) to assess areas of potential environmental concern identified in the *Phase 1 ESA*. Based on results of the *Phase II ESA*, TCE was detected in several soil samples at low concentrations. TCE was also detected in four monitoring wells at concentrations ranging from 7.7 micrograms per liter (µg/L)

to 2,700 µg/L, which is above the established South Carolina Maximum Contaminant Level (MCL) for TCE of 5.0 µg/L.

- During January of 2011, Joslyn Clark conducted a sensitive receptor survey (SRS). The SRS indicated that the closest water supply well to the site was located at a residential trailer park about 645 feet upgradient from the Joslyn Clark site and according to the property owner, was not in use. The next closest water well was almost 3,500 feet from the Joslyn Clark site, also in the general upgradient direction.
- *Phase III ESA* activities were conducted in 2011 to further delineate the volatile organic compound (VOC) plume in groundwater and collect additional soil samples. Three additional shallow monitoring wells (MW-8, MW-9 and MW-10) were installed to further evaluate the horizontal extent of the VOC plume. Two deep wells (MW-3D and MW-10D) were installed to evaluate the vertical extent of the VOC impacted groundwater at the site. Groundwater samples collected during the *Phase III* activities showed multiple chlorinated compounds, with TCE and tetrachloroethene (PCE) being the most prevalent.
- A passive soil gas survey (SGS) was initiated on November 27-29, 2012 with the installation of 60 soil gas points in the northwest portion of the manufacturing building. Twenty-five (25) VOCs were identified in the soil gas samples. The highest VOC concentrations were found at the two locations in the northwest portion of the building, in the vicinity of the former wastewater treatment room, and the former paint booth and sump (southwestern portion of the building).
- During March and April 2013, ERM conducted a *Remedial Investigation* (RI) at the facility to further characterize the source of the observed TCE plume originating inside the building and to collect additional information to facilitate subsequent groundwater remediation activities. Activities included the installation of five soil borings, one temporary well and three permanent monitoring wells inside the building (MW-11, MW-11I, and MW-11D). The results of these RI activities included:
    - The passive soil gas study indicated that tetrachloroethylene (PCE) and TCE vapors are present within the pore space of the soil in the vicinity of the former wastewater treatment room and former paint booth and sump (southwestern portion of the building). Confirmatory samples collected from these areas did not identify the presence of chlorinated VOCs in soil.
    - The VOC 1, 4-Dioxane (1,4D) was detected in soil samples collected from each of the five borings at the shallow (3-5 foot) and deep (13-15 foot intervals. The concentrations of 1,4D ranged from 0.404 milligrams per kilogram (mg/kg) to 0.992 mg/kg, which exceeds the risk-based protection of groundwater standard of 0.00014 mg/kg, but not the residential soil screening level of 4.9 mg/kg. 1, 4D was detected in only

two groundwater samples, temporary well GP-19 (0.95 µg/L) and shallow well MW-11 (0.787 µg/L).

- The vertical extent of VOC-affected groundwater has not been completely defined; however, the bulk of the VOC mass in groundwater is at the shallow depths, and therefore further delineation of the vertical extent of TCE-affected groundwater is not necessary for remedial purposes.
- The horizontal extent of the TCE-affected groundwater at the site is delineated and the TCE plume is confined to the subject property.

- A *Human Health Risk Assessment* (HHRA) was prepared dated September 23, 2013 and the results indicate there is limited risk/hazard to human health receptors at the site, with the exception of site/ maintenance workers who may be exposed to organic vapors migrating from groundwater, and to a lesser extent construction workers who may contact impacted subsurface soil during future excavation or trenching activities.
- A *Feasibility Study (FS) Work Plan* was submitted to SCDHEC dated November 18, 2013. The *FS Work Plan* evaluated various remedial technologies against the EPA criteria for feasibility studies. ISCO was selected as the technology with the highest potential for success at the Site.
- On February 5, 2014, SCDHEC issued a letter to Joslyn Clark requesting that: 1) an additional well pair be installed near the downgradient property line; 2) additional assessment was needed to delineate the vertical extend of affected groundwater; and 3) the vapor intrusion pathway had not been evaluated. On March 19, Joslyn Clark responded with a letter stating that the downgradient well pair would be installed, and that the vapor intrusion pathway would be investigated. However, Joslyn Clark also stated that the vertical profile, although not completely delineated to drinking water standards, was sufficiently delineated for remedial design purposes.
- During April and May, 2014, an *ISCO Pilot Test Work Plan* and subsequent pilot test work plan addendum were submitted to SCDHEC. The work plan was approved and the ISCO injection pilot test was performed during June 3 through July 2, 2014. Post injection monitoring was performed on a quarterly basis thereafter.
- During May 2014, a vapor intrusion (VI) assessment was performed at the site which identified the presence of TCE in soil gas beneath the building floor slab at concentrations of up to 28,000 micrograms per cubic meter (µg/m^3). TCE was detected in indoor air at concentrations ranging from 1.7 to 3.5 µg/m^3. The Risk Screening Level (RSL) for TCE is 3.0 µg/m^3. At the request of SCDHEC, a second, post-pilot test VI assessment was conducted at the site during February 2015. Soil -as concentrations of TCE were significantly lower than during the previous event, and TCE was detected in five of the seven indoor air samples at

concentrations ranging from 0.672 µg/$m^3$to 2.54 µg/m^3. These concentrations were less than the May 2014 detected concentrations and also below the industrial RSL for TCE of 3.0 µg/m^3.

- During late April, 2015 an additional downgradient monitor well pair was installed near the property at SCDHEC's request. The well pair, along with all other monitor wells, was sampled during July 2015. The results of the site-wide monitoring event are summarized herein.

Figure 2 illustrates the locations of the onsite groundwater monitor wells. It should be noted that monitor well MW-9 was installed proximal to the two former off-site wastewater lagoons. The former lagoons are not associated with the Joslyn Clark site.

2.0 PILOT TEST RESULTS

2.1 INJECTION EVENT

In accordance with the *Pilot Test Work Plan* approved by SCDHEC on May 15, 2014, ERM conducted a Pilot Test at the subject property from June 30 to July 2, 2014. The purpose of the Pilot Test was to evaluate ISCO as a remediation technique for treating groundwater at the source area contaminated with TCE, and to a lesser extent, 1,1-dichloroethene (DCE), cis-1,2-DCE, and vinyl chloride.

The pilot test focused on the source area located inside the former manufacturing building. This source area is located in the vicinity of MW-3, where the highest concentrations of TCE (relative to Joslyn Clark's activities) have been detected at the site. Two permanent injection locations were installed in a line approximately 9 feet upgradient of MW-3, spaced 10-feet apart. The two injection locations were designated IW-1 and IW-2. Both injection locations contained two 2-inch diameter injection wells with 0.010-inch machine slotted well screens open to depths of 50 to 60 feet, and 63 to 70 feet below the concrete floor. At the IW-1 location, the shallow injection point screened from 50 to 60 feet was designated IW-1A, while the injection well screened from 63 to 70 feet was designated IW-1B. The same nomenclature was applied to the two injection wells installed at location IW-2. Well construction diagrams, boring logs, and construction records were previously submitted to SCDHEC in the *Pilot Test Work Plan* and in the Underground Injection Control (UIC) Permit Application.

Following receipt of SCDHEC approval and the UIC permit #SCHE03020412, ERM and its subcontractor, Redox Tech, LLC of Cary, North Carolina, mobilized to the site with equipment and personnel necessary to complete the injection using sodium permanganate as the chemical oxidant. Sodium permanganate concentrate was shipped directly to the site and staged near the southern loading dock. Approximately 500 gallons of 5% sodium permanganate solution (approximately 48 gallons of Remox L® and 452 gallons of per injection point) were mixed and pressure injected at the site into each of the injection points (four wells located at two cluster locations) under injection pressures ranging from 30 to 85 psi. The injection event was completed over two and a half days. A layout of the injection points is provided in Figure 2. The locations of the injection well clusters and the observation well were surveyed by a South Carolina licensed surveyor.

2.2 ISCO GROUNDWATER MONITORING

Groundwater monitoring was conducted in the existing wells located at the Site during May 2013, thirteen months before the Pilot Test activities. A pre-injection baseline monitoring event was scheduled for the week prior to the injection, but due to an oversight, the ISCO injection occurred prior to collection of baseline groundwater

samples as discussed in the work plan from the wells in the ISCO treatment area (MW-2, MW-3, OW-1, IW-1, IW-2). As such, previously collected data (May 2013) from pilot test area monitor wells (upgradient well MW-2 and source area well MW-3) are being used as indicative of site baseline groundwater impact conditions.

Following the injection, the ISCO treatment area wells were checked visually for the presence of permanganate on August 8, 2014, seven days after the cessation of the injection activities. Groundwater monitoring of the pilot test area wells occurred on a quarterly basis thereafter, at 90, 180, 270, and one year following the injection.

At the seven day mark, the purple indicator color of sodium permanganate was identified in the injection wells (IW-1A, IW-1B, IW-2A, IW-2B) and in monitor well MW-3, located 9 feet downgradient from the injection wells. During the 90 day, 180 day, 270 day, and one year monitoring events, a faint purple hue was also noted in observation well OW-1, located 15.5 feet from the injection wells. The presence of oxidant in MW-3 and OW-1 located downgradient of the injection wells indicates that delivery of the oxidant was achieved in the target shallow aquifer zone, with an effective radius of 15 feet.

Groundwater samples collected for laboratory analyses throughout the duration of the project were submitted to South Carolina Certified GCAL Laboratories of Baton Rouge, Louisiana and analyzed for volatile organic compounds (VOCs) by EPA method 8260, sodium and manganese by EPA method 6010 and chloride by EPA method 300. The pilot test well MW-3 exhibited sufficient amounts of permanganate that low flow purging was not performed on this well due to concerns over damage to the sampling equipment. Instead, a "grab" sample was obtained from well MW-3. To collect viable groundwater samples from OW-1 and MW-3, where permanganate was observed, samples from the those two wells were placed in 40 ml unpreserved vials and the oxidation reaction was arrested or "quenched" by adding 2 mg of ascorbic acid to the sample. In some cases, duplicate samples were collected from OW-1 and MW-3, with one sample being "quenched" with ascorbic acid and the other being "unquenched" (i.e., no ascorbic acid was added to the sample vial). The difference between "quenched" and "unquenched" results was determined to be almost insignificant. In fact, slightly higher concentrations were evident in the "unquenched" samples, as shown in the table below:

Comparison of Quenched vs. Unquenched Analysis

Sample ID	Sample Date	Event	Volatile Organic Compounds by EPA Method 8260 (µg/L)								
			Acetone	2-Butanone (MEK)	Chloroform	1,1-DCA	1,1-DCE	Methylene chloride	PCE	1,1,2-TCA	TCE
MW-3	04/02/15	270 Day Quenched	35.2	1.2	1.29	6.52	<1.00	2.3	<1.00	0.931J	<1.00
	04/02/15	270 Day Unquenched	24.2	<1.00	1.28	6.79	<1.00	1.32	<1.00	1.02	**2.25**
OW-1	12/29/14	180 Day Quenched	<2.00	<2.00	<2.00	7.68	0.820J	<2.00	15.5	<2.00	**323**
	12/29/14	180 Day Unquenched	<5.00	<5.00	<5.00	8.58	3.14J	<5.00	15.7	<5.00	**493**
	04/02/15	270 Day Quenched	<5.00	<5.00	<5.00	7.08	1.22J	5.58	14.9	<5.00	**312**
	04/02/15	270 Day Unquenched	<5.00	<5.00	<5.00	7.64	3.09J	<5.00	15.1	<5.00	**392**

DCA = dichloroethane TCA = trichloroethane

Based on the comparison results shown above, during future sampling events, wells exhibiting a purple hue from sodium permanganate will be collected for analysis "unquenched."

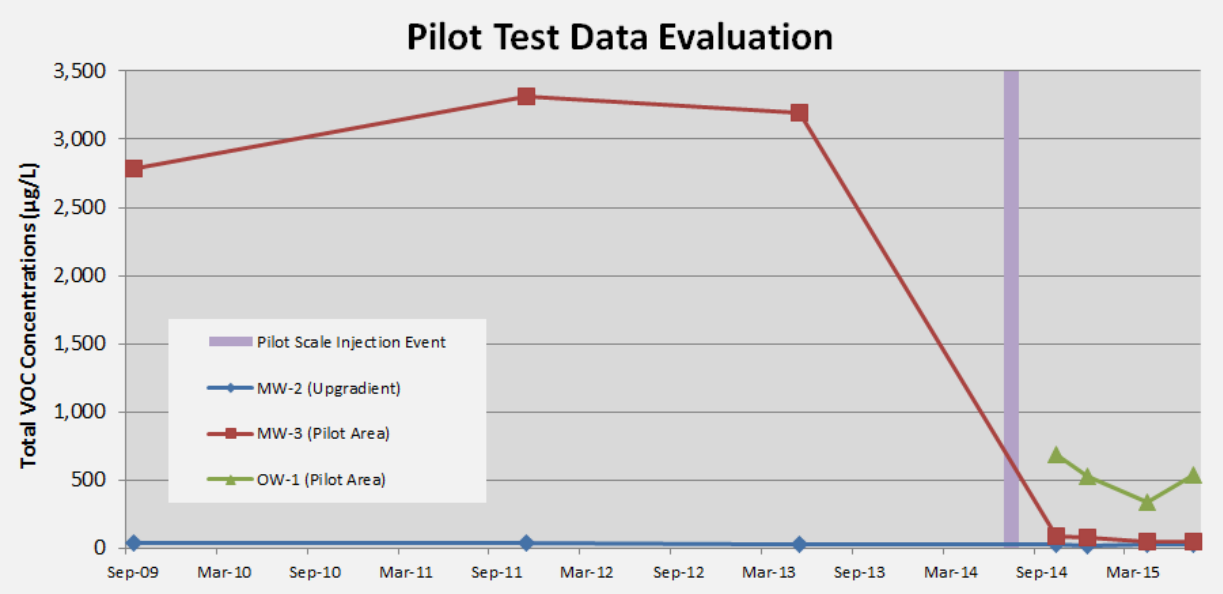
Review of the pilot test data indicate that VOC concentrations in the study area were reduced through chemical oxidation. Specifically, TCE concentrations in MW-3 decreased from over 3,000 µg/L to less than 3 µg/L at the 270 day mark before a slight rebound to 13.9 µg/L was noted at the end of the one year study period. A similar but more pronounced rebound was also noted at the 1 year mark in OW-1. Nevertheless, based on the most recent post ISCO injection sampling results (1 year mark), injected permanganate appears to still be present (i.e., a purple color) in MW-3 and OW-1 indicating good saturation and contact of the permanganate with the VOC affected aquifer. The TCE results for the study area wells are summarized below:

TCE Concentrations (µg/L) - ISCO Area Groundwater Monitoring

Well	Location	Background	1 Week	90 Day	180 Day	270 Day	1 Year	Percent Change
MW-2	Background	34.5	NS	29.7	24.5	28.1	27.6	-20
MW-3	Source	3,120	Perm	7.25	3.51	2.25	13.9	-99
OW-1	Downgradient	NS	NS	650	493	392	514	-21*
IW-1A	Injection Point	NS	Perm	Perm	Perm	Perm	Perm	NA
IW-1B	Injection Point	NS	Perm	Perm	Perm	Perm	Perm	NA
IW-2A	Injection Point	NS	Perm	Perm	Perm	Perm	Perm	NA
IW-2B	Injection Point	NS	Perm	Perm	Perm	Perm	Perm	NA

Pilot Test injection conducted in IW-1A, B and IW-2A, B on June 30 through July 1, 2014
Perm = Permanganate Observed –No sample collected
When both "quenched" and "unquenched" samples were collected, this table shows the higher result of the two
ND = Not Detected NS = No sample collected µg/L = micrograms per liter
** = 90 day analytical result used as baseline*
Analytical results shown in purple indicate that permanganate was observed in the sample

A TCE concentration over time trend-graph for the key pilot test area wells is shown below.



The manganese in samples collected from MW-3 show a marked increase from baseline concentrations, increasing from non-detectable levels (less than 15 µg/L) to 37,800 µg/L at the 90 day event, then decreasing to 19,300 µg/L by the 1 year event. Similarly, sodium concentrations also increased sharply from 8,670 µg/L prior to the injection event to 58,300 µg/L at the 90 day mark before being reduced to 26,900 µg/L at the 1 year mark following injection. The marked increases in manganese and sodium indicate good distribution of oxidant in the pilot test area. Chloride levels have remained generally constant throughout the duration of the test. The analytical results for manganese, sodium, and chloride are presented in Table 1. Laboratory analytical data sheets are attached in Appendix A.

Observations (including analytical sampling of MW-3 and OW-1) of the ISCO treatment area will be conducted for another four quarters to further evaluate longer term trends.

3.0 MONITOR WELL INSTALLATION & GROUNDWATER MONITORING

3.1 MONITOR WELL INSTALLATION

As requested by the SCDHEC in a February 5, 2014 letter, a downgradient well pair was installed near the southern property boundary on April 28-30, 2015. The location of the well pair is approximately shown on Figure 2. The well installation activities were conducted in accordance with the approved work plan dated December 2, 2014. The installation activities and well logs were initially reported to SCDHEC in the Second Quarterly Progress Report for 2015. As noted in the Progress Report, the shallow well (MW-12) was installed to a depth of 55 feet below grade. The deep well (MW-12D) was completed with a 6-inch outer casing installed to 75 feet below grade and the inner 2-inch well was installed to 110 feet below grade. Well construction records and diagrams are included in Appendix B.

3.2 SITE WIDE GROUNDWATER MONITORING

During the 1 year ISCO Pilot Test monitoring event conducted July 6 through July 8, 2015, existing monitor wells across the Joslyn Clark site were gauged and sampled in accordance with the procedures approved in the Pre-Remedial Assessment Plan dated September 11, 2012. The depths to groundwater and the calculated groundwater elevations are presented in Table 2.

Water level measurements were obtained in the site monitor wells on July 6, prior to well purging and sampling activities using a decontaminated electronic water level meter. Using top of casing elevations and the depth to water measurements, site groundwater elevations were calculated and groundwater flow maps for the shallow (55 feet) and deep (generally 110 feet) wells were generated. As shown on Figures 3 and 4, groundwater in both aquifer zones generally flows south.

Groundwater samples were collected using low flow purging techniques. Field sampling forms are presented in Appendix C. The samples were submitted to GCAL for VOC analysis by EPA Method 8260B. The analytical results of the site wide monitoring event are presented in Table 3. With the exception of the pilot test area wells (see Section 2) and the newly installed MW-12/MW-12D well pair, the analytical results correlate well with previous monitoring events.

As shown on Table 3, newly installed wells MW-12 and MW-12D detected TCE near the southern property line at an approximate distance of 870 feet from the MW-3 source area. Specifically, TCE was detected in the shallow well, MW-12, at 4.35 µg/L and in the deep well, MW-12D, at 146 µg/L. The South Carolina Maximum Contaminant Level (MCL) for TCE is 5 µg/L. TCE isoconcentration maps for the shallow and deep

aquifers are presented in Figures 5 and 6. Laboratory analytical data sheets are presented in Appendix A.

3.3 LABORATORY DATA QUALITY ANALYSIS

Quality assurance/quality control (QA/QC) samples collected during the July 2015 groundwater sampling activities included two blind duplicate samples, two equipment rinse blanks, and one trip blank. Groundwater QA/QC samples were analyzed for VOCs by EPA Method 8260B. Duplicate groundwater sample analytical results and an analysis of the QA/QC samples with regards to industry standard data quality indicators (DQI), including bias, completeness, comparability, precision, and method sensitivity, is presented in Table 4. Based on a review of the DQI analysis, the data collected during the July 2015 sampling event is considered to be valid.

4.0 SUMMARY

ERM conducted a Pilot Test at the subject property from June 30 to July 2, 2014. The purpose of the Pilot Test was to evaluate ISCO using sodium permanganate as a remediation technique for treating groundwater at the source area contaminated with TCE, and to a lesser extent, 1,1- DCE, cis 1,2-DCE, and vinyl chloride. Additionally, a groundwater monitor well pair (shallow well MW-12 and deep well MW-12D) was installed at the downgradient (southern) property line.

4.1 PILOT TEST

Review of the pilot test data indicate that TCE concentrations in the study area were reduced through oxidation at well MW-3 from 3,120 µg/L to 2.25 µg/L at the 270 day mark before a slight rebound to 13.9 µg/L was noted at the end of the one year study period. A similar but more pronounced rebound was also noted at the 1 year mark in OW-1. Nevertheless, based on the most recent post ISCO injection sampling results (1 year mark), injected permanganate is still present (i.e., a purple color) in MW-3 and OW-1 indicating good saturation and contact of the permanganate with the VOC affected aquifer. Also, manganese and sodium concentrations within the pilot test area wells showed marked increases, indicating good distribution of oxidant in the pilot test area. The results of the pilot test indicate that ISCO using sodium permanganate is a viable remediation technique for the Joslyn Clark site. Observations (including analytical sampling of MW-3 and OW-1) of the ISCO treatment area will be conducted for another four quarters to further evaluate longer term contaminant reduction trends.

4.2 NEW MONITOR WELLS

Newly installed wells MW-12 and MW-12D detected TCE near the southern property line at an approximate distance of 870 feet from the MW-3 source area. TCE was detected in the groundwater samples collected from shallow well, MW-12, at 4.35 µg/L and in the sample collected from deep well, MW-12D, at 146 µg/L. The South Carolina MCL for TCE is 5 µg/L.

Joslyn Clark is planning to re-sample the MW-12/MW-12D well pair using the same methods outlined in the approved work plan prior to making any decisions on the installation of additional wells. In the event that the re-sampling of the MW-12/MW-12D well pair confirm the presence of TCE in groundwater above the MCL, a work plan for the installation of additional monitor wells will be submitted to SCDHEC under separate cover.

5.0 REFERENCES

ERM, 2013. Remedial Investigation Report, Joslyn Clark Controls Facility, 2013 W. Meeting Street, Lancaster, South Carolina. Submitted September 23, 2013.

Harned, D.A., and Daniel, C.C., III, 1992. The transition zone between bedrock and regolith—Conduit for contamination? in Daniel, C.C., III, White, R.K., and Stone, P.A., eds., Ground water in the Piedmont, Proceedings of a Conference on Ground Water in the Piedmont of the Eastern United States, Charlotte, N.C., Oct. 16-18, 1989: Clemson, S.C., Clemson University, p. 336-348.

ITRC (Interstate Technology & Regulatory Council). 2010. Use and Measurement of Mass Flux and Mass Discharge. MASSFLUX-1. Washington, D.C.: Interstate Technology & Regulatory Council, Integrated DNAPL Site Strategy Team. www.itrcweb.org.

Lounsbury, C., et. al., 1914. Soil Survey of Union County, South Carolina. U.S. Department of Agriculture, Bureau of Soils. Washington: Government Printing Office.

Pankow, J.F. and Cherry, J.A., 1996. Dense Chlorinated Solvents and other DNAPLs in Groundwater: History, Behavior, and Remediation. Waterloo Press. Portland Oregon. 522 p.

Sale, T., C. Newell, H. Stroo, and R. Hinchee. 2008. Frequently Asked Questions Regarding the Management of Chlorinated Solvents in Soil and Groundwater. Environmental Security Technology Certification Program Project E-0530.

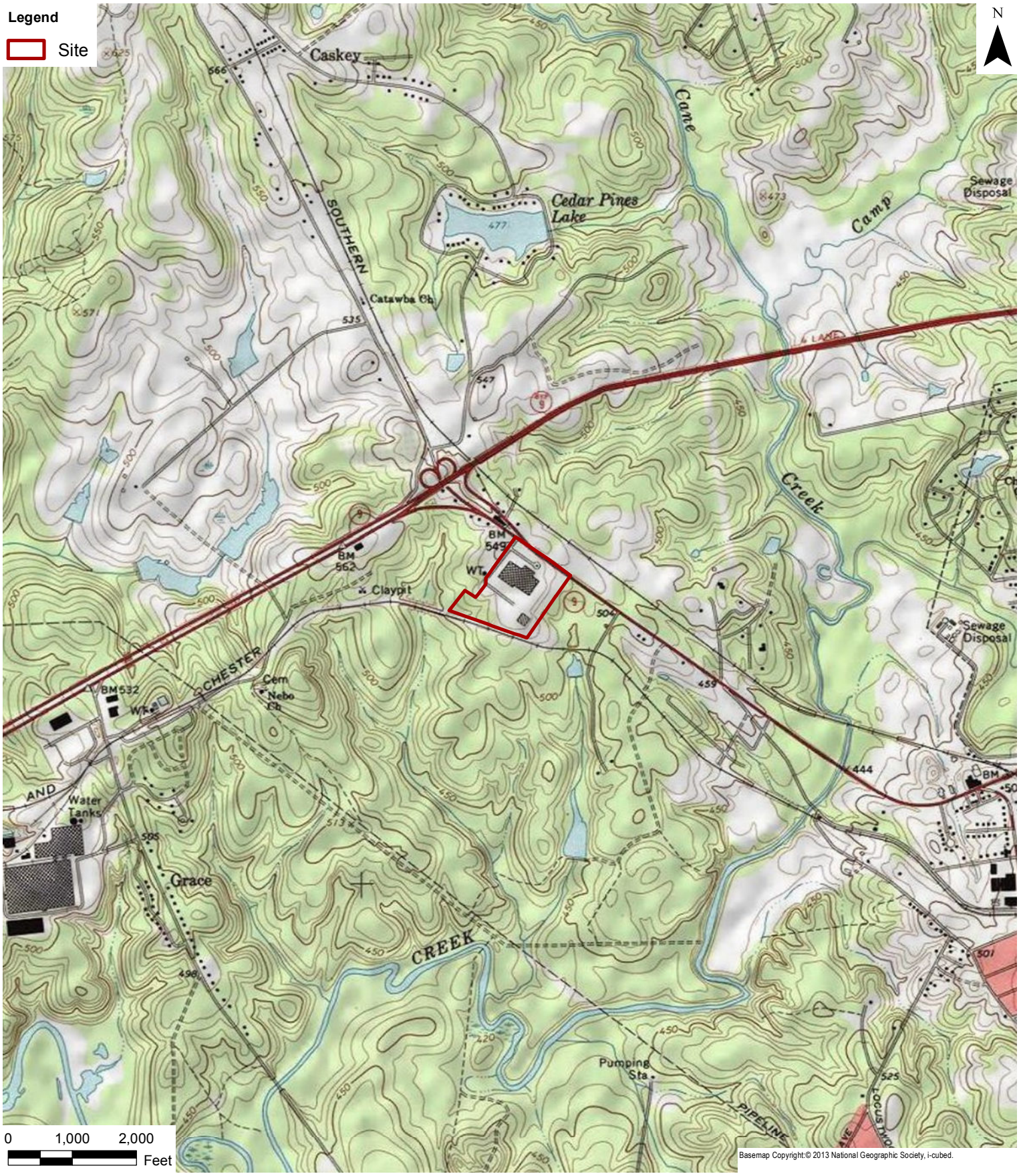
Stevens, D.B. 1996. Vadose Zone Hydrology. Lewis Publishers, NY. 347 p.

USEPA, 1998. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. EPA/540/G-89/004. Washington, D.C.: OSWER Directive 9355.3-01. October 1998. Office of Emergency and Remedial Response. U.S. Environmental Protection Agency.

USEPA, 2003. The DNAPL Remediation Challenge: Is There a Case for Source Depletion?. EPA/600/R-03/143. December 2003. Cincinnati, Ohio: National Risk Management Research Laboratory; Office of Research and Development. U.S. Environmental Protection Agency.

USEPA, 2009. Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites. EPA/600/R-09/119. Ground Water Issue. September 2009. Cincinnati, O.H.: National Risk Management Research Laboratory. U.S. Environmental Protection Agency.

Figures



ERM NC, Inc.

