Semi-Annual Progress Report No. 3

Southern Metal Finishing Company, LLC
1575 Huber Street, Atlanta, Fulton County, Georgia
HSI Number: 10689
Tax Parcel No. 17-0187-LL-059-6

Prepared for:	Southern Metal Finishing Company, LLC 1581 Huber Street, N.W., Atlanta, Georgia 30381-7701
Date:	July 8, 2015
Prepared by:	Amec Foster Wheeler Environment & Infrastructure, Inc. 1075 Big Shanty Road NW, Suite 100, Kennesaw, Georgia 30144
Project No.:	6122150015

ELECTRONIC COPY CERTIFICATION

This electronic copy of the Semi-Annual Progress Report #3 for Groundwater & Surface Water Monitoring, Woodall Creek Site – July 8, 2015 for the Southern Metal Finishing Company, LLC, 1575 Huber Street, Atlanta, Fulton County, Georgia – HSI #10689, is complete, identical to the paper copy, and virus free.

Gregory J. Wrenn, PE, Associate Project Manager

July 8, 2015

Mr. Larry Kloet
Georgia Environmental Protection Division
Land Protection Branch
2 Martin Luther King Jr. Drive
Atlanta, GA 30334

Subject: Semi-Annual Progress Report No. 3
Results from March-April 2015 Semi-Annual Groundwater and Surface Water Sampling Event
Woodall Creek Site, Atlanta, Fulton County, GA HSI #10689
Amec Foster Wheeler Project No. 6122130015

Dear Mr. Kloet:

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), on behalf of Southern Metal Finishing Company (SMF), LLC, is submitting to the Georgia Environmental Protection Division (EPD) this progress report presenting results from the third semi-annual groundwater sampling event for the site, which was conducted in March and April 2015. Previous semi-annual sampling events were conducted in March 2014 and September 2014. Pursuant to the approved Corrective Action Plan (CAP), reports on the semi-annual sampling events are provided to EPD in semi-annual progress reports.

The following information provides a summary of the March and April 2015 semi-annual groundwater and surface water sampling efforts completed to document monitored natural attenuation (MNA) and current site-wide conditions at the Woodall Creek Site (HSI #10689). Field activities were completed in substantial accordance with the requirements of the approved Revised CAP, dated 17 December 2013.

Groundwater Sampling

The CAP specified collection of groundwater samples on a semi-annual basis from a total of 44 wells within the monitoring network at the Woodall Creek site. Groundwater sampling for the third semi-annual event was performed during the period 17 March through 8 April 2015. A site-wide potentiometric water level measuring event was also completed on 8 April 2015. Table 1 presents a summary of the wells sampled during the March-April 2015 event. Table 2 presents a summary of well construction details for wells utilized during the sampling event. Three (3) of the specified wells could not be located, were inaccessible at the time of the sampling event, were physically damaged, or did not contain sufficient water to allow for proper sampling during this event. Details of observed conditions are presented in Table 2; Sampling logs are presented in Appendix A.

The CAP specifies collection of groundwater samples utilizing techniques in general accordance with USEPA Region 4 SESDPROC-301-R2. Table 3 presents a summary of observations and conditions encountered at wells sampled during this event. Of the 43 wells sampled, 42 were purged in general accordance with the "*tubing-in-screened interval*" (low-flow) method described in the USEPA procedure. Wells were purged and sampled using primarily low-flow methods with either a bladder pump or peristaltic pump.

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One (1) fractured bedrock well exhibited recharge rates which necessitated abandoning low-flow procedures, and implementation of traditional purge methods using sampling equipment that was available at the time of sampling. After making an unsuccessful attempt to obtain multiple well volumes at SMFDR-2, it was purged to dryness and allowed to recharge for collection of samples (Table 3).

Purge water generated from each monitoring well was containerized in USDOT approved 55-gallon steel drums and staged at the site pending profiling for off-site disposal. Groundwater samples were shipped under chain-of-custody protocols to Gulf Coast Analytical Laboratories (GCAL) in Baton Rouge, Louisiana. Groundwater samples collected during this event were analyzed for nitrate, sulfate and chloride by EPA method 9056A; methane, ethane and ethene by EPA method RSK-175; VOCs by EPA method 8260B and total organic carbon by EPA method 9060A. A sample aliquot was collected directly from the peristaltic pump for field determination of ferrous iron by the 1, 10-phenonthroline method (Hach Method 8146).

For quality assurance/quality control (QA/QC) purposes, duplicate (DUP), equipment blank, and matrix spike/matrix spike duplicate (MS/MSD) samples were collected during this event. Additionally, trip blank and temperature blank samples accompanied each shipment of samples.

Surface Water Sampling

Surface water samples were collected from established sampling points within Woodall Creek on 6 April 2015. Sample aliquots were collected by using a decontaminated Teflon scoop, in general accordance with the guidance provided in the USEPA's SESDPROC-201-R3 dated February 28, 2013. Surface water samples were collected taking care to minimize turbidity in the surface water during sample collection. Surface water samples were shipped under chain-of-custody protocols to Gulf Coast Analytical Laboratories (GCAL) of Baton Rouge, Louisiana, for analysis of VOCs by EPA method 8260B.

Synoptic Potentiometric Groundwater Elevation Survey

At the conclusion of the monitoring well sampling effort, a synoptic groundwater level measuring event was performed across the Site. On 8 April 2015, Amec Foster Wheeler field personnel collected depth to water and total depth of well measurements in each of the located wells. In addition, surface water elevations were collected from the three staff gauges along Woodall Creek. Table 2 provides a summary of the groundwater and staff gauge elevations measured during this event. A potentiometric map for the shallow water-bearing zone is presented as Figure 1 and indicates groundwater within the water table aquifer generally flows from east to west across the site, ultimately discharging to Woodall Creek.

Groundwater Sampling Results

Table 4 summarizes analytical results from the March-April 2015 semi-annual groundwater sampling event. The laboratory analytical data packages are presented in Appendix B. A chronological presentation of historical concentrations of PCE-related compounds appears in Table 5. In general, data presented in Table 5 indicates a continual overall decrease in concentrations of tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2 Dichloroethene (DCE) across the site.

Figures 2 through 10 depict distribution for PCE, TCE and cis-1,2 DCE in the shallow, intermediate and deep water bearing zones. It should be noted contouring for the current PCE, TCE and DCE concentrations utilizes baseline results from wells not sampled during this semi-annual event to provide contouring control and help improve overall interpretations of the

plume configuration. The overall decrease in detected concentrations of PCE and TCE since the last sampling event in September 2014 are reflected in the reduced areal extent of the plumes depicted on these figures. Given the overall decreasing trend in groundwater concentrations, it is likely that the groundwater plume depictions herein over-estimate VOC concentrations in some areas.

Surface Water Sampling Results

The April 2015 surface water samples were collected from stream sample points 9 through 18 (Figure 1). Table 6 summarizes the laboratory analytical data for the April 2015 surface water sampling event. Laboratory analytical reports for surface water samples are presented in Appendix B.

EPD's instream water quality criteria for VOCs are applicable "…under annual average or higher stream flow conditions" (391-3-6-.03(5)(e)(iv). Therefore, proper interpretation of surface water VOC results collected under less than average stream flow conditions (as is typically the case) requires that the observed VOC concentrations be adjusted or "normalized" to the long-term annual average stream flow condition.

In accordance with the approved CAP, Amec Foster Wheeler has determined the annual average stream flow for Woodall Creek at the Defoors Ferry USGS Gage and then normalized measured in-stream VOC sampling results to the annual average stream flow condition.

Amec Foster Wheeler previously calculated the 30-year average streamflow utilizing the USGS continuous stream flow record for Woodall Creek at Defoors Ferry that began in 2006 in combination with the nearby Peachtree Creek USGS Gage, which began continuous operation in 1958 and can, therefore, be used as a long-term reference or index station for record extension and augmentation of the short-term record available for the Woodall Creek Defoors Ferry Gage. Based on the below information, the calculated long-term annual average flow for Woodall Creek at Defoors Ferry Gage is 3.92 cubic feet per second (cfs).

Woodall Creek Gage 2006 – 2012

- Sum of the Annual Average Flow – 20.68 cfs
- Number of records – 7
- Average Annual Flow 20.68 cfs / 7 = 2.95 cfs

Peachtree Creek Gage – 2006 - 2012

- Sum of Annual Average Flow – 693.4 cfs
- Number of Records – 7
- Average Annual Flow 99.06 cfs / 7 = 99.06 cfs

Peachtree Creek Gage 1983 – 2012

- Sum of Annual Average Flow – 3953 cfs
- Number of Records – 30
- Average Annual Flow 3953 cfs / 30 = 131.77 cfs

Information obtained from the USGS Surface Water Annual Statistics was provided in Appendix E of the Baseline Sampling Report. The long-term annual average flow Woodall Creek Gage adjusted to the 30 year base period from the Peachtree Creek Gage is therefore calculated as:

- (2.95 / 99.06) * 131.77 = 3.92 cfs

The stream flow in Woodall Creek, as recorded at the Defoors Ferry USGS Gage on 6 April 2015 was 1.1 cfs (Appendix C). Normalized surface water analytical results for the Woodall

Creek surface water samples were derived by multiplying the actual analytical sample results by the ratio of the concurrent instantaneous stream flow recorded at the Woodall Creek USGS Gage at DeFoors Ferry for the specific time of surface water sampling (1.1 cfs) to the long-term annual average stream flow determined for the Woodall Creek Gage based on the above methodology for annual average stream flow. Table 7 presents a historical summary of concentrations of PCE-related compounds from sampling locations established on Woodall Creek. The actual and flow-normalized surface water analytical results are presented on Table 7 along with historical surface water concentrations. Results from the three (3) most recent sampling events appear as raw analytical results and as normalized concentrations. The normalized concentration is calculated to account Woodall Creek actual flow conditions at the time of stream sample collection. Results for samples collected during the current event indicate all (normalized) detected concentrations of PCE to be below the current EPD In-Stream Water Quality criterion of 3.3 ppb for this site-limiting VOC constituent.

Status of Monitoring Network

MTWMW-2 – This well could not be located during the Baseline or September 2014 sampling events, but was subsequently found and determined to be non-serviceable. Well MTWMW-4 is located less than 100 feet from MTWMW-2 in an area that is approximately cross-gradient and appears suitable as an alternate monitoring point. In accordance with previous recommendations, approved by EPD in correspondence dated May 19, 2015, MTWMW-2 was deleted from the semi-annual monitoring program and replaced by MTWMW-4.

RPMW-2 – Sampling of this well during the September 2014 event was prevented by a water column of insufficient quantity and presence of excessive sediment. This well was inspected and redeveloped prior to the March semi-annual sampling event.

HOAMW-13 – Historical location information indicates this monitoring point lies within a floodplain area on the west side of Woodall Creek (Figure 1). The area is currently heavily vegetated, and attempts to locate this well during recent field activities have proved fruitless. Potentiometric data collected to date indicates groundwater flowing south west beneath the site discharges to Woodall Creek. The creek therefore presents a hydrologic barrier to groundwater flow between this locale and the balance of the site east of Woodall Creek. Groundwater at HOAMW-13 may be impacted by groundwater contamination emanating from the Square D property, making any detections of VOCs in samples collected from this well inconclusive with respect to the Woodall Creek site. Therefore, in accordance with previous recommendations, as approved by EPD in correspondence dated May 19, 2015, HOAMW-13 was deleted from the semi-annual monitoring program.

HOAMW-14 – This well has been abandoned and replaced in the monitoring program by a previously unknown well, designated as MW-x, on property apparently owned by the M-West HOA. The well is situated approximately 300 feet north of HOAMW-6 and 25 feet west from the southwest corner of the northernmost building on the Goodstone property (MW-x, Figure 2). The casing has been measured to an approximate depth of 20 feet below grade, with depth to water measured at approximately 14 feet. The location of MW-x appears suitable to provide information that will help delineate the extent of groundwater contamination along the north edge of the VOC plume in this part of the site.

Schedule

An updated Corrective Action Plan Schedule is provided as Figure 11. The next semi-annual sampling event is currently scheduled to take place during September 2015. The 2015 Annual Report for this site is currently scheduled for submittal in November 2015.

Summary of Findings

Sampling during the event was completed in accordance with the approved CAP. An overall reduction in VOC concentrations is indicated through comparison of groundwater quality data from this event with results from historical events. Furthermore, comparison with historical data indicates significant decreases during the last four years. Surface water concentrations do not indicate exceedances of Georgia in-stream water quality criteria for any of the principal constituents of concern for the Woodall Creek Site. In addition, on June 29, 2015, the United States Environmental Protection Agency published the final 2015 update to the Ambient Water Quality Criteria which, in due course, should result in an automatic increase in Georgia's in-stream water quality criteria for PCE, the primary constituent of concern at this site, thereby creating an additional margin of safety between existing conditions and the relevant standard.

Please contact us if you have any questions regarding results from this sampling event.

Sincerely,
Amec Foster Wheeler Environment & Infrastructure, Inc.

Gregory J. Wrenn, P.E.
Associate Project Manager

Andrew D. Smits, P.G. By AP with permission
Senior Geologist

cc: Mr. James McClatchey
Mr. W. Scott Laseter

Enclosures:
Certification Page

Tables
Table 1 - Wells Specified for Semi-Annual Sampling, Woodall Creek Site, Atlanta, Georgia
Table 2 - Monitoring Well Construction and Water Levels, April 8, 2015
Table 3 -Summary of Well Purging (March-April 2015)
Table 4 - Summary of Groundwater Analytical Results, (March-April 2015)
Table 5 - Summary of Current and Historical Site-Wide Groundwater Quality Results
Table 6 - Summary of Surface Water Analytical Results (April 2015)
Table 7 - Historical Summary of Surface Water Quality Data

Figures
Figure 1 - Potentiometric Surface for Shallow Water-Bearing Zone, April 2015
Figure 2 - PCE Isoconcentration Map, Shallow Water-Bearing Zone, March-April 2015
Figure 3 - PCE Isoconcentration Map, Intermediate Water-Bearing Zone, March-April 2015
Figure 4 - PCE Isoconcentration Map, Fractured Bedrock Water-Bearing Zone, March-April 2015
Figure 5 - TCE Isoconcentration Map, Shallow Water-Bearing Zone, March-April 2015
Figure 6 - TCE Isoconcentration Map, Intermediate Water- Bearing Zone, March-April 2015
Figure 7 - TCE Isoconcentration Map, Fractured Bedrock Water-Bearing Zone, March-April 2015
Figure 8 - cis-1,2 Isoconcentration Map, Shallow Water Bearing Zone, March-April 2015
Figure 9 - cis-1,2 Isoconcentration Map, Intermediate Water-Bearing Zone, March-April 2015
Figure 10 - cis-1,2 Isoconcentration Map, Fractured Bedrock Water-Bearing Zone, March-April 2015
Figure 11 - Updated Corrective Action Project Schedule

Appendices
Appendix A - Groundwater Sampling Logs
Appendix B - Laboratory Certification, Chain of Custody Documentation, Analytical Reports
Appendix C - Defoors Ferry Gage Data for 06 April 2015

GROUNDWATER SCIENTIST STATEMENT

I certify that I am a qualified groundwater scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences of engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared in conjunction with others working under my direction.

Mr. Gregory J. Wrenn, P.E.
Georgia Registration No. 25565

TABLES

Table 1: Wells Specified for Semi-Annual Sampling

Well Number	Date of Construction	Water-Bearing Zone Monitoring Interval	Total Well Depth (ft)	CAP Semi-Annual Sampling Location	March 2015 Annual Sampling Event	Remarks
SOUTHERN METAL FINISHING PROPERTY WELLS						
SMFMW-2	10/4/2000	Shallow	29	✓	✓	
SMFMW-5	10/5/2000	Shallow	25	X	-	Could not be located during Baseline event; subsequently found and sampled during Sept 2014 event. Not specified as a CAP Well, therefore no further sampling is anticipated at this monitoring well location.
SMFMW-18	7/19/2004	Shallow	30	✓	✓	
SMFPI-1	3/24/2008	Shallow	35	✓	✓	
SMFDS-1	5/10/2002	Intermediate	37	✓	✓	
SMFDR-2	6/4/2002	Bedrock	42	✓	✓	
SMFDR-3	6/4/2002	Bedrock	53.5	✓	✓	
SMFMW-1D	8/3/2004	Bedrock	96.5	✓	✓	
MACY'S PROPERTY WELLS						
MPMW-15	Unknown	Shallow	18.1	X	-	Not specified as CAP Well. No further sampling anticipated at this location.
DOBBINS PROPERTY WELLS						
DPMW-2S	4/9/2004	Shallow	24.3	✓	✓	
DPMW-2I	4/13/2004	Intermediate	50	✓	✓	
DPMW-3S	4/6/2004	Shallow	30	✓	✓	
DPMW-10	Unknown	Shallow	51.3	✓	✓	Could not be located during Baseline and Sept 2014 events, but subsequently found and was inspected and rehabilitated prior to the March 2015 sampling event.
DPMW-15	Unknown	Intermediate	86.7	✓	✓	Could not be located during Baseline and Sept 2014 events, but subsequently found and was inspected and rehabilitated prior to the March 2015 sampling event.
DPMW-16	Unknown	Bedrock	96.8	✓	✓	Could not be located during Baseline and Sept 2014 events, but subsequently found and was inspected and rehabilitated prior to the March 2015 sampling event.
DPMW-25	10/27/2010	Shallow	50	✓	✓	Access obstructed during Sept 2014 Event; Obstruction subsequently removed.
DPMW-27	10/27/2010	Shallow	50	✓	✓	
RESTAURANT SUPPLY (FORMER JODACO PROPERTY) WELLS						
JPMW-16	3/24/2010	Shallow	50	✓	✓	
JPMW-17	3/24/2010	Shallow	50	✓	✓	
JPMW-21	6/10/2010	Shallow	39	✓	✓	
JPMW-22	6/10/2010	Shallow	50	✓	✓	
JPMW-23	6/10/2010	Shallow	49	✓	✓	
JPBRW-1	Unknown	Bedrock	164.5	✓	✓	
DALTILE (FORMER REYNOLDS PROPERTY) WELLS						
RPMW-2	Unknown	Shallow	29	✓	✓	The well was inspected and rehabilitated prior to the March 2015 sampling event.
RPMW-14	3/24/2010	Shallow	50	✓	✓	
RPMW-15	3/24/2010	Shallow	50	✓	✓	
RPMW-24	6/10/2010	Shallow	50	✓	✓	
GOODSTONE PROPERTY WELLS (1494 & 1510 ELLSWORTH INDUSTRIAL BLVD.)						
GPMW-11	7/30/2009	Shallow	39	✓	✓	
GPMW-18	3/26/2010	Shallow	40	✓	✓	
GPMW-19	3/26/2010	Shallow	36.5	✓	✓	Well location is within a gated alley and access was granted by the current property owner.
GPMW-20	6/10/2010	Shallow	40	✓	✓	
M-WEST HOA (FORMER ABC SUPPLY PROPERTY) WELLS						
HOAMW-3	7/9/2008	Shallow	40	✓	✓	
HOAMW-5	10/31/2008	Shallow	35	✓	✓	
HOAMW-5I	2/19/2014	Intermediate	38	✓	✓	
HOAMW-6	1/8/2009	Shallow	36	✓	✓	Well was redeveloped prior to the March 2015 sampling event.
HOAMW-14	2/18/2014	Shallow	41	✓	✓ (alternate)	Well permanently out of service and requires abandonment. *A previously unknown well (MW-x) has been identified as a potential alternate (see Figure 1).*

Table 1: Wells Specified for Semi-Annual Sampling

Well Number	Date of Construction	Water-Bearing Zone Monitoring Interval	Total Well Depth (ft)	CAP Semi-Annual Sampling Location	March 2015 Annual Sampling Event	Remarks
HOAMW-13	7/29/2009	Shallow	11	✓	-	Monitoring well cannot be found due to heavy vegetation. Location is hydrologically isolated from site by Woodall Creek and may be impacted by contamination emanating from Square D property. Recommend deletion from monitoring program (See Figure 1).
MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY) WELLS						
MTWMW-1	7/9/2008	Shallow	40	✓	✓	Well has been located, requires redevelopment.
MTWMW-2	7/9/2008	Shallow	39	✓	✓ (alternate)	Could not be located during Baseline event, but subsequently found and determined to be non-serviceable. MTWMW-4 was used as an alternate monitoring point (see Figure 1).
MTWMW-7	1/8/2009	Shallow	40	✓	✓	
MTWMW-7I	2/19/2014	Intermediate	30	✓	✓	
MTWMW-8	3/19/2009	Shallow	40	✓	✓	
MTWMW-9	3/19/2009	Shallow	35.5	✓	✓	
MTWMW-10	3/19/2009	Shallow	35.5	✓	✓	
MTWMW-12	7/29/2009	Shallow	38.0	✓	✓	

Notes:

✓ well utilized during indicated event

X well not utilized during indicated event

- no further sampling recommended at this location

Table 2: Monitoring Well Construction and Water Levels
April 8, 2015

Well Number	Date of Construction	Reference Point Elevation (ft msl)	Total Well Depth (ft)	Type of Well	Water-Bearing Zone Monitoring Interval	Well Casing Length (ft)*	Well Screen Length (ft)	Depth to Water (ft TOC)	Water Level (ft msl)	Well Serviceable
SOUTHERN METAL FINISHING PROPERTY WELLS										
SMFMW-1	10/4/2000	899.16	25	Type II	Shallow	10	15	14.75	884.41	Yes
SMFMW-2	10/4/2000	901.25	29	Type II	Shallow	14	15	16.21	885.04	Yes
SMFMW-3	10/4/2000	900.29	26	Type II	Shallow	11	15	15.20	885.09	Yes
SMFMW-4	10/5/2000	899.78	24	Type II	Shallow	9	15	14.25	885.53	Yes
SMFMW-5	10/5/2000	899.63	25	Type II	Shallow	10	15	12.08	887.55	Yes
SMFMW-6	10/19/2000	901.17	24	Type II	Shallow	9	15	13.76	887.41	Yes
SMFMW-7	10/19/2000	906.35	26	Type II	Shallow	11	15	17.38	888.97	Yes
SMFMW-8	10/19/2000	899.85	23.5	Type II	Shallow	8.5	15	11.89	-	No[1]
SMFMW-9	11/10/2000	903.78	27	Type II	Shallow	12	15	15.82	887.96	Yes
SMFMW-10	11/10/2000	903.90	27	Type II	Shallow	12	15	17.51	-	No[2]
SMFMW-11	11/10/2000	908.47	20	Type II	Shallow	10	10	14.82	893.65	Yes
SMFMW-12	1/29/2001	894.60	20.5	Type II	Shallow	10	10.5	13.28	881.32	Yes
SMFMW-13	1/29/2001	895.45	28	Type II	Shallow	13	15	17.62	877.83	Yes
SMFMW-14	1/29/2001	894.94	18.5	Type II	Shallow	8	10.5	10.25	884.69	Yes
SMFMW-15	5/4/2001	895.89	18.5	Type II	Shallow	8	10.5	ND	-	No[3]
SMFMW-16	5/4/2001	898.27	18.5	Type II	Shallow	8	10.5	ND	-	No[3]
SMFMW-17	7/19/2004	904.50	30	Type II	Shallow	20	10	16.52	887.98	Yes
SMFMW-18	7/19/2004	911.61	30	Type II	Shallow	20	10	20.91	890.70	Yes
SMFPI-1	3/24/2008	unknown	35	Type II	Shallow	25	10	14.35	-	Yes
SMFDS-1	5/10/2002	906.19	37	Type III	Intermediate (Top of Bedrock)	28 (34.5)	2.5	17.23	888.96	Yes
SMFDS-2	5/10/2002	894.54	31	Type III	Intermediate (Top of Bedrock)	20 (28.5)	2.5	11.01	883.53	Yes
SMFDS-3	5/10/2002	900.04	37.5	Type III	Intermediate (Top of Bedrock)	15 (35)	2.5	14.43	885.61	Yes
SMFDR-1	8/3/2002	906.16	49	Type III	Fractured Bedrock	39 (44)	5	17.27	888.89	Yes
SMFDR-2	6/4/2002	894.65	42	Type III	Fractured Bedrock	33 (39.5)	2.5	10.60	884.05	Yes
SMFDR-3	6/4/2002	899.90	53.5	Type III	Fractured Bedrock	39 (51)	2.5	14.56	885.34	Yes
SMFMW-1D	8/3/2004	900.97	96.5	Type III	Fractured Bedrock	53 (65) (88)	Open Hole from 88 to 96.5	16.79	884.18	Yes
MACY'S PROPERTY WELLS										
MPMW-15	Unknown	896.40	18.1	Type II	Shallow	8.1	10	11	885.40	Yes
MPMW-16	Unknown	898.41	18.6	Type II	Shallow	8.6	10	ND	-	No[3]
MPMW-19	5/6/2005	unknown	30	Type II	Shallow	15	15	11	-	Yes
DOBBINS PROPERTY WELLS										
DPMW-1	Unknown	895.65	35	Type II	Shallow	25	10	ND	-	No[3]
DPMW-1S	4/6/2004	895.99	25.5	Type II	Shallow	15.5	10	20.44	875.55	Yes
DPMW-2	Unknown	896.14	30	Type II	Shallow	20	10	ND	-	No[3]
DPMW-2S	4/9/2004	895.29	24.3	Type II	Shallow	14.3	10	13.98	881.31	Yes
DPMW-2I	4/13/2004	895.71	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	15.87	879.84	Yes
DPMW-3S	4/6/2004	895.61	30	Type II	Shallow	20	10	26.08	869.53	Yes
DPMW-3I	4/9/2004	895.67	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	26.38	869.29	Yes
DPMW-4S	4/13/2004	895.80	25.2	Type II	Shallow	15.2	10	17.15	878.65	Yes
DPMW-4I	4/16/2004	895.57	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	18.12	877.45	Yes
DPMW-5S	8/4/2004	unknown	35	Type II	Shallow	25	10	ND	-	No[3]
DPMW-9	Unknown	895.10	50	Type II	Shallow	40	10	ND	-	No[3]
DPMW-10	Unknown	896.14	51.3	Type II	Shallow	41.3	10	37.83	858.31	Yes
DPMW-14	Unknown	895.98	50	Type II	Shallow	40	10	ND	-	No[3]
DPMW-15	Unknown	unknown	86.7	Type II	Intermediate (Top of Bedrock)	76.7	10	38.26		Yes
DPMW-16	Unknown	896.71	96.8	Type III	Fractured Bedrock	Unknown	Open Hole from	38.61	858.10	Yes
DPMW-25	10/27/2010	895.58	50	Type II	Shallow	30	20	38.11	857.47	Yes
DPMW-26	10/27/2010	897.11	50	Type II	Shallow	30	20	34.95	862.16	Yes
DPMW-27	10/27/2010	901.30	50	Type II	Shallow	30	20	39.45	861.85	Yes
DPMW-28	10/27/2010	896.25	50	Type II	Shallow	30	20	36.83	859.42	Yes

Table 2: Monitoring Well Construction and Water Levels
April 8, 2015

Well Number	Date of Construction	Reference Point Elevation (ft msl)	Total Well Depth (ft)	Type of Well	Water-Bearing Zone Monitoring Interval	Well Casing Length (ft)*	Well Screen Length (ft)	Depth to Water (ft TOC)	Water Level (ft msl)	Well Serviceable
RESTAURANT SUPPLY (FORMER JODACO PROPERTY) WELLS										
JPMW-16	3/24/2010	864.63	50	Type II	Shallow	20	30	19.90	844.73	Yes
JPMW-17	3/24/2010	864.52	50	Type II	Shallow	20	30	14.22	850.30	Yes
JPMW-21	6/10/2010	858.70	39	Type II	Shallow	9	30	6.15	852.55	Yes
JPMW-22	6/10/2010	866.76	50	Type II	Shallow	20	30	11.69	855.07	Yes
JPMW-23	6/10/2010	866.71	49	Type II	Shallow	19	30	10.35	856.36	Yes
JPBRW-1	Unknown	864.52	164.5	Type III	Fractured Bedrock	Unknown	Open Hole from 147.5 to 164.5	31.06	833.46	Yes
DALTILE (FORMER REYNOLDS PROPERTY) WELLS										
RPMW-1	Unknown	853.39	20	Unknown	Shallow	Unknown	Unknown	12.93	840.46	Yes
RPMW-2	Unknown	871.62	29	Unknown	Shallow	Unknown	Unknown	24.26	847.36	Yes
RPMW-14	3/24/2010	861.23	50	Type II	Shallow	25	25	25.78	835.45	Yes
RPMW-15	3/24/2010	861.44	50	Type II	Shallow	20	30	20.15	841.29	Yes
RPMW-24	6/10/2010	865.29	50	Type II	Shallow	20	30	16.86	848.43	Yes
GOOSTONE PROPERTY WELLS (1494 & 1510 ELLSWORTH INDUSTRIAL BLVD.)										
GPMW-11	7/30/2009	847.92	39	Type II	Shallow	14	25	11.96	835.96	Yes
GPMW-18	3/26/2010	846.48	40	Type II	Shallow	10	30	9.83	836.65	Yes
GPMW-19	3/26/2010	841.86	36.5	Type II	Shallow	11.5	25	12.53	829.33	Yes
GPMW-20	6/10/2010	848.27	40	Type II	Shallow	10	30	10.13	838.14	Yes
M-WEST HOA (FORMER ABC SUPPLY PROPERTY) WELLS										
HOAMW-3	7/9/2008	840.98	40	Type II	Shallow	10	30	16.15	824.83	Yes
HOAMW-5	10/31/2008	841.06	35	Type II	Shallow	10	25	17.51	823.55	Yes
HOAMW-5I	2/19/2014	843.89	38	Type III	Intermediate (Top of Bedrock)	33 (33)	5	20.38	823.51	Yes
HOAMW-6	1/8/2009	841.10	36	Type II	Shallow	11	25	18.19	822.91	Yes
HOAMW-13	7/29/2009	unknown	11	Type II	Shallow	6	5	ND	-	No[3]
HOAMW-14	2/18/2014	857.36	41	Type II	Shallow	26	15	ND	-	No[1]
MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY) WELLS										
MTWMW-1	7/9/2008	841.33	40	Type II	Shallow	10	30	14.10	827.23	Yes
MTWMW-2	7/9/2008	839.37	39	Type II	Shallow	9	30	14.63	-	No[3]
MTWMW-4	10/31/2008	840.01	36	Type II	Shallow	11	25	13.08	826.93	Yes
MTWMW-7	1/8/2009	844.41	40	Type II	Shallow	15	25	31.50	812.91	Yes
MTWMW-7I	2/19/2014	844.59	30	Type III	Intermediate (Top of Bedrock)	23 (25)	5	158.41	686.18	Yes
MTWMW-8	3/19/2009	846.95	40	Type II	Shallow	15	25	14.65	832.30	Yes
MTWMW-9	3/19/2009	848.45	35.5	Type II	Shallow	15.5	20	15.28	833.17	Yes
MTWMW-10	3/19/2009	849.43	35.5	Type II	Shallow	15.5	20	14.97	834.46	Yes
MTWMW-12	7/29/2009	845.66	38.0	Trype II	Shallow	13.0	25	13.90	831.76	Yes
GLIDDEN PROPERTY WELLS										
AKZMW-3	Unknown	893.77	35	Type II	Shallow	25	10	23.73	-	No[2]
AKZMW-4	Unknown	890.12	27	Type II	Shallow	17	10	11.40	878.72	Yes
AKZMW-5	Unknown	905.05	30	Type II	Shallow	20	10	ND	-	No[3]
AKZMW-6	Unknown	899.36	23	Type II	Shallow	13	10	10.36	889.00	Yes
AKZMW-7	Unknown	897.80	23	Type II	Shallow	13	10	9.43	888.37	Yes
AKZMW-8	Unknown	894.89	23	Type II	Shallow	13	10	9.97	884.92	Yes
AKZMW-17	Unknown	901.46	57.5	Type II	Intermediate (Top of Bedrock)	37.5	20	ND	-	No[3]
AKZMW-18	Unknown	901.44	25.5	Type II	Shallow	10.5	15	ND	-	No[3]
AKZMW-19	Unknown	901.04	25	Type II	Shallow	15	10	ND	-	No[3]
AKZMW-20	Unknown	899.60	24.7	Type II	Shallow	14.7	10	ND	-	No[3]
WOODALL CREEK GAUGES[5]										
Staff Gauge 1	-	832.48	-	-	Surface Water	-	-	2.91	830.57	-
Staff Gauge 2	-	823.36	-	-	Surface Water	-	-	2.99	820.37	-
Staff Gauge 3	-	821.21	-	-	Surface Water	-	-	3.21	818.00	-

Notes:
*For Type III wells: outer casing depth (inner casing depth)
Elevations are relative to the National Geodetic Vertical Datum of 1929 (mean sea level).
Unknown - No Data/TOC elevation not determined/surveyed
Source: Peachtree Environmental, LLC, December 2011 Woodall Creek CAP Addendum
[1] - Well Destroyed
[2] - Well Obstructed by on-site activities
[3] - Well Not Found
[4] - Insufficient water column
[5] - Depth-to-water measurement is stream depth (ft) at the gauging point at the time of sampling.

Table 3: Summary of Well Purging
March - April 2015

Well Number	Monitoring Interval	Total Well Depth (ft)	CAP Semi-Annual Sampling Location	Sample Collected	Water Column Mar 2015 (ft)	Total Drawdown (ft)	Purging Remarks
SOUTHERN METAL FINISHING PROPERTY							
SMFMW-2	Shallow	29	✓	✓	12.52	0.17	Low-Flow purging
SMFMW-18	Shallow	30	✓	✓	9.04	0.13	Low-Flow purging
SMFPI-1	Shallow	35	✓	✓	20.47	0.18	Low-Flow purging
SMFDS-1	Intermediate	37	✓	✓	19.95	0.26	Low-Flow purging
SMFDR-2	Bedrock	42	✓	✓	29.90	>0.32	drawdown during purging exceeded low-flow conditions; purged to dryness and allowed to recharge prior to sampling
SMFDR-3	Bedrock	53.5	✓	✓	38.65	22.15	Low-Flow purging when water level stabilized at 37-feet.
SMFMW-1D	Bedrock	96.5	✓	✓	79.15	0.01	Low-Flow purging
MACY'S PROPERTY							
MPMW-15	Shallow	18.1	x	x	2.90	0.00	Low-Flow purging
DOBBINS PROPERTY							
DPMW-2S	Shallow	24.3	✓	✓	9.15	0.17	Low-Flow purging
DPMW-2I	Intermediate	50	✓	✓	32.14	0.54	Low-Flow purging
DPMW-3S	Shallow	30	✓	✓	3.57	1.00	Low-Flow purging
DPMW-10	Shallow	51.3	✓	✓	13.40	0.13	Low-Flow purging
DPMW-15	Intermediate	86.7	✓	✓	48.35	0.00	Low-Flow purging
DPMW-16	Bedrock	96.80	✓	✓	58.07	0.07	Low-Flow purging
DPMW-25	Shallow	50	✓	✓	11.71	0.07	Low-Flow purging
DPMW-27	Shallow	50	✓	✓	10.28	0.10	Low-Flow purging
RESTAURANT SUPPLY (FORMER JODACO PROPERTY)							
JPMW-16	Shallow	50	✓	✓	29.80	0.03	Low-Flow purging
JPMW-17	Shallow	50	✓	✓	35.71	0.10	Low-Flow purging
JPMW-21	Shallow	39	✓	✓	32.54	0.00	Low-Flow purging
JPMW-22	Shallow	50	✓	✓	38.07	0.11	Low-Flow purging
JPMW-23	Shallow	49	✓	✓	38.49	0.02	Low-Flow purging
JPBRW-1	Bedrock	164.5	✓	✓	133.30	0.25	Low-Flow purging
DALTILE (FORMER REYNOLDS PROPERTY)							
RPMW-2	Shallow	29	✓	✓	4.43	0.03	Low-Flow purging
RPMW-14	Shallow	50	✓	✓	24.05	0.02	Low-Flow purging
RPMW-15	Shallow	50	✓	✓	29.08	0.02	Low-Flow purging
RPMW-24	Shallow	50	✓	✓	33.05	0.06	Low-Flow purging
GOODSTONE PROPERTY (1494 & 1510 ELLSWORTH INDUSTRIAL BLVD.)							
GPMW-11	Shallow	39	✓	✓	26.94	0.14	Low-Flow purging
GPMW-18	Shallow	40	✓	✓	30.00	0.06	Low-Flow purging
GPMW-19	Shallow	36.5	✓	✓	23.84	0.15	Low-Flow purging
GPMW-20	Shallow	40	✓	✓	29.41	0.08	Low-Flow purging
M-WEST HOA (FORMER ABC SUPPLY PROPERTY)							
HOAMW-3	Shallow	40	✓	✓	23.68	0.08	Low-Flow purging
HOAMW-5	Shallow	35	✓	✓	17.29	0.09	Low-Flow purging
HOAMW-5I	Intermediate	38	✓	✓	17.32	0.07	Low-Flow purging
HOAMW-6	Shallow	36	✓	✓	17.71	0.05	Low-Flow purging
MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY)							
MTWMW-1	Shallow	40	✓	✓	25.67	0.04	Low-Flow purging
MTWMW-4	Shallow	35.05	Alternate for MTWMW-2	✓	21.81	0.13	Low-Flow purging
MTWMW-7	Shallow	40	✓	✓	24.82	0.03	Low-Flow purging
MTWMW-7I	Intermediate	30	✓	✓	14.63	0.03	Low-Flow purging
MTWMW-8	Shallow	40	✓	✓	25.18	0.00	Low-Flow purging
MTWMW-9	Shallow	35.5	✓	✓	20.10	0.02	Low-Flow purging
MTWMW-10	Shallow	35.5	✓	✓	20.50	0.10	Low-Flow purging
MTWMW-12	Shallow	38.0	✓	✓	23.50	0.05	Low-Flow purging