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FIGURE 1
SITE LOCATION MAP

Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC

Legend

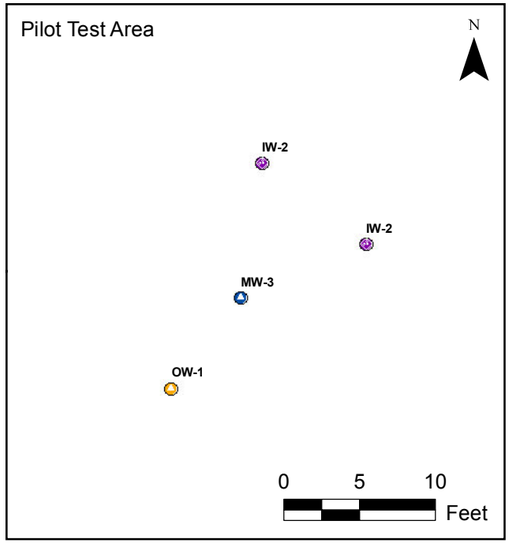
- Parcels
- Former Off-Site Lagoons

Monitor Wells

- Shallow Monitor Well
- Deep Monitor Well
- Intermediate Monitor Well

Pilot Test Wells

- Injection Well
- Observation Well



Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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SCALE: AS SHOWN DRAWN: A Freeman DATE: 9/1/2015

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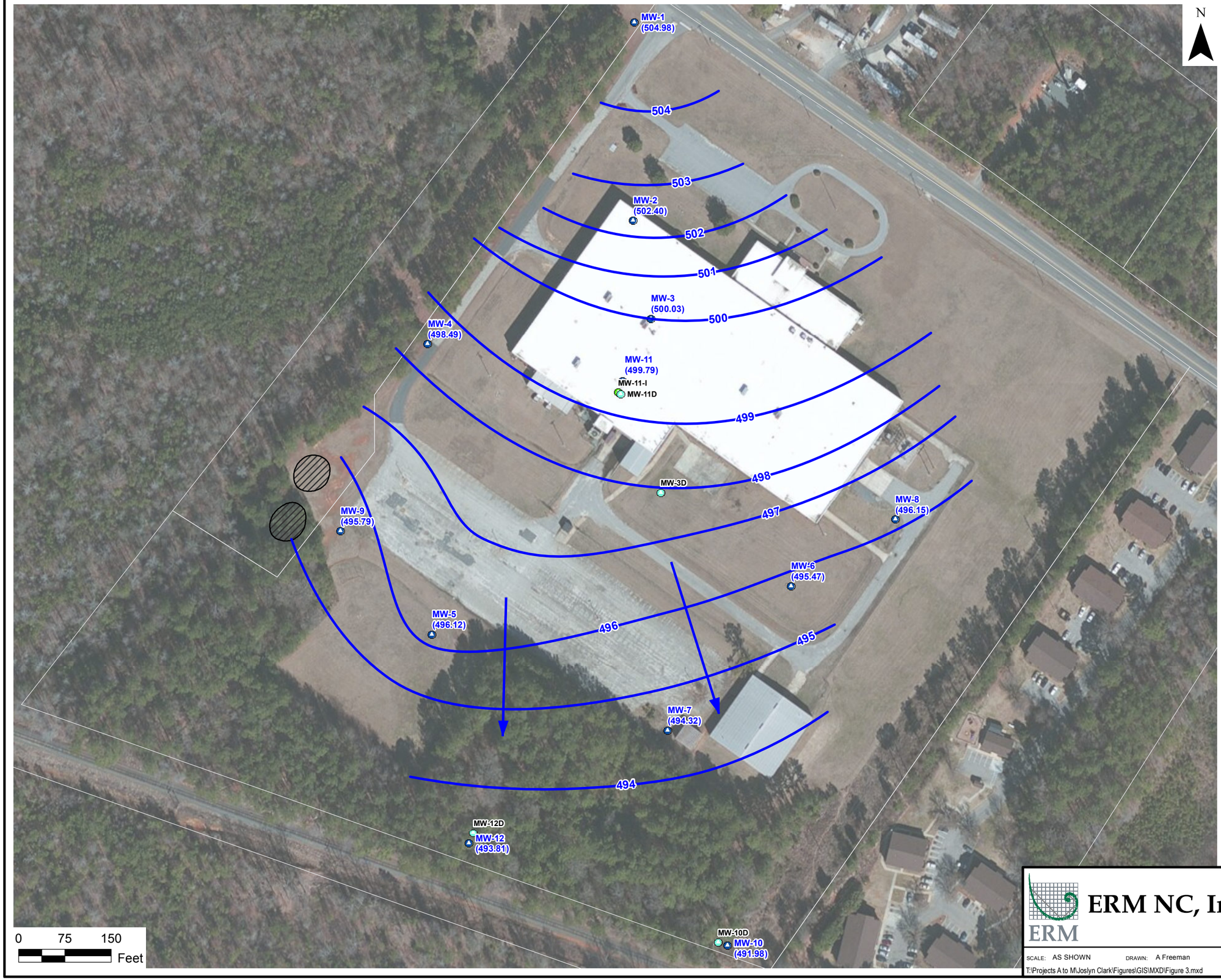
FIGURE 2
Site Plan with Monitor Wells and Pilot Test Wells
Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC



N

Legend

Parcels

Former Off-Site Lagoons

Monitor Wells

Shallow Monitor Well

Deep Monitor Well

Intermediate Monitor Well

Groundwater Elevations - July 2015

Water Table Elevation Contour

(Dashed in Areas of Less Certainty)

Approximate Groundwater Flow Direction

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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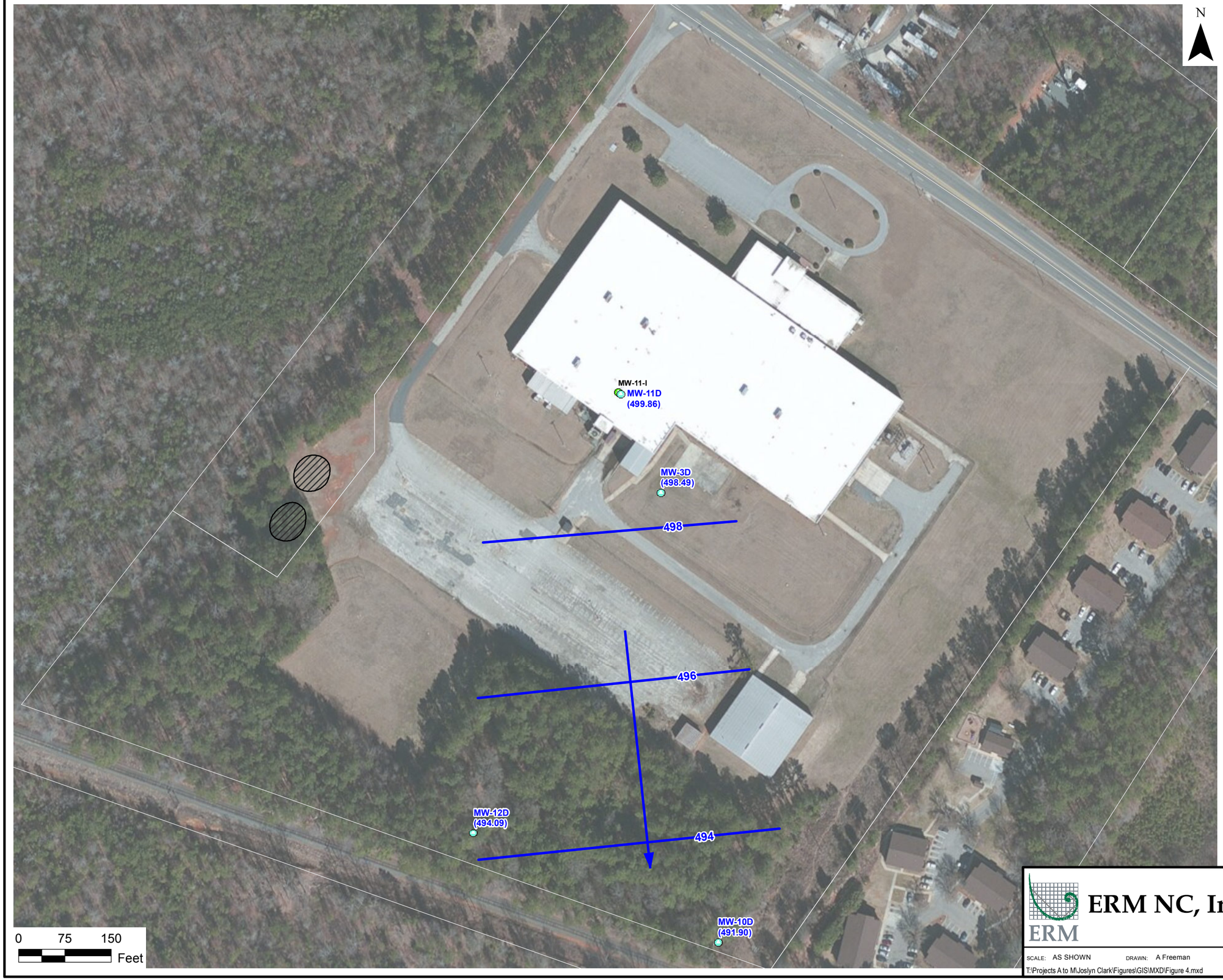
FIGURE 3
Groundwater Flow Map
Shallow Aquifer - July 2015
Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC



Legend

Parcels

Former Off-Site Lagoons

Monitor Wells

Deep Monitor Well

Intermediate Monitor Well

Groundwater Elevations - July 2015

Approximate Groundwater Flow Direction

Water Table Elevation Contour

(Dashed in Areas of Less Certainty)

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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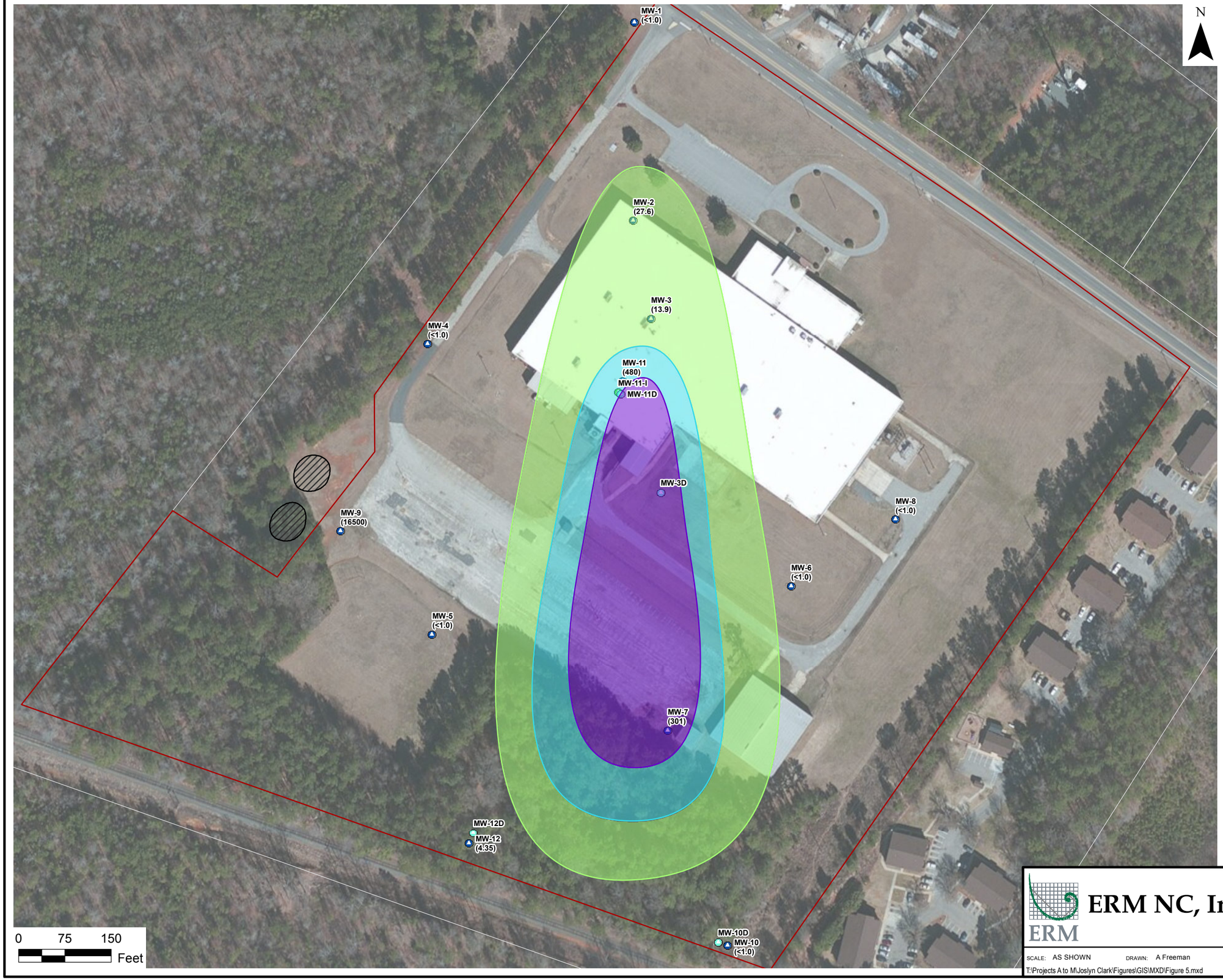
FIGURE 4
Groundwater Flow Map
Deep Aquifer - July 2015
Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC



Legend

- Former Off-Site Lagoons
- Site
- Parcels

Monitor Wells

- Shallow Monitor Well
- Deep Monitor Well
- Intermediate Monitor Well

Trichloroethene (TCE) Concentration July 2015

- 100 ug/L
- 50 ug/L
- 5 ug/L

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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SCALE: AS SHOWN DRAWN: A Freeman DATE: 9/1/2015

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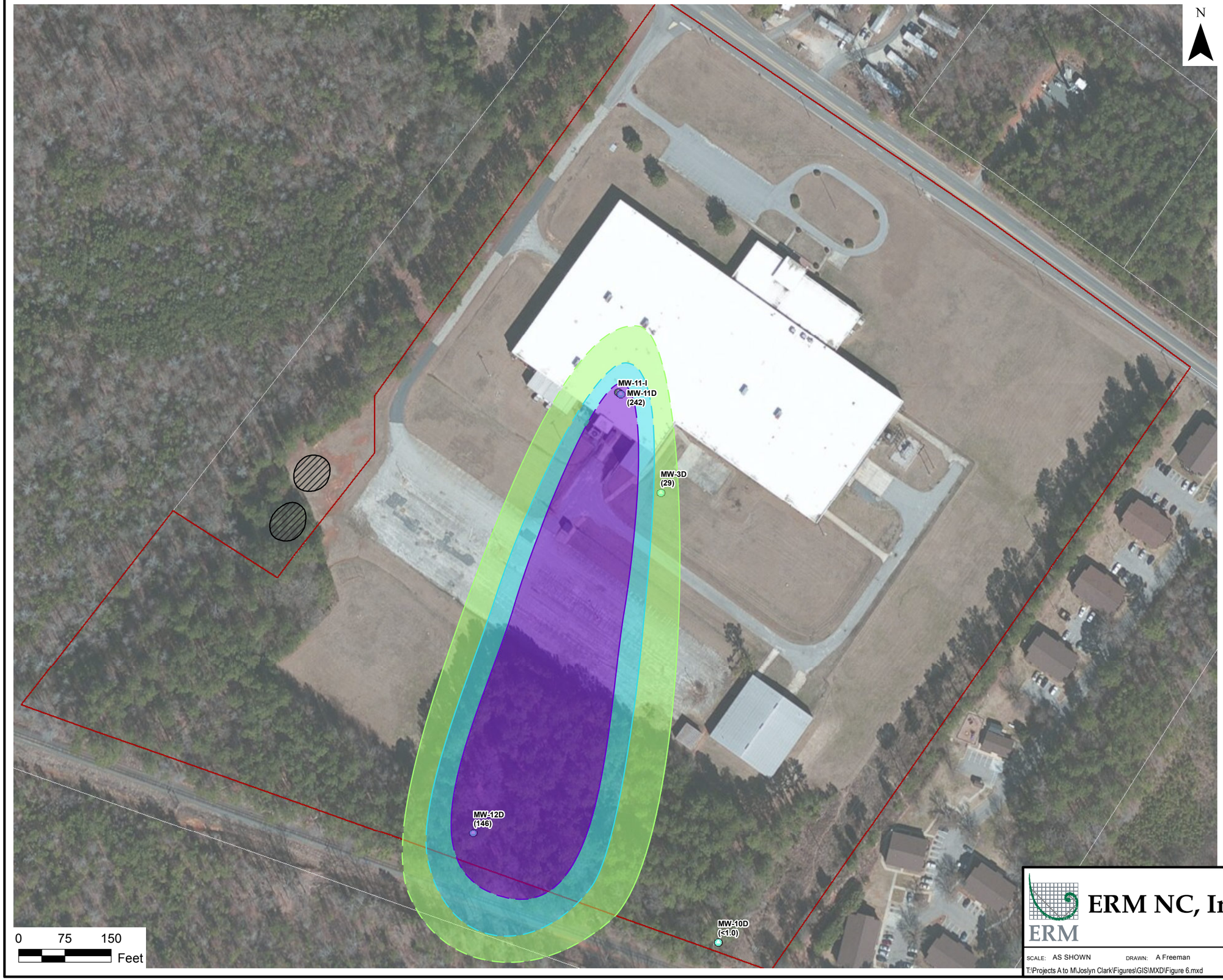
FIGURE 5
TCE Isoconcentration Map
Shallow Groundwater – July 2015
Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC



Legend

- Site
- Parcels
- Former Off-Site Lagoons

Monitor Wells

- Deep Monitor Well
- Intermediate Monitor Well

Trichloroethene (TCE) Concentration July 2015

- 100 ug/L
- 50 ug/L
- 5 ug/L

Dashed contours indicate less certainty

Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ERM NC, Inc.

SCALE: AS SHOWN DRAWN: A Freeman DATE: 9/1/2015

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FIGURE 6
TCE Isoconcentration Map
Deep Groundwater – July 2015
Former Joslyn Clark Facility
2013 W, Meeting Street
Lancaster, Lancaster County, SC

Tables

TABLE 1
SUMMARY OF GEOCHEMICAL PARAMETERS
FORMER JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

Sample ID	Sample Date	Sodium via EPA Method 6010 (mg/L)	Manganese via EPA Method 6010 (mg/L)	Chloride (mg/L)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Temperature (˚C)	Oxidation Reduction Potential (mV)
Indicators of ISCO Enhanced Aerobic Attenuation		Increasing	Increasing	Increasing (>2x background)	5 to 9	(Purge Stabilization Parameter)	>5	>20	---
MW-2	05/02/13	6.8	<0.015	10.3	5.35	50	5.91	20.14	105.1
MW-2	10/02/14	7.64	0.00535	10.9	5.46	56	5.74	20.58	193
MW-2	12/29/14	7.21	0.00795	10.3	5.26	48	2.05	18.92	169
MW-2	04/02/15	7	0.0315	8.89	5.62	46	5.66	19.40	134.2
MW-2	07/07/15	7.5	0.0152	11.4	5.65	44	4.86	20.71	130.1
MW-3	05/02/13	8.67	<0.015	8.2	5.95	74	4.34	21.17	150.2
MW-3	10/02/14	58.3	37.8	7.13	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
MW-3	12/29/14	42.2	43.3	6.77	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
MW-3	04/02/15	28.4	26.7	6.98	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
MW-3	07/08/15	26.9	19.3	7.08	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
OW-1	10/02/14	10.7	2.15	6.81	6.75	86	5.04	22.89	469
OW-1	12/29/14	11.1	0.776	6.93	6.91	91	1.48	22.29	519
OW-1	04/02/15	11.1	1.27	6.25	6.86	89	5.91	20.60	139.5
OW-1	07/08/15	11	1.1	6.76	6.45	78	5.08	21.68	-2.1
MW-11	05/02/13	9.33	0.15	7.08	5.98	61	-	20.56	88
MW-11	06/28/13	NA	NA	NA	5.50	86	4.03	21.83	133
MW-11	07/07/15	NA	NA	NA	5.93	68	4.24	22.70	-2
MW-11I	05/02/13	16	0.079	7.81	6.83	127	-	20.48	-34
MW-11I	06/28/13	NA	NA	NA	5.60	156	5.60	20.86	119
MW-11I	07/07/15	NA	NA	NA	8.70	162	5.19	21.63	-2.2
MW-11D	05/02/13	52.7	0.042	10.2	6.86	123	-	20.38	-35
MW-11D	06/28/13	NA	NA	NA	8.62	437	2.20	20.14	-134
MW-11D	07/07/15	NA	NA	NA	6.96	214	4.56	21.10	-2.1
IW-1A	07/08/15	262	12.10	13.00	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
IW-1B	07/08/15	624	13.00	17.40	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
IW-2A	07/08/15	862	2.84	17.90	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)
IW-2B	07/08/15	770	39	28.9	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)	NM ($NaMnO_4$)

Notes:
NA = Not Analyzed
NS = Not Sampled

TABLE 2
GROUNDWATER ELEVATION DATA
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

Well No.	Top of Casing		Well No.	Top of Casing		Well No.	Top of Casing		Well No.	Top of Casing	
MW-1	Elevation (feet) 547.41		**MW-2**	Elevation (feet) 542.54		**MW-3**	Elevation (feet) 542.52		**MW-3D**	Elevation (feet) 543.15	
	Water Depth	Water Elevation		Water Depth	Water Elevation		Water Depth	Water Elevation		Water Depth	Water Elevation
Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)
9/30/09	44.54	502.87	9/30/09	42.47	500.07	9/30/09	44.43	498.09			
11/10/11	46.86	500.55	11/10/11	44.02	498.52	11/10/11	45.67	496.85	11/10/11	47.91	495.24
5/3/13	42.29	505.12	5/2/13	44.50	498.04	5/2/13	46.38	496.14	5/2/13	48.30	494.85
07/06/15	42.43	504.98	07/06/15	40.14	502.40	07/06/15	42.49	500.03	07/06/15	44.66	498.49

Well No.	Top of Casing		Well No.	Top of Casing		Well No.	Top of Casing		Well No.	Top of Casing	
MW-4	Elevation (feet) 541.51		**MW-5**	Elevation (feet) 540.63		**MW-6**	Elevation (feet) 542.41		**MW-7**	Elevation (feet) 541.92	
	Water Depth	Water Elevation		Water Depth	Water Elevation		Water Depth	Water Elevation		Water Depth	Water Elevation
Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)	Dates:	(Ft. BGS)	(Ft. MSL)
9/30/09	44.56	496.95	9/30/09	46.59	494.04	9/30/09	49.23	493.18	9/30/09	49.63	492.29
11/10/11	46.47	495.04	11/10/11	47.62	493.01	11/10/11	50.31	492.10	11/10/11	50.72	491.20
5/3/13	46.32	495.19	5/2/13	47.60	493.03	5/3/13	49.83	492.58	5/3/13	50.69	491.23
07/06/15	43.02	498.49	07/06/15	44.51	496.12	7/6/15	46.94	495.47	7/6/15	47.60	494.32

NM = Not Measured; Ft MSL = Feet above Mean Sea Level

TABLE 2
GROUNDWATER ELEVATION DATA
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA
PAGE 2 OF 3

Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)	
MW-8	539.50		**MW-9**	540.69		**MW-10**	533.20		**MW-10D**	533.05	
Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)
11/10/11	46.91	492.59	11/10/11	48.00	492.69	11/10/11	46.51	486.69	11/10/11	44.56	488.49
5/3/13	46.64	492.86	5/3/13	47.65	493.04	5/3/13	44.32	488.88	5/2/13	44.15	488.90
7/6/15	43.35	496.15	7/6/15	44.90	495.79	7/6/15	41.22	491.98	7/6/15	41.16	491.89

Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)	
MW-11	542.40		**MW-11I**	542.38		**MW-11D**	542.41		**MW-12**	537.72	
Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)
5/2/13	46.53	495.87	5/2/13	46.54	495.84	5/2/13	46.53	495.88			
7/6/15	42.61	499.79	7/6/15	42.62	499.76	7/6/15	42.55	499.86	7/6/15	43.91	493.81

TABLE 2
GROUNDWATER ELEVATION DATA
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)	
MW-12D	537.53										
Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)
7/6/15	43.44	494.09									

Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)		Well No.	Top of Casing Elevation (feet)	
Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)	Dates:	Water Depth (Ft. BGS)	Water Elevation (Ft. MSL)

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
ALL MONITOR WELLS
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

		Volatile Organic Compounds by EPA Method 8260 (µg/L)														
Sample ID	Sample Date	Acetone	2-Butanone (MEK)	Bromodichloromethane	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	cis-1,2-Dichloroethene	Methylene chloride	Tetrachloroethene	1,1,2-Trichloroethane	Trichloroethene	Dibromochloromethane	Ethylbenzene	Xylene (total)
MW-1	5/3/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/6/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2	5/2/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**34.5**	<1.0	<1.0	<1.0
	10/2/2014	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	**29.7**	<1.00	0.448J	4.21
	12/29/2014	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	**24.5**	<1.00	<1.00	<1.00
	4/2/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.53	<1.00	<1.00	**28.1**	<1.00	<1.00	<1.00
	7/7/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	**27.6**	<1.00	<1.00	<1.00
MW-3	5/2/2013	<20	<20	<20	<20	<20	**22.4**	<20	<20	<20	**54**	<20	**3,120**	<20	<20	<20
	10/2/2014	56.5	4.56	<1.00	1.73	9.05	<1.00	0.358J	<1.00	<1.00	0.533J	1.54	**7.25**	<1.00	<1.00	<1.00
	12/29/2014	51.5	3.63	<1.00	1.8	9.08	<1.00	<1.00	<1.00	<1.00	<1.00	1.9	**3.51**	<1.00	<1.00	<1.00
	4/2/2015	35.2	1.2	<1.00	1.29	6.79	<1.00	<1.00	<1.00	2.3	<1.00	1.02	**2.25**	<1.00	<1.00	<1.00
	7/8/2015	15.2	<1.00	<1.00	1.16	5.79	<1.00	0.381J	<1.00	<1.00	0.504J	1.08	**13.9**	<1.00	<1.00	0.418J
MW-3D	5/2/2013	<1.0	<1.0	<1.0	<1.0	<1.0	2.11	<1.0	<1.0	<1.0	<1.0	<1.0	**39.7**	<1.0	<1.0	<1.0
	7/7/2015	<1.0	<1.0	<1.0	0.566J	<1.0	3.88	<1.0	<1.0	<1.0	0.827J	<1.0	**29**	<1.0	<1.0	<1.0
MW-4	5/3/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/6/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW-5	5/2/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/6/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW-6	5/3/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.83**	<1.0	<1.0	<1.0
	7/7/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.867J	<1.00	<1.00	<1.00
MW-7	5/3/2013	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**9.27**	<5.0	**366**	<5.0	<5.0	<5.0
	7/7/2015	<2.00	<2.00	<2.00	2.7	<2.00	<2.00	<2.00	5.51	<2.00	**11.8**	<2.00	**364**	<2.00	<2.00	<2.00
MW-8	5/3/2013	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/7/2015	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.360J	<1.00	<1.00	<1.00
Regional Screening Level - Tapwater		14000	5600	0.13	0.22	2.7	280	0.17	36	11.4	11	0.28	0.49	0.17	1.5	190
MCL		NE	NE	80	80	NE	7	5	70	5	5	5	5	80	700	10000

Notes:

BOLD values indicate an exceedence of EPA MCLs, June 2015
ug/l = Micrograms/liter; All analytical results expressed in ug/L
B = Detected in Method blank
J = Less than practical quantification level but equal to or greater than minimum detection limit
EPA = Environmental Protection Agency
MCL = Maximum Contaminant Level
ND = Not Detected; NA=Not analyzed; NE = Not Established; N/A = Not applicable
SVOC = semi-volatile organic compound; SVOC analyses by EPA Method 8270C
* = 80 ug/L is the MCL for all combined halomethanes

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
ALL MONITOR WELLS
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

		Volatile Organic Compounds by EPA Method 8260 (µg/L)														
Sample ID	Sample Date	Acetone	2-Butanone (MEK)	Bromodichloromethane	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	cis-1,2-Dichloroethene	Methylene chloride	Tetrachloroethene	1,1,2-Trichloroethane	Trichloroethene	Dibromochloromethane	Ethylbenzene	Xylene (total)
MW-9	05/03/13	<200	<200	<200	<200	<200	**303**	<200	**249**	<200	**1,360**	<200	**16,900**	<200	<200	<200
	07/08/15	<100	<100	<100	56.5J	<100	**216**	<100	**459**	<100	**1,000**	<100	**16,500**	<100	<100	<100
MW-10	05/03/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	07/07/15	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.916J	<1.00	<1.00	<1.00
MW-10D	05/02/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	07/07/15	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
MW-11	05/02/13	<5.0	<5.0	<5.0	<5.0	<5.0	**155**	<5.0	<5.0	<5.0	**34.5**	<5.0	**951**	<5.0	<5.0	<5.0
	06/26/13	<5.0	<5.0	<5.0	<5.0	<5.0	**87.1**	<5.0	64.8	<5.0	**12**	<5.0	**394**	<5.0	<5.0	<5.0
	07/07/15	<5.00	<5.00	<5.00	<5.00	<5.00	**105**	<5.00	11.1	<5.00	**22.8**	<5.00	**480**	<5.00	<5.00	<5.00
MW-11I	05/02/13	<1.0	<1.0	<1.0	<1.0	<1.0	1.66	<1.0	<1.0	1.73	<1.0	<1.0	**131**	<1.0	<1.0	<1.0
	06/26/13	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**213**	<2.0	<2.0	<2.0
	07/07/15	<2.00	<2.00	<2.00	<2.00	<2.00	0.947J	<2.00	<2.00	<2.00	1.21J	<2.00	**204**	<2.00	<2.00	<2.00
MW-11D	05/02/13	3.11	<1.0	<1.0	1.15	<1.0	<1.0	<1.0	<1.0	1.23	<1.0	<1.0	**97.9**	<1.0	<1.0	<1.0
	06/26/13	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**167**	<2.0	<2.0	<2.0
	07/07/15	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	1.16J	<2.00	**242**	<2.00	<2.00	<2.00
MW-12	07/06/15	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.418J	<1.00	4.35	<1.00	<1.00	<1.00
MW-12D	07/06/15	<1.00	<1.00	<1.00	0.632J	<1.00	**12.3**	0.905J	3.81	<1.00	16.2	<1.00	**146**	<1.00	<1.00	<1.00
OW-1	10/02/14	<5.00	<5.00	<5.00	<5.00	7.14	5.26	<5.00	<5.00	4.71J	**10.1**	<5.00	**650**	<5.00	<5.00	<5.00
	12/29/14	<5.00	<5.00	<5.00	<5.00	8.58	3.14J	<5.00	<5.00	<5.00	**15.7**	<5.00	**493**	<5.00	<5.00	<5.00
	04/02/15	<5.00	<5.00	<5.00	<5.00	7.64	3.09J	<5.00	<5.00	**5.58**	**15.1**	<5.00	**392**	<5.00	<5.00	<5.00
	07/08/15	<5.00	<5.00	<5.00	<5.00	6.29	<5.00	<5.00	1.86J	<5.00	**12.7**	<5.00	**514**	<5.00	<5.00	<5.00
IW-1A	07/08/15	<1.0	<1.0	0.348J	0.829J	1.44	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
IW-1B	07/08/15	<1.0	<1.0	<1.0	1.03	1.19	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
IW-2A	07/08/15	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
IW-2B	07/08/15	8.44	<1.0	0.631J	1.33	0.786J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.275J	<1.00	<1.00
GP-18	04/09/13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**696**	<10	<10	<10
Regional Screening Level - Tapwater		14,000	5,600	0.13	0.22	2.7	280	0.17	36	11.4	11	0.28	0.49	0.17	1.5	190
MCL		NE	NE	80	80	NE	7	5	70	5	5	5	5	80	700	10000

Notes:

BOLD values indicate an exceedence of EPA MCLs, June 2015
ug/l = Micrograms/liter; All analytical results expressed in ug/L
B = Detected in Method blank
J = Less than practical quantification level but equal to or greater than minimum detection limit
EPA = Environmental Protection Agency
MCL = Maximum Contaminant Level
ND = Not Detected; NA=Not analyzed; NE = Not Established; N/A = Not applicable
SVOC = semi-volatile organic compound; SVOC analyses by EPA Method 8270C
* = 80 ug/L is the MCL for all combined halomethanes

Table 4
QUALITY ASSURANCE ANALYSIS SUMMARY
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

Sample ID	Date Collected	Volatile Organic Compounds by EPA Method 8260 (µg/L)					
		Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene
EPA Region 9 PRGs - Tapwater		0.22	2.7	280	36	11	0.49
EPA Region 9 PRGs - MCLs		80	NE	7	70	5	5
Bias Analysis		*Data is Considered Valid*					
Eq-Rinse-1	7/7/2015	<1	<1	<1	<1	<1	<1
EQ-Rinse-2	7/8/2015	<1	<1	<1	<1	<1	<1
Trip Blank	7/8/2015	<1	<1	<1	<1	<1	<1
Review of the results of the trip and field blank sample analyses indicate no sources of error from the sample collection, handling, and preservation procedures.							
Completeness Analysis		*Data is Considered Valid*					
Review of the dataset for this project indicate that an adequate number of monitoring locations exist to define and monitor the plume. Samples were collected from all active monitoring points containing sufficient groundwater to allow sample collection.							
Comparability Analysis		*Data is Considered Valid*					
Review of the dataset for this project indicate that results for each sample were analyzed using the same methods and are presented using consistent units.							
Precision Analysis		*Data is Considered Valid*					
MW-7	7/7/2015	2.70	<2	<2	5.51	8.83	**301**
MW-7 Dup (Dup-1)	7/7/2015	2.65	<2	<2	6.10	**11.80**	**364**
Calculated RPD		2%	0%	0%	10%	29%	19%
MW-11	7/7/2015	<5	<5	**105**	11.1	**22.8**	**480**
MW-11 Dup (Dup-2)	7/7/2015	<5	<5	83.3	10.6	**19.7**	**455**
Calculated RPD		0%	0%	23%	5%	15%	5%
Calculated RPDs <20% are preferred. The only RPD greater than 20% was for tetrachloroethene in the MW-7 duplicate and 1,1-dichloroethene in the sample (the higher values were used).							
Sensitivity Analysis		*Data is Considered Valid*					
The detection limits listed for each analyte are less than or equal to the respective applicable regulatory limit. No exceptions due to dilution of samples were noted.							

Bold data are equal to or exceed RBSLs

Appendix A
Laboratory Analytical Data Sheets

Appendix A-1
90-Day Monitoring Event

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 08/31/2015

GCAL Report 214100341

Project Joslyn Clark

Deliver To
Michael Pressley
ERM NC, Inc
15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
704 409 3450

Revision 1

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____
Authorized Signature
GCAL Report 214100341

Case Narrative

Client: ERM NC, INC **Report:** 214100341

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was revised 08/31/15. The data is revised to report non-detects as LOQ U. Additionally J values are not reported.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, samples 21410034102 (OW-1 (VITC)) and 21410034101 (OW-1 (AA)) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the EPA 8260B analysis for analytical batch 542344, the LCS/LCSD RPD is above the control limit for Toluene.

METALS

In the EPA 6020A analysis, samples 21410034104 (MW-3 (AA)) and 21410034101 (OW-1) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

In the EPA 6020A analysis for prep batch 542328, the MS/MSD recoveries are not applicable for Manganese and Sodium because the sample concentration is greater than four times the spike concentration.