Notes:

✓ well utilized during indicated event

x well not utilized during indicated event

- no further sampling recommended at this location

Table 4: Summary of Groundwater Analytical Results
April - March, 2015

Well Designation			DPMW-10	DPMW-15	DPMW-16	DPMW-25	DPMW-27	DPMW-2I	DPMW-2S	DPMW-3S	GPMW-11	GPMW-18	GPMW-19	JP -1 GPMW-	GPMW-20	HOAMW-3	HOAMW-5	HOAMW-5I	JP-2 HOAMW	HOAMW-6	MW-X	JPBRW-1	JPMW-16	JPMW-17	JPMW-21	JPMW-22
Property Location	Unit		Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Goodstone	Goodstone	Goodstone	Goodstone	Goodstone	M-West HOA	M-West HOA	M-West HOA	M-West HOA	M-West HOA	M-West HOA	Restaurant Supply	Restaurant Supply	Restaurant Supply	Restaurant Supply	Restaurant Supply
Sample Collection Date			31-Mar-15	7-Apr-15	24-Mar-15	20-Mar-15	20-Mar-15	17-Mar-15	18-Mar-15	25-Mar-15	1-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	6-Apr-15	3-Apr-15	2-Apr-15	2-Apr-15	7-Apr-15	2-Apr-15	26-Mar-15	25-Mar-15	26-Mar-15	31-Mar-15	30-Mar-15
VOCs	**Type 1 RRS**																									
1,1-Dichloroethene	ug/L	7	0.208 U	**2.81 J**	**3.74 J**	0.208 U	0.416 U	0.171 U	0.208 U	0.208 U	0.208 U	0.208 U	1.04 U	1.04 U	0.208 U	0.416 U	1.04 U	0.416 U	0.416 U	0.208 U	0.208 U	0.208 U	0.416 U	0.208 U	**0.808 J**	**1.25 J**
Acetone	ug/L	4000	0.193 U	0.193 U	0.193 U	0.193 U	0.387 U	0.193 U	0.193 U	0.193 U	0.193 U	0.387 U	0.967 U	0.967 U	0.193 U	0.387 U	0.967 U	0.387 U	0.387 U	0.193 U	0.193 U	**10.2**	0.387 U	0.193 U	0.387 U	0.193 U
Benzene	ug/L	5	0.111 U	0.111 U	0.111 U	0.111 U	0.222 U	0.111 U	0.111 U	0.111 U	0.111 U	0.222 U	0.555 U	0.555 U	0.111 U	0.222 U	0.555 U	0.222 U	0.222 U	0.111 U	0.111 U	0.111 U	0.222 U	0.111 U	0.222 U	**3.97 J**
Chloroform	ug/L	80	**4.41 J**	**1.40 J**	**2.07 J**	**5.91**	**1.32 J**	0.155 U	0.155 U	0.155 U	**1.07 J**	**2.09 J**	**3.22 J**	**3.48 J**	0.155 U	9.84 **J**	**3.29 J**	**3.18 J**	**3.11 J**	**3.16 J**	0.155 U	0.155 U	**4.51 J**	**1.35 J**	**18.6**	**1.61 J**
cis-1,2-Dichloroethene	ug/L	70	**1.93 J**	**13.0**	**33.8**	**2.42 J**	**26.0**	**2.89 J**	**0.365 J**	0.103 U	**1.15 J**	**88.4**	**151**	**151**	**5.73**	**42.6**	**68.4**	**63.9**	**63.1**	**60.3**	0.124 U	**30.7 J**	**45.6**	**1.66 J**	**35.8**	**13.9**
Ethylbenzene	ug/L	700	0.109 U	0.109 U	0.109 U	0.109 U	0.218 U	0.109 U	0.109 U	0.109 U	0.109 U	0.218 U	0.545 U	0.545 U	0.109 U	0.218 U	0.545 U	0.218 U	0.218 U	0.109 U	0.109 U	0.109 U	0.545 U	0.109 U	0.218 U	0.109 U
Isopropylbenzene (Cumene)	ug/L	1	0.130 U	0.130 U	0.130 U	0.130 U	0.260 U	0.13 U	0.130 U	0.130 U	0.130 U	0.260 U	0.651 U	0.651 U	0.130 U	0.260 U	0.617 U	0.26 U	0.26 U	0.130 U	0.130 U	0.13 U	0.651 U	0.130 U	0.260 U	0.130 U
m,p-Xylene	ug/L	RL	0.123 U	0.123 U	0.123 U	0.123 U	0.247 U	0.123 U	**0.673 J**	0.123 U	0.123 U	0.247 U	0.617 U	0.617 U	0.123 U	0.247 U	0.617 U	0.247 U	0.247 U	0.123 U	0.123 U	0.123 U	0.247 U	0.123 U	0.247 U	0.123 U
Methylcyclohexane	ug/L	RL	0.143 U	0.143 U	0.143 U	0.143 U	0.287 U	0.143 U	0.143 U	0.143 U	0.143 U	0.287 U	0.717 U	0.717 U	0.143 U	0.287 U	0.717 U	0.287 U	0.287 U	0.143 U	0.143 U	0.143 U	0.717 U	0.143 U	0.287 U	0.143 U
o-Xylene	ug/L	RL	0.055 U	0.055 U	0.055 U	0.055 U	0.111 U	0.055 U	0.055 U	0.055 U	0.055 U	0.111 U	0.277 U	0.277 U	0.055 U	0.111 U	0.277 U	0.111 U	0.111 U	0.055 U	0.055 U	0.055 U	0.111 U	0.055 U	0.055 U	0.055 U
Tetrachloroethene	ug/L	5	**54.1**	**52.1**	**264**	**89.7**	**212**	**23.3 J**	**17.3**	**16.4**	**29.3**	**188**	**336**	**332**	**25.3**	**207**	**226**	**192**	**192**	**150**	0.193 U	**104 J**	**283**	**53.9**	**178**	**92.1**
Trichloroethene	ug/L	5	**5.09**	**21.7**	**83.6 J**	**8.48 J**	**36.9**	**3.66 J**	**4.46 J**	**1.01 J**	**4.83 J**	**47.8**	**107**	**106**	**4.44 J**	**62.7**	**70.7**	**59.9**	**59.4**	**54.4**	0.161 U	**101 J**	**108**	**7.45**	**24.8**	**13.8**
1,1,1-Trichloroethane	ug/L	200	0.123 U	0.123 U	0.123 U	0.123 U	0.246 U	0.123U U	0.123 U	0.123 U	0.123 U	0.246 U	0.615 U	0.615 U	0.123 U	0.246 U	0.615 U	0.246 U	0.246 U	0.123 U	0.123 U	0.123 U	0.615 U	0.123 U	0.246 U	0.123 U
1,1,2,2-Tetrachloroethane	ug/L	1	0.109 U	0.109 U	0.109 U	0.109 U	0.218 U	0.109U U	0.109 U	0.109 U	0.109 U	0.218 U	0.546 U	0.546 U	0.109 U	0.218 U	0.546 U	0.218 U	0.218 U	0.109 U	0.109 U	0.109 U	0.546 U	0.109 U	0.218 U	0.109 U
1,1,2-Trichloroethane	ug/L	5	0.159 U	0.159 U	0.159 U	0.159 U	0.318 U	0.159U U	0.159 U	0.159 U	0.159 U	0.318 U	0.795 U	0.795 U	0.159 U	0.318 U	0.795 U	0.318 U	0.318 U	0.159 U	0.159 U	0.159 U	0.795 U	0.159 U	0.318 U	0.159 U
1,1-Dichloroethane	ug/L	4000	0.171 U	**0.723 J**	0.171 U	0.171 U	0.342 U	0.171 U	0.171 U	0.171 U	0.171 U	0.342 U	0.856 U	0.856 U	0.171 U	0.342 U	0.856 U	0.342 U	0.342 U	0.171 U	0.171 U	0.171 U	0.856 U	0.171 U	0.342 U	0.171 U
1,2,4-Trichlorobenzene	ug/L	70	0.105 U	0.105 U	0.105 U	0.105 U	0.210 U	0.105U U	0.105 U	0.105 U	0.105 U	0.210 U	0.526 U	0.526 U	0.105 U	0.210 U	0.526 U	0.210 U	0.210 U	0.105 U	0.105 U	0.105 U	0.526 U	0.105 U	0.21 U	0.105 U
1,2-Dibromo-3-chloropropane	ug/L	1	0.194 U	0.194 U	0.194 U	0.194 U	0.388 U	0.194U U	0.194 U	0.194 U	0.194 U	0.388 U	0.971 U	0.971 U	0.194 U	0.388 U	0.971 U	0.388 U	0.388 U	0.194 U	0.194 U	0.194 U	0.971 U	0.194 U	0.388 U	0.194 U
1,2-Dibromoethane	ug/L	1	0.102 U	0.102 U	0.102 U	0.102 U	0.205 U	0.102U U	0.102 U	0.102 U	0.102 U	0.205 U	0.512 U	0.512 U	0.102 U	0.205 U	0.512 U	0.205 U	0.205 U	0.102 U	0.102 U	0.102 U	0.512 U	0.102 U	0.205 U	0.102 U
1,2-Dichlorobenzene	ug/L	600	0.135 U	0.135 U	0.135 U	0.135 U	0.270 U	0.135U U	0.135 U	0.135 U	0.135 U	0.270 U	0.674 U	0.674 U	0.135 U	0.270 U	0.674 U	0.270 U	0.270 U	0.135 U	0.135 U	0.135 U	0.674 U	0.135 U	0.27 U	0.135 U
1,2-Dichloroethane	ug/L	5	0.116 U	0.116 U	0.116 U	0.116 U	0.232 U	0.116U U	0.116 U	0.116 U	0.116 U	0.232 U	0.581 U	0.581 U	0.116 U	0.232 U	0.581 U	0.232 U	0.232 U	0.116 U	0.116 U	0.116 U	0.581 U	0.116 U	0.232 U	0.116 U
1,2-Dichloropropane	ug/L	5	0.150 U	0.150 U	0.150 U	0.150 U	0.301 U	0.150U U	0.150 U	0.150 U	0.150 U	0.301 U	0.752 U	0.752 U	0.150 U	0.301 U	0.752 U	0.301 U	0.301 U	0.150 U	0.150 U	0.150 U	0.752 U	0.150 U	0.301 U	0.150 U
1,3-Dichlorobenzene	ug/L	600	0.138 U	0.138 U	0.138 U	0.138 U	0.275 U	0.138U U	0.138 U	0.138 U	0.138 U	0.275 U	0.689 U	0.689 U	0.138 U	0.275 U	0.689 U	0.275 U	0.275 U	0.138 U	0.138 U	0.138 U	0.689 U	0.138 U	0.275 U	0.138 U
1,4-Dichlorobenzene	ug/L	75	0.083 U	0.083 U	0.083 U	0.083 U	0.166 U	0.083U U	0.083 U	0.083 U	0.083 U	0.166 U	0.416 U	0.416 U	0.083 U	0.166 U	0.416 U	0.166 U	0.166 U	0.083 U	0.083 U	0.083 U	0.416 U	0.083 U	0.166 U	0.083 U
2-Butanone	ug/L	2000	0.142 U	0.142 U	0.142 U	0.142 U	0.284 U	0.142U U	0.142 U	0.142 U	0.142 U	0.284 U	0.711 U	0.711 U	0.142 U	0.284 U	0.711 U	0.284 U	0.284 U	0.142 U	0.142 U	0.142 U	0.711 U	0.142 U	0.284 U	0.142 U
2-Chloroethylvinyl ether	ug/L	RL	0.146 U	0.146 U	0.146 U	0.146 U	0.291 U	0.146U U	0.146 U	0.146 U	0.146 U	0.291 U	0.729 U	0.729 U	0.146 U	0.291 U	0.729 U	0.291 U	0.291 U	0.146 U	0.146 U	0.146 U	0.729 U	0.146 U	0.291 U	0.146 U
2-Hexanone	ug/L	RL	0.122 U	0.122 U	0.122 U	0.122 U	0.245 U	0.122U U	0.122 U	0.122 U	0.122 U	0.245 U	0.612 U	0.612 U	0.122 U	0.245 U	0.612 U	0.245 U	0.245 U	0.122 U	0.122 U	0.122 U	0.245 U	0.122 U	0.245 U	0.122 U
4-Methyl-2-pentanone	ug/L	200	0.120 U	0.120 U	0.120 U	0.120 U	0.240 U	0.120U U	0.120 U	0.120 U	0.12 U	0.240 U	0.6 U	0.6 U	0.120 U	0.240 U	0.600 U	0.240 U	0.240 U	0.120 U	0.120 U	0.120 U	0.240 U	0.120 U	0.240 U	0.120 U
Bromodichloromethane	ug/L	80	0.083 U	0.083 U	0.083 U	0.083 U	0.167 U	0.083U U	0.083 U	0.083 U	0.083 U	0.167 U	0.417 U	0.417 U	0.083 U	0.167 U	0.417 U	0.167 U	0.167 U	0.083 U	0.083 U	0.083 U	0.167 U	0.083 U	**2.68 J**	0.083 U
Bromoform	ug/L	80	0.215 U	0.215 U	0.215 U	0.215 U	0.430 U	0.215U U	0.215 U	0.215 U	0.215 U	0.430 U	1.08 U	1.08 U	0.215 U	0.430 U	1.08 U	0.430 U	0.430 U	0.215 U	0.215 U	0.215 U	0.430 U	0.215 U	0.430 U	0.215 U
Bromomethane	ug/L	10	0.427 U	0.427 U	0.427 U	0.427 U	0.854 U	0.427U U	0.427 U	0.427 U	0.427 U	0.854 U	2.14 U	2.14 U	0.427 U	0.854 U	2.14 U	0.854 U	0.854 U	0.427 U	0.427 U	0.427 U	0.854 U	0.427 U	0.854 U	0.427 U
Carbon disulfide	ug/L	4000	0.190 U	0.190 U	0.190 U	0.190 U	0.380 U	0.190U U	0.190 U	0.190 U	0.190 U	0.380 U	0.95 U	0.95 U	0.190 U	0.380 U	0.950 U	0.380 U	0.380 U	0.190 U	0.190 U	0.190 U	0.380 U	0.190 U	0.38 U	0.190 U
Carbon tetrachloride	ug/L	5	0.248 U	0.248 U	0.248 U	0.248 U	0.496 U	0.248U U	0.248 U	0.248 U	0.248 U	0.496 U	1.24 U	1.24 U	0.248 U	0.496 U	1.24 U	0.496 U	0.496 U	0.248 U	0.248 U	0.248 U	0.496 U	0.248 U	0.496 U	0.248 U
Chlorobenzene	ug/L	100	0.083 U	0.083 U	0.083 U	0.083 U	0.166 U	0.083U U	0.083 U	0.083 U	0.083 U	0.166 U	0.414 U	0.414 U	0.083 U	0.166 U	0.414 U	0.166 U	0.166 U	0.083 U	0.083 U	0.083 U	0.166 U	0.083 U	0.166 U	0.083 U
Chloroethane	ug/L	1	0.235 U	0.235 U	0.235 U	0.235 U	0.470 U	0.235U U	0.235 U	0.235 U	0.235 U	0.470 U	1.18 U	1.18 U	0.235 U	0.470 U	1.18 U	0.470 U	0.470 U	0.235 U	0.235 U	0.235 U	0.47 U	0.235 U	0.287 U	0.235 U
Chloromethane	ug/L	3	0.144 U	0.144 U	0.144 U	0.144 U	0.287 U	0.144U U	0.144 U	0.144 U	0.144 U	0.287 U	0.718 U	0.718 U	0.144 U	0.287 U	0.718 U	0.287 U	0.287 U	0.144 U	0.144 U	0.144 U	0.287 U	0.144 U	0.144 U	0.144 U
cis-1,3-Dichloropropene	ug/L	2	0.124 U	0.124 U	0.124 U	0.124 U	0.248 U	0.124U U	0.124 U	0.124 U	0.124 U	0.248 U	0.621 U	0.621 U	0.124 U	0.248 U	0.621 U	0.248 U	0.248 U	0.124 U	0.124 U	0.124 U	0.248 U	0.124 U	0.248 U	0.124 U
Cyclohexane	ug/L	1	0.337 U	0.337 U	0.337 U	0.337 U	0.674 U	0.337U U	0.337 U	0.337 U	0.337 U	0.674 U	1.69 U	1.69 U	0.337 U	0.674 U	1.69 U	0.674 U	0.674 U	0.337 U	0.337 U	0.337 U	0.674 U	0.337 U	0.674 U	0.337 U
Dibromochloromethane	ug/L	80	0.054 U	0.054 U	0.054 U	0.054 U	0.108 U	0.054U U	0.054 U	0.054 U	0.054 U	0.108 U	0.27 U	0.27 U	0.054 U	0.108 U	0.270 U	0.108 U	0.108 U	0.054 U	0.054 U	0.054 U	0.108 U	0.054 U	0.108 U	0.054 U
Dichlorodifluoromethane	ug/L	1000	0.145 U	0.145 U	0.145 U	0.145 U	0.290 U	0.145U U	0.145 U	0.145 U	0.145 U	0.290 U	0.724 U	0.724 U	0.145 U	0.290 U	0.724 U	0.290 U	0.290 U	0.145 U	0.145 U	0.145 U	0.29 U	0.145 U	0.290 U	0.145 U
Methyl Acetate	ug/L	RL	0.159 U	0.159 U	0.159 U	0.159 U	0.319 U	0.159U U	0.159 U	0.159 U	0.159 U	0.319 U	0.797 U	0.797 U	0.159 U	0.319 U	0.797 U	0.319 U	0.319 U	0.159 U	0.159 U	0.159 U	0.319 U	0.159 U	0.319 U	0.159 U
Methylene chloride	ug/L	5	0.149 U	0.149 U	0.149 U	0.149 U	0.298 U	0.149U U	0.149 U	0.149 U	0.149 U	0.298 U	0.745 U	0.745 U	0.149 U	0.298 U	0.745 U	0.298 U	0.298 U	0.149 U	0.149 U	0.149 U	**1.71 J**	0.149 U	0.298 U	0.149 U
Styrene	ug/L	100	0.089 U	0.089 U	0.089 U	0.089 U	0.179 U	0.089U U	0.089 U	0.089 U	0.089 U	0.179 U	0.447 U	0.447 U	0.089 U	0.179 U	0.447 U	0.179 U	0.179 U	0.089 U	0.089 U	0.089 U	0.179 U	0.089 U	0.111 U	0.089 U
Toluene	ug/L	1000	0.122 U	**2.08 J**	0.122 U	0.122 U	0.244 U	0.122U U	0.122 U	0.122 U	0.122 U	0.244 U	0.609 U	0.609 U	0.122 U	0.244 U	0.609 U	0.244 U	0.244 U	0.122 U	0.122 U	0.122 U	0.244 U	0.122 U	0.244 U	0.122 U
Trichlorofluoromethane	ug/L	2000	0.157 U	0.157 U	0.157 U	0.157 U	0.314 U	0.157U U	0.157 U	0.157 U	0.157 U	0.314 U	0.785 U	0.785 U	0.157 U	0.314 U	0.785 U	0.314 U	0.314 U	0.157 U	0.157 U	0.157 U	0.314 U	0.157 U	0.314 U	0.157 U
Trichlorotrifluoroethane	ug/L	RL	0.158 U	0.158 U	0.158 U	0.158 U	0.316 U	0.158U U	0.158 U	0.158 U	0.158 U	0.316 U	0.79 U	0.79 U	0.158 U	0.316 U	0.790 U	0.316 U	0.316 U	0.158 U	0.158 U	0.158 U	0.316 U	0.158 U	0.316 U	0.158 U
Vinyl acetate	ug/L	RL	0.151 U	0.151 U	0.151 U	0.151 U	0.302 U	0.151U U	0.151 U	0.151 U	0.151 U	0.302 U	0.755 U	0.755 U	0.151 U	0.302 U	0.755 U	0.302 U	0.302 U	0.151 U	0.151 U	0.151 U	0.302 U	0.151 U	0.302 U	0.151 U
Vinyl chloride	ug/L	2	0.127 U	0.127 U	0.127 U	0.127 U	0.254 U	0.127U U	0.127 U	0.127 U	0.127 U	0.254 U	0.636 U	0.636 U	0.127 U	0.254 U	0.636 U	0.254 U	0.254 U	0.127 U	0.127 U	0.127 U	0.254 U	0.127 U	0.254 U	0.127 U
Xylene (total)	ug/L	10000	0.179 U	0.179 U	0.179 U	0.179 U	0.358 U	0.179U U	**0.673 J**	0.179 U	0.179 U	0.358 U	0.894 U	0.894 U	0.179 U	0.358 U	0.894 U	0.358 U	0.358 U	0.179 U	0.179 U	0.179 U	0.358 U	0.179 U	0.358 U	0.179 U
tert-Butyl methyl ether (MTBE)	ug/L	RL	0.078U U	0.078U U	0.078U U	0.078U U	0.155 U	0.078U U	0.078 U	0.078 U	0.078 U	0.155 U	0.389 U	0.389 U	0.078 U	0.155 U	0.389 U	0.155 U	0.155 U	0.078 U	0.078 U	0.078 U	0.155 U	0.078 U	0.155 U	0.078 U
trans-1,2-Dichloroethene	ug/L	100	0.077U U	0.077U U	0.077U U	0.077U U	0.154 U	0.077U U	0.077 U	0.077 U	0.077 U	0.128 U	**1.79 J**	**2.26 J**	0.077 U	0.154 U	**1.18 J**	**0.539 J**	**0.509 J**	0.077 U	0.077 U	**4.3 J**	0.154 U	0.077 U	0.154 U	0.077 U
trans-1,3-Dichloropropene	ug/L	2	0.128U U	0.128U U	0.128U U	0.128U U	0.255 U	0.128U U	0.128 U	0.128 U	0.128 U	0.255 U	0.639 U	0.639 U	0.128 U	0.255 U	0.639 U	0.255 U	0.255 U	0.128 U	0.128 U	0.128 U	0.255 U	0.128 U	0.255 U	0.128 U

Notes
ug/L - micrograms per liter
VOCs - volatile organic compounds
RRS - Risk Reduction Standard
U - concentration below the indicated detection limit
J - estimated concentration
Bold indicates detected concentration

Table 4: Summary of Groundwater Analytical Results
April - March, 2015

Well Designation			DPMW-10	DPMW-15	DPMW-16	DPMW-25	DPMW-27	DPMW-2I	DPMW-2S	DPMW-3S	GPMW-11	GPMW-18	GPMW-19	JP -1 GPMW-	GPMW-20	HOAMW-3	HOAMW-5	HOAMW-5I	JP-2 HOAMW	HOAMW-6	MW-X	JPBRW-1	JPMW-16	JPMW-17	JPMW-21	JPMW-22
Property Location	Unit		Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Dobbins	Goodstone	Goodstone	Goodstone	Goodstone	Goodstone	M-West HOA	M-West HOA	M-West HOA	M-West HOA	M-West HOA	M-West HOA	Restaurant Supply	Restaurant Supply	Restaurant Supply	Restaurant Supply	Restaurant Supply
Sample Collection Date			31-Mar-15	7-Apr-15	24-Mar-15	20-Mar-15	20-Mar-15	17-Mar-15	18-Mar-15	25-Mar-15	1-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	6-Apr-15	3-Apr-15	2-Apr-15	2-Apr-15	7-Apr-15	2-Apr-15	26-Mar-15	25-Mar-15	26-Mar-15	31-Mar-15	30-Mar-15
VOCs	**Type 1 RRS**																									
MNA Parameters																										
Ethane	ug/L	NA	0.087 U	**0.169 J**	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	**1.52**	0.087 U	0.087 U	0.087 U	**1.63**
Ethene	ug/L	NA	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	**11.6**	0.071 U	0.071 U	0.071 U	0.071 U
Methane	ug/L	NA	0.435 U	**750**	**1.66 J**	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	**26.9**	**37.4**	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	**1460**	0.435 U	0.435 U	0.435 U	0.435 U	**4.46**
Total Organic Carbon	mg/L	NA	0.30 U	**1.0 J**	0.30 U	0.30 U	0.30 U	**1.0 J**	**0.58 J**	0.30 U	**1.0 J**	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	**1.60**	0.30 U	0.30 U	0.30 U	**3.60**	**0.32 J**	**0.95** J	**0.48 J**	**1.4 J**
Sulfide	mg/L	NA	2.00 U	2.00 U	**2.60**	2.00 U	2.00 U	2.00 U	**2.40**	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Chloride	mg/L	NA	**6.07**	**23.7**	**34.9**	**9.8**	**11.8**	**47.9**	**41.2**	**8.49**	**8.73**	**21.0**	**21.9**	**22.4**	**26.5**	**14.5**	**21.0**	**19.8**	**19.7**	**17.8**	**3.78**	**31.2**	**12.2**	**9.82**	**15.4**	**14.3**
Nitrate	mg/L	NA	**2.06**	**2.23**	**2.82**	**6.32**	**4.91**	**8.36**	**0.134 J**	**1.39**	**2.18**	**1.20**	**1.46**	**1.46**	**1.61**	**2.14**	**1.58**	**1.47**	**1.46**	**2.52**	**0.102 J**	0.050 U	**3.63**	**3.40**	**1.44**	**1.7**
Sulfate	mg/L	NA	**46.1**	**20.6**	**18**	**15.6**	**20.6**	**27.5**	**26**	**79.2**	**33.4**	**11.7**	**10.2**	**10.1**	**21.5**	**38.5**	**20.4**	**19.7**	**20.4**	**20.5**	**7.35**	**17.4**	**28.6**	**40.8**	**8.50**	**36.0**
Ferrous Iron (mg/L)	mg/L	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.20**	0.00	0.00
Groundwater Quality																										
Temperature	°C	NA	19.19	22.79	18.18	18.28	16.67	20.52	16.57	16.86	20.87	17.63	19.36	19.36	16.61	18.16	19.53	19.92	19.92	19.95	17.37	23.86	21.34	18.09	18.54	20.16
pH	pH	NA	4.71	5.82	6.29	5.84	4.84	5.54	5.99	4.56	5.67	5.61	5.68	5.68	5.71	5.45	5.28	5.47	5.47	5.94	5.92	11.74	5.33	5.86	5.39	4.27
Turbidity	NTU	NA	8.2	31.4	0.35	5.2	8.1	0.8	9.9	44.2	950.0	>3000	77.0	77.0	>3000	65.1	73.2	8.7	8.7	17.4	5.2	9.9	189.0	91.8	42.0	87.3
Conductivity	ms/cm	NA	0.204	0.131	0.291	0.278	0.162	0.301	0.176	0.253	0.204	0.203	0.204	0.204	0.230	0.288	0.247	0.244	0.244	0.225	0.420	0.808	0.239	0.231	0.162	0.220
ORP	mV	NA	239.3	138.5	49.2	-35.0	196.5	203.6	172.4	256.8	168.7	176.2	NM	NM	224.1	144.1	185.2	85.1	85.1	74.1	-7.4	-231.8	193.8	195.3	406.3	212.6
Dissolved Oxygen (mg/L)	mg/L	NA	1.19	1.59	1.08	0.60	1.51	1.48	3.43	1.72	5.57	4.49	NM	NM	2.07	1.95	0.98	1.10	1.10	0.62	0.82	0.90	2.32	4.76	1.16	0.46

Notes
RRS - Risk Reduction Standard
mg/L - milligrams per liter
°C - degrees Celsius
pH - potential of hydrogen
NTU - nephelometric turbidity units
mV - millivolt
U - concentration below the indicated detection limit
J - estimated concentration
Bold indicates detected concentration

Table 4: Summary of Groundwater Analytical Results
April - March, 2015

Well Designation / Property Location / Sample Collection Date	Unit		JPMW-23 Restaurant Supply 30-Mar-15	MTWMW-1 Midtown West 3-Apr-15	MTWMW-08 Midtown West 6-Apr-15	MTWMW-10 Midtown West 6-Apr-15	MTWMW-12 Midtown West 3-Apr-15	MTWMW-4 Midtown West 6-Apr-15	MTWMW-7 Midtown West 7-Apr-15	MTWMW-7I Midtown West 7-Apr-15	MTWMW-9 Midtown West 6-Apr-15	RPMW-2 Daltile 31-Mar-15	RPMW-14 Daltile 1-Apr-15	RPMW-15 Daltile 1-Apr-15	RPMW-24 Daltile 1-Apr-15	SMFDS-1 Southern Metal 31-Mar-15	SMFDR-2 Southern Metal 24-Mar-15	SMFDR-3 Southern Metal 18-Mar-15	SMFMW-18 Southern Metal 18-Mar-15	SMFMW-1D Southern Metal 19-Mar-15	SMFMW-2 Southern Metal 17-Mar-15	SMFPI-1 Southern Metal 18-Mar-15
VOCs	**Type 1 RR**																					
1,1-Dichloroethene	ug/L	7	0.208 U	**1.61 J**	2.08 U	0.208 U	0.208 U	**0.326 J**	**10.0**	**18.5**	0.416 U	0.208 U	0.416 U	0.416 U	1.04 U	0.208 U	**0.854 J**	0.208 U	0.208 U	**1.37 J**	0.208 U	0.208 U
Acetone	ug/L	4000	0.193 U	0.967 U	1.93 U	0.193 U	0.193 U	0.193 U	0.193 U	0.387 U	0.387 U	0.193 U	0.387 U	0.967 U	1.93 U	0.193 U	0.193 U	0.193 U	0.193 U	0.193 U	0.193 U	0.193 **U**
Benzene	ug/L	5	0.111 U	0.555 U	1.11 U	0.111 U	0.111 U	0.111 U	0.111 U	0.222 U	0.222 U	0.111 U	0.222 U	0.555 U	1.11 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloroform	ug/L	80	**0.570 J**	0.775 U	1.55 U	0.144 U	0.155 U	**10.5**	0.144 U	**1.02 J**	**1.55 J**	0.155 U	0.310 U	0.310 U	**2.23 J**	0.155 U	0.155 U	0.155 U	0.155 U	**0.484 J**	**2.93 J**	0.155 U
cis-1,2-Dichloroethene	ug/L	70	**3.76 J**	**370**	**90.9**	**1.93 J**	0.103 U	**33.4**	**87.2**	**40.8**	**39.7 J**	0.103 U	**2.33 J**	**2.10 J**	**33.5 J**	0.103 U	0.103 U	**1.74 J**	0.103 U	0.103 U	**3.04 J**	**2.36 J**
Ethylbenzene	ug/L	700	0.109 U	0.545 U	1.09 U	0.109 U	0.109 U	0.109 U	0.109 U	0.218 U	0.218 U	0.109 U	0.218 U	0.109 U	0.545 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
Isopropylbenzene (Cumene)	ug/L	1	0.130 U	0.651 U	1.3 U	0.130 U	0.130 U	0.130 U	0.130 U	0.26 U	0.26 U	0.130 U	0.26 U	0.13 U	0.65 U	0.130 U	0.130 U	0.130 U	0.130 U	0.130 U	0.130 U	0.130 U
m,p-Xylene	ug/L	RL	0.123 U	0.617 U	1.23 U	0.123 U	0.123 U	0.123 U	0.123 U	0.247 U	0.247 U	0.123 U	0.247 U	0.123 U	0.617 U	0.123 U	0.123 U	0.123 U	**1.10 J**	0.123 U	0.214 U	**0.831 J**
Methylcyclohexane	ug/L	RL	0.143 U	0.717 U	1.43 U	0.143 U	0.143 U	0.143 U	0.143 U	0.287 **J**	0.287 U	0.143 U	0.287 U	0.143 U	0.717 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U
o-Xylene	ug/L	RL	0.055 U	0.277 U	0.554 U	0.055 U	0.055 U	0.055 U	0.055 U	0.111 U	0.111 U	0.055 U	0.111 U	0.055 U	0.227 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
Tetrachloroethene	ug/L	5	**19.0**	**28.8**	**1080**	**55.2**	**1.92 J**	**194**	**96.1**	**305**	**311**	**4.16 J**	**372**	**334**	**864**	**3.64 J**	**3.69 J**	**236**	0.193 U	**1.20 J**	**133**	**5.32**
Trichloroethene	ug/L	5	**4.34 J**	**31.9**	**415**	**7.98**	0.161 U	**51.4**	**76.9**	**193**	**131**	**1.06 J**	**128**	**121**	**256**	0.16 U	**2.71 J**	**3.14 J**	0.161 U	**3.63 J**	**22**	0.161 U
1,1,1-Trichloroethane	ug/L	200	0.123 U	0.615 U	1.23 U	0.123 U	0.123 U	0.123 U	0.123 U	**2.31 J**	0.246 U	0.123 U	0.246 U	0.246 U	0.615 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U
1,1,2,2-Tetrachloroethane	ug/L	1	0.109 U	0.546 U	1.09 U	0.109 U	0.109 U	0.109 U	0.109 U	0.218 U	0.218 U	0.109 U	0.218 U	0.218 U	0.546 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1,2-Trichloroethane	ug/L	5	0.159 U	0.795 U	1.59 U	0.159 U	0.159 U	0.159 U	0.318 U	0.318 U	0.318 U	0.159 U	0.318 U	0.318 U	0.795 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U
1,1-Dichloroethane	ug/L	4000	0.171 U	0.856 U	1.71 U	0.171 U	0.171 U	0.171 U	**2.99 J**	**2.40 J**	0.342 U	0.171 U	0.342 U	0.342 U	0.856 U	0.171 U	0.171 U	**0.411 J**	0.171 U	**0.712 J**	0.171 U	0.171 U
1,2,4-Trichlorobenzene	ug/L	70	0.105 U	0.526 U	1.05 U	0.105 U	0.105 U	0.105 U	0.105 U	0.210 U	0.210 U	0.105 U	0.210 U	0.210 U	0.526 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
1,2-Dibromo-3-chloropropane	ug/L	1	0.194 U	0.971 U	1.94 U	0.194 U	0.194 U	0.194 U	0.194 U	0.388 U	0.388 U	0.194 U	0.388 U	0.388 U	0.971 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U
1,2-Dibromoethane	ug/L	1	0.102 U	0.512 U	1.02 U	0.102 U	0.102 U	0.102 U	0.102 U	0.205 U	0.205 U	0.102 U	0.205 U	0.205 U	0.512 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U
1,2-Dichlorobenzene	ug/L	600	0.135 U	0.674 U	1.35 U	0.135 U	0.135 U	0.135 U	0.135 U	0.27 U	0.270 U	0.135 U	0.270 U	0.270 U	0.674 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U
1,2-Dichloroethane	ug/L	5	0.116 U	0.581 U	1.16 U	0.116 U	0.116 U	0.116 U	0.116 U	0.232 U	0.232 U	0.116 U	0.232 U	0.232 U	0.581 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
1,2-Dichloropropane	ug/L	5	0.150 U	0.752 U	1.50 U	0.15 U	0.150 U	0.150 U	0.150 U	0.301 U	0.301 U	0.150 U	0.301 U	0.301 U	0.752 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U
1,3-Dichlorobenzene	ug/L	600	0.138 U	0.689 U	1.38 U	0.138 U	0.138 U	0.138 U	0.138 U	0.275 U	0.275 U	0.138 U	0.275 U	0.275 U	0.689 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U
1,4-Dichlorobenzene	ug/L	75	0.083 U	0.416 U	0.831 U	0.083 U	0.083 U	0.083 U	0.083 U	0.166 U	0.166 U	0.083 U	0.166 U	0.166 U	0.416 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
2-Butanone	ug/L	2000	0.142 U	0.711 U	1.42 U	0.142 U	0.142 U	0.142 U	0.142 U	0.284 U	0.284 U	0.142 U	0.284 U	0.284 U	0.711 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
2-Chloroethylvinyl ether	ug/L	RL	0.146 U	0.729 U	1.46 U	0.146 U	0.146 U	0.146 U	0.146 U	0.291 U	0.291 U	0.146 U	0.291 U	0.291 U	0.729 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U
2-Hexanone	ug/L	RL	0.122 U	0.612 U	1.22 U	0.122 U	0.122 U	0.122 U	0.122 U	0.245 U	0.245 U	0.122 U	0.245 U	0.245 U	0.612 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
4-Methyl-2-pentanone	ug/L	200	0.120 U	0.600 U	1.20 U	0.120 U	0.120 U	0.120 U	0.120 U	0.24 U	0.240 U	0.120 U	0.240 U	0.240 U	0.600 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
Bromodichloromethane	ug/L	80	0.083 U	0.417 U	0.834 U	0.083 U	0.083 U	0.083 U	0.083 U	0.167 U	0.167 U	0.083 U	0.167 U	0.167 U	0.417 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Bromoform	ug/L	80	0.215 U	1.08 U	2.15 U	0.215 U	0.215 U	0.215 U	0.215 U	0.430 U	0.430 U	0.215 U	0.430 U	0.430 U	1.08 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U
Bromomethane	ug/L	10	0.427 U	2.14 U	4.27 U	0.427 U	0.427 U	0.427 U	0.427 U	0.854 U	0.854 U	0.427 U	0.854 U	0.854 U	2.14 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U
Carbon disulfide	ug/L	4000	0.190 U	0.950 U	1.90 U	0.190 U	0.190 U	0.190 U	0.190 U	0.380 U	0.380 U	0.190 U	0.380 U	0.380 U	0.950 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Carbon tetrachloride	ug/L	5	0.248 U	1.24 U	2.48 U	0.248 U	0.248 U	0.248 U	0.248 U	0.496 U	0.496 U	0.248 U	0.496 U	0.496 U	1.24 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U
Chlorobenzene	ug/L	100	0.083 U	0.414 U	0.828 U	0.083 U	0.083 U	0.083 U	0.083 U	0.830 U	0.166 U	0.083 U	0.166 U	0.166 U	0.414 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Chloroethane	ug/L	1	0.235 U	1.18 U	2.35 U	0.235 U	0.235 U	0.235 U	0.235 U	0.470 U	0.470 U	0.235 U	0.470 U	0.470 U	1.18 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U
Chloromethane	ug/L	3	0.144 U	0.718 U	1.44 U	0.144 U	0.144 U	0.144 U	0.144 U	0.287 U	0.287 U	0.144 U	0.287 U	0.287 U	0.718 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U
cis-1,3-Dichloropropene	ug/L	2	0.124 U	0.621 U	1.24 U	0.124 U	0.124 U	0.124 U	0.124 U	0.248 U	0.248 U	0.124 U	0.248 U	0.248 U	0.621 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U
Cyclohexane	ug/L	1	0.337 U	1.69 U	3.37 U	0.337 U	0.337 U	0.337 U	0.337 U	0.674 U	0.674 U	0.337 U	0.674 U	0.674 U	1.69 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Dibromochloromethane	ug/L	80	0.054 U	0.270 U	0.539 U	0.054 U	0.054 U	0.054 U	0.054 U	0.108 U	0.108 U	0.054 U	0.108 U	0.108 U	0.270 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
Dichlorodifluoromethane	ug/L	1000	0.145 U	0.724 U	1.45 U	0.145 U	0.145 U	0.145 U	0.145 U	0.290 U	0.290 U	0.145 U	0.290 U	0.290 U	0.724 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U
Methyl Acetate	ug/L	RL	0.159 U	0.797 U	1.59 U	0.159 U	0.159 U	0.159 U	0.159 U	0.319 U	0.319 U	0.159 U	0.319 U	0.319 U	0.797 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U
Methylene chloride	ug/L	5	0.149 U	0.745 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	**2.96 J**	0.298 U	0.149 U	0.298 U	0.298 U	0.745 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.143 U	0.149 U
Styrene	ug/L	100	0.089 U	0.447 U	0.894 U	0.089 U	0.089 U	0.089 U	0.089 U	0.179 U	0.179 U	0.089 U	0.179 U	0.179 U	0.447 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
Toluene	ug/L	1000	0.122 U	0.609 U	1.22 U	0.122 U	0.122 U	0.122 U	0.122 U	0.244 U	0.244 U	0.122 U	0.244 U	0.244 U	0.609 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Trichlorofluoromethane	ug/L	2000	0.157 U	0.785 U	1.57 U	0.157 U	0.157 U	0.157 U	0.157 U	0.314 U	0.314 U	0.157 U	0.314 U	0.314 U	0.785 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U
Trichlorotrifluoroethane	ug/L	RL	0.158 U	0.790 U	1.58 U	0.158 U	0.158 U	0.158 U	0.158 U	0.316 U	0.316 U	0.158 U	0.316 U	0.316 U	0.79 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
Vinyl acetate	ug/L	RL	0.151 U	0.755 U	1.51 U	0.151 U	0.151 U	0.151 U	0.151 U	0.302 U	0.302 U	0.151 U	0.302 U	0.302 U	0.755 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U
Vinyl chloride	ug/L	2	0.127 U	**8.30 J**	1.27 U	0.127 U	0.127 U	0.127 U	**22.6**	**8.96 J**	0.254 U	0.127 U	0.254 U	0.254 U	0.636 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Xylene (total)	ug/L	10000	0.179 U	0.894 U	1.79 U	0.179 U	0.179 U	0.179 U	0.179 U	0.358 U	0.358 U	0.179 U	0.358 U	0.358 U	0.894 U	0.179 U	0.179 U	0.179 U	**1.10 J**	0.179 U	0.179 U	**0.831 J**
tert-Butyl methyl ether (MTBE)	ug/L	RL	0.078 U	0.389 U	0.777 U	0.078 U	0.078 U	0.078 U	0.078 U	0.155 U	0.155 U	0.078 U	0.155 U	0.078 U	0.389 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
trans-1,2-Dichloroethene	ug/L	100	0.077 U	0.385 U	0.769 U	0.077 U	0.077 U	0.077 U	**0.873 J**	0.154 U	0.154 U	0.077 U	0.154 U	0.077 U	0.609 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
trans-1,3-Dichloropropene	ug/L	2	0.128 U	0.639 U	1.28 U	0.128 U	0.128 U	0.128 U	0.128 U	0.255 U	0.255 U	0.128 U	0.255 U	0.128 U	0.385 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U