CONVENTIONALS

In the EPA 300.0 analysis, samples 21410034101 (OW-1), 21410034103 (MW-2) and 21410034104 (MW-3) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21410034101	OW-1	Water	10/02/2014 13:30	10/03/2014 10:45
21410034102	OW-1	Water	10/02/2014 13:30	10/03/2014 10:45
21410034103	MW-2	Water	10/02/2014 12:05	10/03/2014 10:45
21410034104	MW-3	Water	10/02/2014 14:00	10/03/2014 10:45
21410034105	MW-3	Water	10/02/2014 14:00	10/03/2014 10:45
21410034106	TRIP BLANK	Water	10/02/2014 00:00	10/03/2014 10:45

Summary of Compounds Detected

OW-1

Collect Date	10/02/2014 13:30	**GCAL ID**	21410034101
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	2150	25.0	ug/L
7440-23-5	Sodium	10700	500	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	6.81	2.00	mg/L

OW-1

Collect Date	10/02/2014 13:30	**GCAL ID**	21410034102
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	7.14	5.00	ug/L
75-35-4	1,1-Dichloroethene	5.26	5.00	ug/L
79-20-9	Methyl Acetate	15.3	5.00	ug/L
127-18-4	Tetrachloroethene	10.1	5.00	ug/L
79-01-6	Trichloroethene	650	5.00	ug/L

MW-2

Collect Date	10/02/2014 12:05	**GCAL ID**	21410034103
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	29.7	1.00	ug/L
1330-20-7	Xylene (total)	4.21	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	5.35	5.00	ug/L

Summary of Compounds Detected

MW-2

Collect Date 10/02/2014 12:05
Receive Date 10/03/2014 10:45
GCAL ID 21410034103
Matrix Water

EPA 6020A (Continued)

CAS#	Parameter	Result	LOQ	Units
7440-23-5	Sodium	7640	100	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	10.9	1.00	mg/L

MW-3

Collect Date 10/02/2014 14:00
Receive Date 10/03/2014 10:45
GCAL ID 21410034104
Matrix Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	37800	500	ug/L
7440-23-5	Sodium	58300	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	7.13	0.400	mg/L

MW-3

Collect Date 10/02/2014 14:00
Receive Date 10/03/2014 10:45
GCAL ID 21410034105
Matrix Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-00-5	1,1,2-Trichloroethane	1.54	1.00	ug/L
75-34-3	1,1-Dichloroethane	9.05	1.00	ug/L
78-93-3	2-Butanone	4.56	1.00	ug/L
67-64-1	Acetone	56.5	1.00	ug/L
67-66-3	Chloroform	1.73	1.00	ug/L
79-20-9	Methyl Acetate	9.36	1.00	ug/L
79-01-6	Trichloroethene	7.25	1.00	ug/L

Sample Results

OW-1

Collect Date	10/02/2014 13:30	**GCAL ID**	21410034101
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
10/06/2014 10:00	542328	EPA 3010A	5	10/08/2014 21:16	BAM	542640

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**2150**	**25.0**	**ug/L**
7440-23-5	**Sodium**	**10700**	**500**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	10/07/2014 19:42	JEM	542415

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**6.81**	**2.00**	**mg/L**

OW-1

Collect Date	10/02/2014 13:30	**GCAL ID**	21410034102
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	10/04/2014 16:04	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	5.00 U	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5.00 U	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	5.00 U	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**7.14**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**5.26**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	5.00 U	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	5.00 U	5.00	ug/L
106-93-4	1,2-Dibromoethane	5.00 U	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	5.00 U	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00 U	5.00	ug/L
78-87-5	1,2-Dichloropropane	5.00 U	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	5.00 U	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	5.00 U	5.00	ug/L
78-93-3	2-Butanone	5.00 U	5.00	ug/L
591-78-6	2-Hexanone	5.00 U	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	5.00 U	5.00	ug/L
67-64-1	Acetone	5.00 U	5.00	ug/L
71-43-2	Benzene	5.00 U	5.00	ug/L
75-27-4	Bromodichloromethane	5.00 U	5.00	ug/L
75-25-2	Bromoform	5.00 U	5.00	ug/L
74-83-9	Bromomethane	5.00 U	5.00	ug/L

Sample Results

OW-1	**Collect Date**	10/02/2014 13:30	**GCAL ID**	21410034102
	Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	10/04/2014 16:04	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
75-15-0	Carbon disulfide	5.00 U	5.00	ug/L
56-23-5	Carbon tetrachloride	5.00 U	5.00	ug/L
108-90-7	Chlorobenzene	5.00 U	5.00	ug/L
75-00-3	Chloroethane	5.00 U	5.00	ug/L
67-66-3	Chloroform	5.00 U	5.00	ug/L
74-87-3	Chloromethane	5.00 U	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	5.00 U	5.00	ug/L
110-82-7	Cyclohexane	5.00 U	5.00	ug/L
124-48-1	Dibromochloromethane	5.00 U	5.00	ug/L
75-71-8	Dichlorodifluoromethane	5.00 U	5.00	ug/L
100-41-4	Ethylbenzene	5.00 U	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	5.00 U	5.00	ug/L
79-20-9	**Methyl Acetate**	**15.3**	**5.00**	**ug/L**
108-87-2	Methylcyclohexane	5.00 U	5.00	ug/L
75-09-2	Methylene chloride	5.00 U	5.00	ug/L
100-42-5	Styrene	5.00 U	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00 U	5.00	ug/L
127-18-4	**Tetrachloroethene**	**10.1**	**5.00**	**ug/L**
108-88-3	Toluene	5.00 U	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	5.00 U	5.00	ug/L
79-01-6	**Trichloroethene**	**650**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	5.00 U	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	5.00 U	5.00	ug/L
75-01-4	Vinyl chloride	5.00 U	5.00	ug/L
1330-20-7	Xylene (total)	5.00 U	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	224	ug/L	90	78 - 130
1868-53-7	Dibromofluoromethane	250	267	ug/L	107	77 - 127
2037-26-5	Toluene d8	250	261	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	278	ug/L	111	71 - 127

Sample Results

MW-2	**Collect Date**	10/02/2014 12:05	**GCAL ID**	21410034103
	Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 11:09	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**29.7**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-2

Collect Date	10/02/2014 12:05	**GCAL ID**	21410034103
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 11:09	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
1330-20-7	**Xylene (total)**	**4.21**	**1.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	46.7	ug/L	93	78 - 130
1868-53-7	Dibromofluoromethane	50	51.9	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	52	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.1	ug/L	104	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
10/06/2014 10:00	542328	EPA 3010A	1	10/08/2014 21:21	BAM	542640

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**5.35**	**5.00**	**ug/L**
7440-23-5	**Sodium**	**7640**	**100**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	10/07/2014 20:00	JEM	542415

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**10.9**	**1.00**	**mg/L**

MW-3

Collect Date	10/02/2014 14:00	**GCAL ID**	21410034104
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
10/06/2014 10:00	542328	EPA 3010A	100	10/07/2014 16:36	BAM	542488

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**37800**	**500**	**ug/L**

Sample Results

MW-3

Collect Date	10/02/2014 14:00	**GCAL ID**	21410034104
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 6020A (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
10/06/2014 10:00	542328	EPA 3010A	100	10/07/2014 16:36	BAM	542488

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**58300**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	10/08/2014 12:12	JEM	542415

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**7.13**	**0.400**	**mg/L**

MW-3

Collect Date	10/02/2014 14:00	**GCAL ID**	21410034105
Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 11:49	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	**1,1,2-Trichloroethane**	**1.54**	**1.00**	**ug/L**
75-34-3	**1,1-Dichloroethane**	**9.05**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	**2-Butanone**	**4.56**	**1.00**	**ug/L**
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**56.5**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L

Sample Results

MW-3

Collect Date 10/02/2014 14:00 **GCAL ID** 21410034105
Receive Date 10/03/2014 10:45 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 11:49	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.73**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**9.36**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**7.25**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	44.8	ug/L	90	78 - 130
1868-53-7	Dibromofluoromethane	50	52.5	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	51.4	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.4	ug/L	105	71 - 127

TRIP BLANK

Collect Date 10/02/2014 00:00 **GCAL ID** 21410034106
Receive Date 10/03/2014 10:45 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 12:09	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L

Sample Results

TRIP BLANK	**Collect Date**	10/02/2014 00:00	**GCAL ID**	21410034106
	Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 12:09	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

TRIP BLANK	**Collect Date**	10/02/2014 00:00	**GCAL ID**	21410034106
	Receive Date	10/03/2014 10:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	10/04/2014 12:09	ALC2	542344

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.6	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	50	52.5	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	51.9	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.1	ug/L	106	71 - 127

GC/MS Volatiles QC Summary

Analytical Batch 542344	Client ID	MB542344		LCS542344				LCSD542344				
	GCAL ID	1366260		1366261				1366262				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/04/2014 10:49		10/04/2014 08:33				10/04/2014 09:30				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	56.9	114	76 - 126	50.0	55.2	110	3	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	58.5	117	70 - 122	50.0	55.3	111	6	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	53.5	107	72 - 121	50.0	53.6	107	0	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	59.1	118	74 - 127	50.0	57.8	116	2	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	53.3	107	69 - 129	50.0	51.7	103	3	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	52.4	105	61 - 135	50.0	52.3	105	0	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	51.7	103	57 - 121	50.0	44.8	90	14	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	54.0	108	70 - 124	50.0	53.5	107	1	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	56.1	112	71 - 126	50.0	56.1	112	0	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	53.8	108	71 - 129	50.0	52.4	105	3	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	57.1	114	72 - 128	50.0	55.8	112	2	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	57.5	115	74 - 126	50.0	57.2	114	1	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	54.6	109	72 - 122	50.0	54.0	108	1	30
2-Butanone	78-93-3	1.00U	1.00	50.0	56.7	113	58 - 137	50.0	51.3	103	10	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	54.7	109	50 - 135	50.0	48.3	97	12	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	53.9	108	57 - 132	50.0	46.6	93	15	30
Acetone	67-64-1	1.00U	1.00	50.0	56.0	112	44 - 156	50.0	49.6	99	12	30
Benzene	71-43-2	1.00U	1.00	50.0	56.9	114	70 - 129	50.0	56.4	113	1	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	57.5	115	74 - 125	50.0	56.3	113	2	30
Bromoform	75-25-2	1.00U	1.00	50.0	53.2	106	64 - 122	50.0	52.2	104	2	30
Bromomethane	74-83-9	1.00U	1.00	50.0	53.1	106	47 - 138	50.0	53.4	107	1	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	52.9	106	69 - 136	50.0	51.7	103	2	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	55.7	111	76 - 128	50.0	55.0	110	1	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	54.1	108	74 - 123	50.0	54.8	110	1	20
Chloroethane	75-00-3	1.00U	1.00	50.0	53.1	106	62 - 141	50.0	51.5	103	3	30
Chloroform	67-66-3	1.00U	1.00	50.0	57.1	114	75 - 122	50.0	56.5	113	1	30
Chloromethane	74-87-3	1.00U	1.00	50.0	60.9	122	59 - 132	50.0	58.7	117	4	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	56.0	112	73 - 130	50.0	54.9	110	2	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	57.9	116	71 - 132	50.0	57.0	114	2	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	61.8	124	69 - 132	50.0	61.1	122	1	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	54.9	110	71 - 123	50.0	54.2	108	1	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	54.8	110	58 - 140	50.0	53.5	107	2	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	55.6	111	74 - 126	50.0	56.6	113	2	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	57.3	115	71 - 125	50.0	57.7	115	1	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	58.7	117	57 - 139	50.0	55.8	112	5	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	60.7	121	67 - 138	50.0	59.2	118	3	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	56.1	112	68 - 132	50.0	54.7	109	3	30
Styrene	100-42-5	1.00U	1.00	50.0	51.2	102	71 - 127	50.0	50.5	101	1	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	54.2	108	71 - 125	50.0	52.2	104	4	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	54.6	109	68 - 128	50.0	55.4	111	1	30
Toluene	108-88-3	1.00U	1.00	50.0	52.4	105	72 - 120	50.0	39.3	79	**29***	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	58.3	117	69 - 132	50.0	57.0	114	2	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	58.4	117	71 - 131	50.0	55.5	111	5	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	57.7	115	76 - 129	50.0	56.3	113	2	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	55.4	111	72 - 136	50.0	53.1	106	4	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	55.2	110	72 - 136	50.0	53.6	107	3	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	57.8	116	68 - 132	50.0	55.7	111	4	30
Xylene (total)	1330-20-7	1.00U	1.00	150	168	112	74 - 127	150	170	113	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.7	103	50	50.7	101	71 - 127	50	50.2	100	1	NA
4-Bromofluorobenzene	460-00-4	45.2	90	50	46.5	93	78 - 130	50	47.2	94	1	NA
Dibromofluoromethane	1868-53-7	50.6	101	50	51	102	77 - 127	50	49.8	100	2	NA
Toluene d8	2037-26-5	51.3	103	50	47.9	96	76 - 134	50	49.3	99	3	NA

Inorganics QC Summary

Analytical Batch	Client ID	MB542328		LCS542328			
542488	GCAL ID	1366199		1366200			
Prep Batch	Sample Type	MB		LCS			
542328	Prep Date	10/06/2014 10:00		10/06/2014 10:00			
Prep Method	Analysis Date	10/07/2014 15:57		10/07/2014 16:04			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Manganese	7439-96-5	5.00U	5.00	50.0	49.4	99	80 - 120
Sodium	7440-23-5	100U	100	5000	5110	102	80 - 120

Analytical Batch	Client ID	MW-6U		1366182MS				1366182MSD				
542488	GCAL ID	21410034504		1366201				1366202				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
542328	Prep Date	10/06/2014 10:00		10/06/2014 10:00				10/06/2014 10:00				
Prep Method	Analysis Date	10/07/2014 18:04		10/07/2014 18:11				10/07/2014 18:19				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Manganese	7439-96-5	8240	5.00	50.0	7490	**-1500***	80 - 120	50.0	7760	**-959***	4	20
Sodium	7440-23-5	37100	100	5000	38000	**19***	80 - 120	5000	39300	**43***	3	20

General Chemistry QC Summary

Analytical Batch 542415		Client ID	MB542415		LCS542415			
		GCAL ID	1366515		1366516			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	10/07/2014 17:04		10/07/2014 16:46			
		Matrix	Water		Water			
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	
Chloride	16887-00-6	0.200U	0.200	2.50	2.63	105	80 - 120	

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Client ID: 4783 - ERM NC, INC
SDG: 214100341
Due Date: 10/09/14

Report to:
Client: ERM NC, Inc
Address: 15720 Brixham Hill Ave Ste 120
Charlotte, NC 28277
Contact: Michael Pressley
Phone: 704-541-8345
E-mail: Michael.Pressley@erm.com

Bill to:
Client: Same as Rpt to
Address:
Contact:
Phone:
E-mail:

GCAL use only: 241445, 3
Custody Seal
used ☒ yes ☐ no
intact ☒ yes ☐ no
Temperature °C 4.1 E24

P.O. Number
Project Name/Number: Joslyn Clark / 237244.01
Sampled By: Thomas Fisher

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Analytical Requests & Method

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	8260 - VOC	300.0 - Cl									Preservative
W	10/2/14	1330		X	OW-1	11	X	X							1, 2		VOC samples
W	10/2/14	1205		X	MW-2	5	X	X								3	preserved w/
W	10/2/14	1400		X	MW-3	11	X	X							4	5	crushed vitamin-C
W	-	-	-	X	Trip Blank	3	X									6	HCl, Absorbic acid

Air Bill No: 5980 9379 6175

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	10/2/14	1600			
Fed Ex	10/3/14	1045		10/3/14	1045

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

214100341

SAMPLE DELIVERY GROUP 214100341	
Client 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** Saucier, Charlotte M.
Line Item(s) 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 10/03/14

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
5980 9379 6178		4.1

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

Appendix A-2
180-Day Monitoring Event

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 08/31/2015

GCAL Report 214123017

Project Joslyn Clark

Deliver To
Michael Pressley
ERM NC, Inc
15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
704 409 3450

Revision 1

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____
Authorized Signature
GCAL Report 214123017

Case Narrative

Client: ERM NC, INC **Report:** 214123017

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was revised 08/31/15. The data is revised to report non-detects as LOQ U. Additionally J values are not reported.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, sample 21412301702 (OW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the EPA 8260B analysis for analytical batch 548258, the LCS and/or LCSD recoveries are above the upper control limit for Bromomethane. This compound was not detected in the associated samples.

METALS

In the EPA 6020A analysis, samples 21412301702 (OW-1) and 21412301703 (MW-3) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

CONVENTIONALS

In the EPA 300.0 analysis, samples 21412301701 (MW-2), 21412301702 (OW-1) and 21412301703 (MW-3) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21412301701	MW-2	Water	12/29/2014 11:20	12/30/2014 10:00
21412301702	OW-1	Water	12/29/2014 12:30	12/30/2014 10:00
21412301703	MW-3	Water	12/29/2014 13:30	12/30/2014 10:00
21412301704	TRIP BLANK	Water	12/29/2014 00:00	12/30/2014 10:00

Summary of Compounds Detected

MW-2

Collect Date 12/29/2014 11:20 **GCAL ID** 21412301701
Receive Date 12/30/2014 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	24.5	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	7.95	5.00	ug/L
7440-23-5	Sodium	7210	100	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	10.3	0.800	mg/L

OW-1

Collect Date 12/29/2014 12:30 **GCAL ID** 21412301702
Receive Date 12/30/2014 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	7.68	2.00	ug/L
127-18-4	Tetrachloroethene	15.5	2.00	ug/L
79-01-6	Trichloroethene	323	2.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	776	10.0	ug/L
7440-23-5	Sodium	11100	200	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	6.93	2.00	mg/L

Summary of Compounds Detected

MW-3

Collect Date 12/29/2014 13:30 **GCAL ID** 21412301703
Receive Date 12/30/2014 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-00-5	1,1,2-Trichloroethane	1.90	1.00	ug/L
75-34-3	1,1-Dichloroethane	9.08	1.00	ug/L
78-93-3	2-Butanone	3.63	1.00	ug/L
67-64-1	Acetone	51.5	1.00	ug/L
67-66-3	Chloroform	1.80	1.00	ug/L
79-20-9	Methyl Acetate	5.87	1.00	ug/L
79-01-6	Trichloroethene	3.51	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	43300	500	ug/L
7440-23-5	Sodium	42200	1000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	6.77	1.00	mg/L

TRIP BLANK

Collect Date 12/29/2014 00:00 **GCAL ID** 21412301704
Receive Date 12/30/2014 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
78-93-3	2-Butanone	8.98	1.00	ug/L
67-64-1	Acetone	9.36	1.00	ug/L

Sample Results

MW-2	**Collect Date**	12/29/2014 11:20	**GCAL ID**	21412301701
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 13:54	CJR	548258

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**24.5**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-2

Collect Date	12/29/2014 11:20	**GCAL ID**	21412301701
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 13:54	CJR	548258

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	50.8	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	50.9	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.6	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/30/2014 11:30	548165	EPA 3010A	1	01/05/2015 13:10	AWG	548423

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**7.95**	**5.00**	**ug/L**
7440-23-5	**Sodium**	**7210**	**100**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	4	01/06/2015 01:35	RXJ	548426

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**10.3**	**0.800**	**mg/L**

OW-1

Collect Date	12/29/2014 12:30	**GCAL ID**	21412301702
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	12/31/2014 14:16	CJR	548258

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00 U	2.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00 U	2.00	ug/L
79-00-5	1,1,2-Trichloroethane	2.00 U	2.00	ug/L

Sample Results

OW-1	**Collect Date**	12/29/2014 12:30	**GCAL ID**	21412301702
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	12/31/2014 14:16	CJR	548258

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**7.68**	**2.00**	**ug/L**
75-35-4	1,1-Dichloroethene	2.00 U	2.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	2.00 U	2.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L
106-93-4	1,2-Dibromoethane	2.00 U	2.00	ug/L
95-50-1	1,2-Dichlorobenzene	2.00 U	2.00	ug/L
107-06-2	1,2-Dichloroethane	2.00 U	2.00	ug/L
78-87-5	1,2-Dichloropropane	2.00 U	2.00	ug/L
541-73-1	1,3-Dichlorobenzene	2.00 U	2.00	ug/L
106-46-7	1,4-Dichlorobenzene	2.00 U	2.00	ug/L
78-93-3	2-Butanone	2.00 U	2.00	ug/L
591-78-6	2-Hexanone	2.00 U	2.00	ug/L
108-10-1	4-Methyl-2-pentanone	2.00 U	2.00	ug/L
67-64-1	Acetone	2.00 U	2.00	ug/L
71-43-2	Benzene	2.00 U	2.00	ug/L
75-27-4	Bromodichloromethane	2.00 U	2.00	ug/L
75-25-2	Bromoform	2.00 U	2.00	ug/L
74-83-9	Bromomethane	2.00 U	2.00	ug/L
75-15-0	Carbon disulfide	2.00 U	2.00	ug/L
56-23-5	Carbon tetrachloride	2.00 U	2.00	ug/L
108-90-7	Chlorobenzene	2.00 U	2.00	ug/L
75-00-3	Chloroethane	2.00 U	2.00	ug/L
67-66-3	Chloroform	2.00 U	2.00	ug/L
74-87-3	Chloromethane	2.00 U	2.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	2.00 U	2.00	ug/L
110-82-7	Cyclohexane	2.00 U	2.00	ug/L
124-48-1	Dibromochloromethane	2.00 U	2.00	ug/L
75-71-8	Dichlorodifluoromethane	2.00 U	2.00	ug/L
100-41-4	Ethylbenzene	2.00 U	2.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00 U	2.00	ug/L
79-20-9	Methyl Acetate	2.00 U	2.00	ug/L
108-87-2	Methylcyclohexane	2.00 U	2.00	ug/L
75-09-2	Methylene chloride	2.00 U	2.00	ug/L
100-42-5	Styrene	2.00 U	2.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00 U	2.00	ug/L
127-18-4	**Tetrachloroethene**	**15.5**	**2.00**	**ug/L**
108-88-3	Toluene	2.00 U	2.00	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00 U	2.00	ug/L
79-01-6	**Trichloroethene**	**323**	**2.00**	**ug/L**
75-69-4	Trichlorofluoromethane	2.00 U	2.00	ug/L
76-13-1	Trichlorotrifluoroethane	2.00 U	2.00	ug/L
75-01-4	Vinyl chloride	2.00 U	2.00	ug/L

Sample Results

OW-1

Collect Date	12/29/2014 12:30	**GCAL ID**	21412301702
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	12/31/2014 14:16	CJR	548258

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	2.00 U	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	98.2	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	100	100	ug/L	100	77 - 127
2037-26-5	Toluene d8	100	100	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	103	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/30/2014 11:30	548165	EPA 3010A	2	01/05/2015 13:17	AWG	548423

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**776**	**10.0**	**ug/L**
7440-23-5	**Sodium**	**11100**	**200**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	01/06/2015 01:52	RXJ	548426

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**6.93**	**2.00**	**mg/L**

MW-3

Collect Date	12/29/2014 13:30	**GCAL ID**	21412301703
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 14:55	CJR	548258

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	**1,1,2-Trichloroethane**	**1.90**	**1.00**	**ug/L**

Sample Results

MW-3	**Collect Date**	12/29/2014 13:30	**GCAL ID**	21412301703
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 14:55	CJR	548258

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**9.08**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	**2-Butanone**	**3.63**	**1.00**	**ug/L**
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**51.5**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.80**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**5.87**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**3.51**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-3	**Collect Date**	12/29/2014 13:30	**GCAL ID**	21412301703
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 14:55	CJR	548258

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.5	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	50.2	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.9	ug/L	100	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/30/2014 11:30	548165	EPA 3010A	10	01/05/2015 13:24	AWG	548423

CAS#	Parameter	Result	LOQ	Units
7440-23-5	**Sodium**	**42200**	**1000**	**ug/L**

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
12/30/2014 11:30	548165	EPA 3010A	100	01/05/2015 13:21	AWG	548423

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**43300**	**500**	**ug/L**

Sample Results

MW-3

Collect Date	12/29/2014 13:30	**GCAL ID**	21412301703
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	01/06/2015 16:15	RXJ	548489

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**6.77**	**1.00**	**mg/L**

TRIP BLANK

Collect Date	12/29/2014 00:00	**GCAL ID**	21412301704
Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 12:37	CJR	548258

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	**2-Butanone**	**8.98**	**1.00**	**ug/L**
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**9.36**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L

Sample Results

TRIP BLANK	**Collect Date**	12/29/2014 00:00	**GCAL ID**	21412301704
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	12/31/2014 12:37	CJR	548258

CAS#	Parameter	Result	LOQ	Units
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.1	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	50.8	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	51.1	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.4	ug/L	101	71 - 127

GC/MS Volatiles QC Summary

Analytical Batch 548258	Client ID	MB548258		LCS548258				LCSD548258				
	GCAL ID	1395572		1395573				1395574				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	12/31/2014 11:48		12/31/2014 10:14				12/31/2014 10:33				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	48.5	97	76 - 126	50.0	48.7	97	0	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	44.6	89	70 - 122	50.0	47.8	96	7	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	47.4	95	72 - 121	50.0	50.4	101	6	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	47.9	96	74 - 127	50.0	48.0	96	0	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	46.5	93	69 - 129	50.0	48.0	96	3	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	47.0	94	61 - 135	50.0	47.7	95	1	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	43.4	87	57 - 121	50.0	47.2	94	8	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	48.6	97	70 - 124	50.0	51.3	103	5	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	45.3	91	71 - 126	50.0	47.2	94	4	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	46.1	92	71 - 129	50.0	48.0	96	4	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	47.1	94	72 - 128	50.0	48.6	97	3	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	45.4	91	74 - 126	50.0	46.7	93	3	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	45.1	90	72 - 122	50.0	46.4	93	3	30
2-Butanone	78-93-3	1.00U	1.00	50.0	42.7	85	58 - 137	50.0	47.0	94	10	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	45.7	91	50 - 135	50.0	50.4	101	10	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	44.6	89	57 - 132	50.0	48.9	98	9	30
Acetone	67-64-1	1.00U	1.00	50.0	43.2	86	44 - 156	50.0	46.2	92	7	30
Benzene	71-43-2	1.00U	1.00	50.0	47.7	95	70 - 129	50.0	47.9	96	0	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	50.0	100	74 - 125	50.0	51.5	103	3	30
Bromoform	75-25-2	1.00U	1.00	50.0	48.7	97	64 - 122	50.0	51.7	103	6	30
Bromomethane	74-83-9	1.00U	1.00	50.0	79.3	**159***	47 - 138	50.0	77.6	**155***	2	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	48.4	97	69 - 136	50.0	50.2	100	4	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	51.7	103	76 - 128	50.0	52.2	104	1	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	47.8	96	74 - 123	50.0	49.4	99	3	20
Chloroethane	75-00-3	1.00U	1.00	50.0	50.5	101	62 - 141	50.0	48.0	96	5	30
Chloroform	67-66-3	1.00U	1.00	50.0	48.3	97	75 - 122	50.0	48.6	97	1	30
Chloromethane	74-87-3	1.00U	1.00	50.0	48.9	98	59 - 132	50.0	49.0	98	0	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	47.3	95	73 - 130	50.0	48.5	97	3	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	50.8	102	71 - 132	50.0	52.1	104	3	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	48.8	98	69 - 132	50.0	48.3	97	1	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	52.1	104	71 - 123	50.0	54.2	108	4	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	48.0	96	58 - 140	50.0	47.4	95	1	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	48.1	96	74 - 126	50.0	49.4	99	3	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	47.9	96	71 - 125	50.0	49.4	99	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	43.2	86	57 - 139	50.0	47.4	95	9	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	47.9	96	67 - 138	50.0	47.7	95	0	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	47.2	94	68 - 132	50.0	47.6	95	1	30
Styrene	100-42-5	1.00U	1.00	50.0	50.2	100	71 - 127	50.0	51.9	104	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	48.7	97	71 - 125	50.0	50.5	101	4	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	49.8	100	68 - 128	50.0	50.5	101	1	30
Toluene	108-88-3	1.00U	1.00	50.0	49.1	98	72 - 120	50.0	49.8	100	1	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	48.8	98	69 - 132	50.0	48.3	97	1	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	51.2	102	71 - 131	50.0	53.8	108	5	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	48.4	97	76 - 129	50.0	49.0	98	1	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	51.0	102	72 - 136	50.0	48.4	97	5	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	50.2	100	72 - 136	50.0	50.4	101	0	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	48.2	96	68 - 132	50.0	46.7	93	3	30
Xylene (total)	1330-20-7	1.00U	1.00	150	144	96	74 - 127	150	147	98	2	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.3	101	50	49.2	98	71 - 127	50	49.2	98	0	NA
4-Bromofluorobenzene	460-00-4	49.8	100	50	51.6	103	78 - 130	50	51.9	104	1	NA
Dibromofluoromethane	1868-53-7	49.9	100	50	51.5	103	77 - 127	50	51.3	103	0	NA
Toluene d8	2037-26-5	50.9	102	50	50.3	101	76 - 134	50	50	100	1	NA

Inorganics QC Summary

Analytical Batch	Client ID	MB548165		LCS548165			
548239	GCAL ID	1395151		1395152			
Prep Batch	Sample Type	MB		LCS			
548165	Prep Date	12/30/2014 09:40		12/30/2014 09:40			
Prep Method	Analysis Date	12/31/2014 10:00		12/31/2014 10:03			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Manganese	7439-96-5	5.00U	5.00	50.0	51.2	102	80 - 120
Sodium	7440-23-5	100U	100	5000	5090	102	80 - 120

Analytical Batch	Client ID	AE-2-1 SW		1395087MS				1395087MSD				
548239	GCAL ID	21412294101		1395153				1395154				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
548165	Prep Date	12/30/2014 09:40		12/30/2014 09:40				12/30/2014 09:40				
Prep Method	Analysis Date	12/31/2014 10:07		12/31/2014 10:25				12/31/2014 10:29				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Manganese	7439-96-5	2140	500	50.0	2210	**157***	80 - 120	50.0	2180	88	2	20
Sodium	7440-23-5	101000	10000	5000	107000	119	80 - 120	5000	106000	108	1	20

General Chemistry QC Summary

Analytical Batch 548426	Client ID	MB548426		LCS548426			
	GCAL ID	1396241		1396242			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	01/05/2015 20:18		01/05/2015 20:00			
	Matrix	Water		Water			
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.200U	0.200	2.50	2.31	92	80 - 120

Analytical Batch 548489	Client ID	MB548489		LCS548489			
	GCAL ID	1396486		1396487			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	01/06/2015 15:57		01/07/2015 00:13			
	Matrix	Water		Water			
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.200U	0.200	2.50	2.44	98	80 - 120

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 4783 - ERM NC, INC
SDG: 214123017
Due Date: 01/06/15

Report to:
Client: ERM NC, Inc
Address: 15720 Brixham Hill Ave Ste 20 Charlotte NC 28277
Contact: Michael Pressley
Phone: 704-541-8345
E-mail: Michael.Pressley@erm.com

Bill to:
Client: Same as Report to:
Address:
Contact:
Phone:
E-mail:

P.O. Number
Project Name/Number
Sampled By:

Analytical Requests & Method

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 5.1 EZZ

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	VOC 8260 HCl/VitC	Na, Mn 6010 HNO3	Cl 300.0 None	Preservative
W	12/29/14	1120		X	MW-2	5	X	X	X	1 8260 Preserv. MW-2 HCl
W	12/29/14	1230		X	OW-1	5	X	X	X	2 8260 Preserv OW-1 Vit-C quenched
W	12/29/14	1330		X	MW-3	5	X	X	X	3
	12/29 BSM				Trip Blank	3	X			4

Air Bill No: 8066 1452 1510

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☑ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	12/29/14	1530			
FedEx	12/30/14	1000	Gaucier	12/30/14	1000

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

214123017

SAMPLE DELIVERY GROUP 214123017	
Client 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** Saucier, Charlotte M.
Line Item(s) 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 12/30/14

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E22	Temp(°C)
8066 1452 1510		5.1

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 01/02/2015

GCAL Report 214123007

Deliver To

Attn ERM Demo

Project Joslyn Clark

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified LOQ
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
MDL	Method Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 214123007

Case Narrative

Client: ERM NC, INC **Report:** 214123007

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, sample 21412300701 (OW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the EPA 8260B analysis for analytical batch 548258, the LCS and/or LCSD recoveries are above the upper control limit for Bromomethane. This compound was not detected in the associated samples.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21412300701	OW-1	Water	12/29/2014 00:00	12/30/2014 10:00

Summary of Compounds Detected

OW-1	**Collect Date**	12/29/2014 00:00	**GCAL ID**	21412300701
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-34-3	1,1-Dichloroethane	8.58	0.856	5.00	ug/L
75-35-4	1,1-Dichloroethene	3.14J	1.04	5.00	ug/L
79-20-9	Methyl Acetate	8.66	0.797	5.00	ug/L
127-18-4	Tetrachloroethene	15.7	0.963	5.00	ug/L
79-01-6	Trichloroethene	493	0.807	5.00	ug/L

Sample Results

OW-1	**Collect Date**	12/29/2014 00:00	**GCAL ID**	21412300701
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	12/31/2014 16:38	CJR	548258

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**8.58**	**0.856**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**3.14J**	**1.04**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	5.00	ug/L
78-93-3	2-Butanone	0.711U	0.711	5.00	ug/L
591-78-6	2-Hexanone	0.612U	0.612	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	5.00	ug/L
67-64-1	Acetone	0.967U	0.967	5.00	ug/L
71-43-2	Benzene	0.555U	0.555	5.00	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	5.00	ug/L
75-25-2	Bromoform	1.08U	1.08	5.00	ug/L
74-83-9	Bromomethane	2.14U	2.14	5.00	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	5.00	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	5.00	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	5.00	ug/L
75-00-3	Chloroethane	1.18U	1.18	5.00	ug/L
67-66-3	Chloroform	0.775U	0.775	5.00	ug/L
74-87-3	Chloromethane	0.718U	0.718	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.517U	0.517	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	5.00	ug/L
110-82-7	Cyclohexane	1.69U	1.69	5.00	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	5.00	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	5.00	ug/L
79-20-9	**Methyl Acetate**	**8.66**	**0.797**	**5.00**	**ug/L**
108-87-2	Methylcyclohexane	0.717U	0.717	5.00	ug/L
75-09-2	Methylene chloride	0.745U	0.745	5.00	ug/L
100-42-5	Styrene	0.447U	0.447	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	5.00	ug/L
127-18-4	**Tetrachloroethene**	**15.7**	**0.963**	**5.00**	**ug/L**
108-88-3	Toluene	0.609U	0.609	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.385U	0.385	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	5.00	ug/L
79-01-6	**Trichloroethene**	**493**	**0.807**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	5.00	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	5.00	ug/L

Sample Results

OW-1	**Collect Date**	12/29/2014 00:00	**GCAL ID**	21412300701
	Receive Date	12/30/2014 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	12/31/2014 16:38	CJR	548258

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.894U	0.894	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	245	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	250	257	ug/L	103	77 - 127
2037-26-5	Toluene d8	250	248	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	259	ug/L	104	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 548258	Client ID	MB548258	LCS548258	LCSD548258
	GCAL ID	1395572	1395573	1395574
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	12/31/2014 11:48	12/31/2014 10:14	12/31/2014 10:33
	Matrix	Water	Water	Water

EPA 8260B		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.123U	0.123	50.0	48.5	97	76 - 126	50.0	48.7	97	0	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	44.6	89	70 - 122	50.0	47.8	96	7	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	47.4	95	72 - 121	50.0	50.4	101	6	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	47.9	96	74 - 127	50.0	48.0	96	0	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	46.5	93	69 - 129	50.0	48.0	96	3	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	47.0	94	61 - 135	50.0	47.7	95	1	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	43.4	87	57 - 121	50.0	47.2	94	8	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	48.6	97	70 - 124	50.0	51.3	103	5	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	45.3	91	71 - 126	50.0	47.2	94	4	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	46.1	92	71 - 129	50.0	48.0	96	4	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	47.1	94	72 - 128	50.0	48.6	97	3	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	45.4	91	74 - 126	50.0	46.7	93	3	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	45.1	90	72 - 122	50.0	46.4	93	3	30
2-Butanone	78-93-3	0.142U	0.142	50.0	42.7	85	58 - 137	50.0	47.0	94	10	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	45.7	91	50 - 135	50.0	50.4	101	10	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	44.6	89	57 - 132	50.0	48.9	98	9	30
Acetone	67-64-1	0.193U	0.193	50.0	43.2	86	44 - 156	50.0	46.2	92	7	30
Benzene	71-43-2	0.111U	0.111	50.0	47.7	95	70 - 129	50.0	47.9	96	0	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.0	100	74 - 125	50.0	51.5	103	3	30
Bromoform	75-25-2	0.215U	0.215	50.0	48.7	97	64 - 122	50.0	51.7	103	6	30
Bromomethane	74-83-9	0.427U	0.427	50.0	79.3	**159***	47 - 138	50.0	77.6	**155***	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	48.4	97	69 - 136	50.0	50.2	100	4	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	51.7	103	76 - 128	50.0	52.2	104	1	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	47.8	96	74 - 123	50.0	49.4	99	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	50.5	101	62 - 141	50.0	48.0	96	5	30
Chloroform	67-66-3	0.155U	0.155	50.0	48.3	97	75 - 122	50.0	48.6	97	1	30
Chloromethane	74-87-3	0.144U	0.144	50.0	48.9	98	59 - 132	50.0	49.0	98	0	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	47.3	95	73 - 130	50.0	48.5	97	3	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	50.8	102	71 - 132	50.0	52.1	104	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	48.8	98	69 - 132	50.0	48.3	97	1	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	52.1	104	71 - 123	50.0	54.2	108	4	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	48.0	96	58 - 140	50.0	47.4	95	1	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	48.1	96	74 - 126	50.0	49.4	99	3	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	47.9	96	71 - 125	50.0	49.4	99	3	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	43.2	86	57 - 139	50.0	47.4	95	9	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	47.9	96	67 - 138	50.0	47.7	95	0	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.2	94	68 - 132	50.0	47.6	95	1	30
Styrene	100-42-5	0.089U	0.089	50.0	50.2	100	71 - 127	50.0	51.9	104	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	48.7	97	71 - 125	50.0	50.5	101	4	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	49.8	100	68 - 128	50.0	50.5	101	1	30
Toluene	108-88-3	0.122U	0.122	50.0	49.1	98	72 - 120	50.0	49.8	100	1	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	48.8	98	69 - 132	50.0	48.3	97	1	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	51.2	102	71 - 131	50.0	53.8	108	5	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	48.4	97	76 - 129	50.0	49.0	98	1	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	51.0	102	72 - 136	50.0	48.4	97	5	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	50.2	100	72 - 136	50.0	50.4	101	0	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	48.2	96	68 - 132	50.0	46.7	93	3	30
Xylene (total)	1330-20-7	0.179U	0.179	150	144	96	74 - 127	150	147	98	2	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.3	101	50	49.2	98	71 - 127	50	49.2	98	0	NA
4-Bromofluorobenzene	460-00-4	49.8	100	50	51.6	103	78 - 130	50	51.9	104	1	NA
Dibromofluoromethane	1868-53-7	49.9	100	50	51.5	103	77 - 127	50	51.3	103	0	NA
Toluene d8	2037-26-5	50.9	102	50	50.3	101	76 - 134	50	50	100	1	NA

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 4783 - ERM NC, INC
SDG: 214123007
Due Date: 01/06/15

Report to:	**Bill to:**
Client: ERM NC, Inc	Client: same as Report to:
Address: 15720 Brixham Hill Ave Ste 120 Charlotte, NC 28277	Address:
Contact: Michael Pressley	Contact:
Phone: 704-541-8345	Phone:
E-mail: Michael.Pressley@erm.com	E-mail:

P.O. Number

Project Name/Number: Joslyn Clark

Sampled By: Thomas Fisher

Analytical Requests & Method: VOC 8260

GCAL use only: 214123

Custody Seal: used ☑ yes ☐ no; intact ☑ yes ☐ no

Temperature °C: 5.1 EZZ

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Preservative: HCl
W	12/29/14			X	OW-1	3	X

Air Bill No: 8066 1452 1510

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☑ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	12/29/14	1530			
	12/30/14	1000		12/30/14	1000

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

214123007

SAMPLE DELIVERY GROUP 214123007	
Client 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** Saucier, Charlotte M.
Line Item(s) 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 12/30/14

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☑ BGM
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E22	Temp(°C)
8066 1452 1510		5.1

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

Appendix A-3
270-Day Monitoring Event

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 04/13/2015

GCAL Report 215040417

Deliver To	ERM NC, Inc 15720 Brixham Hill Avenue Suite 120 Charlotte, NC 28277 704 409 3450
Attn	Michael Pressley
Project	Joslyn Clark

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
MDL	Method Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
DL	Dilution
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 215040417

Case Narrative

Client: ERM NC, INC **Report:** 215040417

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, sample 21504041703 (OW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated reporting limits.

METALS

In the EPA 6020A analysis, samples 21504041702 (MW-3) and 21504041703 (OW-1) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

In the EPA 6020A analysis, a chemical or physical interference necessitated a dilution for sample 21504041701 (MW-2). This is reflected in the elevated reporting limits.

CONVENTIONALS

In the EPA 300.0, Rev 2.1 analysis, samples 21504041701 (MW-2), 21504041702 (MW-3) and 21504041703 (OW-1) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21504041701	MW-2	Water	04/02/2015 15:15	04/04/2015 09:45
21504041702	MW-3	Water	04/02/2015 15:50	04/04/2015 09:45
21504041703	OW-1	Water	04/02/2015 16:15	04/04/2015 09:45
21504081401	TRIP BLANK	Water	04/02/2015 00:00	04/04/2015 09:45

Summary of Compounds Detected

MW-2

Collect Date 04/02/2015 15:15 **GCAL ID** 21504041701
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	1.53	0.149	1.00	ug/L
79-01-6	Trichloroethene	28.1	0.161	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	Manganese	31.5	6.25	25.0	ug/L
7440-23-5	Sodium	7000	125	500	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	8.89	0.250	1.00	mg/L

MW-3

Collect Date 04/02/2015 15:50 **GCAL ID** 21504041702
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
79-00-5	1,1,2-Trichloroethane	0.931J	0.159	1.00	ug/L
75-34-3	1,1-Dichloroethane	6.52	0.171	1.00	ug/L
78-93-3	2-Butanone	1.20	0.142	1.00	ug/L
67-64-1	Acetone	35.2	0.193	1.00	ug/L
67-66-3	Chloroform	1.29	0.155	1.00	ug/L
75-09-2	Methylene chloride	2.30	0.149	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	Manganese	26700	625	2500	ug/L
7440-23-5	Sodium	28400	250	1000	ug/L

Summary of Compounds Detected

MW-3

Collect Date 04/02/2015 15:50 **GCAL ID** 21504041702
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	6.98	0.250	1.00	mg/L

OW-1

Collect Date 04/02/2015 16:15 **GCAL ID** 21504041703
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-34-3	1,1-Dichloroethane	7.08	0.856	5.00	ug/L
75-35-4	1,1-Dichloroethene	1.22J	1.04	5.00	ug/L
75-09-2	Methylene chloride	5.58	0.745	5.00	ug/L
127-18-4	Tetrachloroethene	14.9	0.963	5.00	ug/L
79-01-6	Trichloroethene	312	0.807	5.00	ug/L

EPA 6020A

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	Manganese	1270	6.25	25.0	ug/L
7440-23-5	Sodium	11100	125	500	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	6.25	0.500	2.00	mg/L

TRIP BLANK

Collect Date 04/02/2015 00:00 **GCAL ID** 21504081401
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	5.26	0.149	1.00	ug/L
79-01-6	Trichloroethene	0.666J	0.161	1.00	ug/L

Sample Results

MW-2

Collect Date	04/02/2015 15:15	**GCAL ID**	21504041701
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:01	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	1.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	1.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	1.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	1.00	ug/L
67-64-1	Acetone	0.193U	0.193	1.00	ug/L
71-43-2	Benzene	0.111U	0.111	1.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	1.00	ug/L
75-25-2	Bromoform	0.215U	0.215	1.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	1.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	1.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	1.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	1.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	1.00	ug/L
67-66-3	Chloroform	0.155U	0.155	1.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	1.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	1.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	1.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	1.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	1.00	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	1.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	1.00	ug/L
75-09-2	**Methylene chloride**	**1.53**	**0.149**	**1.00**	**ug/L**
100-42-5	Styrene	0.089U	0.089	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	1.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	1.00	ug/L
108-88-3	Toluene	0.122U	0.122	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	1.00	ug/L
79-01-6	**Trichloroethene**	**28.1**	**0.161**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	1.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	1.00	ug/L

Sample Results

MW-2

Collect Date 04/02/2015 15:15 **GCAL ID** 21504041701
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:01	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.9	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	52	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50.8	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.5	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/08/2015 13:35	555833	EPA 3010A	5	04/09/2015 14:41	TAH	555948

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	**Manganese**	**31.5**	**6.25**	**25.0**	**ug/L**
7440-23-5	**Sodium**	**7000**	**125**	**500**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/08/2015 21:57	RXJ	555828

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**8.89**	**0.250**	**1.00**	**mg/L**

MW-3

Collect Date 04/02/2015 15:50 **GCAL ID** 21504041702
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:32	CLH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	1.00	ug/L
79-00-5	**1,1,2-Trichloroethane**	**0.931J**	**0.159**	**1.00**	**ug/L**
75-34-3	**1,1-Dichloroethane**	**6.52**	**0.171**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	0.208U	0.208	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	1.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	1.00	ug/L

Sample Results

MW-3	**Collect Date**	04/02/2015 15:50	**GCAL ID**	21504041702
	Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:32	CLH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	1.00	ug/L
78-93-3	**2-Butanone**	**1.20**	**0.142**	**1.00**	**ug/L**
591-78-6	2-Hexanone	0.122U	0.122	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	1.00	ug/L
67-64-1	**Acetone**	**35.2**	**0.193**	**1.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	1.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	1.00	ug/L
75-25-2	Bromoform	0.215U	0.215	1.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	1.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	1.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	1.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	1.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	1.00	ug/L
67-66-3	**Chloroform**	**1.29**	**0.155**	**1.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	1.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	1.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	1.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	1.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	1.00	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	1.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	1.00	ug/L
75-09-2	**Methylene chloride**	**2.30**	**0.149**	**1.00**	**ug/L**
100-42-5	Styrene	0.089U	0.089	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	1.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	1.00	ug/L
108-88-3	Toluene	0.122U	0.122	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	1.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	1.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	1.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	48.2	ug/L	96	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.1	ug/L	106	71 - 127

Sample Results

MW-3

Collect Date 04/02/2015 15:50
Receive Date 04/04/2015 09:45
GCAL ID 21504041702
Matrix Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/08/2015 13:35	555833	EPA 3010A	10	04/09/2015 14:48	TAH	555948

CAS#	Parameter	Result	MDL	LOQ	Units
7440-23-5	**Sodium**	**28400**	**250**	**1000**	**ug/L**

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/08/2015 13:35	555833	EPA 3010A	500	04/09/2015 14:20	TAH	555948

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	**Manganese**	**26700**	**625**	**2500**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/09/2015 21:31	RXJ	555950

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**6.98**	**0.250**	**1.00**	**mg/L**

OW-1

Collect Date 04/02/2015 16:15
Receive Date 04/04/2015 09:45
GCAL ID 21504041703
Matrix Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/09/2015 10:24	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**7.08**	**0.856**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**1.22J**	**1.04**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	5.00	ug/L
78-93-3	2-Butanone	0.711U	0.711	5.00	ug/L
591-78-6	2-Hexanone	0.612U	0.612	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	5.00	ug/L

Sample Results

OW-1	**Collect Date**	04/02/2015 16:15	**GCAL ID**	21504041703
	Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/09/2015 10:24	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
67-64-1	Acetone	0.967U	0.967	5.00	ug/L
71-43-2	Benzene	0.555U	0.555	5.00	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	5.00	ug/L
75-25-2	Bromoform	1.08U	1.08	5.00	ug/L
74-83-9	Bromomethane	2.14U	2.14	5.00	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	5.00	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	5.00	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	5.00	ug/L
75-00-3	Chloroethane	1.18U	1.18	5.00	ug/L
67-66-3	Chloroform	0.775U	0.775	5.00	ug/L
74-87-3	Chloromethane	0.718U	0.718	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.517U	0.517	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	5.00	ug/L
110-82-7	Cyclohexane	1.69U	1.69	5.00	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	5.00	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	5.00	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	5.00	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	5.00	ug/L
75-09-2	**Methylene chloride**	**5.58**	**0.745**	**5.00**	**ug/L**
100-42-5	Styrene	0.447U	0.447	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	5.00	ug/L
127-18-4	**Tetrachloroethene**	**14.9**	**0.963**	**5.00**	**ug/L**
108-88-3	Toluene	0.609U	0.609	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.385U	0.385	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	5.00	ug/L
79-01-6	**Trichloroethene**	**312**	**0.807**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	5.00	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	5.00	ug/L
1330-20-7	Xylene (total)	0.894U	0.894	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	244	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	250	259	ug/L	104	77 - 127
2037-26-5	Toluene d8	250	258	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	257	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/08/2015 13:35	555833	EPA 3010A	5	04/09/2015 14:51	TAH	555948

CAS#	Parameter	Result	MDL	LOQ	Units
7439-96-5	**Manganese**	**1270**	**6.25**	**25.0**	**ug/L**
7440-23-5	**Sodium**	**11100**	**125**	**500**	**ug/L**

Sample Results

OW-1

Collect Date	04/02/2015 16:15	**GCAL ID**	21504041703
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/08/2015 22:32	RXJ	555828

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**6.25**	**0.500**	**2.00**	**mg/L**

TRIP BLANK

Collect Date	04/02/2015 00:00	**GCAL ID**	21504081401
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 11:27	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	1.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	1.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	1.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	1.00	ug/L
67-64-1	Acetone	0.193U	0.193	1.00	ug/L
71-43-2	Benzene	0.111U	0.111	1.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	1.00	ug/L
75-25-2	Bromoform	0.215U	0.215	1.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	1.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	1.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	1.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	1.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	1.00	ug/L
67-66-3	Chloroform	0.155U	0.155	1.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	1.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	1.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	1.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	1.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	1.00	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	1.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	1.00	ug/L
75-09-2	**Methylene chloride**	**5.26**	**0.149**	**1.00**	**ug/L**
100-42-5	Styrene	0.089U	0.089	1.00	ug/L

Sample Results

TRIP BLANK

Collect Date	04/02/2015 00:00	**GCAL ID**	21504081401
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 11:27	LBH	555919

CAS#	Parameter	Result	MDL	LOQ	Units
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	1.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	1.00	ug/L
108-88-3	Toluene	0.122U	0.122	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	1.00	ug/L
79-01-6	**Trichloroethene**	**0.666J**	**0.161**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	1.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	1.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.4	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	51.9	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	51.1	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.4	ug/L	105	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555919	Client ID	MB555919	LCS555919	LCSD555919
	GCAL ID	1432691	1432692	1432693
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/09/2015 09:41	04/09/2015 08:18	04/09/2015 08:41
	Matrix	Water	Water	Water

EPA 8260B		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.123U	0.123	50.0	52.9	106	76 - 126	50.0	57.1	114	8	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	54.7	109	70 - 122	50.0	55.4	111	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.1	102	72 - 121	50.0	52.7	105	3	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	52.0	104	74 - 127	50.0	56.4	113	8	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	50.9	102	69 - 129	50.0	56.5	113	10	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	57.9	116	61 - 135	50.0	60.7	121	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	56.5	113	57 - 121	50.0	57.3	115	1	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	52.3	105	70 - 124	50.0	53.0	106	1	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	52.5	105	71 - 126	50.0	55.3	111	5	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	51.4	103	71 - 129	50.0	53.7	107	4	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	52.9	106	72 - 128	50.0	56.3	113	6	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	52.6	105	74 - 126	50.0	56.0	112	6	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	51.9	104	72 - 122	50.0	55.1	110	6	30
2-Butanone	78-93-3	0.142U	0.142	50.0	61.2	122	58 - 137	50.0	63.5	127	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	53.3	107	50 - 135	50.0	55.3	111	4	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	55.5	111	57 - 132	50.0	56.8	114	2	30
Acetone	67-64-1	0.193U	0.193	50.0	66.9	134	44 - 156	50.0	69.9	140	4	30
Benzene	71-43-2	0.111U	0.111	50.0	53.2	106	70 - 129	50.0	56.8	114	7	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	53.2	106	74 - 125	50.0	56.5	113	6	30
Bromoform	75-25-2	0.215U	0.215	50.0	53.6	107	64 - 122	50.0	54.0	108	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	37.2	74	47 - 138	50.0	44.7	89	18	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	53.2	106	69 - 136	50.0	58.5	117	9	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	60.1	120	76 - 128	50.0	64.1	128	6	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	51.4	103	74 - 123	50.0	54.4	109	6	20
Chloroethane	75-00-3	0.235U	0.235	50.0	52.6	105	62 - 141	50.0	57.2	114	8	30
Chloroform	67-66-3	0.155U	0.155	50.0	51.6	103	75 - 122	50.0	55.1	110	7	30
Chloromethane	74-87-3	0.144U	0.144	50.0	41.6	83	59 - 132	50.0	44.4	89	7	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	52.4	105	73 - 130	50.0	56.3	113	7	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	56.6	113	71 - 132	50.0	57.8	116	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	48.0	96	69 - 132	50.0	52.4	105	9	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	52.3	105	71 - 123	50.0	54.6	109	4	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	48.0	96	58 - 140	50.0	53.1	106	10	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	53.1	106	74 - 126	50.0	56.9	114	7	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	55.7	111	71 - 125	50.0	59.9	120	7	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	53.3	107	57 - 139	50.0	56.0	112	5	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	47.6	95	67 - 138	50.0	52.0	104	9	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	50.2	100	68 - 132	50.0	53.0	106	5	30
Styrene	100-42-5	0.089U	0.089	50.0	55.8	112	71 - 127	50.0	58.8	118	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	52.5	105	71 - 125	50.0	54.2	108	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	50.3	101	68 - 128	50.0	55.1	110	9	30
Toluene	108-88-3	0.122U	0.122	50.0	51.4	103	72 - 120	50.0	55.2	110	7	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	52.3	105	69 - 132	50.0	56.3	113	7	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	56.3	113	71 - 131	50.0	57.2	114	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	50.5	101	76 - 129	50.0	55.1	110	9	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	52.7	105	72 - 136	50.0	57.5	115	9	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	51.0	102	72 - 136	50.0	56.5	113	10	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.7	103	68 - 132	50.0	56.8	114	9	30
Xylene (total)	1330-20-7	0.179U	0.179	150	164	109	74 - 127	150	174	116	6	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.9	104	50	50.2	100	71 - 127	50	50.9	102	1	NA
4-Bromofluorobenzene	460-00-4	48.1	96	50	49.3	99	78 - 130	50	49.1	98	0	NA
Dibromofluoromethane	1868-53-7	52	104	50	50	100	77 - 127	50	50.1	100	0	NA
Toluene d8	2037-26-5	50.8	102	50	49.2	98	76 - 134	50	49.2	98	0	NA

Inorganics Quality Control Summary

Analytical Batch	Client ID	MB555833		LCS555833			
555948	GCAL ID	1432238		1432239			
Prep Batch	Sample Type	MB		LCS			
555833	Prep Date	04/08/2015 13:35		04/08/2015 13:35			
Prep Method	Analysis Date	04/09/2015 11:59		04/09/2015 12:03			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R
Manganese	7439-96-5	1.25U	1.25	50.0	52.5	105	80 - 120
Sodium	7440-23-5	25.0U	25.0	5000	5310	106	80 - 120

General Chemistry Quality Control Summary

Analytical Batch 555828		Client ID	MWQ-22		MWQ-22-MS				MWQ-22-MSD				
		GCAL ID	21504040801		21504040802				21504040803				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/08/2015 20:30		04/08/2015 20:48				04/08/2015 21:05				
		Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1			Units Result	MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6		320	15.0	750	987	89	80 - 120	750	992	90	0	15

Analytical Batch 555828		Client ID	MB555828		LCS555828			
		GCAL ID	1432227		1432228			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/08/2015 23:42		04/08/2015 23:24			
		Matrix	Water		Water			
EPA 300.0, Rev 2.1			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6		0.050U	0.050	2.50	2.31	92	80 - 120

Analytical Batch 555950		Client ID	MB555950		LCS555950			
		GCAL ID	1432861		1432862			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 21:14		04/09/2015 20:56			
		Matrix	Water		Water			
EPA 300.0, Rev 2.1			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6		0.050U	0.050	2.50	2.43	97	80 - 120

Analytical Batch 555950		Client ID	MWQ-20		1431111MS				1431111MSD				
		GCAL ID	21504040602		1432863				1432864				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/10/2015 01:03		04/10/2015 01:20				04/10/2015 01:38				
		Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1			Units Result	MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6		5490	250	12500	17700	98	80 - 120	12500	17700	98	0	15

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 4783 - ERM NC, INC
SDG: 215040417
Due Date: 04/10/15

Report to:
Client: ERM NC, Inc.
Address: 15720 BRIXHAM HILL AVE
CHARLOTTE, NC 28270
Contact: MICHAEL PRESSLEY
Phone: 704 541 8345
E-mail: michael.pressley@erm.com

Bill to:
Client:
Address: SAME
Contact:
Phone:
E-mail:

P.O. Number
Project Name/Number: JOSLYN CLARK 0253066
Sampled By: MICHAEL PRESSLEY

Analytical Requests & Method: VOCs by 8260 | SODIUM | MANGANESE | CHLORIDE

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 1.8E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Vit. C	HNO3	NONE	Preservative
W	4/2/15	1515		X	MW-2	5	X	X	X	VOAs preserved with 1
W		1550		X	MW-3	5	X	X	X	ascorbic acid 2mg to 2
W		1615		X	OW-1	5	X	X	X	VIAL-3
W	4/2/15				Trip Blank		X			08140t 250487701 AMW 4/10/15

Air Bill No: 4855 8071 4855 0610

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	4-3-15	1600			
FedEx	4-4-15	9:45	Dodie McClure	4-4-15	9:45
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215040417

SAMPLE DELIVERY GROUP 215040417	
Client 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** McCune, Dodie N.
Line Item(s) 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 04/04/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☐	☑	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
807148550610		1.8

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 08/31/2015

GCAL Report 215040418

Project Joslyn Clark

Deliver To
Michael Pressley
ERM NC, Inc
15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
704 409 3450

Revision 1

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____
Authorized Signature
GCAL Report 215040418

Case Narrative

Client: ERM NC, INC **Report:** 215040418

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was revised 08/31/15. The data is revised to report non-detects as LOQ U. Additionally J values are not reported.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, sample 21504041802 (OW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21504041801	MW-3	Water	04/02/2015 15:50	04/04/2015 09:45
21504041802	OW-1	Water	04/02/2015 16:15	04/04/2015 09:45

Summary of Compounds Detected

MW-3

Collect Date 04/02/2015 15:50 **GCAL ID** 21504041801
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-00-5	1,1,2-Trichloroethane	1.02	1.00	ug/L
75-34-3	1,1-Dichloroethane	6.79	1.00	ug/L
67-64-1	Acetone	24.2	1.00	ug/L
67-66-3	Chloroform	1.28	1.00	ug/L
79-20-9	Methyl Acetate	10.5	1.00	ug/L
75-09-2	Methylene chloride	1.32	1.00	ug/L
79-01-6	Trichloroethene	2.25	1.00	ug/L

OW-1

Collect Date 04/02/2015 16:15 **GCAL ID** 21504041802
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	7.64	5.00	ug/L
79-20-9	Methyl Acetate	9.71	5.00	ug/L
127-18-4	Tetrachloroethene	15.1	5.00	ug/L
79-01-6	Trichloroethene	392	5.00	ug/L

Sample Results

MW-3	**Collect Date**	04/02/2015 15:50	**GCAL ID**	21504041801
	Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:44	LBH	555919

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	**1,1,2-Trichloroethane**	**1.02**	**1.00**	**ug/L**
75-34-3	**1,1-Dichloroethane**	**6.79**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**24.2**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.28**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**10.5**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	**Methylene chloride**	**1.32**	**1.00**	**ug/L**
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**2.25**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-3

Collect Date	04/02/2015 15:50	**GCAL ID**	21504041801
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:44	LBH	555919

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.4	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	52.1	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50.7	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.9	ug/L	102	71 - 127

OW-1

Collect Date	04/02/2015 16:15	**GCAL ID**	21504041802
Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/09/2015 11:07	LBH	555919

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	5.00 U	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5.00 U	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	5.00 U	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**7.64**	**5.00**	**ug/L**
75-35-4	1,1-Dichloroethene	5.00 U	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	5.00 U	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	5.00 U	5.00	ug/L
106-93-4	1,2-Dibromoethane	5.00 U	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	5.00 U	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00 U	5.00	ug/L
78-87-5	1,2-Dichloropropane	5.00 U	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	5.00 U	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	5.00 U	5.00	ug/L
78-93-3	2-Butanone	5.00 U	5.00	ug/L
591-78-6	2-Hexanone	5.00 U	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	5.00 U	5.00	ug/L
67-64-1	Acetone	5.00 U	5.00	ug/L
71-43-2	Benzene	5.00 U	5.00	ug/L
75-27-4	Bromodichloromethane	5.00 U	5.00	ug/L
75-25-2	Bromoform	5.00 U	5.00	ug/L
74-83-9	Bromomethane	5.00 U	5.00	ug/L
75-15-0	Carbon disulfide	5.00 U	5.00	ug/L
56-23-5	Carbon tetrachloride	5.00 U	5.00	ug/L
108-90-7	Chlorobenzene	5.00 U	5.00	ug/L
75-00-3	Chloroethane	5.00 U	5.00	ug/L
67-66-3	Chloroform	5.00 U	5.00	ug/L

Sample Results

OW-1	**Collect Date**	04/02/2015 16:15	**GCAL ID**	21504041802
	Receive Date	04/04/2015 09:45	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/09/2015 11:07	LBH	555919

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	5.00 U	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	5.00 U	5.00	ug/L
110-82-7	Cyclohexane	5.00 U	5.00	ug/L
124-48-1	Dibromochloromethane	5.00 U	5.00	ug/L
75-71-8	Dichlorodifluoromethane	5.00 U	5.00	ug/L
100-41-4	Ethylbenzene	5.00 U	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	5.00 U	5.00	ug/L
79-20-9	**Methyl Acetate**	**9.71**	**5.00**	**ug/L**
108-87-2	Methylcyclohexane	5.00 U	5.00	ug/L
75-09-2	Methylene chloride	5.00 U	5.00	ug/L
100-42-5	Styrene	5.00 U	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00 U	5.00	ug/L
127-18-4	**Tetrachloroethene**	**15.1**	**5.00**	**ug/L**
108-88-3	Toluene	5.00 U	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	5.00 U	5.00	ug/L
79-01-6	**Trichloroethene**	**392**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	5.00 U	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	5.00 U	5.00	ug/L
75-01-4	Vinyl chloride	5.00 U	5.00	ug/L
1330-20-7	Xylene (total)	5.00 U	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	245	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	250	263	ug/L	105	77 - 127
2037-26-5	Toluene d8	250	257	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	269	ug/L	108	71 - 127