Notes
ug/L - micrograms per liter
VOCs - volatile organic compounds
RRS - Risk Reduction Standard
U - concentration below the indicated detection li
J - estimated concentration
Bold indicates detected concentration

Table 4: Summary of Groundwater Analytical Results
April - March, 2015

Well Designation			JPMW-23	MTWMW-1	MTWMW-08	MTWMW-10	MTWMW-12	MTWMW-4	MTWMW-7	MTWMW-7I	MTWMW-9	RPMW-2	RPMW-14	RPMW-15	RPMW-24	SMFDS-1	SMFDR-2	SMFDR-3	SMFMW-18	SMFMW-1D	SMFMW-2	SMFPI-1
Property Location	Unit		Restaurant	Midtown West	Midtown West	Midtown West	Midtown West	Midtown West	Midtown West	Midtown West	Midtown West	Daltile	Daltile	Daltile	Daltile	Southern Metal	Southern Metal	Southern Metal	Southern Metal	Southern Metal	Southern Metal	Southern Metal
Sample Collection Date			30-Mar-15	3-Apr-15	6-Apr-15	6-Apr-15	3-Apr-15	6-Apr-15	7-Apr-15	7-Apr-15	6-Apr-15	31-Mar-15	1-Apr-15	1-Apr-15	1-Apr-15	31-Mar-15	24-Mar-15	18-Mar-15	18-Mar-15	19-Mar-15	17-Mar-15	18-Mar-15
VOCs	**Type 1 RR**																					
MNA Parameters																						
Ethane	ug/L	NA	0.087 U	**1.75**	0.087 U	0.087 U	0.087 U	0.087 U	**4.67**	**1.39**	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U
Ethene	ug/L	NA	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	**0.868 J**	**0.322 J**	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
Methane	ug/L	NA	**14.8**	**213**	0.435 U	0.435 U	**490**	0.435 U	**2940**	**734**	0.435 U	0.435 U	**1.07 J**	0.435 U	0.435 U	**2.72**	0.435 U	0.435 U	0.435 U	**0.485 J**	0.435 U	0.435 U
Total Organic Carbon	mg/L	NA	6.2	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	**2.3**	**0.33 J**	**0.66 J**	1.5 U	0.30 U	0.30 U	0.30 J
Sulfide	mg/L	NA	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**2.40**	2.00 U	2.00 U	2.00 U	2.00 U
Chloride	mg/L	NA	**8.02**	**10.1**	**14.1**	**9.67**	**16.0**	**13.9**	**9.7**	**9.46**	**11.9**	**8.11**	**13.9**	**21.4**	**24.7**	**8.81**	**33.4**	**4.95**	**18.4**	**28.1**	**23.1**	**32.8**
Nitrate	mg/L	NA	**1.21**	0.05 U	**2.65**	**2.94**	**0.543**	**2.44**	0.050 U	**0.244**	**3.19**	0.050 U	**2.39**	**1.92**	**4.93**	0.050 U	**2.99**	**0.130 J**	**7.98**	**25.1**	**11.8**	**12.7**
Sulfate	mg/L	NA	**3.42**	**18.8**	**23.9**	**46.6**	**22.4**	**29.1**	**10.7**	**24.8**	**30.2**	**14.2**	**23.5**	**26.3**	**40.8**	**94.6**	**32.6**	**38.7**	**327**	**26**	**26.9**	**60.0**
Ferrous Iron (mg/L)	mg/L	NA	0.00	**3.00**	0.00	0.00	2.00	0.00	**5.60**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Groundwater Quality																						
Temperature	°C	NA	22.89	17.08	16.55	18.90	17.74	19.26	14.78	15.61	18.04	22.32	21.05	23.01	18.60	21.26	16.40	18.38	17.36	14.70	20.61	19.18
pH	pH	NA	6.04	5.53	5.18	5.75	5.61	5.81	6.26	6.17	5.40	5.60	6.04	5.49	5.79	5.19	5.71	4.78	8.02	6.06	3.43	4.40
Turbidity	NTU	NA	36.7	17.2	77.4	12.1	8.5	684.0	47.9	18.3	15.6	122.0	1271.0	53.2	>3000	12.9	14.6	7.6	8.6	4.6	7.85	10.4
Conductivity	ms/cm	NA	0.079	0.200	0.174	0.238	0.234	0.213	0.384	0.285	0.187	0.244	0.272	0.249	0.285	0.393	0.285	0.327	3.87	0.237	0.284	0.402
ORP	mV	NA	108.6	73.8	338.0	168.7	94.8	175.8	26.9	123.5	210.0	258.0	816.8	158.4	286.0	246.7	281.8	255.0	175.7	191.7	314.3	159.9
Dissolved Oxygen (mg/L)	mg/L	NA	5.52	0.41	2.47	3.51	0.21	2.54	0.27	0.30	2.92	1.01	5.91	0.40	1.10	4.03	2.34	3.28	4.01	0.92	3.36	3.36

Notes
RRS - Risk Reduction Standard
mg/L - milligrams per liter
°C - degrees Celsius
pH - potential of hydrogen
NTU - nephelometric turbidity units
mV - millivolt
U - concentration below the indicated detection li
J - estimated concentration
Bold indicates detected concentration

Table 5: Summary of Current and Historic Site-Wide Groundwater Quality Results

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
Southern Metal Finishing Property															
SMFDS-1	SMFDS-1	3/31/2015		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**3.64J**	<0.161
SMFDR-1	SMFDR-1	3/20/2014		<0.208	**2.48J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.78J**	<0.161
SMFDR-2	SMFDR-2	3/14/2014		**1.22J**	<0.193	<0.111	<0.155	**0.208J**	<0.109	<0.130	<0.123	<0.143	<0.055	**2.92J**	**4.21J**
SMFDR-2	SMFDR-2	9/17/2014		**1.31J**	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**4.00J**	**3.30J**
SMFDR-2	SMFDR-2	3/24/2015		**0.854J**	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**3.69J**	**2.71J**
SMFDR-3	SMFDR-3	3/19/2014		<0.416	**0.746J**	<0.222	<0.310	**1.77J**	<0.218	<0.260	**1.56J**	<0.287	**1.27J**	**260**	**7.53J**
SMFDR-3	SMFDR-3	9/18/2014		<0.208	<0.193	<0.111	<0.155	**2.00J**	<0.109	<0.103	<0.123	<0.143	<0.055	**158**	**4.02J**
SMFDR-3	SMFDR-3	3/18/2015		<0.208	<0.193	<0.111	<0.155	**1.74J**	<0.109	<0.103	<0.123	<0.143	<0.055	**236**	**3.14J**
SMFDS-3	SMFDS-3	3/19/2014		<0.208	**1.09J**	<0.111	<0.155	**2.10J**	<0.109	<0.130	<0.123	<0.143	<0.055	**12.6**	<0.161
SMFMW-1	SMFMW-1	3/1/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	**7.4**
SMFMW-1	SMFMW-1	3/19/2014	D	**0.208**	**0.653J**	**0.111**	**0.687J**	**0.533**	**0.109**	**0.13**	**0.123**	**0.143**	**0.055**	**4.96J**	**1.63J**
SMFMW-1	SMFMW-1	3/19/2014		<0.208	**0.762J**	**0.130J**	**0.686J**	**0.515J**	**0.317J**	<0.130	**0.761J**	**0.465J**	**0.452J**	**4.58J**	**1.43J**
SMFMW-1D	SMFMW-1D	3/18/2014		**1.11J**	<0.193	<0.111	**0.436J**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.67J**	**4.13J**
SMFMW-1D	SMFMW-1D	9/16/2014		**1.63J**	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.50J**	**4.85J**
SMFMW-1D	SMFMW-1D	3/19/2015		**1.37**	<0.193	<0.111	**0.484J**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.20J**	**3.63J**
SMFMW-2	SMFMW-2	3/1/2011		<5	<50	<5	<5	**14**	<5	<5	<5	<5	<5	**180**	**35**
SMFMW-2	SMFMW-2	3/19/2014		<0.208	**0.650J**	<0.111	**2.16J**	**3.21J**	<0.109	<0.130	<0.123	<0.143	<0.055	**129**	**24**
SMFMW-2	SMFMW-2	9/18/2014		<0.208	<0.193	<0.111	**3.12J**	**5**	<0.109	<0.130	<0.123	<0.143	<0.055	**130**	**27.2**
SMFMW-2	SMFMW-2	3/17/2015		<0.208	<0.193	<0.111	**2.93J**	**3.04J**	<0.109	<0.130	<0.123	<0.143	<0.055	**133**	**22.0**
SMFMW-3	SMFMW-3	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**78**	**8**
SMFMW-3	SMFMW-3	3/18/2014		<0.208	<0.193	<0.111	**3.45J**	**0.274J**	<0.109	<0.130	<0.123	<0.143	<0.055	**54.2**	**5.16**
SMFMW-4	SMFMW-4	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**16**	<5
SMFMW-4	SMFMW-4	3/18/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**4.29J**	<0.161
SMFMW-6	SMFMW-6	2/28/2011		<5	<50	<5	<5	<5	**130**	**77**	**250**	**23**	**460**	**48**	<5
SMFMW-6	SMFMW-6	3/21/2014		<0.208	**6.01**	<0.111	<0.155	**0.337J**	**22.4**	**24.4**	**42.3**	**4.05J**	**117**	**25.1**	**1.25J**
SMFMW-7	SMFMW-7	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**10**	<5
SMFMW-7	SMFMW-7	3/20/2014		<0.208	**3.37J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**15.6**	<0.161
SMFMW-9	SMFMW-9	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**5.8**	<5
SMFMW-9	SMFMW-9	3/24/2014		<0.208	**2.36J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**3.36J**	<0.161
SMFMW-10	SMFMW-10	3/1/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SMFMW-10	SMFMW-10	3/24/2014		<0.208	**2.86J**	<0.111	<0.155	**0.708J**	<0.109	<0.130	<0.123	<0.143	<0.055	**7.69**	**0.189J**
SMFMW-11	SMFMW-11	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SMFMW-11	SMFMW-11	3/20/2014		<0.208	**2.38J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<0.193	<0.161
SMFMW-12	SMFMW-12	3/2/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SMFMW-12	SMFMW-12	3/13/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**2.18J**	<0.161
SMFMW-13	SMFMW-13	3/2/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**11**	<5
SMFMW-13	SMFMW-13	3/18/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**2.65J**	<0.161
SMFMW-14	SMFMW-14	3/1/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	**60**	**6.7**
SMFMW-14	SMFMW-14	3/20/2014		<0.208	**2.38J**	<0.111	**0.227J**	**0.340J**	<0.109	<0.130	<0.123	<0.143	<0.055	**25.2**	**5.37**
SMFMW-17	SMFMW-17	3/1/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SMFMW-17	SMFMW-17	3/20/2014		**0.436J**	**2.45J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<0.193	<0.161
SMFMW-18	SMFMW-18	2/28/2011		<5	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SMFMW-18	SMFMW-18	3/21/2014		<0.208	<0.193	**0.208J**	**0.172J**	**4.19J**	<0.109	<0.130	<0.123	<0.143	<0.055	**2.92J**	**0.860J**
SMFMW-18	SMFMW-18	9/19/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.214	<0.143	<0.055	**1.51J**	<0.161
SMFMW-18	SMFMW-18	3/18/2015		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	**1.10J**	<0.143	<0.055	<0.193	<0.161
SMFPI-1	SMFPI-1	3/19/2014	D	<0.208	**0.666J**	<0.111	<0.155	**1.31J**	<0.109	<0.130	<0.123	<0.143	<0.055	**6.38**	<0.161
SMFPI-1	SMFPI-1	3/19/2014		<0.208	**0.736J**	<0.111	<0.155	**1.14J**	<0.109	<0.130	<0.123	<0.143	<0.055	**6.41**	<0.161
SMFPI-1	SMFPI-1	9/16/2014		<0.208	<0.193	<0.111	<0.155	**4.04J**	<0.109	<0.130	<0.214	<0.143	<0.055	**11.5**	**0.629J**
SMFPI-1	SMFPI-1	3/18/2015		<0.208	<0.193	<0.111	<0.155	**2.36J**	<0.109	<0.130	**0.831J**	<0.143	<0.055	**5.3**	<0.161

Table 5: Summary of Current and Historic Site-Wide Groundwater Quality Results

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
Glidden Property															
AKZMW-3	AKZMW-3	3/13/2014		<0.208	**NA**	**NA**	**NA**	<0.103	**NA**	**NA**	**NA**	**NA**	**NA**	<0.193	<0.161
AKZMW-4	AKZMW-4	3/13/2014		<0.208	**NA**	**NA**	**NA**	<0.103	**NA**	**NA**	**NA**	**NA**	**NA**	<0.193	<0.161
AKZMW-6	AKZMW-6	3/13/2014		<0.208	**NA**	**NA**	**NA**	<0.103	**NA**	**NA**	**NA**	**NA**	**NA**	<0.193	<0.161
AKZMW-7	AKZMW-7	3/13/2014		<0.208	**NA**	**NA**	**NA**	<0.103	**NA**	**NA**	**NA**	**NA**	**NA**	<0.193	<0.161
AKZMW-8	AKZMW-8	3/13/2014		<0.208	**NA**	**NA**	**NA**	<0.103	**NA**	**NA**	**NA**	**NA**	**NA**	<0.193	<0.161
Dobbins Property															
MW-1	DPMW-1S	3/14/2014		<0.208	**0.876J**	<0.111	**1.19J**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.32J**	<0.161
MW-2I	DPMW-2I	3/14/2014		**2.45J**	<0.193	<0.111	**0.623J**	**5.54**	<0.109	<0.130	<0.123	<0.143	<0.055	**36.1**	**8.61**
MW-2I	DPMW-2I	9/23/2014		**2.14J**	<0.193	<0.111	**0.694J**	**5.15**	<0.109	<0.130	<0.123	<0.143	<0.055	**49.9**	**8.14**
MW-2I	DPMW-2I	3/17/2015		<0.171	<0.193	<0.111	<0.155	**2.89**	<0.109	<0.130	<0.123	<0.143	<0.055	**23.3**	**3.66**
MW-2	DPMW-2S	3/14/2014		<0.208	**1.40J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**20**	**6**
MW-2	DPMW-2S	9/23/2014		<0.208	<0.193	<0.111	<0.155	**0.365J**	<0.109	<0.130	<0.123	<0.143	<0.055	**32.1**	**9.10**
MW-2	DPMW-2S	3/18/2015		<0.208	<0.193	<0.111	<0.155	**0.365J**	<0.109	<0.130	**0.673J**	<0.143	<0.055	**17.3**	**4.46**
MW-3	DPMW-3S	3/18/2014		<0.208	<0.193	<0.111	**0.775J**	**1.58J**	<0.109	<0.130	<0.123	<0.143	<0.055	**33**	**1.60J**
MW-3	DPMW-3S	9/18/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.13	<0.123	<0.143	<0.055	**4.47**	**0.398**
MW-3	DPMW-3S	3/25/2015		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.13	<0.123	<0.143	<0.055	**16.40**	**1.01J**
MW-4	DPMW-4S	3/14/2014		<0.208	**1.18J**	<0.111	**1.54J**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**16**	**2.04J**
MW-10	DPMW-10	3/31/2015		<0.208	<0.193	<0.111	**4.41J**	**1.93J**	<0.109	<0.130	<0.123	<0.143	<0.055	**54.1**	**5.09**
MW-15	DPMW-15	4/7/2015		**2.81J**	<0.193	<0.111	**1.40J**	**13.0**	<0.109	<0.130	<0.123	<0.143	<0.055	**52.1**	**21.7**
MW-16	DPMW-16	3/24/2015		**3.74J**	<0.193	<0.111	**2.07J**	**33.8**	<0.109	<0.130	<0.123	<0.143	<0.055	**264**	**83.6**
MW-25	DPMW-25	10/28/2010		< 5	< 5	< 5	**8.7**	**8.8**	< 5	< 5	< 5	<5	< 5	**120**	**13**
MW-25	DPMW-25	3/3/2011		< 5	< 5	< 5	< 5	**16**	< 5	< 5	< 5	< 5	< 5	**110**	**28**
MW-25	DPMW-25	3/24/2014		<0.208	**3.61J**	<0.111	**5.69**	**2.95J**	<0.109	<0.130	<0.123	<0.143	<0.055	**64**	**8**
MW-25	DPMW-25	3/20/2015		<0.208	<0.193	<0.111	**5.91**	**2.42J**	<0.109	<0.130	<0.123	<0.143	<0.055	**89.7**	**8.48**
MW-26	DPMW-26	10/28/2010		<5	< 5	**5.3**	< 5	**12**	< 5	< 5	< 10	< 5	< 5	**28**	**5.8**
MW-26	DPMW-26	3/3/2011		<5	< 5	**5.2**	< 5	**14**	< 5	< 5	< 10	< 5	< 5	**29**	**5.7**
MW-26	DPMW-26	3/21/2014		<0.208	<0.193	<0.111	**0.351J**	**9**	<0.109	<0.130	<0.123	<0.143	<0.055	**38**	**11.0**
MW-27	DPMW-27	10/28/2010		< 5	< 20	< 5	< 5	**89**	< 5	< 5	< 10	< 5	< 5	**250**	**88**
MW-27	DPMW-27	3/3/2011		< 5	< 20	< 5	< 5	**77**	< 5	< 5	< 10	< 5	< 5	**260**	**85**
MW-27	DPMW-27	3/21/2014		<0.208	**1.07J**	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<0.193	<0.161
MW-27	DPMW-27	9/23/2014		<0.416	<0.387	<0.222	<0.218	**40.4**	<0.218	<0.260	<0.247	<0.287	<0.111	**258**	**46.2**
MW-27	DPMW-27	3/20/2015		<0.416	<0.387	<0.222	**1.32J**	**26.0**	<0.218	<0.260	<0.247	<0.287	<0.111	**212**	**36.9**
MW-28	DPMW-28	10/28/2010		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**70**	**10**
MW-28	DPMW-28	3/3/2011	D	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**51**	**6**
MW-28	DPMW-28	3/3/2011		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**50**	**6.6**
MW-28	DPMW-28	3/24/2014		<0.208	**1.96J**	<0.111	**10.9**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**15**	**1.41J**
Goodstone Property (1494 & 1510 Ellsworth Industrial Blvd.)															
MW-11	GPMW-11	8/3/2009		<5	< 50	< 5	**16**	< 5	< 5	< 5	**NR**	< 5	**NR**	**31**	**5.4**
MW-11	GPMW-11	4/1/2010		< 5	< 50	< 5	**5.7**	**5.4**	< 5	< 5	< 10	< 5	< 5	**48**	**18**
MW-11	GPMW-11	3/7/2011		< 5	< 50	< 5	< 5	**27**	< 5	< 5	< 10	< 5	< 5	**290**	**86**
MW-11	GPMW-11	3/10/2014		<0.208	**0.926J**	<0.111	**4.18J**	**0.389J**	<0.109	<0.130	<0.123	<0.143	<0.055	**18**	**2.44J**
MW-11	GPMW-11	9/19/2014		<0.208	<0.193	<0.111	**0.551J**	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**7.94**	**1.14**
MW-11	GPMW-11	4/1/2015		<0.208	<0.193	<0.111	**1.07J**	**1.15J**	<0.109	<0.130	<0.123	<0.143	<0.055	**29.30**	**4.83**
MW-18	GPMW-18	4/1/2010		< 5	**71**	< 5	<5	**220**	< 5	< 5	< 10	< 5	< 5	**310**	**160**
MW-18	GPMW-18	3/8/2011		< 5	< 50	< 5	<5	**250**	< 5	< 5	< 10	< 5	< 5	**370**	**130**
MW-18	GPMW-18	3/10/2014		**0.734J**	<0.387	<0.222	**2.31J**	**106**	<0.218	<0.260	<0.247	<0.287	<0.111	**261**	**52**
MW-18	GPMW-18	9/22/2014		**1.09J**	<0.387	<0.222	**3.10J**	**156**	<0.218	<0.260	<0.247	<0.287	<0.111	**284**	**69.5**
MW-18	GPMW-18	4/2/2015		<0.208	<0.387	<0.222	**2.09**	**88.4**	<0.218	<0.260	<0.247	<0.287	<0.111	**188**	**47.8**
MW-19	GPMW-19	4/1/2010		< 5	**190**	< 5	< 5	**180**	**93**	< 5	<10	< 5	**440**	**270**	**170**
MW-19	GPMW-19	3/8/2011		< 5	< 50	< 5	< 5	**190**	< 5	< 5	<10	< 5	< 5	**500**	**190**
MW-19	GPMW-19	3/10/2014		<1.04	<0.967	<0.555	**3.62J**	**164**	<0.545	<0.651	<0.617	<0.717	<0.277	**306**	**131**

Table 5: Summary of Current and Historic Site-Wide Groundwater Quality Results

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
MW-19	GPMW-19	4/2/2015		<1.04	<0.967	<0.555	**3.22J**	**151**	<0.545	<0.651	<0.617	<0.717	<0.277	**336**	**107**
MW-20	GPMW-20	6/10/2010		< 5	< 20	< 5	< 5	**9.3**	< 5	< 5	< 10	< 5	< 5	**110**	**12**
MW-20	GPMW-20	3/8/2011		< 5	< 20	< 5	< 5	**14**	< 5	< 5	< 10	< 5	< 5	**120**	**15**
MW-20	GPMW-20	3/10/2014		<0.208	<0.193	<0.111	**0.451J**	**6**	<0.109	<0.130	<0.123	<0.143	<0.055	**30**	**4.05J**
MW-20	GPMW-20	9/22/2014		<0.208	<0.193	<0.111	<0.155	**5.3**	<0.109	<0.130	<0.123	<0.143	<0.055	**28.1**	**4.54**
MW-20	GPMW-20	4/2/2015		<0.208	<0.193	<0.111	<0.155	**5.7**	<0.109	<0.130	<0.123	<0.143	<0.055	**25.3**	**4.44J**
Macy's Property															
MW-15	MPMW-15	9/18/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.98J**	**0.832J**
Restaurant Supply (Former Jodaco Property)															
RW-1	JPBRW-1	9/26/2014		<1.04	<0.967	<0.555	<0.775	**54.6J**	<0.545	<0.651	<0.617	<0.717	<0.277	**295J**	**229J**
RW-1	JPBRW-1	3/26/2015		<0.208	**10.2**	<0.111	<0.155	**30.7J**	<0.109	<0.13	<0.123	<0.143	<0.055	**104J**	**101J**
MW-16	JPMW-16	4/1/2010		< 5	< 50	< 5	< 5	**170**	< 5	< 5	**NR**	< 5	**NR**	**1,000**	**810**
MW-16	JPMW-16	3/11/2011		< 5	< 50	< 5	< 5	**240**	< 5	< 5	**NR**	< 5	**NR**	**1,600**	**930**
MW-16	JPMW-16	3/12/2014		<0.416	**6.23J**	<0.222	**1.53J**	**44**	<0.218	<0.260	<0.247	<0.287	<0.111	**262**	**177**
MW-16	JPMW-16	9/26/2014		<1.04	<0.967	<0.555	**7.1J**	**44**	<0.545	<0.651	<0.247	<0.717	<0.111	**341**	**117**
MW-16	JPMW-16	3/25/2015		<0.416	<0.387	<0.222	**4.51J**	**45.6**	<0.545	<0.651	<0.247	<0.717	<0.111	**283**	**108**
MW-17	JPMW-17	4/1/2010		< 5	< 50	< 5	<5	**14**	< 5	< 5	< 10	< 5	< 5	**140**	**36**
MW-17	JPMW-17	3/11/2011		< 5	< 50	< 5	<5	**72**	< 5	< 5	< 10	< 5	< 5	**340**	**92**
MW-17	JPMW-17	3/11/2014		<0.208	<0.193	<0.111	**1.51J**	**5**	<0.109	<0.130	<0.123	<0.143	<0.055	**67**	**11**
MW-17	JPMW-17	9/26/2014		<0.208	<0.193	<0.111	**1.24J**	**2**	<0.109	<0.130	<0.123	<0.143	<0.055	**48**	**1**
MW-17	JPMW-17	3/26/2015		<0.208	<0.193	<0.111	**1.35J**	**1.66J**	<0.109	<0.130	<0.123	<0.143	<0.055	**53.9**	**7.45**
MW-21	JPMW-21	6/10/2010		< 5	< 20	< 5	< 5	**120**	< 5	< 5	< 10	< 5	< 5	**290**	**120**
MW-21	JPMW-21	3/8/2011		< 5	< 20	< 5	< 5	**99**	< 5	< 5	< 10	< 5	< 5	**330**	**100**
MW-21	JPMW-21	3/11/2014		**0.345J**	<0.193	<0.111	**17.2**	**39**	<0.109	<0.130	<0.123	<0.143	<0.055	**152**	**33**
MW-21	JPMW-21	9/24/2014		**0.326J**	<0.193	<0.111	**10.2**	**30**	<0.109	<0.13	<0.123	<0.143	<0.055	**129**	**24.8**
MW-21	JPMW-21	3/31/2015		**0.808J**	<0.387	<0.222	**18.6**	**35.8**	<0.218	<0.260	<0.247	<0.287	<0.055	**178**	**24.8**
MW-22	JPMW-22	6/10/2010		< 5	< 20	**7.5**	<5	**250**	< 5	< 5	< 10	< 5	< 5	**1,300**	**230**
MW-22	JPMW-22	3/8/2011		< 5	< 20	**13**	**6.2**	**290**	< 5	< 5	< 10	< 5	< 5	**1,400**	**190**
MW-22	JPMW-22	3/8/2011	D	< 5	< 20	**14**	**6.1**	**320**	< 5	< 5	< 10	<5	< 5	**1,400**	**200**
MW-22	JPMW-22	3/11/2014		**1.22J**	<0.387	**4.98J**	**2.07J**	**22**	<0.218	<0.260	<0.247	<0.287	<0.111	**142**	**17**
MW-22	JPMW-22	9/29/2014		**1.33J**	<0.193	**4.63J**	**1.92J**	**19**	<0.109	<0.13	<0.123	<0.143	<0.055	**106**	**14**
MW-22	JPMW-22	3/30/2015		**1.25J**	<0.193	**3.97J**	**1.61J**	**13.9**	<0.109	<0.13	<0.123	<0.143	<0.055	**92**	**13.8**
MW-23	JPMW-23	6/10/2010		< 5	< 20	**1.5**	< 5	**53**	< 5	< 5	< 10	<5	< 5	**350**	**110**
MW-23	JPMW-23	3/8/2011		< 5	< 20	< 5	< 5	**52**	< 5	< 5	< 10	< 5	< 5	**460**	**120**
MW-23	JPMW-23	3/12/2014		**1.66J**	<0.193	**0.989J**	**0.855J**	**40**	<0.109	<0.130	<0.123	<0.143	<0.055	**111**	**35**
MW-23	JPMW-23	9/22/2014		**1.07J**	<0.193	**0.673J**	**1.54J**	**22**	<0.109	<0.130	<0.123	<0.143	<0.055	**96**	**26**
MW-23	JPMW-23	3/30/2015		<0.208	<0.193	<0.111	**0.570J**	**3.8**	<0.109	<0.130	<0.123	<0.143	<0.055	**19.0**	**4.34J**
Daltile (Former Reynolds Property)															
MW-1	RPMW-1	3/12/2014		<2.08	<1.93	<1.11	**3.96J**	**167**	<1.09	<1.30	<1.23	<1.43	<0.554	**788**	**641**
MW-2	RPMW-2	3/10/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**2.68J**	**0.769J**
MW-2	RPMW-2	3/31/2015		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**4.16J**	**1.06J**
MW-14	RPMW-14	4/1/2010		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**140**	**56**
MW-14	RPMW-14	3/7/2011		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**360**	**130**
MW-14	RPMW-14	3/10/2014		<0.416	<0.387	**0.359J**	<0.310	**0.556J**	<0.218	<0.260	<0.247	<0.287	<0.111	**190**	**73**
MW-14	RPMW-14	4/1/2015		<0.416	<0.387	<0.222	<0.310	**2.33J**	<0.218	<0.260	<0.247	<0.287	<0.111	**372**	**128**
MW-15	RPMW-15	4/10/2010		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**630**	**380**
MW-15	RPMW-15	3/7/2011		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	**11**	< 5	**780**	**310**
MW-15	RPMW-15	3/11/2014		<0.416	**6.33J**	<0.222	<0.310	**3.13J**	<0.218	<0.260	<0.247	<0.287	<0.111	**362**	**158**
MW-15	RPMW-15	9/24/2014		<0.208	<0.193	<0.111	<0.155	**0.517J**	<0.109	<0.13	<0.123	<0.143	<0.055	**67.3**	**22.5**
MW-15	RPMW-15	4/1/2015		<0.416	<0.967	<0.555	<0.310	**2.10J**	<0.109	<0.13	<0.123	<0.143	<0.055	**334**	**121**