GC/MS Volatiles QC Summary

Analytical Batch 555919	Client ID	MB555919		LCS555919				LCSD555919				
	GCAL ID	1432691		1432692				1432693				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/09/2015 09:41		04/09/2015 08:18				04/09/2015 08:41				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	52.9	106	76 - 126	50.0	57.1	114	8	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	54.7	109	70 - 122	50.0	55.4	111	1	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	51.1	102	72 - 121	50.0	52.7	105	3	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	52.0	104	74 - 127	50.0	56.4	113	8	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	50.9	102	69 - 129	50.0	56.5	113	10	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	57.9	116	61 - 135	50.0	60.7	121	5	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	56.5	113	57 - 121	50.0	57.3	115	1	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	52.3	105	70 - 124	50.0	53.0	106	1	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	52.5	105	71 - 126	50.0	55.3	111	5	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	51.4	103	71 - 129	50.0	53.7	107	4	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	52.9	106	72 - 128	50.0	56.3	113	6	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	52.6	105	74 - 126	50.0	56.0	112	6	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	51.9	104	72 - 122	50.0	55.1	110	6	30
2-Butanone	78-93-3	1.00U	1.00	50.0	61.2	122	58 - 137	50.0	63.5	127	4	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	53.3	107	50 - 135	50.0	55.3	111	4	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	55.5	111	57 - 132	50.0	56.8	114	2	30
Acetone	67-64-1	1.00U	1.00	50.0	66.9	134	44 - 156	50.0	69.9	140	4	30
Benzene	71-43-2	1.00U	1.00	50.0	53.2	106	70 - 129	50.0	56.8	114	7	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	53.2	106	74 - 125	50.0	56.5	113	6	30
Bromoform	75-25-2	1.00U	1.00	50.0	53.6	107	64 - 122	50.0	54.0	108	1	30
Bromomethane	74-83-9	1.00U	1.00	50.0	37.2	74	47 - 138	50.0	44.7	89	18	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	53.2	106	69 - 136	50.0	58.5	117	9	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	60.1	120	76 - 128	50.0	64.1	128	6	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	51.4	103	74 - 123	50.0	54.4	109	6	20
Chloroethane	75-00-3	1.00U	1.00	50.0	52.6	105	62 - 141	50.0	57.2	114	8	30
Chloroform	67-66-3	1.00U	1.00	50.0	51.6	103	75 - 122	50.0	55.1	110	7	30
Chloromethane	74-87-3	1.00U	1.00	50.0	41.6	83	59 - 132	50.0	44.4	89	7	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	52.4	105	73 - 130	50.0	56.3	113	7	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	56.6	113	71 - 132	50.0	57.8	116	2	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	48.0	96	69 - 132	50.0	52.4	105	9	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	52.3	105	71 - 123	50.0	54.6	109	4	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	48.0	96	58 - 140	50.0	53.1	106	10	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	53.1	106	74 - 126	50.0	56.9	114	7	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	55.7	111	71 - 125	50.0	59.9	120	7	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	53.3	107	57 - 139	50.0	56.0	112	5	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	47.6	95	67 - 138	50.0	52.0	104	9	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	50.2	100	68 - 132	50.0	53.0	106	5	30
Styrene	100-42-5	1.00U	1.00	50.0	55.8	112	71 - 127	50.0	58.8	118	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	52.5	105	71 - 125	50.0	54.2	108	3	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	50.3	101	68 - 128	50.0	55.1	110	9	30
Toluene	108-88-3	1.00U	1.00	50.0	51.4	103	72 - 120	50.0	55.2	110	7	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	52.3	105	69 - 132	50.0	56.3	113	7	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	56.3	113	71 - 131	50.0	57.2	114	2	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	50.5	101	76 - 129	50.0	55.1	110	9	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	52.7	105	72 - 136	50.0	57.5	115	9	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	51.0	102	72 - 136	50.0	56.5	113	10	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	51.7	103	68 - 132	50.0	56.8	114	9	30
Xylene (total)	1330-20-7	1.00U	1.00	150	164	109	74 - 127	150	174	116	6	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.9	104	50	50.2	100	71 - 127	50	50.9	102	1	NA
4-Bromofluorobenzene	460-00-4	48.1	96	50	49.3	99	78 - 130	50	49.1	98	0	NA
Dibromofluoromethane	1868-53-7	52	104	50	50	100	77 - 127	50	50.1	100	0	NA
Toluene d8	2037-26-5	50.8	102	50	49.2	98	76 - 134	50	49.2	98	0	NA

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Client ID: 4783 - ERM NC, INC
SDG: 215040418
Due Date: 04/10/15

Report to:	**Bill to:**
Client: ERM NC, Inc.	Client:
Address: 15720 Brixham Hill Ave. Charlotte, NC 28277	Address:
Contact: Michael Pressley	Contact: SAME
Phone: 704 541 8345	Phone:
E-mail: michael.pressley@erm.com	E-mail:

P.O. Number | Project Name/Number

Sampled By:

Analytical Requests & Method: VOCs by 8260

GCAL use only:
Custody Seal
used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 1.8E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	HCl	Preservative
W	4-2-15	1550		X	MW-3	3	X	1
W	"	1615		X	OW-1	3	X	2

Air Bill No: 8071 4855 0610

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	4-3-15	1600			
FedEx	4-4-15	9:45	Dodie McCune	4-4-15	9:45

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215040418

SAMPLE DELIVERY GROUP 215040418	
Client 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** McCune, Dodie N.
Line Item(s) 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 04/04/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☐	☑	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
807148550610		1.8

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

Appendix A-4
1-Year Monitoring Event

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 08/31/2015

GCAL Report 215070937

Project 0253066 / Joslyn Clark

Deliver To
Michael Pressley
ERM NC, Inc
15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
704 409 3450

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____
Authorized Signature
GCAL Report 215070937

Case Narrative

Client: ERM NC, INC **Report:** 215070937

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

This report was revised 08/31/15. The data is revised to report non-detects as LOQ U. Additionally J values are not reported.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis for analytical batch 562942, the %D/%Drift is outside ± 30% for Chloroethane in the CCV. The response is high and this analyte was not detected in the associated samples.

In the EPA 8260B analysis, samples 21507093711 (MW-7), 21507093712 (MW-11D), 21507093713 (MW-11), 21507093714 (DUP-1), 21507093715 (DUP-2), 21507093716 (MW-11I), 21507093717 (MW-9) and 21507093722 (OW-1) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the EPA 8260B analysis for analytical batch 562849, the LCS and/or LCSD recoveries are above the upper control limit for 1 and2-Dibromo-3-chloropropane. This compound was not detected in the associated samples.

In the EPA 8260B analysis for analytical batch 562665, Methylene chloride was above the reporting limit in the method blank, however, this analyte was not detected in the associated samples.

METALS

In the EPA 6020A analysis, samples 21507093722 (OW-1), 21507093724 (IW-2B), 21507093725 (IW-2A), 21507093726 (IW-1B), 21507093727 (IW-1A) and 21507093723 (MW-3) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

CONVENTIONALS

In the EPA 300.0 and Rev 2.1 analysis, samples 21507093721 (MW-2), 21507093722 (OW-1), 21507093723 (MW-3), 21507093724 (IW-2B), 21507093725 (IW-2A), 21507093727 (IW-1A) and 21507093726 (IW-1B) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21507093701	MW-1	Water	07/06/2015 14:05	07/09/2015 10:13
21507093702	MW-4	Water	07/06/2015 14:55	07/09/2015 10:13
21507093703	MW-5	Water	07/06/2015 15:50	07/09/2015 10:13
21507093704	MW-12D	Water	07/06/2015 16:50	07/09/2015 10:13
21507093705	MW-12	Water	07/06/2015 17:45	07/09/2015 10:13
21507093706	MW-10D	Water	07/07/2015 07:45	07/09/2015 10:13
21507093707	MW-10	Water	07/07/2015 08:30	07/09/2015 10:13
21507093708	MW-8	Water	07/07/2015 09:35	07/09/2015 10:13
21507093709	MW-6	Water	07/07/2015 10:25	07/09/2015 10:13
21507093710	MW-3D	Water	07/07/2015 11:15	07/09/2015 10:13
21507093711	MW-7	Water	07/07/2015 12:20	07/09/2015 10:13
21507093712	MW-11D	Water	07/07/2015 15:30	07/09/2015 10:13
21507093713	MW-11	Water	07/07/2015 16:20	07/09/2015 10:13
21507093714	DUP-1	Water	07/07/2015 00:00	07/09/2015 10:13
21507093715	DUP-2	Water	07/07/2015 00:00	07/09/2015 10:13
21507093716	MW-11I	Water	07/07/2015 17:15	07/09/2015 10:13
21507093717	MW-9	Water	07/08/2015 10:10	07/09/2015 10:13
21507093718	EQ-RINSE-1	Water	07/07/2015 18:00	07/09/2015 10:13
21507093719	EQ-RINSE-2	Water	07/08/2015 13:30	07/09/2015 10:13
21507093720	TRIP BLANK	Water	07/06/2015 00:00	07/09/2015 10:13
21507093721	MW-2	Water	07/07/2015 14:20	07/09/2015 10:13
21507093722	OW-1	Water	07/08/2015 08:35	07/09/2015 10:13
21507093723	MW-3	Water	07/08/2015 11:10	07/09/2015 10:13
21507093724	IW-2B	Water	07/08/2015 11:35	07/09/2015 10:13
21507093725	IW-2A	Water	07/08/2015 11:55	07/09/2015 10:13
21507093726	IW-1B	Water	07/08/2015 12:20	07/09/2015 10:13
21507093727	IW-1A	Water	07/08/2015 12:55	07/09/2015 10:13

Summary of Compounds Detected

MW-12D

Collect Date 07/06/2015 16:50 **GCAL ID** 21507093704
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-35-4	1,1-Dichloroethene	12.3	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	3.81	1.00	ug/L
127-18-4	Tetrachloroethene	16.2	1.00	ug/L
79-01-6	Trichloroethene	146	1.00	ug/L

MW-12

Collect Date 07/06/2015 17:45 **GCAL ID** 21507093705
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	4.35	1.00	ug/L

MW-3D

Collect Date 07/07/2015 11:15 **GCAL ID** 21507093710
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-35-4	1,1-Dichloroethene	3.88	1.00	ug/L
79-01-6	Trichloroethene	29.0	1.00	ug/L

MW-7

Collect Date 07/07/2015 12:20 **GCAL ID** 21507093711
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
67-66-3	Chloroform	2.70	2.00	ug/L
156-59-2	cis-1,2-Dichloroethene	5.51	2.00	ug/L
127-18-4	Tetrachloroethene	8.83	2.00	ug/L
79-01-6	Trichloroethene	301	2.00	ug/L

Summary of Compounds Detected

MW-11D

Collect Date 07/07/2015 15:30 **GCAL ID** 21507093712
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	242	2.00	ug/L

MW-11

Collect Date 07/07/2015 16:20 **GCAL ID** 21507093713
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-35-4	1,1-Dichloroethene	105	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	11.1	5.00	ug/L
127-18-4	Tetrachloroethene	22.8	5.00	ug/L
79-01-6	Trichloroethene	480	5.00	ug/L

DUP-1

Collect Date 07/07/2015 00:00 **GCAL ID** 21507093714
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
67-66-3	Chloroform	2.65	2.00	ug/L
156-59-2	cis-1,2-Dichloroethene	6.10	2.00	ug/L
127-18-4	Tetrachloroethene	11.8	2.00	ug/L
79-01-6	Trichloroethene	364	2.00	ug/L

DUP-2

Collect Date 07/07/2015 00:00 **GCAL ID** 21507093715
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-35-4	1,1-Dichloroethene	83.3	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	10.6	5.00	ug/L
127-18-4	Tetrachloroethene	19.7	5.00	ug/L
79-01-6	Trichloroethene	455	5.00	ug/L

Summary of Compounds Detected

MW-11I

Collect Date 07/07/2015 17:15 **GCAL ID** 21507093716
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	204	2.00	ug/L

MW-9

Collect Date 07/08/2015 10:10 **GCAL ID** 21507093717
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-35-4	1,1-Dichloroethene	216	100	ug/L
156-59-2	cis-1,2-Dichloroethene	459	100	ug/L
127-18-4	Tetrachloroethene	1000	100	ug/L
79-01-6	Trichloroethene	16500	100	ug/L

MW-2

Collect Date 07/07/2015 14:20 **GCAL ID** 21507093721
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-01-6	Trichloroethene	27.6	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	15.2	5.00	ug/L
7440-23-5	Sodium	7500	100	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	11.4	1.00	mg/L

Summary of Compounds Detected

OW-1

Collect Date 07/08/2015 08:35 **GCAL ID** 21507093722
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	6.29	5.00	ug/L
79-20-9	Methyl Acetate	10.8	5.00	ug/L
127-18-4	Tetrachloroethene	12.7	5.00	ug/L
79-01-6	Trichloroethene	514	5.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	1100	500	ug/L
7440-23-5	Sodium	11000	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	6.76	2.00	mg/L

MW-3

Collect Date 07/08/2015 11:10 **GCAL ID** 21507093723
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
79-00-5	1,1,2-Trichloroethane	1.08	1.00	ug/L
75-34-3	1,1-Dichloroethane	5.79	1.00	ug/L
67-64-1	Acetone	15.2	1.00	ug/L
67-66-3	Chloroform	1.16	1.00	ug/L
79-20-9	Methyl Acetate	9.53	1.00	ug/L
79-01-6	Trichloroethene	13.9	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	19300	500	ug/L
7440-23-5	Sodium	26900	10000	ug/L

Summary of Compounds Detected

MW-3

Collect Date 07/08/2015 11:10 **GCAL ID** 21507093723
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	7.08	2.00	mg/L

IW-2B

Collect Date 07/08/2015 11:35 **GCAL ID** 21507093724
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
67-64-1	Acetone	8.44	1.00	ug/L
67-66-3	Chloroform	1.33	1.00	ug/L
79-20-9	Methyl Acetate	4.46	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	39000	500	ug/L
7440-23-5	Sodium	770000	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	28.9	10.0	mg/L

IW-2A

Collect Date 07/08/2015 11:55 **GCAL ID** 21507093725
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	1.00	1.00	ug/L

Summary of Compounds Detected

IW-2A

Collect Date 07/08/2015 11:55 **GCAL ID** 21507093725
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	2840	500	ug/L
7440-23-5	Sodium	862000	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	17.9	4.00	mg/L

IW-1B

Collect Date 07/08/2015 12:20 **GCAL ID** 21507093726
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	1.19	1.00	ug/L
67-66-3	Chloroform	1.03	1.00	ug/L
79-20-9	Methyl Acetate	4.54	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	13000	500	ug/L
7440-23-5	Sodium	624000	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	17.4	10.0	mg/L

Summary of Compounds Detected

IW-1A				
	Collect Date	07/08/2015 12:55	GCAL ID	21507093727
	Receive Date	07/09/2015 10:13	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	1.44	1.00	ug/L
79-20-9	Methyl Acetate	10.8	1.00	ug/L

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7439-96-5	Manganese	12100	500	ug/L
7440-23-5	Sodium	262000	10000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	13.0	4.00	mg/L

Sample Results

MW-1	**Collect Date**	07/06/2015 14:05	**GCAL ID**	21507093701
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 18:31	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-1

Collect Date 07/06/2015 14:05 **GCAL ID** 21507093701
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 18:31	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.9	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	52	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.9	ug/L	104	71 - 127

MW-4

Collect Date 07/06/2015 14:55 **GCAL ID** 21507093702
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 18:52	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

MW-4

Collect Date 07/06/2015 14:55 **GCAL ID** 21507093702
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 18:52	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	52.7	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.8	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53	ug/L	106	71 - 127

MW-5

Collect Date 07/06/2015 15:50 **GCAL ID** 21507093703
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:13	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

MW-5	**Collect Date**	07/06/2015 15:50	**GCAL ID**	21507093703
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:13	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-5

Collect Date	07/06/2015 15:50	**GCAL ID**	21507093703
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:13	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.5	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.1	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.8	ug/L	106	71 - 127

MW-12D

Collect Date	07/06/2015 16:50	**GCAL ID**	21507093704
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:34	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	**1,1-Dichloroethene**	**12.3**	**1.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

MW-12D

Collect Date	07/06/2015 16:50	**GCAL ID**	21507093704
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:34	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**3.81**	**1.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	**Tetrachloroethene**	**16.2**	**1.00**	**ug/L**
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**146**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.1	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.6	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	49.5	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.1	ug/L	102	71 - 127

MW-12

Collect Date	07/06/2015 17:45	**GCAL ID**	21507093705
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:55	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

MW-12	**Collect Date**	07/06/2015 17:45	**GCAL ID**	21507093705
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:55	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**4.35**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-12

Collect Date	07/06/2015 17:45	**GCAL ID**	21507093705
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 19:55	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.6	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	49.5	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.3	ug/L	105	71 - 127

MW-10D

Collect Date	07/07/2015 07:45	**GCAL ID**	21507093706
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 20:16	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

MW-10D

Collect Date	07/07/2015 07:45	**GCAL ID**	21507093706
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 20:16	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.1	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	49.5	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.7	ug/L	101	71 - 127

MW-10

Collect Date	07/07/2015 08:30	**GCAL ID**	21507093707
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 23:32	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

MW-10	**Collect Date**	07/07/2015 08:30	**GCAL ID**	21507093707
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 23:32	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-10

Collect Date 07/07/2015 08:30 **GCAL ID** 21507093707
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 23:32	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.9	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	52.5	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	49.2	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52	ug/L	104	71 - 127

MW-8

Collect Date 07/07/2015 09:35 **GCAL ID** 21507093708
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 21:18	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

MW-8

Collect Date 07/07/2015 09:35 **GCAL ID** 21507093708
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 21:18	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.3	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	52.8	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	49.8	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.6	ug/L	103	71 - 127

MW-6

Collect Date 07/07/2015 10:25 **GCAL ID** 21507093709
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 21:39	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

MW-6	**Collect Date**	07/07/2015 10:25	**GCAL ID**	21507093709
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 21:39	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-6

Collect Date	07/07/2015 10:25	**GCAL ID**	21507093709
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 21:39	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.6	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	53.1	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.3	ug/L	105	71 - 127

MW-3D

Collect Date	07/07/2015 11:15	**GCAL ID**	21507093710
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 22:00	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	**1,1-Dichloroethene**	**3.88**	**1.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

MW-3D

Collect Date	07/07/2015 11:15	**GCAL ID**	21507093710
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/10/2015 22:00	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**29.0**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	49.1	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.1	ug/L	104	71 - 127

MW-7

Collect Date	07/07/2015 12:20	**GCAL ID**	21507093711
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/10/2015 22:24	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00 U	2.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00 U	2.00	ug/L
79-00-5	1,1,2-Trichloroethane	2.00 U	2.00	ug/L
75-34-3	1,1-Dichloroethane	2.00 U	2.00	ug/L
75-35-4	1,1-Dichloroethene	2.00 U	2.00	ug/L

Sample Results

MW-7	**Collect Date**	07/07/2015 12:20	**GCAL ID**	21507093711
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/10/2015 22:24	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	2.00 U	2.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L
106-93-4	1,2-Dibromoethane	2.00 U	2.00	ug/L
95-50-1	1,2-Dichlorobenzene	2.00 U	2.00	ug/L
107-06-2	1,2-Dichloroethane	2.00 U	2.00	ug/L
78-87-5	1,2-Dichloropropane	2.00 U	2.00	ug/L
541-73-1	1,3-Dichlorobenzene	2.00 U	2.00	ug/L
106-46-7	1,4-Dichlorobenzene	2.00 U	2.00	ug/L
78-93-3	2-Butanone	2.00 U	2.00	ug/L
591-78-6	2-Hexanone	2.00 U	2.00	ug/L
108-10-1	4-Methyl-2-pentanone	2.00 U	2.00	ug/L
67-64-1	Acetone	2.00 U	2.00	ug/L
71-43-2	Benzene	2.00 U	2.00	ug/L
75-27-4	Bromodichloromethane	2.00 U	2.00	ug/L
75-25-2	Bromoform	2.00 U	2.00	ug/L
74-83-9	Bromomethane	2.00 U	2.00	ug/L
75-15-0	Carbon disulfide	2.00 U	2.00	ug/L
56-23-5	Carbon tetrachloride	2.00 U	2.00	ug/L
108-90-7	Chlorobenzene	2.00 U	2.00	ug/L
75-00-3	Chloroethane	2.00 U	2.00	ug/L
67-66-3	**Chloroform**	**2.70**	**2.00**	**ug/L**
74-87-3	Chloromethane	2.00 U	2.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**5.51**	**2.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	2.00 U	2.00	ug/L
110-82-7	Cyclohexane	2.00 U	2.00	ug/L
124-48-1	Dibromochloromethane	2.00 U	2.00	ug/L
75-71-8	Dichlorodifluoromethane	2.00 U	2.00	ug/L
100-41-4	Ethylbenzene	2.00 U	2.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00 U	2.00	ug/L
79-20-9	Methyl Acetate	2.00 U	2.00	ug/L
108-87-2	Methylcyclohexane	2.00 U	2.00	ug/L
75-09-2	Methylene chloride	2.00 U	2.00	ug/L
100-42-5	Styrene	2.00 U	2.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00 U	2.00	ug/L
127-18-4	**Tetrachloroethene**	**8.83**	**2.00**	**ug/L**
108-88-3	Toluene	2.00 U	2.00	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00 U	2.00	ug/L
79-01-6	**Trichloroethene**	**301**	**2.00**	**ug/L**
75-69-4	Trichlorofluoromethane	2.00 U	2.00	ug/L
76-13-1	Trichlorotrifluoroethane	2.00 U	2.00	ug/L
75-01-4	Vinyl chloride	2.00 U	2.00	ug/L

Sample Results

MW-7

Collect Date	07/07/2015 12:20	**GCAL ID**	21507093711
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/10/2015 22:24	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	2.00 U	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	100	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	100	106	ug/L	106	77 - 127
2037-26-5	Toluene d8	100	99.9	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	104	ug/L	104	71 - 127

MW-11D

Collect Date	07/07/2015 15:30	**GCAL ID**	21507093712
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/10/2015 22:47	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00 U	2.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00 U	2.00	ug/L
79-00-5	1,1,2-Trichloroethane	2.00 U	2.00	ug/L
75-34-3	1,1-Dichloroethane	2.00 U	2.00	ug/L
75-35-4	1,1-Dichloroethene	2.00 U	2.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	2.00 U	2.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L
106-93-4	1,2-Dibromoethane	2.00 U	2.00	ug/L
95-50-1	1,2-Dichlorobenzene	2.00 U	2.00	ug/L
107-06-2	1,2-Dichloroethane	2.00 U	2.00	ug/L
78-87-5	1,2-Dichloropropane	2.00 U	2.00	ug/L
541-73-1	1,3-Dichlorobenzene	2.00 U	2.00	ug/L
106-46-7	1,4-Dichlorobenzene	2.00 U	2.00	ug/L
78-93-3	2-Butanone	2.00 U	2.00	ug/L
591-78-6	2-Hexanone	2.00 U	2.00	ug/L
108-10-1	4-Methyl-2-pentanone	2.00 U	2.00	ug/L
67-64-1	Acetone	2.00 U	2.00	ug/L
71-43-2	Benzene	2.00 U	2.00	ug/L
75-27-4	Bromodichloromethane	2.00 U	2.00	ug/L
75-25-2	Bromoform	2.00 U	2.00	ug/L
74-83-9	Bromomethane	2.00 U	2.00	ug/L
75-15-0	Carbon disulfide	2.00 U	2.00	ug/L
56-23-5	Carbon tetrachloride	2.00 U	2.00	ug/L
108-90-7	Chlorobenzene	2.00 U	2.00	ug/L
75-00-3	Chloroethane	2.00 U	2.00	ug/L
67-66-3	Chloroform	2.00 U	2.00	ug/L

Sample Results

MW-11D

Collect Date	07/07/2015 15:30	**GCAL ID**	21507093712
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/10/2015 22:47	CJR	562754

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	2.00 U	2.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	2.00 U	2.00	ug/L
110-82-7	Cyclohexane	2.00 U	2.00	ug/L
124-48-1	Dibromochloromethane	2.00 U	2.00	ug/L
75-71-8	Dichlorodifluoromethane	2.00 U	2.00	ug/L
100-41-4	Ethylbenzene	2.00 U	2.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00 U	2.00	ug/L
79-20-9	Methyl Acetate	2.00 U	2.00	ug/L
108-87-2	Methylcyclohexane	2.00 U	2.00	ug/L
75-09-2	Methylene chloride	2.00 U	2.00	ug/L
100-42-5	Styrene	2.00 U	2.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00 U	2.00	ug/L
127-18-4	Tetrachloroethene	2.00 U	2.00	ug/L
108-88-3	Toluene	2.00 U	2.00	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00 U	2.00	ug/L
79-01-6	**Trichloroethene**	**242**	**2.00**	**ug/L**
75-69-4	Trichlorofluoromethane	2.00 U	2.00	ug/L
76-13-1	Trichlorotrifluoroethane	2.00 U	2.00	ug/L
75-01-4	Vinyl chloride	2.00 U	2.00	ug/L
1330-20-7	Xylene (total)	2.00 U	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	101	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	100	106	ug/L	106	77 - 127
2037-26-5	Toluene d8	100	99	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	107	ug/L	107	71 - 127

MW-11

Collect Date	07/07/2015 16:20	**GCAL ID**	21507093713
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/10/2015 23:11	CJR	562754

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	5.00 U	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5.00 U	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	5.00 U	5.00	ug/L
75-34-3	1,1-Dichloroethane	5.00 U	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**105**	**5.00**	**ug/L**

Sample Results

MW-11	**Collect Date**	07/07/2015 16:20	**GCAL ID**	21507093713
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/10/2015 23:11	CJR	562754

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	5.00 U	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	5.00 U	5.00	ug/L
106-93-4	1,2-Dibromoethane	5.00 U	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	5.00 U	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00 U	5.00	ug/L
78-87-5	1,2-Dichloropropane	5.00 U	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	5.00 U	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	5.00 U	5.00	ug/L
78-93-3	2-Butanone	5.00 U	5.00	ug/L
591-78-6	2-Hexanone	5.00 U	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	5.00 U	5.00	ug/L
67-64-1	Acetone	5.00 U	5.00	ug/L
71-43-2	Benzene	5.00 U	5.00	ug/L
75-27-4	Bromodichloromethane	5.00 U	5.00	ug/L
75-25-2	Bromoform	5.00 U	5.00	ug/L
74-83-9	Bromomethane	5.00 U	5.00	ug/L
75-15-0	Carbon disulfide	5.00 U	5.00	ug/L
56-23-5	Carbon tetrachloride	5.00 U	5.00	ug/L
108-90-7	Chlorobenzene	5.00 U	5.00	ug/L
75-00-3	Chloroethane	5.00 U	5.00	ug/L
67-66-3	Chloroform	5.00 U	5.00	ug/L
74-87-3	Chloromethane	5.00 U	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**11.1**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	5.00 U	5.00	ug/L
110-82-7	Cyclohexane	5.00 U	5.00	ug/L
124-48-1	Dibromochloromethane	5.00 U	5.00	ug/L
75-71-8	Dichlorodifluoromethane	5.00 U	5.00	ug/L
100-41-4	Ethylbenzene	5.00 U	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	5.00 U	5.00	ug/L
79-20-9	Methyl Acetate	5.00 U	5.00	ug/L
108-87-2	Methylcyclohexane	5.00 U	5.00	ug/L
75-09-2	Methylene chloride	5.00 U	5.00	ug/L
100-42-5	Styrene	5.00 U	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00 U	5.00	ug/L
127-18-4	**Tetrachloroethene**	**22.8**	**5.00**	**ug/L**
108-88-3	Toluene	5.00 U	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	5.00 U	5.00	ug/L
79-01-6	**Trichloroethene**	**480**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	5.00 U	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	5.00 U	5.00	ug/L
75-01-4	Vinyl chloride	5.00 U	5.00	ug/L

Sample Results

MW-11

Collect Date	07/07/2015 16:20	**GCAL ID**	21507093713
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/10/2015 23:11	CJR	562754

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	5.00 U	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	255	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	250	265	ug/L	106	77 - 127
2037-26-5	Toluene d8	250	250	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	263	ug/L	105	71 - 127

DUP-1

Collect Date	07/07/2015 00:00	**GCAL ID**	21507093714
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/11/2015 18:48	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00 U	2.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00 U	2.00	ug/L
79-00-5	1,1,2-Trichloroethane	2.00 U	2.00	ug/L
75-34-3	1,1-Dichloroethane	2.00 U	2.00	ug/L
75-35-4	1,1-Dichloroethene	2.00 U	2.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	2.00 U	2.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L
106-93-4	1,2-Dibromoethane	2.00 U	2.00	ug/L
95-50-1	1,2-Dichlorobenzene	2.00 U	2.00	ug/L
107-06-2	1,2-Dichloroethane	2.00 U	2.00	ug/L
78-87-5	1,2-Dichloropropane	2.00 U	2.00	ug/L
541-73-1	1,3-Dichlorobenzene	2.00 U	2.00	ug/L
106-46-7	1,4-Dichlorobenzene	2.00 U	2.00	ug/L
78-93-3	2-Butanone	2.00 U	2.00	ug/L
591-78-6	2-Hexanone	2.00 U	2.00	ug/L
108-10-1	4-Methyl-2-pentanone	2.00 U	2.00	ug/L
67-64-1	Acetone	2.00 U	2.00	ug/L
71-43-2	Benzene	2.00 U	2.00	ug/L
75-27-4	Bromodichloromethane	2.00 U	2.00	ug/L
75-25-2	Bromoform	2.00 U	2.00	ug/L
74-83-9	Bromomethane	2.00 U	2.00	ug/L
75-15-0	Carbon disulfide	2.00 U	2.00	ug/L
56-23-5	Carbon tetrachloride	2.00 U	2.00	ug/L
108-90-7	Chlorobenzene	2.00 U	2.00	ug/L
75-00-3	Chloroethane	2.00 U	2.00	ug/L
67-66-3	**Chloroform**	**2.65**	**2.00**	**ug/L**

Sample Results

DUP-1

Collect Date 07/07/2015 00:00 **GCAL ID** 21507093714
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/11/2015 18:48	CJR	562849

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	2.00 U	2.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**6.10**	**2.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	2.00 U	2.00	ug/L
110-82-7	Cyclohexane	2.00 U	2.00	ug/L
124-48-1	Dibromochloromethane	2.00 U	2.00	ug/L
75-71-8	Dichlorodifluoromethane	2.00 U	2.00	ug/L
100-41-4	Ethylbenzene	2.00 U	2.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00 U	2.00	ug/L
79-20-9	Methyl Acetate	2.00 U	2.00	ug/L
108-87-2	Methylcyclohexane	2.00 U	2.00	ug/L
75-09-2	Methylene chloride	2.00 U	2.00	ug/L
100-42-5	Styrene	2.00 U	2.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00 U	2.00	ug/L
127-18-4	**Tetrachloroethene**	**11.8**	**2.00**	**ug/L**
108-88-3	Toluene	2.00 U	2.00	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00 U	2.00	ug/L
79-01-6	**Trichloroethene**	**364**	**2.00**	**ug/L**
75-69-4	Trichlorofluoromethane	2.00 U	2.00	ug/L
76-13-1	Trichlorotrifluoroethane	2.00 U	2.00	ug/L
75-01-4	Vinyl chloride	2.00 U	2.00	ug/L
1330-20-7	Xylene (total)	2.00 U	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	90.9	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	100	98.4	ug/L	98	77 - 127
2037-26-5	Toluene d8	100	102	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	102	ug/L	102	71 - 127

DUP-2

Collect Date 07/07/2015 00:00 **GCAL ID** 21507093715
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/11/2015 19:13	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	5.00 U	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5.00 U	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	5.00 U	5.00	ug/L
75-34-3	1,1-Dichloroethane	5.00 U	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**83.3**	**5.00**	**ug/L**

Sample Results

DUP-2

Collect Date	07/07/2015 00:00	**GCAL ID**	21507093715
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/11/2015 19:13	CJR	562849