Table 5: Summary of Current and Historic Site-Wide Groundwater Quality Results

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
MW-24	RPMW-24	6/10/2010		<5	< 50	< 5	< 5	**12**	< 5	< 5	**NR**	< 5	**NR**	**1,100**	**380**
MW-24	RPMW-24	3/7/2011		<5	< 50	< 5	< 5	**18**	< 5	< 5	**NR**	<5	**NR**	**1,200**	**400**
MW-24	RPMW-24	3/10/2014	D	<2.08	**13.1J**	<1.11	<1.55	**23.5J**	<1.09	<1.30	<1.23	<1.43	<0.554	**730**	**230**
MW-24	RPMW-24	3/10/2014		<2.08	<1.93	<1.11	<1.55	**33.4J**	<1.09	<1.30	<1.23	<1.43	<0.554	**781**	**248**
MW-24	RPMW-24	9/23/2014	D	<2.08	**13.1J**	<1.11	<1.55	**23.5J**	<1.09	<1.30	<1.23	<1.43	<0.554	**730**	**230**
MW-24	RPMW-24	9/23/2014		<0.208	<0.193	<1.11	<1.55	**33.4J**	<1.09	<1.30	<1.23	<1.43	<0.554	**781**	**248**
MW-24	RPMW-24	4/1/2015		<1.04	<1.93	<1.11	**2.23J**	**33.5J**	<0.545	<0.65	<0.617	<0.717	<0.227	**864**	**256**
Midtown West (Former M-West Lots/ABC Supply)															
MW-1	MTWMW-1	7/10/2008		< 5	< 20	< 5	< 5	**71**	< 5	< 5	< 10	< 5	< 5	**200**	**260**
MW-1	MTWMW-1	11/5/2008		< 5	< 20	< 5	< 5	**190**	< 5	< 5	< 10	< 5	< 5	**240**	**330**
MW-1	MTWMW-1	1/14/2009		< 5	< 20	< 5	< 5	**210**	< 5	< 5	< 10	< 5	< 5	**230**	**260**
MW-1	MTWMW-1	8/3/2009		**5.4**	< 50	< 5	< 5	**260**	< 5	**NR**	**NR**	**NR**	**NR**	**310**	**260**
MW-1	MTWMW-1	4/1/2010		< 5	< 50	< 5	< 5	**420**	< 5	< 5	< 10	< 5	< 5	**250**	**200**
MW-1	MTWMW-1	6/13/2012		<2.0	<100	<2.0	<2.0	**390**	<2.0	<10	< 5	< 5	< 5	**62**	**57**
MW-1	MTWMW-1	4/3/2015		**1.61J**	<0.967	<0.555	<0.775	**370**	<0.545	<0.651	<0.617	<0.717	<0.277	**28.8**	**31.9**
MW-2	MTWMW-2	7/10/2008		< 5	< 50	< 5	< 5	**120**	< 5	< 5	< 10	< 5	< 5	**130**	**110**
MW-2	MTWMW-2	11/5/2008		< 5	< 50	< 5	< 5	**64**	< 5	< 5	< 10	< 5	< 5	**150**	**110**
MW-2	MTWMW-2	1/14/2009		< 5	< 20	< 5	< 5	**48**	< 5	< 5	< 10	< 5	< 5	**130**	**91**
MW-2	MTWMW-2	8/3/2009		< 5	< 20	< 5	< 5	**49**	< 5	< 5	< 10	< 5	< 5	**93**	**88**
MW-2	MTWMW-2	4/1/2010		< 5	< 20	< 5	< 5	**39**	< 5	< 5	< 10	**NR**	< 5	**330**	**160**
MW-3	MTWMW-3	7/1/2008		<5	< 50	< 5	< 5	**190**	< 5	< 5	**NR**	< 5	< 5	**820**	**530**
MW-3	MTWMW-3	11/5/2008		< 5	< 50	< 5	< 5	**170**	< 5	**5.1**	< 10	< 5	< 5	**1200**	**760**
MW-3	MTWMW-3	1/14/2009		< 5	< 50	< 5	< 5	**150**	< 5	< 5	< 10	**15**	< 5	**820**	**530**
MW-3	MTWMW-3	8/3/2009		< 5	< 50	< 5	< 5	**140**	< 5	< 5	< 10	< 5	< 5	**900**	**520**
MW-3	MTWMW-3	4/1/2010		< 5	< 20	< 5	< 5	**150**	< 5	< 5	< 10	**6.5**	< 5	**950**	**480**
MW-3	MTWMW-3	6/13/2012		<2.0	<100	<2.0	<2.0	**97**	<2.0	<10	< 5	< 5	< 5	**400**	**210**
MW-4	MTWMW-4	11/5/2008		< 5	< 20	< 5	< 5	**70**	< 5	< 5	< 10	<5	< 5	**450**	**270**
MW-4	MTWMW-4	1/14/2009		< 5	< 20	< 5	< 5	**72**	< 5	< 5	< 10	< 5	< 5	**490**	**290**
MW-4	MTWMW-4	8/3/2009		<5	< 50	< 5	< 5	**87**	< 5	< 5	**NR**	**6.5**	**NR**	**620**	**310**
MW-4	MTWMW-4	4/1/2010		< 5	< 50	< 5	< 5	**100**	< 5	< 5	< 10	<5	< 5	**610**	**270**
MW-4	MTWMW-4	6/13/2012		<2.0	<100	<2.0	<2.0	**39**	<2.0	<10	< 5	< 5	< 5	**200**	**100**
MW-4	MTWMW-4	3/11/2014		<0.416	<0.387	<0.222	**15.8**	**27.7**	<0.218	<0.260	<0.247	<0.287	<0.111	**172**	**55.7**
MW-4	MTWMW-4	4/6/2015		**0.326J**	<0.193	<0.111	**10.5**	**33.4**	<0.109	<0.130	<0.123	<0.143	<0.055	**194**	**51.4**
MW-5	MTWMW-5	11/5/2008		< 5	< 50	< 5	**8.6**	**170**	< 5	< 5	< 10	< 5	< 5	**440**	**290**
MW-5	MTWMW-5	1/14/2009		< 5	< 50	< 5	**6.2**	**140**	< 5	< 5	< 10	< 5	< 5	**460**	**290**
MW-5	MTWMW-5	8/3/2009		< 5	< 50	< 5	< 5	**140**	< 5	< 5	< 10	< 5	< 5	**570**	**290**
MW-5	MTWMW-5	4/1/2010		< 5	< 20	< 5	< 5	**170**	< 5	< 5	< 10	< 5	< 5	**450**	**260**
MW-5	MTWMW-5	4/24/2012		<5	< 50	< 5	< 5	**130**	< 5	< 5	< 5	< 5	< 5	**430**	**200**
MW-6	MTWMW-6	1/14/2009		< 5	< 20	< 5	< 5	**58**	< 5	< 5	< 10	< 5	< 5	**52**	**52**
MW-6	MTWMW-6	8/3/2009		< 5	< 50	< 5	< 5	**100**	< 5	< 5	**NR**	< 5	**NR**	**240**	**170**
MW-6	MTWMW-6	4/1/2010		< 5	< 50	< 5	< 5	**110**	< 5	< 5	< 10	< 5	< 5	**260**	**200**
MW-6	MTWMW-6	4/24/2012		< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**320**	**190**
MW-7	MTWMW-7	1/14/2009		**19**	< 50	< 5	< 5	**11**	< 5	< 5	< 10	< 5	< 5	**260**	**210**
MW-7	MTWMW-7	8/3/2009		**32**	< 50	< 5	< 5	**10**	< 5	< 5	< 10	< 5	< 5	**240**	**190**
MW-7	MTWMW-7	4/1/2010		**8.2**	< 20	< 5	< 5	**6.4**	< 5	< 5	< 10	< 5	< 5	**46**	**50**
MW-7	MTWMW-7	6/13/2012		**23**	<100	<2.0	<2.0	**16.0**	<2.0	<10	< 5	< 5	< 5	**270**	**190**
MW-7	MTWMW-7	3/10/2014		**5.15**	<0.193	<0.111	<0.155	**49.4**	<0.109	<0.130	<0.123	<0.143	<0.055	**33**	**34**
MW-7	MTWMW-7	9/26/2014		**19.8**	<0.387	<0.222	**0.806J**	**24.6**	<0.218	<0.26	<0.247	<0.287	<0.111	**265**	**151**
MW-7	MTWMW-7	4/7/2015		**10.0**	<0.193	<0.111	<0.144	**87.2**	<0.109	<0.130	<0.123	<0.143	<0.055	**96.1**	**87**
MTWMW-7I	MTWMW-7I	3/10/2014		**8.58**	<0.193	<0.111	**0.394J**	**43.0**	<0.109	<0.130	<0.123	**0.675J**	<0.055	**82.9**	**64**
MTWMW-7I	MTWMW-7I	9/26/2014		**19.0**	<0.387	<0.222	**1.11J**	**18.7**	<0.218	<0.26	<0.247	<0.287	<0.055	**304**	**176**
MTWMW-7I	MTWMW-7I	4/7/2015		**18.5**	<0.387	<0.222	**1.02J**	**40.8**	<0.218	<0.26	<0.247	<0.287	<0.055	**305**	**193**

Table 5: Summary of Current and Historic Site-Wide Groundwater Quality Results

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
MW-8	MTWMW-08	3/31/2009		< 5	< 20	< 5	< 5	**51**	< 5	< 5	< 10	< 5	< 5	**1,500**	**740**
MW-8	MTWMW-08	8/3/2009		< 5	< 20	< 5	< 5	**59**	< 5	< 5	< 10	**11**	< 5	**1,500**	**670**
MW-8	MTWMW-08	4/1/2010		<5	< 50	< 5	< 5	**31**	< 5	< 5	**NR**	<5	**NR**	**670**	**380**
MW-8	MTWMW-08	6/11/2012		<2.0	<100	<2.0	<2.0	**53**	<2.0	<10	< 5	<5	< 5	**610**	**360**
MW-8	MTWMW-08	3/11/2014		<2.08	<1.93	<1.11	**2.77J**	**48.4J**	<1.09	<1.30	<1.23	<1.43	<0.554	**665**	**310**
MW-8	MTWMW-08	9/29/2014		<2.08	<1.93	<1.11	<1.55	**96.8J**	<1.09	<1.3	<1.23	<1.43	<0.554	**914**	**405**
MW-8	MTWMW-08	4/6/2015		<2.08	<1.93	<1.11	<1.55	**90.9**	<1.09	<1.3	<1.23	<1.43	<0.554	**1080**	**415**
MW-9	MTWMW-9	3/31/2009		< 5	< 50	< 5	< 5	**93**	< 5	< 5	< 10	< 5	< 5	**1,000**	**560**
MW-9	MTWMW-9	8/3/2009		<5	< 50	< 5	< 5	**120**	< 5	< 5	< 10	< 5	< 5	**990**	**580**
MW-9	MTWMW-9	4/10/2010		<5	< 50	< 5	< 5	**30**	< 10	< 5	< 10	< 5	< 5	**220**	**160**
MW-9	MTWMW-9	6/11/2012		<2.0	<100	<2.0	<2.0	**80**	<2.0	<10	< 5	< 5	< 5	**500**	**310**
MW-9	MTWMW-9	3/11/2014	D	<0.416	<0.967	<0.555	**2.14J**	**51.3**	<0.545	<0.651	<0.617	<0.717	<0.277	**445**	**241**
MW-9	MTWMW-9	3/11/2014		<0.416	<0.967	<0.555	**2.09J**	**49**	<0.545	<0.651	<0.617	<0.717	<0.277	**455**	**241**
MW-9	MTWMW-9	9/30/2014		<2.08	<1.93	<1.11	<0.155	**39.7**	<1.09	<1.3	<1.23	<1.43	<0.554	**384**	**176**
MW-9	MTWMW-9	4/6/2015		<0.419	<0.387	<0.222	**1.55J**	**39.7J**	<0.218	<0.26	<0.247	<0.287	<.0111	**311**	**131**
MW-10	MW-10 (ABC)	3/31/2009		< 5	< 20	< 5	< 5	**12**	< 5	< 5	< 10	< 5	< 5	**260**	**77**
MW-10	MW-10 (ABC)	4/10/2010		< 5	< 20	< 5	< 5	**6.8**	< 5	< 5	< 10	< 5	< 5	**94**	**28**
MW-10	MW-10 (ABC)	6/11/2012		<2.0	<100	<2.0	<2.0	**6.3**	<2.0	<10	< 5	< 5	< 5	**86**	**20**
MW-10	MTWMW-10	8/3/2009		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**110**	**30**
MW-10	MTWMW-10	3/10/2014		<0.208	<0.193	<0.111	**0.854J**	**1.57J**	<0.109	**0.727J**	<0.123	**1.36J**	**6.3**	**61.3**	**12.6**
MW-10	MTWMW-10	9/25/2014	D	<0.208	<0.193	<0.111	**1.22J**	**1.80J**	<0.109	<0.130	<0.123	<1.43	<0.055	**51.2**	**8.06**
MW-10	MTWMW-10	4/6/2015		<0.208	<0.193	<0.111	<0.144	**1.93J**	<0.109	<0.130	<0.123	<1.43	<0.055	**55.2**	**7.98**
MW-12	MTWMW-12	8/3/2009		<5	< 50	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**14**	**7**
MW-12	MTWMW-12	4/1/2010		<5	< 50	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	**56**	**37**
MW-12	MTWMW-12	6/13/2012		<2.0	<100	<2.0	<2.0	<2.0	<2.0	<10	< 5	< 5	< 5	<2	<2.0
MW-12	MTWMW-12	3/11/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**0.323J**	<0.161
MW-12	MTWMW-12	9/24/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**0.701J**	<0.161
MW-12	MTWMW-12	4/3/2015		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**1.92J**	<0.161
MW-13	MTWMW-13	8/3/2009		< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	<5	< 5
MW-13	MTWMW-13	4/24/2012		< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
MWHOA - Midtown-West Home Owners Association Property															
HOAMW-3	HOAMW-3	3/11/2014		**0.416**	**0.387**	**0.222**	**6.26J**	**55.4**	**0.218**	**0.26**	**0.247**	**0.287**	**0.111**	**222**	**91.9**
HOAMW-3	HOAMW-3	9/29/2014		**0.416**	**0.387**	**0.222**	**13.1J**	**73.1**	<0.218	<0.260	<0.247	<0.287	<0.111	**267**	**79.6**
HOAMW-3	HOAMW-3	4/6/2015		<0.416	<0.387	<0.222	**9.84J**	**42.6**	<0.218	<0.260	<0.247	<0.287	<0.111	**207**	**62.7**
HOAMW-5	HOAMW-5	3/13/2014		<0.416	<0.387	<0.222	**2.97J**	**81.1**	<0.218	<0.260	<0.247	<0.287	<0.111	**252**	**96.1**
HOAMW-5	HOAMW-5	9/29/2014		<0.416	<0.387	<0.222	**4.21J**	**107**	<0.218	<0.260	<0.247	<0.287	<0.111	**287**	**92.6**
HOAMW-5	HOAMW-5	4/3/2015		<1.04	<0.967	<0.555	**3.29J**	**68.4**	<0.545	<0.617	<0.617	<0.717	<0.277	**226**	**70.7**
HOAMW-5I	HOAMW-5I	3/12/2014		<0.416	<0.387	<0.222	**3.75**	**87.9**	<0.218	<0.260	<0.247	<0.287	<0.111	**216**	**96.8**
HOAMW-5I	HOAMW-5I	9/29/2014		<0.416	<0.387	<0.222	**4.30J**	**111**	<0.218	<0.260	<0.247	<0.287	<0.111	**232**	**76.4**
HOAMW-5I	HOAMW-5I	4/2/2015		<0.416	<0.387	<0.222	**3.18J**	**63.9**	<0.218	<0.260	<0.247	<0.287	<0.111	**192**	**59.9**
HOAMW-6	HOAMW-6	4/7/2015		<0.208	<0.193	<0.111	**3.16J**	**60.3J**	<0.109	<0.130	<0.123	<0.143	<0.055	**150**	**54.4**
HOAMW-14	HOAMW-14	3/12/2014		<0.208	<0.193	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	**0.858J**	**0.378J**

Notes

Concentrations trending down
Concentrations increasing
No change or new sample data

Sample Type:
blank = field sample
D = duplicate sample
NA - not analyzed
Results:
< - concentration below the indicated detection limit
J = estimated value

Table 6: Summary of Surface Water Quality Data
March - April 2015

Surface Water Location / Sample Collection Date	Unit	S9 6-Apr-15	S10 6-Apr-15	S11 6-Apr-15	S12 6-Apr-15	S13 6-Apr-15	S14 6-Apr-15	S15 6-Apr-15	S16 6-Apr-15	S17 6-Apr-15	S18 6-Apr-15
VOCs											
1,1,1-Trichloroethane	ug/L	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U
1,1,2,2-Tetrachloroethane	ug/L	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
1,1,2-Trichloroethane	ug/L	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U
1,1-Dichloroethane	ug/L	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U	0.171 U
1,1-Dichloroethene	ug/L	0.208 U	0.300 J	0.208 U	0.208 U	0.208 U	0.208 U	0.208 U	0.208 U	0.208 U	0.208 U
1,2,4-Trichlorobenzene	ug/L	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
1,2-Dibromo-3-chloropropane	ug/L	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U	0.194 U
1,2-Dibromoethane	ug/L	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U	0.102 U
1,2-Dichlorobenzene	ug/L	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U	0.135 U
1,2-Dichloroethane	ug/L	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
1,2-Dichloropropane	ug/L	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
1,3-Dichlorobenzene	ug/L	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U	0.138 U
1,4-Dichlorobenzene	ug/L	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
2-Butanone	ug/L	**9.17**	**9.71**	**8.63**	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	**7.33**	0.142 U
2-Chloroethylvinyl ether	ug/L	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U	0.146 U
2-Hexanone	ug/L	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
4-Methyl-2-pentanone	ug/L	**7.80**	**4.97**	**7.62**	**8.02**	**7.66**	**7.35**	**7.40**	**6.70**	**6.52**	**5.67**
Acetone	ug/L	**17.10**	**17.7**	**16.6**	**18.00**	**17.2**	**16.5**	**16.9**	**15.5**	**15.4**	**13.5**
Benzene	ug/L	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Bromodichloromethane	ug/L	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Bromoform	ug/L	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U	0.215 U
Bromomethane	ug/L	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U	0.427 U
Carbon disulfide	ug/L	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon tetrachloride	ug/L	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U	0.248 U
Chlorobenzene	ug/L	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
Chloroethane	ug/L	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U	0.235 U
Chloroform	ug/L	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U	0.155 U
Chloromethane	ug/L	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U	0.144 U
Cyclohexane	ug/L	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Dibromochloromethane	ug/L	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
Dichlorodifluoromethane	ug/L	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U	0.145 U
Ethylbenzene	ug/L	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U
Isopropylbenzene (Cumene)	ug/L	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Methyl Acetate	ug/L	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U	0.159 U
Methylcyclohexane	ug/L	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U	0.143 U
Methylene chloride	ug/L	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
Styrene	ug/L	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
Tetrachloroethene	ug/L	**6.04**	**5.99**	**7.33**	**7.28**	**7.36**	**8.61**	**8.96**	**8.90**	**9.12**	**8.67**
Toluene	ug/L	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Trichloroethene	ug/L	**2.67 J**	**2.82 J**	**3.13 J**	**2.99 J**	**3.13 J**	**3.43 J**	**3.80 J**	**3.47 J**	**3.37 J**	**3.29 J**
Trichlorofluoromethane	ug/L	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U
Trichlorotrifluoroethane	ug/L	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
Vinyl acetate	ug/L	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U	0.151 U
Vinyl chloride	ug/L	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Xylene (total)	ug/L	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U	0.179 U
cis-1,2-Dichloroethene	ug/L	**1.05 J**	**1.91 J**	**1.59 J**	**1.59 J**	**1.50 J**	**1.84 J**	**2.13 J**	**2.08 J**	**1.94 J**	**1.98 J**
cis-1,3-Dichloropropene	ug/L	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U
m,p-Xylene	ug/L	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U
o-Xylene	ug/L	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
tert-Butyl methyl ether (MTBE)	ug/L	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
trans-1,2-Dichloroethene	ug/L	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
trans-1,3-Dichloropropene	ug/L	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U

Notes:
ug/L - micrograms per liter
U - result below the indicated detection limit
J - estimated concentation; result between method detection limit and reporting limit