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	5.00 U	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	5.00 U	5.00	ug/L
106-93-4	1,2-Dibromoethane	5.00 U	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	5.00 U	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00 U	5.00	ug/L
78-87-5	1,2-Dichloropropane	5.00 U	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	5.00 U	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	5.00 U	5.00	ug/L
78-93-3	2-Butanone	5.00 U	5.00	ug/L
591-78-6	2-Hexanone	5.00 U	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	5.00 U	5.00	ug/L
67-64-1	Acetone	5.00 U	5.00	ug/L
71-43-2	Benzene	5.00 U	5.00	ug/L
75-27-4	Bromodichloromethane	5.00 U	5.00	ug/L
75-25-2	Bromoform	5.00 U	5.00	ug/L
74-83-9	Bromomethane	5.00 U	5.00	ug/L
75-15-0	Carbon disulfide	5.00 U	5.00	ug/L
56-23-5	Carbon tetrachloride	5.00 U	5.00	ug/L
108-90-7	Chlorobenzene	5.00 U	5.00	ug/L
75-00-3	Chloroethane	5.00 U	5.00	ug/L
67-66-3	Chloroform	5.00 U	5.00	ug/L
74-87-3	Chloromethane	5.00 U	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**10.6**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	5.00 U	5.00	ug/L
110-82-7	Cyclohexane	5.00 U	5.00	ug/L
124-48-1	Dibromochloromethane	5.00 U	5.00	ug/L
75-71-8	Dichlorodifluoromethane	5.00 U	5.00	ug/L
100-41-4	Ethylbenzene	5.00 U	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	5.00 U	5.00	ug/L
79-20-9	Methyl Acetate	5.00 U	5.00	ug/L
108-87-2	Methylcyclohexane	5.00 U	5.00	ug/L
75-09-2	Methylene chloride	5.00 U	5.00	ug/L
100-42-5	Styrene	5.00 U	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00 U	5.00	ug/L
127-18-4	**Tetrachloroethene**	**19.7**	**5.00**	**ug/L**
108-88-3	Toluene	5.00 U	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	5.00 U	5.00	ug/L
79-01-6	**Trichloroethene**	**455**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	5.00 U	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	5.00 U	5.00	ug/L
75-01-4	Vinyl chloride	5.00 U	5.00	ug/L

Sample Results

DUP-2

Collect Date	07/07/2015 00:00	**GCAL ID**	21507093715
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/11/2015 19:13	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	5.00 U	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	227	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	250	247	ug/L	99	77 - 127
2037-26-5	Toluene d8	250	260	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	261	ug/L	104	71 - 127

MW-11I

Collect Date	07/07/2015 17:15	**GCAL ID**	21507093716
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/11/2015 19:39	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00 U	2.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00 U	2.00	ug/L
79-00-5	1,1,2-Trichloroethane	2.00 U	2.00	ug/L
75-34-3	1,1-Dichloroethane	2.00 U	2.00	ug/L
75-35-4	1,1-Dichloroethene	2.00 U	2.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	2.00 U	2.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L
106-93-4	1,2-Dibromoethane	2.00 U	2.00	ug/L
95-50-1	1,2-Dichlorobenzene	2.00 U	2.00	ug/L
107-06-2	1,2-Dichloroethane	2.00 U	2.00	ug/L
78-87-5	1,2-Dichloropropane	2.00 U	2.00	ug/L
541-73-1	1,3-Dichlorobenzene	2.00 U	2.00	ug/L
106-46-7	1,4-Dichlorobenzene	2.00 U	2.00	ug/L
78-93-3	2-Butanone	2.00 U	2.00	ug/L
591-78-6	2-Hexanone	2.00 U	2.00	ug/L
108-10-1	4-Methyl-2-pentanone	2.00 U	2.00	ug/L
67-64-1	Acetone	2.00 U	2.00	ug/L
71-43-2	Benzene	2.00 U	2.00	ug/L
75-27-4	Bromodichloromethane	2.00 U	2.00	ug/L
75-25-2	Bromoform	2.00 U	2.00	ug/L
74-83-9	Bromomethane	2.00 U	2.00	ug/L
75-15-0	Carbon disulfide	2.00 U	2.00	ug/L
56-23-5	Carbon tetrachloride	2.00 U	2.00	ug/L
108-90-7	Chlorobenzene	2.00 U	2.00	ug/L
75-00-3	Chloroethane	2.00 U	2.00	ug/L
67-66-3	Chloroform	2.00 U	2.00	ug/L

Sample Results

MW-11I

Collect Date	07/07/2015 17:15	**GCAL ID**	21507093716
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	07/11/2015 19:39	CJR	562849

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	2.00 U	2.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	2.00 U	2.00	ug/L
110-82-7	Cyclohexane	2.00 U	2.00	ug/L
124-48-1	Dibromochloromethane	2.00 U	2.00	ug/L
75-71-8	Dichlorodifluoromethane	2.00 U	2.00	ug/L
100-41-4	Ethylbenzene	2.00 U	2.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00 U	2.00	ug/L
79-20-9	Methyl Acetate	2.00 U	2.00	ug/L
108-87-2	Methylcyclohexane	2.00 U	2.00	ug/L
75-09-2	Methylene chloride	2.00 U	2.00	ug/L
100-42-5	Styrene	2.00 U	2.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00 U	2.00	ug/L
127-18-4	Tetrachloroethene	2.00 U	2.00	ug/L
108-88-3	Toluene	2.00 U	2.00	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00 U	2.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00 U	2.00	ug/L
79-01-6	**Trichloroethene**	**204**	**2.00**	**ug/L**
75-69-4	Trichlorofluoromethane	2.00 U	2.00	ug/L
76-13-1	Trichlorotrifluoroethane	2.00 U	2.00	ug/L
75-01-4	Vinyl chloride	2.00 U	2.00	ug/L
1330-20-7	Xylene (total)	2.00 U	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	90.6	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	100	98.1	ug/L	98	77 - 127
2037-26-5	Toluene d8	100	102	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	101	ug/L	101	71 - 127

MW-9

Collect Date	07/08/2015 10:10	**GCAL ID**	21507093717
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	07/11/2015 20:02	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	100 U	100	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	100 U	100	ug/L
79-00-5	1,1,2-Trichloroethane	100 U	100	ug/L
75-34-3	1,1-Dichloroethane	100 U	100	ug/L
75-35-4	**1,1-Dichloroethene**	**216**	**100**	**ug/L**

Sample Results

MW-9	**Collect Date**	07/08/2015 10:10	**GCAL ID**	21507093717
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	07/11/2015 20:02	CJR	562849

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	100 U	100	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	100 U	100	ug/L
106-93-4	1,2-Dibromoethane	100 U	100	ug/L
95-50-1	1,2-Dichlorobenzene	100 U	100	ug/L
107-06-2	1,2-Dichloroethane	100 U	100	ug/L
78-87-5	1,2-Dichloropropane	100 U	100	ug/L
541-73-1	1,3-Dichlorobenzene	100 U	100	ug/L
106-46-7	1,4-Dichlorobenzene	100 U	100	ug/L
78-93-3	2-Butanone	100 U	100	ug/L
591-78-6	2-Hexanone	100 U	100	ug/L
108-10-1	4-Methyl-2-pentanone	100 U	100	ug/L
67-64-1	Acetone	100 U	100	ug/L
71-43-2	Benzene	100 U	100	ug/L
75-27-4	Bromodichloromethane	100 U	100	ug/L
75-25-2	Bromoform	100 U	100	ug/L
74-83-9	Bromomethane	100 U	100	ug/L
75-15-0	Carbon disulfide	100 U	100	ug/L
56-23-5	Carbon tetrachloride	100 U	100	ug/L
108-90-7	Chlorobenzene	100 U	100	ug/L
75-00-3	Chloroethane	100 U	100	ug/L
67-66-3	Chloroform	100 U	100	ug/L
74-87-3	Chloromethane	100 U	100	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**459**	**100**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	100 U	100	ug/L
110-82-7	Cyclohexane	100 U	100	ug/L
124-48-1	Dibromochloromethane	100 U	100	ug/L
75-71-8	Dichlorodifluoromethane	100 U	100	ug/L
100-41-4	Ethylbenzene	100 U	100	ug/L
98-82-8	Isopropylbenzene (Cumene)	100 U	100	ug/L
79-20-9	Methyl Acetate	100 U	100	ug/L
108-87-2	Methylcyclohexane	100 U	100	ug/L
75-09-2	Methylene chloride	100 U	100	ug/L
100-42-5	Styrene	100 U	100	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	100 U	100	ug/L
127-18-4	**Tetrachloroethene**	**1000**	**100**	**ug/L**
108-88-3	Toluene	100 U	100	ug/L
156-60-5	trans-1,2-Dichloroethene	100 U	100	ug/L
10061-02-6	trans-1,3-Dichloropropene	100 U	100	ug/L
79-01-6	**Trichloroethene**	**16500**	**100**	**ug/L**
75-69-4	Trichlorofluoromethane	100 U	100	ug/L
76-13-1	Trichlorotrifluoroethane	100 U	100	ug/L
75-01-4	Vinyl chloride	100 U	100	ug/L

Sample Results

MW-9

Collect Date	07/08/2015 10:10	**GCAL ID**	21507093717
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	07/11/2015 20:02	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	100 U	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	5000	4560	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	5000	4900	ug/L	98	77 - 127
2037-26-5	Toluene d8	5000	5070	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	5000	5120	ug/L	102	71 - 127

EQ-RINSE-1

Collect Date	07/07/2015 18:00	**GCAL ID**	21507093718
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 20:24	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

EQ-RINSE-1

Collect Date 07/07/2015 18:00 **GCAL ID** 21507093718
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 20:24	CJR	562849

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.8	ug/L	92	78 - 130
1868-53-7	Dibromofluoromethane	50	48.3	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	51.1	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.6	ug/L	101	71 - 127

EQ-RINSE-2

Collect Date 07/08/2015 13:30 **GCAL ID** 21507093719
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 20:47	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

EQ-RINSE-2

Collect Date	07/08/2015 13:30	**GCAL ID**	21507093719
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 20:47	CJR	562849

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

EQ-RINSE-2

Collect Date 07/08/2015 13:30 **GCAL ID** 21507093719
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 20:47	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.5	ug/L	91	78 - 130
1868-53-7	Dibromofluoromethane	50	48.5	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	50.9	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52	ug/L	104	71 - 127

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Collect Date 07/06/2015 00:00 **GCAL ID** 21507093720
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/09/2015 19:19	BMC2	562665

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L

Sample Results

TRIP BLANK

Collect Date	07/06/2015 00:00	**GCAL ID**	21507093720
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/09/2015 19:19	BMC2	562665

CAS#	Parameter	Result	LOQ	Units
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.2	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	50.1	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.3	ug/L	101	71 - 127

MW-2

Collect Date	07/07/2015 14:20	**GCAL ID**	21507093721
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 21:10	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L

Sample Results

MW-2	**Collect Date**	07/07/2015 14:20	**GCAL ID**	21507093721
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 21:10	CJR	562849

CAS#	Parameter	Result	LOQ	Units
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**27.6**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-2

Collect Date	07/07/2015 14:20	**GCAL ID**	21507093721
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 21:10	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.9	ug/L	92	78 - 130
1868-53-7	Dibromofluoromethane	50	48.6	ug/L	97	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.6	ug/L	101	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	1	07/19/2015 18:11	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**15.2**	**5.00**	**ug/L**
7440-23-5	**Sodium**	**7500**	**100**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/10/2015 13:11	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**11.4**	**1.00**	**mg/L**

OW-1

Collect Date	07/08/2015 08:35	**GCAL ID**	21507093722
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/13/2015 18:56	JCK	562942

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	5.00 U	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5.00 U	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	5.00 U	5.00	ug/L

Sample Results

OW-1	**Collect Date**	07/08/2015 08:35	**GCAL ID**	21507093722
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/13/2015 18:56	JCK	562942

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**6.29**	**5.00**	**ug/L**
75-35-4	1,1-Dichloroethene	5.00 U	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	5.00 U	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	5.00 U	5.00	ug/L
106-93-4	1,2-Dibromoethane	5.00 U	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	5.00 U	5.00	ug/L
107-06-2	1,2-Dichloroethane	5.00 U	5.00	ug/L
78-87-5	1,2-Dichloropropane	5.00 U	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	5.00 U	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	5.00 U	5.00	ug/L
78-93-3	2-Butanone	5.00 U	5.00	ug/L
591-78-6	2-Hexanone	5.00 U	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	5.00 U	5.00	ug/L
67-64-1	Acetone	5.00 U	5.00	ug/L
71-43-2	Benzene	5.00 U	5.00	ug/L
75-27-4	Bromodichloromethane	5.00 U	5.00	ug/L
75-25-2	Bromoform	5.00 U	5.00	ug/L
74-83-9	Bromomethane	5.00 U	5.00	ug/L
75-15-0	Carbon disulfide	5.00 U	5.00	ug/L
56-23-5	Carbon tetrachloride	5.00 U	5.00	ug/L
108-90-7	Chlorobenzene	5.00 U	5.00	ug/L
75-00-3	Chloroethane	5.00 U	5.00	ug/L
67-66-3	Chloroform	5.00 U	5.00	ug/L
74-87-3	Chloromethane	5.00 U	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	5.00 U	5.00	ug/L
110-82-7	Cyclohexane	5.00 U	5.00	ug/L
124-48-1	Dibromochloromethane	5.00 U	5.00	ug/L
75-71-8	Dichlorodifluoromethane	5.00 U	5.00	ug/L
100-41-4	Ethylbenzene	5.00 U	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	5.00 U	5.00	ug/L
79-20-9	**Methyl Acetate**	**10.8**	**5.00**	**ug/L**
108-87-2	Methylcyclohexane	5.00 U	5.00	ug/L
75-09-2	Methylene chloride	5.00 U	5.00	ug/L
100-42-5	Styrene	5.00 U	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00 U	5.00	ug/L
127-18-4	**Tetrachloroethene**	**12.7**	**5.00**	**ug/L**
108-88-3	Toluene	5.00 U	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	5.00 U	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	5.00 U	5.00	ug/L
79-01-6	**Trichloroethene**	**514**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	5.00 U	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	5.00 U	5.00	ug/L
75-01-4	Vinyl chloride	5.00 U	5.00	ug/L

Sample Results

OW-1

Collect Date	07/08/2015 08:35	**GCAL ID**	21507093722
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	07/13/2015 18:56	JCK	562942

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	5.00 U	5.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	254	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	250	258	ug/L	103	77 - 127
2037-26-5	Toluene d8	250	247	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	258	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/19/2015 18:19	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**1100**	**500**	**ug/L**
7440-23-5	**Sodium**	**11000**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	07/10/2015 13:28	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**6.76**	**2.00**	**mg/L**

MW-3

Collect Date	07/08/2015 11:10	**GCAL ID**	21507093723
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:04	JCK	562942

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	**1,1,2-Trichloroethane**	**1.08**	**1.00**	**ug/L**

Sample Results

MW-3	**Collect Date**	07/08/2015 11:10	**GCAL ID**	21507093723
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:04	JCK	562942

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**5.79**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**15.2**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.16**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**9.53**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	**Trichloroethene**	**13.9**	**1.00**	**ug/L**
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

MW-3

Collect Date	07/08/2015 11:10	**GCAL ID**	21507093723
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:04	JCK	562942

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.6	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	50.9	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	49.4	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.5	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/20/2015 16:29	TAH	563552

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**19300**	**500**	**ug/L**
7440-23-5	**Sodium**	**26900**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	07/10/2015 13:46	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**7.08**	**2.00**	**mg/L**

IW-2B

Collect Date	07/08/2015 11:35	**GCAL ID**	21507093724
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:25	JCK	562942

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L

Sample Results

IW-2B	**Collect Date**	07/08/2015 11:35	**GCAL ID**	21507093724
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:25	JCK	562942

CAS#	Parameter	Result	LOQ	Units
75-34-3	1,1-Dichloroethane	1.00 U	1.00	ug/L
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	**Acetone**	**8.44**	**1.00**	**ug/L**
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.33**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**4.46**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

IW-2B

Collect Date 07/08/2015 11:35 **GCAL ID** 21507093724
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:25	JCK	562942

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	49.3	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/19/2015 19:08	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**39000**	**500**	**ug/L**
7440-23-5	**Sodium**	**770000**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	50	07/10/2015 21:01	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**28.9**	**10.0**	**mg/L**

IW-2A

Collect Date 07/08/2015 11:55 **GCAL ID** 21507093725
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 22:43	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L

Sample Results

IW-2A	**Collect Date**	07/08/2015 11:55	**GCAL ID**	21507093725
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 22:43	CJR	562849

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**1.00**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	Methyl Acetate	1.00 U	1.00	ug/L
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

IW-2A

Collect Date	07/08/2015 11:55	**GCAL ID**	21507093725
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 22:43	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	44.4	ug/L	89	78 - 130
1868-53-7	Dibromofluoromethane	50	49	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	52.1	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52	ug/L	104	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/19/2015 19:12	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**2840**	**500**	**ug/L**
7440-23-5	**Sodium**	**862000**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	07/10/2015 21:53	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**17.9**	**4.00**	**mg/L**

IW-1B

Collect Date	07/08/2015 12:20	**GCAL ID**	21507093726
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 23:06	CJR	562849

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L

Sample Results

IW-1B	**Collect Date**	07/08/2015 12:20	**GCAL ID**	21507093726
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 23:06	CJR	562849

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**1.19**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	**Chloroform**	**1.03**	**1.00**	**ug/L**
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**4.54**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

IW-1B

Collect Date 07/08/2015 12:20 **GCAL ID** 21507093726
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/11/2015 23:06	CJR	562849

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	45.2	ug/L	90	78 - 130
1868-53-7	Dibromofluoromethane	50	48.2	ug/L	96	77 - 127
2037-26-5	Toluene d8	50	50.6	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.3	ug/L	103	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/19/2015 19:21	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**13000**	**500**	**ug/L**
7440-23-5	**Sodium**	**624000**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	50	07/11/2015 12:09	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**17.4**	**10.0**	**mg/L**

IW-1A

Collect Date 07/08/2015 12:55 **GCAL ID** 21507093727
Receive Date 07/09/2015 10:13 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:46	JCK	562942

CAS#	Parameter	Result	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00 U	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00 U	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	1.00 U	1.00	ug/L

Sample Results

IW-1A	**Collect Date**	07/08/2015 12:55	**GCAL ID**	21507093727
	Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:46	JCK	562942

CAS#	Parameter	Result	LOQ	Units
75-34-3	**1,1-Dichloroethane**	**1.44**	**1.00**	**ug/L**
75-35-4	1,1-Dichloroethene	1.00 U	1.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00 U	1.00	ug/L
106-93-4	1,2-Dibromoethane	1.00 U	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	1.00 U	1.00	ug/L
107-06-2	1,2-Dichloroethane	1.00 U	1.00	ug/L
78-87-5	1,2-Dichloropropane	1.00 U	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	1.00 U	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	1.00 U	1.00	ug/L
78-93-3	2-Butanone	1.00 U	1.00	ug/L
591-78-6	2-Hexanone	1.00 U	1.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.00 U	1.00	ug/L
67-64-1	Acetone	1.00 U	1.00	ug/L
71-43-2	Benzene	1.00 U	1.00	ug/L
75-27-4	Bromodichloromethane	1.00 U	1.00	ug/L
75-25-2	Bromoform	1.00 U	1.00	ug/L
74-83-9	Bromomethane	1.00 U	1.00	ug/L
75-15-0	Carbon disulfide	1.00 U	1.00	ug/L
56-23-5	Carbon tetrachloride	1.00 U	1.00	ug/L
108-90-7	Chlorobenzene	1.00 U	1.00	ug/L
75-00-3	Chloroethane	1.00 U	1.00	ug/L
67-66-3	Chloroform	1.00 U	1.00	ug/L
74-87-3	Chloromethane	1.00 U	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	1.00 U	1.00	ug/L
110-82-7	Cyclohexane	1.00 U	1.00	ug/L
124-48-1	Dibromochloromethane	1.00 U	1.00	ug/L
75-71-8	Dichlorodifluoromethane	1.00 U	1.00	ug/L
100-41-4	Ethylbenzene	1.00 U	1.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L
79-20-9	**Methyl Acetate**	**10.8**	**1.00**	**ug/L**
108-87-2	Methylcyclohexane	1.00 U	1.00	ug/L
75-09-2	Methylene chloride	1.00 U	1.00	ug/L
100-42-5	Styrene	1.00 U	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00 U	1.00	ug/L
127-18-4	Tetrachloroethene	1.00 U	1.00	ug/L
108-88-3	Toluene	1.00 U	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00 U	1.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00 U	1.00	ug/L
79-01-6	Trichloroethene	1.00 U	1.00	ug/L
75-69-4	Trichlorofluoromethane	1.00 U	1.00	ug/L
76-13-1	Trichlorotrifluoroethane	1.00 U	1.00	ug/L
75-01-4	Vinyl chloride	1.00 U	1.00	ug/L

Sample Results

IW-1A

Collect Date	07/08/2015 12:55	**GCAL ID**	21507093727
Receive Date	07/09/2015 10:13	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	07/13/2015 16:46	JCK	562942

CAS#	Parameter	Result	LOQ	Units
1330-20-7	Xylene (total)	1.00 U	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.3	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	51.1	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.9	ug/L	102	71 - 127

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
07/09/2015 16:15	562586	EPA 3010A	100	07/19/2015 19:25	JBW2	563483

CAS#	Parameter	Result	LOQ	Units
7439-96-5	**Manganese**	**12100**	**500**	**ug/L**
7440-23-5	**Sodium**	**262000**	**10000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	07/11/2015 12:26	RXJ	562731

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**13.0**	**4.00**	**mg/L**

GC/MS Volatiles QC Summary

Analytical Batch 562665	Client ID	MB562665		LCS562665				LCSD562665				
	GCAL ID	1464686		1464687				1464688				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	07/09/2015 18:58		07/09/2015 17:34				07/09/2015 17:55				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	50.9	102	76 - 126	50.0	47.0	94	8	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	48.6	97	70 - 122	50.0	46.0	92	5	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	49.8	100	72 - 121	50.0	48.7	97	2	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	49.7	99	74 - 127	50.0	47.2	94	5	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	51.1	102	69 - 129	50.0	46.1	92	10	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	50.7	101	61 - 135	50.0	48.7	97	4	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	47.9	96	57 - 121	50.0	48.6	97	1	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	50.7	101	70 - 124	50.0	49.6	99	2	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	49.5	99	71 - 126	50.0	47.4	95	4	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	48.5	97	71 - 129	50.0	46.2	92	5	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	50.9	102	72 - 128	50.0	48.7	97	4	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	49.7	99	74 - 126	50.0	46.7	93	6	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	48.5	97	72 - 122	50.0	45.6	91	6	30
2-Butanone	78-93-3	1.00U	1.00	50.0	49.5	99	58 - 137	50.0	48.9	98	1	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	44.7	89	50 - 135	50.0	44.6	89	0	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	45.9	92	57 - 132	50.0	46.0	92	0	30
Acetone	67-64-1	1.00U	1.00	50.0	42.2	84	44 - 156	50.0	42.0	84	1	30
Benzene	71-43-2	1.00U	1.00	50.0	50.3	101	70 - 129	50.0	47.2	94	6	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	49.6	99	74 - 125	50.0	48.0	96	3	30
Bromoform	75-25-2	1.00U	1.00	50.0	50.9	102	64 - 122	50.0	49.8	100	2	30
Bromomethane	74-83-9	1.00U	1.00	50.0	51.0	102	47 - 138	50.0	48.1	96	6	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	51.3	103	69 - 136	50.0	46.9	94	9	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	51.9	104	76 - 128	50.0	46.7	93	11	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	50.5	101	74 - 123	50.0	47.7	95	6	20
Chloroethane	75-00-3	1.00U	1.00	50.0	56.1	112	62 - 141	50.0	49.7	99	12	30
Chloroform	67-66-3	1.00U	1.00	50.0	49.7	99	75 - 122	50.0	46.2	92	7	30
Chloromethane	74-87-3	1.00U	1.00	50.0	51.3	103	59 - 132	50.0	47.7	95	7	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	50.3	101	73 - 130	50.0	46.6	93	8	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	52.4	105	71 - 132	50.0	50.2	100	4	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	53.8	108	69 - 132	50.0	48.0	96	11	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	51.0	102	71 - 123	50.0	49.2	98	4	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	51.4	103	58 - 140	50.0	45.8	92	12	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	51.5	103	74 - 126	50.0	47.9	96	7	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	53.5	107	71 - 125	50.0	49.6	99	8	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	47.7	95	57 - 139	50.0	45.5	91	5	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	52.2	104	67 - 138	50.0	46.9	94	11	30
Methylene chloride	75-09-2	1.99	1.00	50.0	48.9	98	68 - 132	50.0	47.1	94	4	30
Styrene	100-42-5	1.00U	1.00	50.0	53.6	107	71 - 127	50.0	50.5	101	6	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	50.6	101	71 - 125	50.0	49.1	98	3	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	50.9	102	68 - 128	50.0	46.7	93	9	30
Toluene	108-88-3	1.00U	1.00	50.0	49.4	99	72 - 120	50.0	46.7	93	6	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	49.4	99	69 - 132	50.0	45.0	90	9	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	53.1	106	71 - 131	50.0	51.0	102	4	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	48.9	98	76 - 129	50.0	46.0	92	6	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	52.0	104	72 - 136	50.0	46.9	94	10	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	53.8	108	72 - 136	50.0	48.2	96	11	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	51.2	102	68 - 132	50.0	46.1	92	10	30
Xylene (total)	1330-20-7	1.00U	1.00	150	159	106	74 - 127	150	150	100	6	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.6	101	50	50.1	100	71 - 127	50	49.2	98	2	NA
4-Bromofluorobenzene	460-00-4	49.3	99	50	50.9	102	78 - 130	50	51.1	102	0	NA
Dibromofluoromethane	1868-53-7	51.5	103	50	51.1	102	77 - 127	50	50.4	101	1	NA
Toluene d8	2037-26-5	50	100	50	50.4	101	76 - 134	50	50.4	101	0	NA

GC/MS Volatiles QC Summary

Analytical Batch 562754	Client ID	MB562754	LCS562754	LCSD562754
	GCAL ID	1465094	1465095	1465096
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	07/10/2015 15:22	07/10/2015 13:58	07/10/2015 14:19
	Matrix	Water	Water	Water

EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	55.6	111	76 - 126	50.0	55.1	110	1	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	49.0	98	70 - 122	50.0	50.2	100	2	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	52.9	106	72 - 121	50.0	54.0	108	2	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	54.4	109	74 - 127	50.0	53.4	107	2	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	54.3	109	69 - 129	50.0	57.9	116	6	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	54.5	109	61 - 135	50.0	56.3	113	3	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	47.5	95	57 - 121	50.0	49.7	99	5	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	53.0	106	70 - 124	50.0	53.6	107	1	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	51.3	103	71 - 126	50.0	53.6	107	4	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	53.7	107	71 - 129	50.0	52.6	105	2	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	54.3	109	72 - 128	50.0	54.6	109	1	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	51.8	104	74 - 126	50.0	52.9	106	2	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	51.0	102	72 - 122	50.0	51.9	104	2	30
2-Butanone	78-93-3	1.00U	1.00	50.0	49.5	99	58 - 137	50.0	48.1	96	3	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	43.6	87	50 - 135	50.0	44.7	89	2	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	45.6	91	57 - 132	50.0	46.3	93	2	30
Acetone	67-64-1	1.00U	1.00	50.0	50.4	101	44 - 156	50.0	47.9	96	5	30
Benzene	71-43-2	1.00U	1.00	50.0	53.6	107	70 - 129	50.0	52.6	105	2	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	54.9	110	74 - 125	50.0	54.1	108	1	30
Bromoform	75-25-2	1.00U	1.00	50.0	54.6	109	64 - 122	50.0	56.1	112	3	30
Bromomethane	74-83-9	1.00U	1.00	50.0	57.7	115	47 - 138	50.0	58.8	118	2	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	55.9	112	69 - 136	50.0	56.3	113	1	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	58.3	117	76 - 128	50.0	57.9	116	1	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	53.0	106	74 - 123	50.0	53.6	107	1	20
Chloroethane	75-00-3	1.00U	1.00	50.0	61.9	124	62 - 141	50.0	64.4	129	4	30
Chloroform	67-66-3	1.00U	1.00	50.0	55.3	111	75 - 122	50.0	54.0	108	2	30
Chloromethane	74-87-3	1.00U	1.00	50.0	53.7	107	59 - 132	50.0	52.8	106	2	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	54.1	108	73 - 130	50.0	54.0	108	0	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	57.7	115	71 - 132	50.0	56.5	113	2	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	60.1	120	69 - 132	50.0	58.6	117	3	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	55.0	110	71 - 123	50.0	55.4	111	1	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	60.2	120	58 - 140	50.0	58.1	116	4	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	54.7	109	74 - 126	50.0	54.2	108	1	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	57.1	114	71 - 125	50.0	57.1	114	0	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	50.8	102	57 - 139	50.0	48.8	98	4	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	59.6	119	67 - 138	50.0	57.1	114	4	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	53.2	106	68 - 132	50.0	50.3	101	6	30
Styrene	100-42-5	1.00U	1.00	50.0	56.9	114	71 - 127	50.0	56.8	114	0	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	53.8	108	71 - 125	50.0	52.7	105	2	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	56.5	113	68 - 128	50.0	56.1	112	1	30
Toluene	108-88-3	1.00U	1.00	50.0	52.5	105	72 - 120	50.0	52.8	106	1	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	54.3	109	69 - 132	50.0	51.5	103	5	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	58.0	116	71 - 131	50.0	57.8	116	0	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	52.7	105	76 - 129	50.0	52.5	105	0	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	60.7	121	72 - 136	50.0	61.1	122	1	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	62.6	125	72 - 136	50.0	63.7	127	2	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	56.8	114	68 - 132	50.0	56.1	112	1	30
Xylene (total)	1330-20-7	1.00U	1.00	150	168	112	74 - 127	150	168	112	0	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.4	103	50	52.3	105	71 - 127	50	51.6	103	1	NA
4-Bromofluorobenzene	460-00-4	51.6	103	50	53.1	106	78 - 130	50	52.8	106	1	NA
Dibromofluoromethane	1868-53-7	50.9	102	50	51.9	104	77 - 127	50	51.7	103	0	NA
Toluene d8	2037-26-5	49.7	99	50	50	100	76 - 134	50	49.8	100	0	NA

GC/MS Volatiles QC Summary

Analytical Batch 562849	Client ID	MB562849	LCS562849	LCSD562849
	GCAL ID	1465493	1465494	1465495
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	07/11/2015 15:43	07/11/2015 13:16	07/11/2015 14:15
	Matrix	Water	Water	Water

EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	53.7	107	76 - 126	50.0	54.7	109	2	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	58.7	117	70 - 122	50.0	57.2	114	3	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	56.5	113	72 - 121	50.0	55.8	112	1	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	56.4	113	74 - 127	50.0	60.3	121	7	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	50.7	101	69 - 129	50.0	51.3	103	1	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	59.2	118	61 - 135	50.0	60.3	121	2	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	63.8	**128***	57 - 121	50.0	59.8	120	6	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	58.2	116	70 - 124	50.0	56.9	114	2	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	56.8	114	71 - 126	50.0	56.7	113	0	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	52.6	105	71 - 129	50.0	51.9	104	1	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	59.4	119	72 - 128	50.0	59.0	118	1	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	56.7	113	74 - 126	50.0	57.7	115	2	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	55.8	112	72 - 122	50.0	56.4	113	1	30
2-Butanone	78-93-3	1.00U	1.00	50.0	61.5	123	58 - 137	50.0	56.3	113	9	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	63.6	127	50 - 135	50.0	59.5	119	7	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	61.8	124	57 - 132	50.0	57.3	115	8	30
Acetone	67-64-1	1.00U	1.00	50.0	56.0	112	44 - 156	50.0	52.1	104	7	30
Benzene	71-43-2	1.00U	1.00	50.0	55.1	110	70 - 129	50.0	55.1	110	0	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	56.9	114	74 - 125	50.0	56.6	113	1	30
Bromoform	75-25-2	1.00U	1.00	50.0	59.2	118	64 - 122	50.0	58.3	117	2	30
Bromomethane	74-83-9	1.00U	1.00	50.0	43.1	86	47 - 138	50.0	45.5	91	5	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	56.2	112	69 - 136	50.0	59.6	119	6	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	59.2	118	76 - 128	50.0	59.4	119	0	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	54.6	109	74 - 123	50.0	54.9	110	1	20
Chloroethane	75-00-3	1.00U	1.00	50.0	50.6	101	62 - 141	50.0	49.0	98	3	30
Chloroform	67-66-3	1.00U	1.00	50.0	54.4	109	75 - 122	50.0	54.5	109	0	30
Chloromethane	74-87-3	1.00U	1.00	50.0	43.7	87	59 - 132	50.0	43.2	86	1	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	57.1	114	73 - 130	50.0	57.1	114	0	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	58.0	116	71 - 132	50.0	57.9	116	0	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	60.2	120	69 - 132	50.0	61.1	122	1	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	60.3	121	71 - 123	50.0	59.8	120	1	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	34.1	68	58 - 140	50.0	35.4	71	4	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	55.4	111	74 - 126	50.0	56.2	112	1	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	57.4	115	71 - 125	50.0	59.0	118	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	58.0	116	57 - 139	50.0	56.7	113	2	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	58.4	117	67 - 138	50.0	61.4	123	5	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	53.6	107	68 - 132	50.0	53.5	107	0	30
Styrene	100-42-5	1.00U	1.00	50.0	56.3	113	71 - 127	50.0	56.6	113	1	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	51.0	102	71 - 125	50.0	49.9	100	2	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	52.4	105	68 - 128	50.0	55.2	110	5	30
Toluene	108-88-3	1.00U	1.00	50.0	55.4	111	72 - 120	50.0	55.9	112	1	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	53.3	107	69 - 132	50.0	54.4	109	2	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	59.9	120	71 - 131	50.0	60.1	120	0	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	52.5	105	76 - 129	50.0	52.9	106	1	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	52.5	105	72 - 136	50.0	53.7	107	2	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	53.9	108	72 - 136	50.0	56.6	113	5	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	51.2	102	68 - 132	50.0	53.3	107	4	30
Xylene (total)	1330-20-7	1.00U	1.00	150	170	113	74 - 127	150	173	115	2	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.2	102	50	51.7	103	71 - 127	50	51.6	103	0	NA
4-Bromofluorobenzene	460-00-4	46.3	93	50	47.7	95	78 - 130	50	48.1	96	1	NA
Dibromofluoromethane	1868-53-7	49	98	50	50.7	101	77 - 127	50	50.2	100	1	NA
Toluene d8	2037-26-5	51.2	102	50	49.8	100	76 - 134	50	49.6	99	0	NA

GC/MS Volatiles QC Summary

Analytical Batch 562942	Client ID	MB562942	LCS562942	LCSD562942
	GCAL ID	1465856	1465857	1465858
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	07/13/2015 10:49	07/13/2015 09:22	07/13/2015 09:46
	Matrix	Water	Water	Water

EPA 8260B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	1.00U	1.00	50.0	51.6	103	76 - 126	50.0	52.8	106	2	30
1,1,2,2-Tetrachloroethane	79-34-5	1.00U	1.00	50.0	45.2	90	70 - 122	50.0	47.1	94	4	30
1,1,2-Trichloroethane	79-00-5	1.00U	1.00	50.0	51.5	103	72 - 121	50.0	53.3	107	3	30
1,1-Dichloroethane	75-34-3	1.00U	1.00	50.0	51.7	103	74 - 127	50.0	51.5	103	0	30
1,1-Dichloroethene	75-35-4	1.00U	1.00	50.0	53.6	107	69 - 129	50.0	54.1	108	1	20
1,2,4-Trichlorobenzene	120-82-1	1.00U	1.00	50.0	53.3	107	61 - 135	50.0	51.9	104	3	30
1,2-Dibromo-3-chloropropane	96-12-8	1.00U	1.00	50.0	43.4	87	57 - 121	50.0	43.7	87	1	30
1,2-Dibromoethane	106-93-4	1.00U	1.00	50.0	50.8	102	70 - 124	50.0	52.1	104	3	30
1,2-Dichlorobenzene	95-50-1	1.00U	1.00	50.0	51.5	103	71 - 126	50.0	51.1	102	1	30
1,2-Dichloroethane	107-06-2	1.00U	1.00	50.0	51.8	104	71 - 129	50.0	50.8	102	2	30
1,2-Dichloropropane	78-87-5	1.00U	1.00	50.0	53.1	106	72 - 128	50.0	52.8	106	1	30
1,3-Dichlorobenzene	541-73-1	1.00U	1.00	50.0	51.7	103	74 - 126	50.0	50.7	101	2	30
1,4-Dichlorobenzene	106-46-7	1.00U	1.00	50.0	50.7	101	72 - 122	50.0	48.9	98	4	30
2-Butanone	78-93-3	1.00U	1.00	50.0	40.6	81	58 - 137	50.0	41.8	84	3	30
2-Hexanone	591-78-6	1.00U	1.00	50.0	38.3	77	50 - 135	50.0	40.4	81	5	30
4-Methyl-2-pentanone	108-10-1	1.00U	1.00	50.0	39.6	79	57 - 132	50.0	41.7	83	5	30
Acetone	67-64-1	1.00U	1.00	50.0	45.2	90	44 - 156	50.0	44.6	89	1	30
Benzene	71-43-2	1.00U	1.00	50.0	50.9	102	70 - 129	50.0	51.1	102	0	20
Bromodichloromethane	75-27-4	1.00U	1.00	50.0	54.5	109	74 - 125	50.0	54.3	109	0	30
Bromoform	75-25-2	1.00U	1.00	50.0	54.1	108	64 - 122	50.0	55.5	111	3	30
Bromomethane	74-83-9	1.00U	1.00	50.0	56.6	113	47 - 138	50.0	54.9	110	3	30
Carbon disulfide	75-15-0	1.00U	1.00	50.0	55.1	110	69 - 136	50.0	54.2	108	2	30
Carbon tetrachloride	56-23-5	1.00U	1.00	50.0	53.6	107	76 - 128	50.0	52.6	105	2	30
Chlorobenzene	108-90-7	1.00U	1.00	50.0	52.0	104	74 - 123	50.0	50.9	102	2	20
Chloroethane	75-00-3	1.00U	1.00	50.0	65.4	131	62 - 141	50.0	63.0	126	4	30
Chloroform	67-66-3	1.00U	1.00	50.0	53.3	107	75 - 122	50.0	52.3	105	2	30
Chloromethane	74-87-3	1.00U	1.00	50.0	52.4	105	59 - 132	50.0	46.5	93	12	30
cis-1,2-Dichloroethene	156-59-2	1.00U	1.00	50.0	53.3	107	73 - 130	50.0	52.0	104	2	30
cis-1,3-Dichloropropene	10061-01-5	1.00U	1.00	50.0	55.6	111	71 - 132	50.0	55.8	112	0	30
Cyclohexane	110-82-7	1.00U	1.00	50.0	51.9	104	69 - 132	50.0	51.2	102	1	30
Dibromochloromethane	124-48-1	1.00U	1.00	50.0	53.8	108	71 - 123	50.0	56.2	112	4	30
Dichlorodifluoromethane	75-71-8	1.00U	1.00	50.0	51.9	104	58 - 140	50.0	49.8	100	4	30
Ethylbenzene	100-41-4	1.00U	1.00	50.0	51.1	102	74 - 126	50.0	50.3	101	2	30
Isopropylbenzene (Cumene)	98-82-8	1.00U	1.00	50.0	53.8	108	71 - 125	50.0	52.2	104	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	41.5	83	57 - 139	50.0	40.5	81	2	30
Methylcyclohexane	108-87-2	1.00U	1.00	50.0	51.8	104	67 - 138	50.0	50.5	101	3	30
Methylene chloride	75-09-2	1.00U	1.00	50.0	52.2	104	68 - 132	50.0	50.7	101	3	30
Styrene	100-42-5	1.00U	1.00	50.0	55.6	111	71 - 127	50.0	54.2	108	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	1.00U	1.00	50.0	50.9	102	71 - 125	50.0	52.1	104	2	30
Tetrachloroethene	127-18-4	1.00U	1.00	50.0	52.5	105	68 - 128	50.0	51.8	104	1	30
Toluene	108-88-3	1.00U	1.00	50.0	49.6	99	72 - 120	50.0	50.1	100	1	20
trans-1,2-Dichloroethene	156-60-5	1.00U	1.00	50.0	51.3	103	69 - 132	50.0	50.0	100	3	30
trans-1,3-Dichloropropene	10061-02-6	1.00U	1.00	50.0	56.2	112	71 - 131	50.0	56.2	112	0	30
Trichloroethene	79-01-6	1.00U	1.00	50.0	51.1	102	76 - 129	50.0	50.1	100	2	20
Trichlorofluoromethane	75-69-4	1.00U	1.00	50.0	58.1	116	72 - 136	50.0	56.9	114	2	30
Trichlorotrifluoroethane	76-13-1	1.00U	1.00	50.0	58.3	117	72 - 136	50.0	54.9	110	6	30
Vinyl chloride	75-01-4	1.00U	1.00	50.0	51.9	104	68 - 132	50.0	50.7	101	2	30
Xylene (total)	1330-20-7	1.00U	1.00	150	162	108	74 - 127	150	157	105	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.2	102	50	52	104	71 - 127	50	50.6	101	3	NA
4-Bromofluorobenzene	460-00-4	51.2	102	50	53.4	107	78 - 130	50	52.3	105	2	NA
Dibromofluoromethane	1868-53-7	54.2	108	50	52	104	77 - 127	50	52.9	106	2	NA
Toluene d8	2037-26-5	49.6	99	50	49.5	99	76 - 134	50	50	100	1	NA

Inorganics QC Summary

Analytical Batch	Client ID	MB562586		LCS562586			
563337	GCAL ID	1464320		1464321			
Prep Batch	Sample Type	MB		LCS			
562586	Prep Date	07/09/2015 16:15		07/09/2015 16:15			
Prep Method	Analysis Date	07/17/2015 04:05		07/17/2015 04:09			
EPA 3010A	Matrix	Water		Water			
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Manganese	7439-96-5	5.00U	5.00	50.0	53.3	107	80 - 120
Sodium	7440-23-5	100U	100	5000	5130	103	80 - 120

General Chemistry QC Summary

Analytical Batch 562731		Client ID	MB562731		LCS562731			
		GCAL ID	1464960		1464961			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	07/10/2015 12:53		07/10/2015 12:36			
		Matrix	Water		Water			
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	
Chloride	16887-00-6	0.200U	0.200	2.50	2.42	97	80 - 120	

Analytical Batch 562731		Client ID	MW-5A		1461814MS				1461814MSD				
		GCAL ID	21507011901		1464962				1464963				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	07/10/2015 23:20		07/10/2015 23:38				07/10/2015 23:55				
		Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	2.60	1.00	12.5	14.9	98	80 - 120		12.5	14.9	98	0	15

Analytical Batch 562731		Client ID	IW-2B		1464576MS				1464576MSD				
		GCAL ID	21507093724		1464964				1464965				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	07/10/2015 21:01		07/10/2015 21:18				07/10/2015 21:36				
		Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	28.9	10.0	125	151	98	80 - 120		125	150	97	1	15

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 4783 - ERM NC, INC
SDG: 215070937

Report to:	Bill to:
Client: ERM NC, INC	Client:
Address: 15720 BRIXHAM HILL AVE, SUITE 120	Address:
Contact: MICHAEL PRESSLEY	Contact:
Phone: 704-409-3438	Phone:
E-mail: michael.pressley@erm.com	E-mail:

P.O. Number:
Project Name/Number: 0253086 / JOSLYN CLARK
Sampled By: A. NEAL

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no 1.0
Temperature °C 3.2 E24
24/445,2

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	HCl	VOCs by EPA Method 8260	Preservative
W	7-6-15	1405		X	MW-1	3	X		1
		1455			MW-4				2
		1550			MW-5				3
		1650			MW-12D				4
		1745			MW-12				5
	7-7-15	0745			MW-10D				6
		0830			MW-10				7
		0935			MW-8				8
		1025			MW-6				9
		1115			MW-3D				10
		1220			MW-7				11
		1530			MW-11D				12
		1620			MW-11				13

Air Bill No: 8075 1449 0515, 8075 1449 0554

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☑ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	7-8-15	1600	FEDEX		
FedEx	7/9/15	1013	[signature]	7/9/15	1013
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 1 of 2

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

GCAL USE ONLY

Report to:
Client: ERM NC, INC
Address: 15720 BRIXHAM HILL AVE, SUITE 120
Contact: MICHAEL PRESSLEY
Phone: 704-409-3438
E-mail: michael.pressley@erm.com

Bill to:
Client:
Address:
Contact:
Phone:
E-mail:

P.O. Number
Project Name/Number: 0253066 / JOSLYN CLARK
Sampled By: A. NEAL

Analytical Requests & Method: VOCs by EPA Method 8260; Na & Mn by EPA Method 6010; Cl by EPA Method 300

GCAL use only:
Custody Seal used ☐ yes ☐ no intact ☐ yes ☐ no
Temperature °C 3.2 E24 1.0

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

	Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	HCl	HNO3	1	Preservative
14	W	7-7-15	—		X	DUP-1	3	X			
15			—			DUP-2					
16			1715			MW-11I					
17		7-8-15	1010			MW-9					
18		7-7-15	1800			Eq-Rinse-1					* MW-2 VOAs preserved with HCl
19		7-8-15	1330			Eq-Rinse-2					
20		—	—		—	TRIP BLANK					
21		7-7-15	1420		X	MW-2	5	X	X	X	
22		7-8-15	0835			OW-1		*			* VOAs preserved with 2 tablets of 1,000 mg Vitamin C tablets instead of HCl
23			1110			MW-3		*			
24			1135			IW-2B		*			
25			1155			IW-2A		*			
26			1220			IW-1B		*			
27			1255			IW-1A		*			

~~Air Bill No:~~

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☑ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	7-8-15	1600	FEDEX		
FEDEX	7/9/15	1013		7/9/15	1013
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 2 of 2

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Revision 1

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

215070937

SAMPLE DELIVERY GROUP 215070937	
Client PM BJM 4783 - ERM NC, INC	**Transport Method** FEDEX
Profile Number 241445	**Received By** Lofton, Katie E.
Line Item(s) 2 - Water 3 - Water - VOC/Na,Mn/Cl	**Receive Date(s)** 07/09/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
8075 1449 0565		3.2
8075 1449 0554		1.0

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

Appendix B
Well Logs and Construction Diagrams

10493

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Joslyn Clark (last) (first)
Address: 2013 W. Meeting Street
City: Lancaster State: SC Zip: 29707
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Lancaster
Name: Joslyn Clark
Street Address: 2013 W. Meeting Street
City: Lancaster, SC Zip: 29720
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-12 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
orange silty clay	0	27
tan relic structure	27	55
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
2"x 55' well drilled with Sonic drill rig

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 55' ft. Date Started: 4-28-15 Date Completed: 4-28-15

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/(below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 15'
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL n/a ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 38 ft. to 55 ft.
Effective size 2a Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 36 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☒
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe_____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Will Keyes CERT. NO.: 2092
Address: (Print) SAEDACCO
9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803) 548-2180 Fax No.: (803) 548-2181

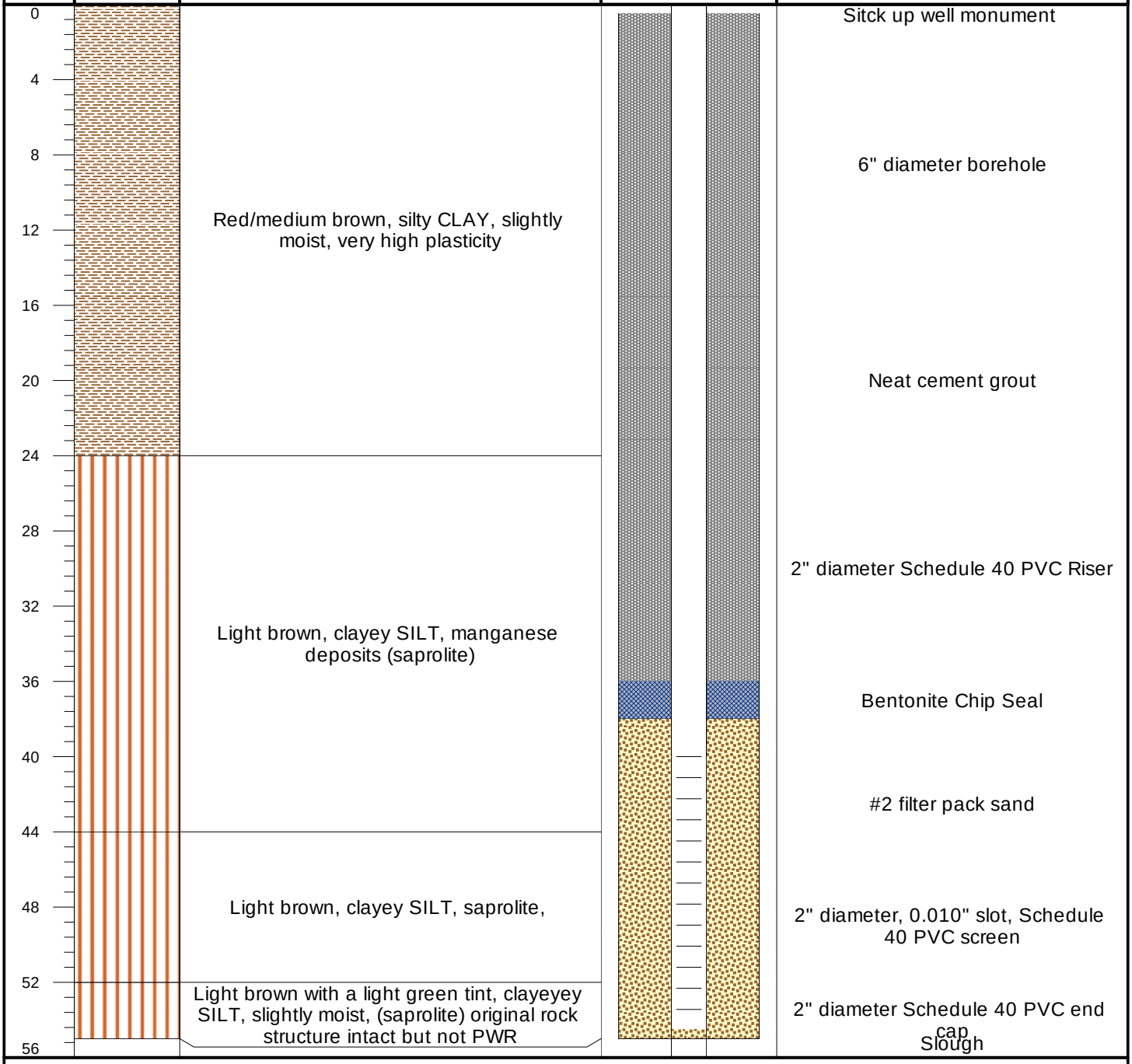
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Will Keyes Date: 4/29/2015
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Client:	Joslyn Clark, LLC	**Boring ID:**	MW-12
Project:	Joslyn Clark	**Logged By:**	Chris Means
Site Location:	Joslyn Clark, Lancaster SC	**Date Started:**	4/28/2015
Project Number:	0238259	**Date Completed:**	4/28/2015



Drilling Contractor:	SAEDACCO	**Sampling Method:**	N/A
Drilling Method:	Sonic Drilling	**Total Depth (ft):**	55
Drilling Equipment:	Geoprobe 8140LS Sonic Rig	**Screened Interval:**	40-55
Responsible Professional:	Will Keyes	**Riser Depth:**	2" Sch.40PVC
Registration No.:	N/A	**Elevation (msl):**	537.72

ERM

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Joslyn Clark (last) (first)
Address: 2013 W. Meeting Street
City: Lancaster State: SC Zip: 29707
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Lancaster
Name: Joslyn Clark
Street Address: 2013 W. Meeting Street
City: Lancaster, SC Zip: 29720
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW-12D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☒ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
orange silty clay	0	27
tan relic structure	27	73'
PWR	73'	85'
Bed Rock	85'	110'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: Two feet bentonite seal from 106'to 108'

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☒ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 110' ft. Date Started: 4-29-15 Date Completed: 4-30'-15

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"& 6"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 100' ft. depth
0 in. to 75' ft. depth
Height: Above/(Below)
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN:
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 100' ft. and 110' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☒ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☒ No Bacterial Analysis ☐ Yes ☒ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 98' ft. to 110' ft.
Effective size 20/30 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☒ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 96' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☒ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☒
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Robert L. Miller CERT. NO. 2092
Address: (Print) SAEDACCO 9088 Northfield Drive
Level: A (B) C D (circle one)
Telephone No.: (803) 548-2180 Fax No.: (803) 548-2181

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

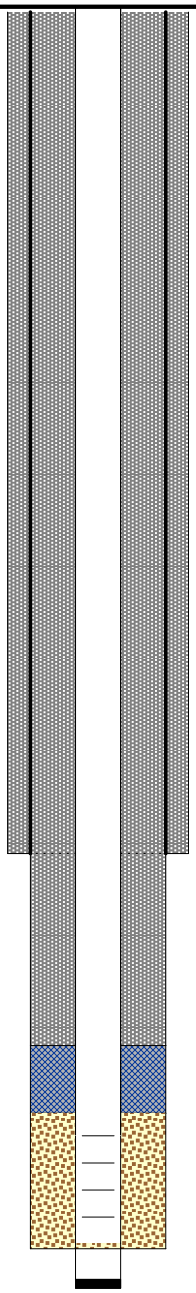
Signed: Robert L. Miller Well Driller Date: 5/4/2015

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Client:	Joslyn Clark, LLC	**Boring ID:**	MW-12D
Project:	Joslyn Clark	**Logged By:**	Chris Means
Site Location:	Joslyn Clark, Lancaster SC	**Date Started:**	4/28/2015
Project Number:	0238259	**Date Completed:**	4/30/2015

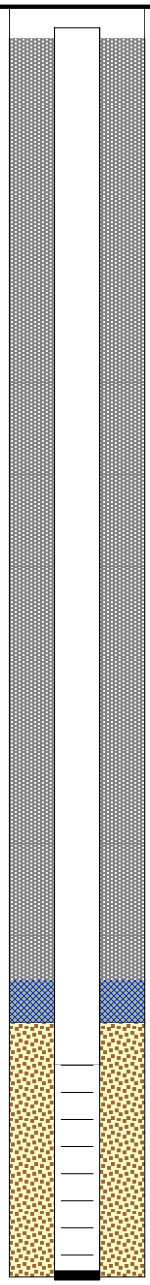
Depth	Lithology	Lithologic Description	Well Construction	Well Construction Details
0				Stick Up Well Monument
10		Red/medium brown, silty CLAY, slightly moist, very high plasticity		Hand auger from ground surface to 5 feet bgs to clear for potential utilities.
20				8" diameter borehole
30		Light brown, clayey SILT, manganese deposits present (Saprolite)		Neat cement grout
40				
50		Light brown, clayey SILT, saprolite		2" diameter Schedule 40 PVC casing
60		Light brown with light green tint, clayey SILT, slightly moist, saprolite Light brown, clayey SILT, with small visible fractures, slightly moist, saprolite		6" diameter, Schdule 40 PVC Outer Casing 0-75' bgs
70				
80		Light brown, clayey SILT, small visible fractures, partially weathered rock		
90				
100				Bentonite Chip Seal #2 filter pack sand 2" diameter, 0.010" slot, Schedule 40 PVC screen
110		Grey, Granite, competant bedrock, very hard		2" diameter Schedule 40 PVC end cap
120				

Drilling Contractor:	SAEDACCO	**Sampling Method:**	N/A
Drilling Method:	Hollow-stem auger/Air Rotary	**Total Depth (ft):**	110
Drilling Equipment:	Gus Pech GP-1100E	**Screened Interval:**	100-110
Responsible Professional:	Robert Miller	**Riser Depth:**	0238259
Registration No.:	N/A	**Elevation (msl):**	537.53

ERM

Client:	Joslyn Clark Facility	**Boring ID:**	OW-1
Project:	Joslyn Clark	**Logged By:**	Thomas Fisher
Site Location:	2013 W. Meeting Street	**Date Started:**	3/7/14
Project Number:	238259	**Date Completed:**	3/7/14

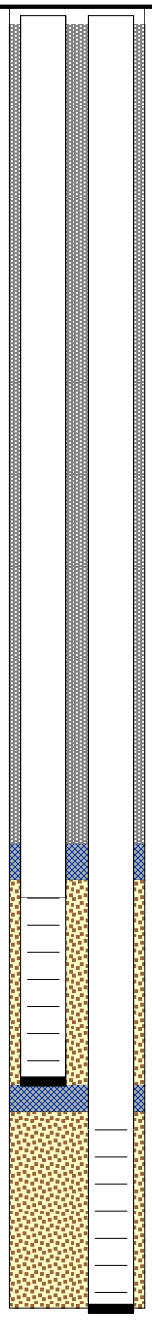
Depth	Lithology	Lithologic Description	Well Construction	Well Construction Details
0		Concrete		Flush Grade Locking Cap
4		Brownish orange fine sandy SILT, slightly plasitc		Portland/Bentonite Grout 8.25" Diameter Borehole
8				2" Sch. 40 PVC Casing
12				
16		Brown fine sandy SILT, slightly dense, slow auger advancement.		
20				
24				
28				
32				
36				
40				
44				
48				Bentonite Seal
52				Well Sand Filter Pack
56				2" Sch. 40 PVC 0.010" Slot Screen
60		Partially Weathered Rock		End Cap
64				



Drilling Contractor:	Saedacco	**Sampling Method:**	Split Spoon
Drilling Method:	HSA	**Total Depth (ft):**	60'
Drilling Equipment:	Diedrich D-50	**Screened Interval:**	50'- 60'
Responsible Professional:	Rich Lemire	**Riser Depth:**	0 - 50'
Registration No.:	1423	**Elevation (msl):**	TBD

ERM

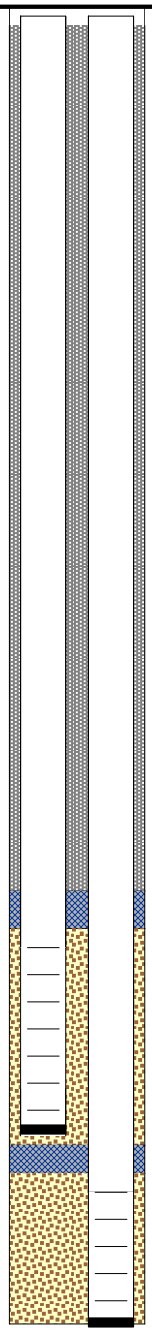
Client:	Joslyn Clark Facility	**Boring ID:**	IW-1
Project:	Joslyn Clark	**Logged By:**	Thomas Fisher
Site Location:	2013 W. Meeting Street	**Date Started:**	3/10/14
Project Number:	238259	**Date Completed:**	3/13/14

Depth	Lithology	Lithologic Description	Well Construction	Well Construction Details
0		Concrete		Flush Grade Locking Cap
4		Brown fine sandy SILT, slightly plastic.		Portland/Bentonite Grout
8		Light brown fine sandy SILT, slightly dense.		
12				
16		Brownish orange fine sandy SILT, slighly dense.		
20		Gray fine sandy SILT, highly weathered, saprolite; @ 29' white fine sandy seams slightly vertical with horizontal intrusions;		10.25 Diameter Borehole
24				
28				
32				2" Sch. 40 PVC Casing
36		Gray and tan fine sandy SILT, with angled/dipping brown hairlike seams; @ 39' vertical layering; gray, white, and brown, fine sandy SILT, H.S.A. refusal at 50'.		
40				
44				
48				Bentonite Seal Well Sand Filter Pack
52		Gray and brown sandy SILT, saprolite, highly weathered, with blocky rock structure at 58' bgs.		**A** - 2" Sch. 40 PVC 0.010" Slot Screen
56				
60				End Cap Bentonite Seal Well Sand Filter Pack
64				
68				**B** - 2" Sch.40 PVC 0.010" Slot Screen
72				End Cap
76				

Drilling Contractor:	Saedacco	**Sampling Method:**	Split Spoon
Drilling Method:	HSA/Air Rotary	**Total Depth (ft):**	60', 73'
Drilling Equipment:	Diedrich D-50	**Screened Interval:**	50'-60', 63'-73'
Responsible Professional:	Rich Lemire	**Riser Depth:**	0 - 50', 0 - 63'
Registration No.:	1423	**Elevation (msl):**	TBD

ERM

Client:	Joslyn Clark Facility	**Boring ID:**	IW-2
Project:	Joslyn Clark	**Logged By:**	Thomas Fisher
Site Location:	2013 W. Meeting Street	**Date Started:**	3/10/14
Project Number:	238259	**Date Completed:**	3/13/14

Depth	Lithology	Lithologic Description	Well Construction	Well Construction Details
0		Concrete		Flush Grade Locking Cap
4		Brown fine sandy SILT, slightly plastic.		Portland/Bentonite Grout
8		Light brown and gray fine sandy SILT, vertical layering at 9'-11', slightly dense.		
12				
16		Brownish orange fine sandy SILT, slightly dense, weathered manganese deposits present in hairlike seams.		10.25 Diameter Borehole
20				
24				
28				2, 2" Sch. 40 PVC Casings
32		Gray fine sandy SILT with angled layering, saprolite.		
36				
40				
44				
48		Brown to brownish orange silty SAND with angled layering and some high angled seams, saprolite.		Bentonite Seal Well Sand Filter Pack
52				**A** - 2" Sch. 40 PVC 0.010" Slot Screen
56		Gray highly weathered rock with highly friable rock fragments.		
60				End Cap Bentonite Seal Well Sand Filter Pack
64		Light brown weathered rock, blocky, some friable, H.S.A. refusal @ 70'.		**B** - 2" Sch.40 PVC 0.010" Slot Screen End Cap
68				
72				

Drilling Contractor:	Saedacco	**Sampling Method:**	Split Spoon
Drilling Method:	HSA	**Total Depth (ft):**	60', 70'
Drilling Equipment:	Diedrich D-50	**Screened Interval:**	50'-60', 63'-70'
Responsible Professional:	Rich Lemire	**Riser Depth:**	0 - 50', 0 - 63'
Registration No.:	1423	**Elevation (msl):**	TBD

ERM

Appendix C
Monitor Well Sampling Sheets

TABLE 1
GROUNDWATER SAMPLE ANALYSES
JOSLYN CLARK FACILITY
LANCASTER, SOUTH CAROLINA

7-6-15

Water Levels	Well ID	Total Depth	VOCs	Sodium	Manganese	Chloride	Notes
42.43	MW-1	55	X				
40.14	MW-2	55	X	X	X	X	
42.49	MW-3	55	X	X	X	X	VOC bottles without HCL
44.66	MW-3D	110	X				
43.02	MW-4	55	X				
44.57	MW-5	55	X				
46.94	MW-6	55	X				
47.60	MW-7	55	X				
43.35	MW-8	55	X				
44.90	MW-9	55	X				
41.22	MW-10	60	X				
41.16	MW-10D	110	X				
42.61	MW-11	55	X				
42.62	MW-11I	100	X				
42.55	MW-11D	150	X				
43.91	MW-12	55	X				
43.44	MW-12D	110	X				
42.40	IW-1A	60	X	X	X	X	VOC bottles without HCL
42.45	IW-1B	73	X	X	X	X	VOC bottles without HCL
42.37	IW-2A	60	X	X	X	X	VOC bottles without HCL
42.46	IW-2B	70	X	X	X	X	VOC bottles without HCL
42.43	OW-1	60	X	X	X	X	VOC bottles without HCL
	Dup-1	---	X				
	Dup-2	---	X				
	Eq Rinse -1	---	X				
	Eq Rinse -2	---	X				
	Trip Blank	---	X				
	Extra Set	---	X	X	X	X	
	Total	1568	28	8	8	8	

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark Job #: 0253066

Sample Type: Circle one - (Monitor Well), DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-1

Date: 7-6-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other_____

Time: 1405

Well Type: Flush Surface Completion, (Stick Up Completion) **Well Tag Present:** (Yes) No

Well Locked: (Yes) No **Lock Present:** (Yes) No **Well ID info. on Tag:** (Yes) No

Well Bolted: Yes, No **Well Cap:** (Yes) No **Well Cap Condition:** (Good) Replace, Other:_____

Well Pad Condition: (Good) Cracked, Replace, Other:_____ **Well Location:** (Grass) Asphalt, Concrete, Woods, Other:_____

Additional Comments:

Total Depth of Well (T.D.): 55 **Screen Length:** 5, 10, (15) 20 (feet) other:

Depth to Water (D.T.W): [1] 42.43 **Well Diameter:** (2) 4, 6, 8 (inches) other:

Field Parameters measured with: YSI / HANNA **Casing Type:** (PVC) Steel other:

Purge Rate: ~150 mL/min **Sampling Device:** Peristaltic, (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene) Teflon, Other: **Measuring Point:** (TOC) other:

Pump Intake (~~ft below M.P.~~): ~49 **Color:** Clear **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	~~(gallons)~~ L	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1340	0.5	42.86	22.75	3.52	46	6.76	122.3	15.6	
1345	1.0	43.08	21.36	6.08	45	5.49	108.1	16.9	
1350	1.5	43.29	20.92	6.15	42	4.87	91.1	20.2	
1355	2.0	43.34	20.86	6.15	40	4.92	83.2	18.9	
1400	2.5	43.41	20.98	6.17	40	4.99	79.4	20.4	
1405 — SAMPLE TIME									

Official Sampling Date & Time: 7-6-15 / 1405

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	~~7~~ 14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark Job #: 0253068

Sample Type: Circle one: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-2

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny,) Partly Cloudy, Cloudy, Rain; Other_____

Time: 1420

Well Type: (Flush Surface Completion) Stick Up Completion Well Tag Present: (Yes) No

Well Locked: (Yes) No Lock Present: Yes, (No) Well ID info. on Tag: (Yes) No

Well Bolted: (Yes) No Well Cap: (Yes) No Well Cap Condition: (Good) Replace, Other:_____

Well Pad Condition: (Good,) Cracked, Replace, Other:_____ Well Location: Grass, Asphalt, (Concrete,) Woods, Other:_____

Additional Comments:

Total Depth of Well (T.D.): 55 Screen Length: 5, 10, (15) 20 ~~Feet~~ other:

Depth to Water (D.T.W.): (1) 40.14 Well Diameter: (2) 4, 6, 8 ~~inches~~ other:

Field Parameters measured with: YSI / HANNA Casing Type: (PVC) Steel other:

Purge Rate: ~150 mL/min Sampling Device: Peristaltic, (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene) Teflon, Other: Measuring Point: (TOC) other:

Pump Intake (~~ft below M.P.~~): 47 Color: Clear Odor: Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1350	0.5	40.81	20.83	5.54	47	5.98	144.7	21.7	
1355	1.0	40.98	20.65	5.57	46	5.17	140.5	21.4	
1400	1.5	41.20	20.63	5.61	45	5.08	136.9	23.2	
1405	2.0	41.23	20.98	5.64	46	4.91	131.6	26.8	
1410	2.5	41.29	20.80	5.67	48	4.90	129.2	25.3	
1415	3.0	41.41	20.71	5.65	44	4.86	130.1	25.7	
1420 —	SAMPLE	TIME							

Official Sampling Date & Time: 7-7-15 / 1420

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
2 (3 total)	VOCs, Na+, Mn, Cl-	HCl,	14	GCAL
1		HNO_3	?	

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253088

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-3

Date:

Sampling Personnel:

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain; Other _____

Time: 1110

Well Type: (Flush Surface Completion) Stick Up Completion — **Well Tag Present:** (Yes) No

Well Locked: (Yes) No — **Lock Present:** (Yes) No — **Well ID info. on Tag:** (Yes) No

Well Bolted: (Yes) No — **Well Cap:** (Yes) No — **Well Cap Condition:** (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ — **Well Location:** Grass, Asphalt, (Concrete), Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — **Screen Length:** 5, 10, (15), 20 (feet) other: _____

Depth to Water (D.T.W): [1] 42.49 — **Well Diameter:** (2), 4, 6, 8 (inches) other: _____

Field Parameters measured with: NA — **Casing Type:** (PVC) Steel other: _____

Purge Rate: NA mL/min — **Sampling Device:** Peristaltic, Monsoon, Grundfos, (Bailer), Other: _____

Tubing Type: Polyethylene, Teflon, Other: NA — **Measuring Point:** (TOC) other: _____

Pump Intake (ft below M.P.): NA — **Color:** Purple — **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[4]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
SAMPLE TIME = 1110									

Official Sampling Date & Time: _____

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
3	VOCs, Na+ & Mn, Cl-	HCl, HNO_3	14, 7	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other)

Sample ID: MW-31

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny,) Partly Cloudy, Cloudy, Rain; Other

Time: 1115

Well Type: Flush Surface Completion (Stick Up Completion) Well Tag Present: (Yes) No

Well Locked: (Yes) No Lock Present: (Yes) No Well ID Info. on Tag: (Yes) No

Well Bolted: Yes, No Well Cap: (Yes) No Well Cap Condition: (Good,) Replace, Other,

Well Pad Condition: (Good,) Cracked, Replace, Other; Well Location: (Grass,) Asphalt, Concrete, Woods, Other;

Additional Comments:

Total Depth of Well (T.D.): 110 Screen Length: 5, (10,) 15, 20 (feet) other;

Depth to Water (D.T.W): (1) 94.66 Well Diameter: 2, 4, 6, 8 (inches) other;

Field Parameters measured with: YSI / HORIBA Casing Type: (PVC) Steel other;

Purge Rate: ~150 ml/min Sampling Device: Peristaltic, (Monsoon,) Grundfos, Bailer, Other;

Tubing Type: (Polyethylene) Teflon, Other; Measuring Point: (TOC) other;

Pump Intake (ft below M.P.): ~80 Color: Clear Odor: Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged 1 (gallons)	DTW: (feet) (see note below)[1]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1045	0.5	94.86	21.56	7.19	106	5.54	109.1	6.68	
1050	1.0	94.91	21.68	7.20	106	5.18	102.0	7.05	
1055	1.5	94.91	21.63	7.41	105	4.96	93.4	6.67	
1100	2.0	94.85	21.60	7.46	105	4.85	92.5	2.03	
1105	2.5	94.90	21.59	7.46	105	4.79	91.6	1.12	
1110	3.0	94.91	21.57	7.47	105	4.82	92.8	0.76	
1115	SAMPLE TIME								

Official Sampling Date & Time: 7-7-15 / 1125

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl.	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom
(2) - Stabilization criteria based on three most recent consecutive measurements
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-4

Date: 7-6-15

Sampling Personnel: A. VEAL

Weather Conditions: Sunny, (Partly Cloudy), Cloudy, Rain; Other _____

Time: 1455

Well Type: Flush Surface Completion (Stick Up Completion) — **Well Tag Present:** (Yes) No

Well Locked: (Yes) No — **Lock Present:** (Yes) No — **Well ID info. on Tag:** (Yes) No

Well Bolted: Yes, No — **Well Cap:** (Yes) No — **Well Cap Condition:** (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ — **Well Location:** (Grass), Asphalt, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — **Screen Length:** 5, 10, (15) 20 (feet) other:

Depth to Water (D.T.W): (1) ~~43.02~~ 43.02 — **Well Diameter:** (2), 4, 6, 8 (Inches) other:

Field Parameters measured with: YSI / Horiba — **Casing Type:** (PVC) Steel other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene), Teflon, Other: — **Measuring Point:** (TOC) other:

Pump Intake (~~ft below M.P.~~): 49 — **Color:** Clear — **Odor:** Yes (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L (gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1425	0.5	~~43.18~~	19.96	6.57	68	4.97	83.2	246	
1430	1.0	43.56	19.59	6.59	80	4.62	82.9	121	
1435	1.5	44.95	19.49	6.61	~~72~~ 74	4.44	82.4	39.0	
1440	2.0	44.51	20.04	6.56	72	4.31	81.5	27.4	
1445	2.5	45.02	20.05	6.58	70	4.28	83.5	28.1	
1450	3.0	45.18	20.33	6.57	70	4.27	84.4	25.9	
1455 → SAMPLE TIME.									

Official Sampling Date & Time: 7-6-15

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom
(2) - Stabilization criteria based on three most recent consecutive measurements
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-5

Date: 7-6-15

Sampling Personnel: A. NEAL

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain; Other _____

Time: 1550

Well Type: Flush Surface Completion, Stick Up Completion — **Well Tag Present:** Yes, No

Well Locked: Yes, No — **Lock Present:** Yes, No — **Well ID Info. on Tag:** Yes, No

Well Bolted: Yes, No — **Well Cap:** Yes, No — **Well Cap Condition:** Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____ — **Well Location:** Grass, Asphalt, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — **Screen Length:** 5, 10, 15, 20, ~~feet~~ other:

Depth to Water (D.T.W): (1) 44.51 — **Well Diameter:** 2, 4, 6, 8, inches other:

Field Parameters measured with: YSI / HANNA — **Casing Type:** PVC, Steel, other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic, Monsoon, Grundfos, Bailer, Other:

Tubing Type: Polyethylene, Teflon, Other: — **Measuring Point:** TOC, other:

Pump Intake (ft ~~below M.P.~~): 50 — **Color:** — **Odor:** Yes, ~~No~~

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1520	0.5	44.89	20.05	5.96	131	7.08	153.7	63.9	
1525	1.0	44.11	20.07	6.08	130	6.41	136.5	62.5	
1530	1.5	45.21	20.12	6.17	131	5.88	126.2	42.4	
1535	2.0	45.25	20.45	6.21	133	5.81	119.1	31.2	
1540	2.5	45.29	20.62	6.22	134	5.78	118.1	33.6	
~~1545~~ 1540	SAMPLE TIME								

Official Sampling Date & Time: 7-6-15 / 1550

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
2	VOCs	HCl	14	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-6

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny,) Partly Cloudy, Cloudy, Rain; Other _____

Time: 1025

Well Type: Flush Surface Completion, (Stick Up Completion) — Well Tag Present: (Yes,) No

Well Locked: (Yes,) No — Lock Present: (Yes,) No — Well ID Info. on Tag: (Yes,) No

Well Bolted: Yes, No — Well Cap: (Yes) No — Well Cap Condition: (Good,) Replace, Other: _____

Well Pad Condition: (Good,) Cracked, Replace, Other: _____ — Well Location: (Grass,) Asphalt, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — Screen Length: 5, 10, (15) 20 (feet) Other: _____

Depth to Water (D.T.W): (1) 46.94 — Well Diameter: (2) 4, 6, 8 (inches) Other: _____

Field Parameters measured with: ~~Re~~ YSI/HANNA — Casing Type: (PVC) Steel other: _____

Purge Rate: ~150 mL/min — Sampling Device: Peristaltic, (Monsoon,) Grundfos, Bailer, Other: _____

Tubing Type: (Polyethylene,) Teflon, Other: _____ — Measuring Point: (TOC) other: _____

Pump Intake (~~ft below M.P.~~): 51 — Color: Clear — Odor: Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1000	0.5	47.44	20.20	6.04	73	2.6	130.2	36.8	
1005	1.0	47.62	20.28	6.11	73	1.34	119.8	36.3	
1010	1.5	47.71	20.41	6.26	71	0.86	110.8	34.7	
1015	2.0	48.09	20.65	6.31	71	0.84	108.1	33.8	
1020	2.5	46.36	20.71	6.33	70	0.83	104.3	33.1	
1025	SAMPLE TIME								

Official Sampling Date & Time: 7-7-15 / 1025

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)

(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-7

Date: 7-7-15

Sampling Personnel: ALEX

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain, Other _____

Time: 1220

Well Type: Flush Surface Completion (Stick Up Completion)

Well Tag Present: (Yes) No

Well Locked: (Yes) No — Lock Present: (Yes) No

Well ID info. on Tag: (Yes) No

Well Bolted: Yes (No) — Well Cap: (Yes) No

Well Cap Condition: (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____

Well Location: Grass, (Asphalt) Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55

Screen Length: 5, 10, (15) 20 (Other)

Depth to Water (D.T.W): (1) 47.60

Well Diameter: (2) 4, 6, 8 (inches-other)

Field Parameters measured with: YSI/HANNA

Casing Type: (PVC) Steel other

Purge Rate: 150 mL/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other

Tubing Type: (Polyethylene) Teflon, Other:

Measuring Point: (TOC) other

Pump Intake (ft below M.P.): 52

Color: Clear (Milky) Odor: Yes (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[4]	L (gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1150	0.5	48.09	31.69	5.50	73	5.11	154.7	43.3	
1155	1.0	48.14	31.71	5.47	69	4.69	148.8	45.7	
1200	1.5	48.24	31.73	5.50	69	4.55	141.1	41.9	
1205	2.0	48.29	31.74	5.51	69	4.62	134.0	41.4	
1210	2.5	48.30	31.72	5.53	69	4.63	136.5	39.6	
1215	3.0	48.32	31.71	5.57	69	4.62	135.5	37.8	
1220 — SAMPLE TIME									
*	Dup-1								

Official Sampling Date & Time: 7-7-15 / 1220

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOC	HCl	14	GCAL
* Dup-1				

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom
(2) - Stabilization criteria based on three most recent consecutive measurements
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-8

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other _____

Time: 935

Well Type: Flush Surface Completion, (Stick Up Completion) — Well Tag Present: (Yes) No

Well Locked: (Yes) No — Lock Present: (Yes) No — Well ID Info. on Tag: (Yes) No

Well Bolted: Yes, No — Well Cap: (Yes) No — Well Cap Condition: (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ — Well Location: (Grass) Asphalt, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — Screen Length: 5, 10, (15) 20 (Feet) other:

Depth to Water (D.T.W): (1) 43.35 — Well Diameter: (2) 4, 6, 8 (Inches) other:

Field Parameters measured with: YSI / HANNA — Casing Type: (PVC) Steel other:

Purge Rate: ~~150~~ mL/min — Sampling Device: Peristaltic (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene) Teflon, Other: — Measuring Point: (TOC) other:

Pump Intake (~~ft below M.P.~~): -50 — Color: Clear — Odor: Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
900	0.5	43.71	20.50	6.46	159	6.13	132.3	66.1	
905	1.0	43.82	20.32	6.51	155	5.22	129.8	38.4	
910	1.5	43.77	20.48	6.61	155	4.91	122.4	22.7	
915	2.0	43.79	20.63	6.69	157	4.81	113.0	20.7	
920	2.5	43.88	20.36	6.77	158	4.83	108.7	18.8	
925	3.0	43.92	20.26	6.79	159	4.80	93.3	15.4	
930	3.5	43.95	20.12	6.83	160	4.81	87.5	13.8	
935 -	SAMPLE TIME								

Official Sampling Date & Time: 7-7-15 / 935

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	~~14~~ 14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom
(2) - Stabilization criteria based on three most recent consecutive measurements
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-9

Date: 7-8-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other _____

Time: 1010

Well Type: Flush Surface Completion, (Stick Up Completion) — **Well Tag Present:** (Yes) No

Well Locked: (Yes) No — **Lock Present:** (Yes) No — **Well ID Info. on Tag:** (Yes) No

Well Bolted: Yes, No — **Well Cap:** (Yes) No — **Well Cap Condition:** (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ — **Well Location:** (Grass) Asphalt, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — **Screen Length:** 5, 10, (15) 20 (feet) other:

Depth to Water (D.T.W): [1] 44.90 — **Well Diameter:** (2) 4, 6, 8 (Inches) other:

Field Parameters measured with: YSI/HANNA — **Casing Type:** (PVC) Steel other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene) Teflon, Other: — **Measuring Point:** (TOC) other:

Pump Intake (ft below M.P.): 51 — **Color:** Clear — **Odor:** Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
940	0.5	45.72	19.76	5.08	85	7.30	-2.2		
945	1.0	46.23	20.18	5.36	85	6.63	-2.2		
950	1.5	46.57	20.72	5.71	84	5.11	-2.1		
955	2.0	46.63	20.88	5.85	85	5.10	-2.2		
1000	2.5	46.66	21.13	5.87	85	5.09	-2.2		
1005	3.0	46.72	21.24	5.88	85	5.09	-2.2		
1010 — SAMPLE TIME									

Official Sampling Date & Time: 7-8-15 / 1010

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark **Job #:** 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-10

Date: 7-7-15

Sampling Personnel: ANEAL

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other_____

Time: 836

Well Type: Flush Surface Completion (Stick Up Completion) **Well Tag Present:** (Yes) No

Well Locked: (Yes) No **Lock Present:** (Yes) No **Well ID Info. on Tag:** (Yes) No

Well Bolted: Yes, No **Well Cap:** (Yes) No **Well Cap Condition:** (Good) Replace, Other:_____

Well Pad Condition: (Good) Cracked, Replace, Other:_____ **Well Location:** Grass, Asphalt, Concrete, (Woods), Other:_____

Additional Comments:

Total Depth of Well (T.D.): ~~55~~ 60 **Screen Length:** 5, 10, (15) 20 (feet) other:

Depth to Water (D.T.W): [1] 41.22 **Well Diameter:** (2) 4, 6, 8 (inches) other:

Field Parameters measured with: YSI / HANNA **Casing Type:** (PVC) Steel other:

Purge Rate: ~150 mL/min **Sampling Device:** Peristaltic, (Monsoon), Grundfos, Bailer, Other:

Tubing Type: (Polyethylene), Teflon, Other: **Measuring Point:** (TOC) other:

Pump Intake ~~(ft below M.P.)~~: 50 **Color:** Clear **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(L) (gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
805	0.5	43.35	18.72	7.28	110	8.33	64.1	~~—~~	Turbidity not taken because meter was not ~~working~~ working properly but water was fairly clear
810	1.0	43.44	18.65	7.31	110	8.32	62.5		
815	1.5	43.51	18.45	7.33	110	8.41	61.7		
820	2.0	43.58	18.28	7.40	109	8.50	60.2		
825	2.5	43.63	18.22	7.41	109	8.41	59.1		
830 —	SAMPLE TIME								

Official Sampling Date & Time: 7-7-15 / 830

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-10D

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other_____

Time: 745

Well Type: Flush Surface Completion, (Stick Up Completion) Well Tag Present: (Yes) No

Well Locked: (Yes) No Lock Present: (Yes) No Well ID info. on Tag: (Yes) No

Well Bolted: Yes, No Well Cap: (Yes) No Well Cap Condition: (Good) Replace, Other:_____

Well Pad Condition: (Good) Cracked, Replace, Other:_____ Well Location: Grass, Asphalt, Concrete, (Woods), Other:_____

Additional Comments:

Total Depth of Well (T.D.): 110 Screen Length: 5, (10), 15, 20 (feet) other:

Depth to Water (D.T.W): (1) 46.16 Well Diameter: (2) 4, 6, 8 (inches) other:

Field Parameters measured with: YSI / HANNA Casing Type: (PVC) Steel other:

Purge Rate: ~150 mL/min Sampling Device: Peristaltic, (Monsoon), Grundfos, Bailer, Other:

Tubing Type: Polyethylene, (Teflon), Other: Measuring Point: (TOC) other:

Pump Intake (~~ft below M.P.~~): 75 Color: Clear Odor: Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
710	0.5	45.21	18.62	4.90	148	6.90	227.6	4.94	
715	1.0	45.23	18.66	5.02	148	6.65	242.4	3.86	
720	1.5	45.24	18.98	6.67	147	6.44	137.3	0.05	* CALIBRATION light flashing, tried to calibrate according to user manual but got error message "LO - Err" three times. Will call Eastern Solutions when they are open
725	2.0	45.25	19.14	7.39	148	6.31	79.7		
730	2.5	45.25	19.22	7.43	147	6.30	20.4		
735	3.0	45.25	19.34	7.44	147	6.27	20.3		
~~740~~	SAMPLE TIME								
745									

Official Sampling Date & Time: 7-7-15 / 745

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
#1	VOCs	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-11

Date: 7-7-15

Sampling Personnel: J. VERA

Weather Conditions: (Sunny, Partly Cloudy, Cloudy, Rain; Other _____

Time: 1620

Well Type: (Flush Surface Completion) Stick Up Completion — Well Tag Present: (Yes) No

Well Locked: Yes, No — Lock Present: Yes, No — Well ID info. on Tag: (Yes) No

Well Bolted: Yes, No — Well Cap: (Yes) No — Well Cap Condition: (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ — Well Location: Grass, Asphalt, (Concrete) Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 55 — Screen Length: 5, (10) 15, 20 (feet) other:

Depth to Water (D.T.W): (1) 42.61 — Well Diameter: (2) 4, 6, 8 (Inches) other:

Field Parameters measured with: YSI/HORIBA — Casing Type: (PVC) Steel other:

Purge Rate: ~150 mL/min — Sampling Device: Peristaltic, (Monsoon) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene) Teflon Other: — Measuring Point: (TOC) other:

Pump Intake (ft below M.P.): 50 — Color: Clear — Odor: Yes, (No)

Time: (military) Stabilization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1550	0.5	42.68	24.01	6.24	72	4.56	-2.1	118	
1555	1.0	42.70	23.24	6.11	72	4.33	-2.1	61.1	
1600	1.5	42.71	22.56	5.96	68	4.25	-2.1	23.4	
1605	2.0	42.92	22.77	5.94	68	4.21	-2.0	12.1	
1610	2.5	43.03	22.73	5.94	68	4.23	-2.0	8.62	
1615	3.0	43.07	22.70	5.93	68	4.24	-2.0	7.13	
1620 - SAMPLE TIME									
* DUP-02 *									

Official Sampling Date & Time: 7-7-15 / 1620

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
*Dup-2	VOCs	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft)
(4) - +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253066

Sample Type: Circle one (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-11D

Date: 7-7-15

Sampling Personnel: ALEX

Weather Conditions: (Sunny,) Partly Cloudy, Cloudy, Rain; Other_____

Time: 1530

Well Type: (Flush Surface Completion,) Stick Up Completion — **Well Tag Present:** Yes, (No)

Well Locked: (Yes,) No — **Lock Present:** (Yes,) No — **Well ID Info. on Tag:** Yes, No NA

Well Bolted: (Yes,) No — **Well Cap:** (Yes,) No — **Well Cap Condition:** (Good,) Replace, Other:_____

Well Pad Condition: (Good,) Cracked, Replace, Other:_____ — **Well Location:** Grass, Asphalt, (Concrete,) Woods, Other:_____

Additional Comments:

Total Depth of Well (T.D.): 150 — **Screen Length:** 5, (10,) 15, 20 (feet,) other:

Depth to Water (D.T.W.): (1) 42.55 — **Well Diameter:** (2") 4, 6, 8 (inches,) other:

Field Parameters measured with: YSI/HANNA — **Casing Type:** (PVC,) Steel other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic, (Monsoon,) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene,) Teflon, Other: — **Measuring Point:** (TOC) other:

Pump Intake (ft below M.P.): ~85 — **Color:** Clear — **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	~~(gallons)~~	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1500	0.5	43.29	22.24	6.15	216	6.23	-2.3	7.25	
1505	1.0	43.29	21.56	6.31	214	5.83	-2.2	6.71	
1510	1.5	43.31	21.44	6.47	214	4.78	-2.2	5.41	
1515	2.0	43.34	21.21	6.59	214	4.61	-2.1	4.89	
1520	2.5	43.33	21.18	6.71	214	4.55	-2.1	3.96	
1525	3.0	43.37	21.10	6.96	214	4.56	-2.1	3.37	
1530 — SAMPLE TIME									

Official Sampling Date & Time: 7-7-15 / 1530

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — **Job #:** 0253066

Sample Type: Circle one: (Monitor Well), DPT, Surface Water, Potable WSW; (other) Injection Well

Sample ID: MW-11I

Date: 7-7-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny), Partly Cloudy, Cloudy, Rain; Other

Time: 1713

Well Type: (Flush Surface Completion), Stick Up Completion — **Well Tag Present:** (Yes), No

Well Locked: (Yes), No — **Lock Present:** (Yes), No — **Well ID Info. on Tag:** (Yes), No

Well Bolted: Yes, No — **Well Cap:** (Yes), No — **Well Cap Condition:** (Good), Replace, Other:

Well Pad Condition: (Good), Cracked, Replace, Other: — **Well Location:** Grass, Asphalt, (Concrete), Woods, Other:

Additional Comments:

Total Depth of Well (T.D.): 100 — **Screen Length:** 5, (10), 15, 20, (feet), other:

Depth to Water (D.T.W): (1) 42.62 — **Well Diameter:** (2), 4, 6, 8, (inches), other:

Field Parameters measured with: YSI / Horiba — **Casing Type:** (PVC), Steel, other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic, (Monsoon), Grundfos, Bailer, Other:

Tubing Type: (Polyethylene), Teflon, Other: — **Measuring Point:** (TOC), other:

Pump Intake (ft below M.P.): ~70 — **Color:** Clear — **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1645	0.5	43.90	21.49	8.59	164	5.75	-2.1	12.6	
1650	1.0	43.90	21.53	8.62	164	5.31	-2.2	11.1	
1655	1.5	43.89	21.54	8.66	162	5.28	-2.2	2.82	
1700	2.0	43.99	21.56	8.67	162	5.22	-2.2	8.05	
1705	2.5	44.08	21.61	8.69	162	5.20	-2.2	7.89	
1710	3.0	44.10	21.63	8.70	162	5.19	-2.2	7.71	
1715 —	SAMPLE	TIME							

Official Sampling Date & Time: 7-7-15

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOC	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark Job #: 0253066

Sample Type: Circle one (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-12

Date: 7-6-15

Sampling Personnel: A. NEAL

Weather Conditions: (Sunny,) (Partly Cloudy,) Cloudy, Rain; Other_____

Time: 1745

Well Type: Flush Surface Completion, (Stick Up Completion) Well Tag Present: (Yes,) No

Well Locked: Yes, (No) Lock Present: Yes, No Well ID Info. on Tag: (Yes,) No

Well Bolted: Yes, No Well Cap: (Yes,) No Well Cap Condition: (Good,) Replace, Other:_____

Well Pad Condition: (Good,) Cracked, Replace, Other:_____ Well Location: Grass, Asphalt, Concrete, (Wood), Other:_____

Additional Comments:

Total Depth of Well (T.D.): 55 Screen Length: 5, (10) 15, 20 (feet) other:

Depth to Water (D.T.W): (1) 43.91 Well Diameter: (2) 4, 6, 8 (inches) other:

Field Parameters measured with: YSI / HANNA Casing Type: (PVC,) Steel other:

Purge Rate: ~150 mL/min Sampling Device: Peristaltic, (Monsoon,) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene,) Teflon, Other: Measuring Point: (TOC) other:

Pump Intake (~~ft below M.P.~~): 50 Color: ~~Brown~~ Turbid Odor: Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1710	0.5	43.96	18.39	7.59	253	8.11	-17.6	7999	
1715	1.0	44.08	18.47	7.63	244	6.91	-18.3	7999	
1720	1.5	44.16	18.96	7.77	237	5.32	-20.6	7999	
1725	2.0	44.23	18.77	7.93	237	5.21	-28.4	7999	
1730	2.5	44.25	18.60	8.07	239	5.20	-38.6	>999	
1735	3.0	44.26	18.60	8.09	242	5.19	-41.1	>999	
1740	3.5	44.27	18.54	8.12	243	5.16	-43.6	>999	
1745 – SAMPLE TIME									

Official Sampling Date & Time: 7-6-15 / 1745

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

e Name: Joslyn Clark Job #: 0253066

mple Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

mple ID: MW-12D

ate: 7-6-15

ampling Personnel: A. NEAL

/eather Conditions: (Sunny) Partly Cloudy, Cloudy, Rain; Other_____

ime: 1650

Well Type: Flush Surface Completion (Stick Up Completion) Well Tag Present: (Yes,) No

Well Locked: (Yes,) No Lock Present: (Yes,) No Well ID info. on Tag: (Yes,) No

Well Bolted: Yes, No Well Cap: (Yes) No Well Cap Condition: (Good,) Replace, Other:_____

Well Pad Condition: (Good,) Cracked, Replace, Other:_____ Well Location: Grass, Asphalt, Concrete, (Woods,) Other:_____

Additional Comments:

Total Depth of Well (T.D.): 110 Screen Length: 5, (10,) 15, 20 (feet) other:

Depth to Water (D.T.W): (1) 43.44 Well Diameter: (2,) 4, 6, 8 (Inches) other:

Field Parameters measured with: YSI / HANNA Casing Type: (PVC) Steel other:

Purge Rate: ~150 mL/min Sampling Device: Peristaltic, (Monsoon,) Grundfos, Bailer, Other:

Tubing Type: (Polyethylene,) Teflon, Other: Measuring Point: (TOC) other:

Pump Intake ~~(ft below M.P.)~~: 50 Color: Clear Odor: Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1620	0.5	43.45	18.30	7.56	143		66.7	22.6	
1625	1.0	43.52	18.14	7.50	134		65.6	16.7	
1630	1.5	43.51	18.22	7.46	132		68.8	14.4	
1635	2.0	43.50	18.24	7.39	129		74.2	9.42	
1640	2.5	43.50	18.27	7.38	127		76.8	7.12	
1650	SAMPLE TIME								

Official Sampling Date & Time: 7-6-15 / 1650

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
1	VOCs	HCl	14	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: Joslyn Clark — Job #: 0253066

Sample Type: Circle one - (Monitor Well, DPT, Surface Water, Potable WSW; other) Observation Well

Sample ID: OW-1

Date: 7-8-15

Sampling Personnel: A. LEAL

Weather Conditions: (Sunny), Partly Cloudy, Cloudy, Rain; Other_____

Time: 835

Well Type: (Flush Surface Completion), Stick Up Completion — **Well Tag Present:** (Yes), No

Well Locked: (Yes), No — **Lock Present:** (Yes), No — **Well ID Info. on Tag:** (Yes), No

Well Bolted: (Yes), No — **Well Cap:** (Yes), No — **Well Cap Condition:** (Good), Replace, Other:_____

Well Pad Condition: (Good), Cracked, Replace, Other:_____ — **Well Location:** Grass, Asphalt, (Concrete), Woods, Other:_____

Additional Comments:

Total Depth of Well (T.D.): 60 — **Screen Length:** ? 5, 10, 15, 20 feet-other:

Depth to Water (D.T.W.): [1] 42.43 — **Well Diameter:** (2) 4, 6, 8 (inches)-other:

Field Parameters measured with: YSI / HANNA — **Casing Type:** (PVC), Steel other:

Purge Rate: ~150 mL/min — **Sampling Device:** Peristaltic, (Monsoon), Grundfos, Bailer, Other:

Tubing Type: (Polyethylene), Teflon, Other: — **Measuring Point:** (TOC) other:

Pump Intake (ft below M.P.): 61' — **Color:** Clear (ish) — **Odor:** Yes, (No)

Time: (min)	Volume Purged (gallons)	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	Comments:
Stabalization Criteria[2]	L	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	
805	0.5	43.97	21.55	5.94	87	6.17	-2.3	103	
810	1.0	44.04	21.57	5.88	87	5.81	-2.2	95.8	
815	1.5	44.33	21.76	5.99	87	5.36	-2.1	100	
820	2.0	44.62	21.88	6.16	85	5.21	-2.1	92.3	
825	2.5	44.85	21.80	6.39	82	5.16	-2.1	41.7	
830	3.0	45.12	21.71	6.44	81	5.11	-2.1	26.2	
835	3.5	45.30	21.68	6.45	78	5.06	-2.1	20.9	
835 —	SAMPLE TIME								

Official Sampling Date & Time: _____

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
3	VOCs, Na, Cl, Mn	HCl HNO_3	14 ?	GCAL

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.