Table 7: Historical Summary of Surface Water Quality Data

Sample Point	Analyte	9/18/2006	10/2/2006	11/14/2006	1/25/2007	2/28/2007	3/30/2007	4/30/2007	5/30/2007	6/28/2007	7/25/2007	8/23/2007	9/27/2007	7/10/2008	11/5/2008	1/14/2009	8/6/2009	4/1/2010	4/19/2012	7/18/2012	3/25/2014[1]		10/13/2014[2]		4/6/2015[3]	
																					Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow
Pt. 1	PCE	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.47	<0.193	<0.193	<0193	<0.193	NS	NS
	1,1-DCE	<5	NS	<5	<5	<5	<5	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	NS	<0.79	<0.208	<0.208	<0.208	<0.208	NS	NS
	cis 1,2-DCE	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.31	<0.103	<0.103	<0.103	<0.103	NS	NS
	TCE	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.38	<0.161	<0.161	<0.161	<0.161	NS	NS
	Methylene Chloride	<5	NS	<5	<5	<5	<5	<5	**5.3**	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<2.3	<0.149	<0.149	<0.149	<0.149	NS	NS
Pt. 2	PCE	<5	NS	<5	**1.3**	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	<5	NS	<5	**1.0**	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pt. 3	PCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	<5	NS	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pt. 4	PCE	<5	NS	**6.5**	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	NS	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	NS	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	<5	NS	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pt. 5	PCE	<5	NS	<5	**5.7**	**5.4**	**5.6**	<5	**5.2**	<5	**5.7**	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	NS	<5	<5	<5	<5	<5	<3	<5	**3.1**	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	<5	NS	<5	**3.8**	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Methylene Chloride	<5	NS	<5	<5	<5	<5	<5	**5.3**	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pt. 6	PCE	<5	**5.9**	**5.8**	**4.9**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.47	**4.33**	**1.44**	**3.98**	**0.88**	NS	NS
	1,1-DCE	<5	**7.4**	**8.2**	**5.0**	<5	**6.0**	<5	**5.5**	**5.5**	**4.8**	**8.2**	**11.0**	<5	**7.0**	<5	<5	<5	NS	<0.79	<0.208	<0.208	<0.208	<0.208	NS	NS
	cis 1,2-DCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.31	<0.103	<0.103	<0.103	<0.103	NS	NS
	TCE	<5	<5	<5	**3.3**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.38	**1.55**	**0.51**	**1.54**	**0.34**	NS	NS
	Methylene Chloride	<5	<5	<5	<5	<5	<5	<5	**6.0**	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<2.3	<0.149	<0.149	<0.149	<0.149	NS	NS
Pt. 7	PCE	<5	**6.0**	**6.9**	**5.8**	<5	**5.7**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	**6.3**	**8.2**	**5.4**	<5	**5.1**	<5	**4.8**	**6.0**	**7.0**	**8.9**	**6.9**	<5	**6.6**	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	<5	<5	**5.3**	**3.6**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS
	Methylene Chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS
Pt. 8	PCE	**6.4**	**13.0**	**11.0**	**12.0**	**7.7**	**12.0**	**5.0**	**6.0**	<5	**7.0**	**9.7**	**5.5**	<5	**5.1**	<5	<5	**5.0**	NS	<0.47	NS	NS	NS	NS	NS	NS
	1,1-DCE	<5	**5.6**	**7.7**	**5.1**	<5	**5.9**	<5	**5.2**	<5	**5.3**	**7.3**	**6.7**	<5	**6.1**	<5	<5	<5	NS	<0.79	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.31	NS	NS	NS	NS	NS	NS
	TCE	<5	**8.0**	**7.6**	**7.0**	**5.7**	**9.6**	<5	<5	<5	<5	**5.9**	<5	<5	<5	<5	<5	<5	NS	<0.38	NS	NS	NS	NS	NS	NS
	Methylene Chloride	<5	<5	<5	<5	<5	<5	<5	**5.0**	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<2.3	NS	NS	NS	NS	NS	NS
Pt. 9	PCE	**12.0**	**19.0**	**13.0**	**16.0**	**9.1**	**12.0**	**11.0**	**9.9**	**11.0**	**13.0**	**17.0**	<5	**9.4**	**12.0**	**8.4**	**6.3**	**7.5**	<5	<0.47	**7.18**	**2.38**	**7.54**	**1.02**	**6.04**	**1.69**
	1,1-DCE	<5	<5	**6.7**	**4.3**	<5	<5	<5	**3.6**	<5	**3.0**	<5	**6.7**	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	**0.344**	**0.05**	<0.208	<0.208
	cis 1,2-DCE	<5	<5	<5	**2.8**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.31	**0.726**	**0.24**	**1.820**	**0.25**	**1.05**	**0.29**
	TCE	**7.3**	**13.0**	**10.0**	**11.0**	**6.1**	**8.9**	**6.3**	**6.2**	**6.9**	**8.2**	**11.0**	<5	**5.5**	**7.6**	**5.7**	<5	<5	<5	<0.38	**3.44**	**1.14**	**3.37**	**0.46**	**2.67**	**0.75**
Pt. 9.5	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**15.0**	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**7.7**	NS	NS	NS	NS	NS	NS	NS
Pt. 10	PCE	**15.0**	**19.0**	**27**	**14.0**	**21.0**	**22.0**	**14.0**	**8.9**	**7.5**	**19.0**	**23.0**	**15.0**	**9.5**	**15.0**	**9.0**	**9.6**	**9.5**	**9.6**	<0.47	**7.38**	**2.45**	**7.57**	**1.02**	**5.99**	**1.68**
	1,1-DCE	<5	<5	**5.5**	**3.4**	<5	<5	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	**0.379**	**0.05**	**0.300**	**0.08**
	cis 1,2-DCE	<5	<5	**7.4**	**2.9**	**5.2**	**9.3**	<5	<5	<5	<5	**31.0**	<5	<5	<5	<5	<5	<5	<5	<0.31	**0.896**	**0.30**	**2.01**	**0.27**	**1.19**	**0.33**
	TCE	**8.1**	**14.0**	**19.0**	**12.0**	**14.0**	**17.0**	**9.5**	**5.5**	**5.2**	**9.7**	**16.0**	**9.8**	**5.9**	**10.0**	**5.6**	**6.6**	**6.5**	**5.6**	<0.38	**3.44**	**1.14**	**3.58**	**0.48**	**2.82**	**0.79**
	VC	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**16.0**	<2	<2	<2	<2	<2	<2	<2	<0.69	<0.127	<0.127	<0.127	<0.127	<0.127	<0.127
Pt. 10.5	PCE	NS	NS	NS	NS	NS	**17.0**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**14**	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	**5.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	**13.0**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**7.0**	NS	NS	NS	NS	NS	NS	NS
Pt. 11	PCE	NS	**37.0**	**38.0**	**51.0**	**34.0**	**26.0**	**21.0**	**16.0**	**9.5**	**17.0**	**29.0**	**36.0**	**14.0**	**22.0**	**12.0**	**14.0**	**12.0**	**9.8**	<0.47	**8.24**	**2.74**	**7.67**	**1.04**	**7.33**	**2.06**
	1,1-DCE	NS	<5	**5.3**	**3.5**	<5	<5	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	**8.3**	**11.0**	**11.0**	**8.6**	**9.1**	**7.1**	**7.3**	**10.0**	**6.2**	**17.0**	**14.0**	<5	**5.3**	<5	**8.0**	<5	<5	<0.31	**1.19**	**0.40**	**2.01**	**0.27**	**1.59**	**0.45**
	TCE	NS	**23.0**	**25.0**	**38.0**	**25.0**	**21.0**	**15.0**	**11.0**	**6.2**	**11.0**	**22.0**	**23.0**	**8.3**	**14.0**	**8.7**	**8.4**	**8.3**	**5.3**	<0.38	**3.79**	**1.26**	**3.53**	**0.48**	**3.13**	**0.88**
	VC	NS	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<0.69	<0.127	<0.127	<0.127	<0.127	<0.127	<0.127

Table 7: Historical Summary of Surface Water Quality Data

Sample Point	Analyte	9/18/2006	10/2/2006	11/14/2006	1/25/2007	2/28/2007	3/30/2007	4/30/2007	5/30/2007	6/28/2007	7/25/2007	8/23/2007	9/27/2007	7/10/2008	11/5/2008	1/14/2009	8/6/2009	4/1/2010	4/19/2012	7/18/2012	3/25/2014[1]		10/13/2014[2]		4/6/2015[3]	
																					Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow
Pt. 11.5	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	14	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7.9	NS	NS	NS	NS	NS	NS	NS
Pt. 12	PCE	NS	23.0	37.0	28.0	27.0	26.0	28.0	12.0	13.0	22.0	22.0	27.0	24.0	27.0	16.0	20.0	13.0	12.0	<0.47	8.08	2.68	8.56	1.16	7.28	2.04
	1,1-DCE	NS	<5	5.1	3.3	<5	<5	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	6.4	11.0	6.7	6.7	8.9	11.0	6.3	9.0	9.0	9.7	10.0	6.3	6.9	<5	9.2	<5	<5	<0.31	1.04	0.35	2.16	0.29	1.59	0.45
	TCE	NS	19.0	26.0	20.0	19.0	20.0	18.0	8.2	8.4	15.0	15.0	18.0	14.0	18.0	9.8	13.0	8.2	5.9	<0.38	3.96	1.31	3.91	0.53	2.99	0.84
Pt. 13	PCE	NS	25.0	38.0	23.0	30.0	28.0	27.0	NS	16.0	35.0	NS	35.0	NS	NS	NS	NS	13.0	15.0	NS	8.98	2.98	10.00	1.35	7.36	2.07
	1,1-DCE	NS	<5	<5	3.0	<5	<5	<5	NS	<5	<3	NS	<5	NS	NS	NS	NS	<5	<5	NS	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	6.8	11.0	5.8	6.9	9.6	7.9	NS	8.5	6.1	NS	12.0	NS	NS	NS	NS	<5	<5	NS	1.25	0.42	2.33	0.32	1.50	0.42
	TCE	NS	20.0	26.0	19.0	20.0	22.0	17.0	NS	10.0	18.0	NS	22.0	NS	NS	NS	NS	8.6	7.6	NS	4.22	1.40	4.19	0.57	3.13	0.88
Pt. 14	PCE	NS	23.0	38.0	26.0	28.0	27.0	NS	13.0	NS	NS	23.0	NS	21.0	17.0	18.0	17.0	14.0	16.0	<0.47	9.73	3.23	10.50	1.42	8.61	2.42
	1,1-DCE	NS	<5	<5	2.7	<5	9.2	NS	9.2	NS	NS	<5	NS	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	6.4	11.0	6.4	6.8	<5	NS	6.6	NS	NS	8.9	NS	6.3	5.7	<5	9.6	<5	<5	<0.31	1.25	0.42	2.76	0.37	1.84	0.52
	TCE	NS	19.0	26.0	20.0	19.0	21.0	NS	9.1	NS	NS	15.0	NS	12.0	13.0	12.0	12.0	9.7	8.0	<0.38	4.37	1.45	4.47	0.60	3.43	0.96
Pt. 15	PCE	NS	28.0	39.0	26.0	34.0	29.0	22.0	NS	14.0	33.0	NS	28.0	NS	NS	NS	NS	NS	15.0	NS	11.1	3.69	11.0	1.49	8.96	2.51
	1,1-DCE	NS	<5	<5	2.8	<5	<5	<5	NS	<5	<3	NS	<5	NS	NS	NS	NS	NS	<5	NS	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	7.4	12.0	6.4	8.0	9.4	7.1	NS	7.1	5.7	NS	10.0	NS	NS	NS	NS	NS	<5	NS	1.52	0.50	2.75	0.37	2.13	0.60
	TCE	NS	19.0	27.0	20.0	22.0	21.0	14.0	NS	9.5	17.0	NS	19.0	NS	NS	NS	NS	NS	6.9	NS	4.36	1.45	4.55	0.62	3.80	1.07
Pt. 16	PCE	NS	24.0	41.0	26.0	34.0	30.0	NS	15.0	NS	NS	17.0	NS	23.0	33.0	21.0	18.0	NS	16.0	<0.47	11.30	3.75	10.70	1.45	8.90	2.50
	1,1-DCE	NS	<5	<5	2.7	<5	<5	NS	<3	NS	NS	<5	NS	<5	<5	<5	<5	NS	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	6.6	11.0	6.5	7.6	11.0	NS	5.3	NS	NS	7.1	NS	6.5	7.5	<5	9.4	NS	<5	<0.31	1.66	0.55	2.72	0.37	2.08	0.58
	TCE	NS	19.0	26.0	19.0	21.0	23.0	NS	9.3	NS	NS	11.0	NS	13.0	20.0	13.0	12.0	NS	6.8	<0.38	4.65	1.54	4.39	0.59	3.47	0.97
Pt. 17	PCE	NS	NS	NS	NS	NS	NS	30	14.0	12.0	30.0	16.0	25.0	21.0	29.0	20.0	18.0	13.0	16.0	NS	11.3	3.75	10.5	1.42	9.12	2.56
	1,1-DCE	NS	NS	NS	NS	NS	NS	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	5.8	5.8	7.1	<5	5.6	8.7	6.8	6.4	<5	9.5	<5	<5	NS	1.76	0.58	2.76	0.37	1.94	0.54
	TCE	NS	NS	NS	NS	NS	NS	16.0	8.7	7.3	15.0	10.0	15.0	12.0	19.0	12.0	11.0	8.2	6.7	NS	4.51	1.50	4.37	0.59	3.37	0.95
Pt. 18	PCE	NS	NS	NS	NS	NS	NS	21.0	14.0	12.0	17.0	17.0	22.0	NS	NS	NS	NS	NS	18.0	<0.47	10.1	3.35	10.2	1.38	8.67	2.43
	1,1-DCE	NS	NS	NS	NS	NS	NS	<5	<3	<5	<3	<5	<5	NS	NS	NS	NS	NS	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	6.6	5.0	5.3	5.7	<5	5.6	NS	NS	NS	NS	NS	5.1	<0.31	1.49	0.49	2.61	0.35	1.98	0.56
	TCE	NS	NS	NS	NS	NS	NS	13.0	8.1	6.7	11.0	9.8	13.0	NS	NS	NS	NS	NS	8.2	<0.38	4.41	1.46	4.04	0.55	3.29	0.92
Pt. 19	PCE	NS	NS	NS	NS	NS	NS	20.0	13.0	10.0	17.0	15.0	18.0	17.0	25.0	17.0	15.0	13.0	13.0	NS	10.1	3.35	8.8	1.19	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	<5	<3	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.208	<0.208	1.96	0.27	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	5.8	5.1	<5	<5	<5	<5	5.4	6.2	<5	8.5	<5	<5	NS	1.39	0.46	2.20	0.30	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	12.0	8.7	6.0	9.4	8.8	11.0	10.0	16.0	10.0	10.0	8.6	6.8	NS	4.05	1.34	3.59	0.49	NS	NS
Pt. PB	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15.0	20.0	16.0	13.0	12.0	12.0	<0.47	6.54	2.17	6.75	0.91	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	6.3	<5	<5	<0.31	0.925	0.31	1.900	0.26	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8.2	13.0	9.1	8.0	7.1	5.1	<0.38	2.72	0.90	2.77	0.37	NS	NS
Pt. RR	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11.0	15.0	12.0	8.2	NS	7.7	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.3	9.1	7.0	5.3	NS	<5	NS	NS	NS	NS	NS	NS	NS
Pt. T1	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8.9	12.0	9.4	6.6	NS	6.2	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.5	7.8	6.1	<5	NS	<5	NS	NS	NS	NS	NS	NS	NS
Pt. 2R	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.0	6.6	6.7	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pt 2R500	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Source for Pre-2014 results: Peachtree Environmental, Inc.

NOTES:

Results reported in micrograms per liter (ug/L)

< - concentration below the indicated detection limit

NS - Not sampled/COC was not analyzed

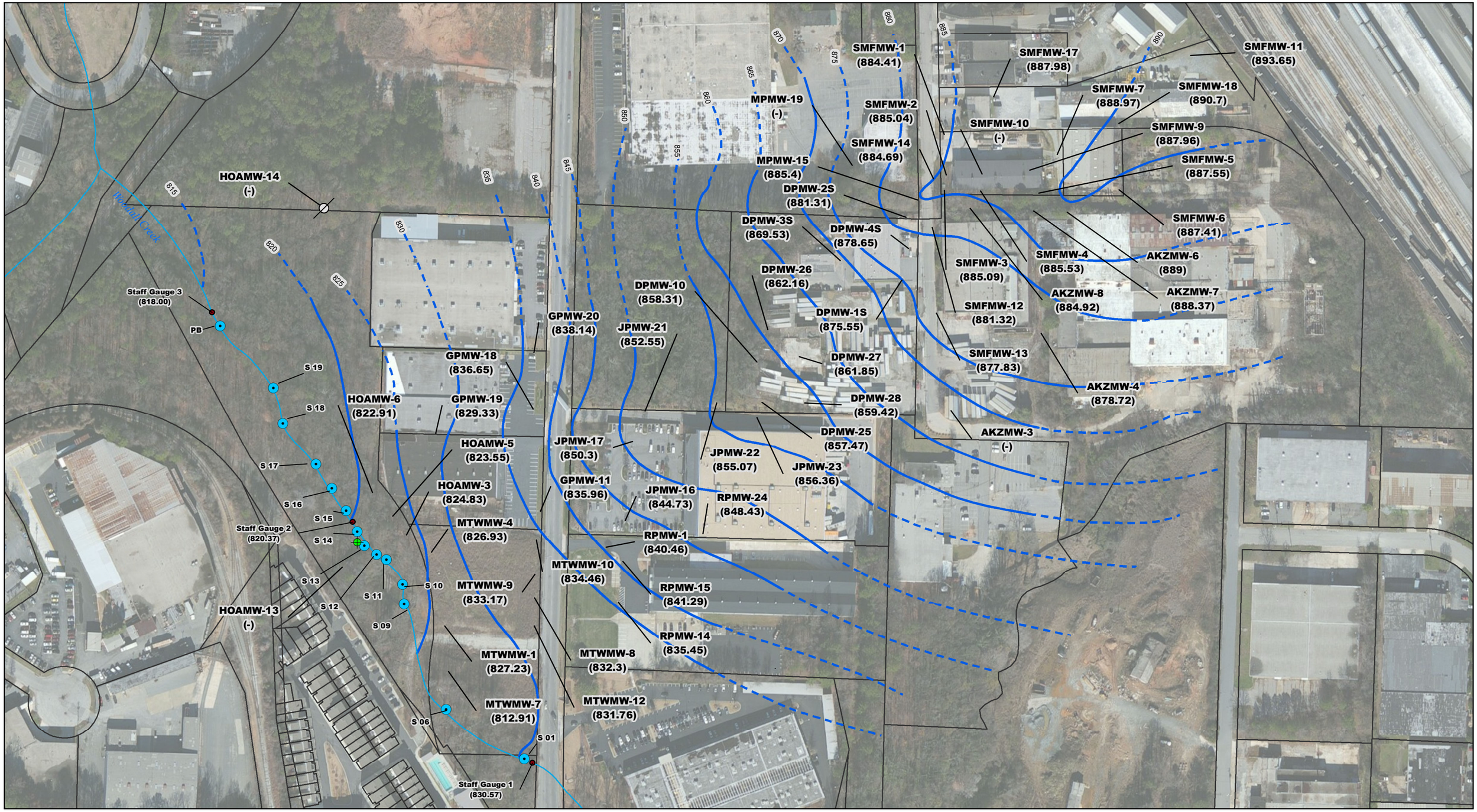
1 - Results normalized by multiplying raw result by ratio of instantaneous flow at time of sampling (1.3 cfs) divided by long-term annual average flow (in Woodall Creek) of 3.92 cfs

2 - Results normalized by multiplying raw result by ratio of instantaneous flow at time of sampling (0.53 cfs) divided by long-term annual average flow (in Woodall Creek) of 3.92 cfs

3 - Results normalized by multiplying raw result by ratio of instantaneous flow at time of sampling (1.1 cfs) divided by long-term annual average flow (in Woodall Creek) of 3.92 cfs

Underlined values denote max. detected concentration for sampling event

FIGURES



Groundwater Monitoring Well

Recently Found, Location Approximate

Proposed Alternate, Location Approximate

Damaged Well

Surface Water Sample Location

Groundwater elevation measured in feet above mean sea level.
(-) indicates groundwater elevation not measured. Refer to Table 4.

Potentiometric Surface Elevation

Woodall Creek Staff Gauge Location

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters

0 100 200 400 600 800 Feet

NOTES:

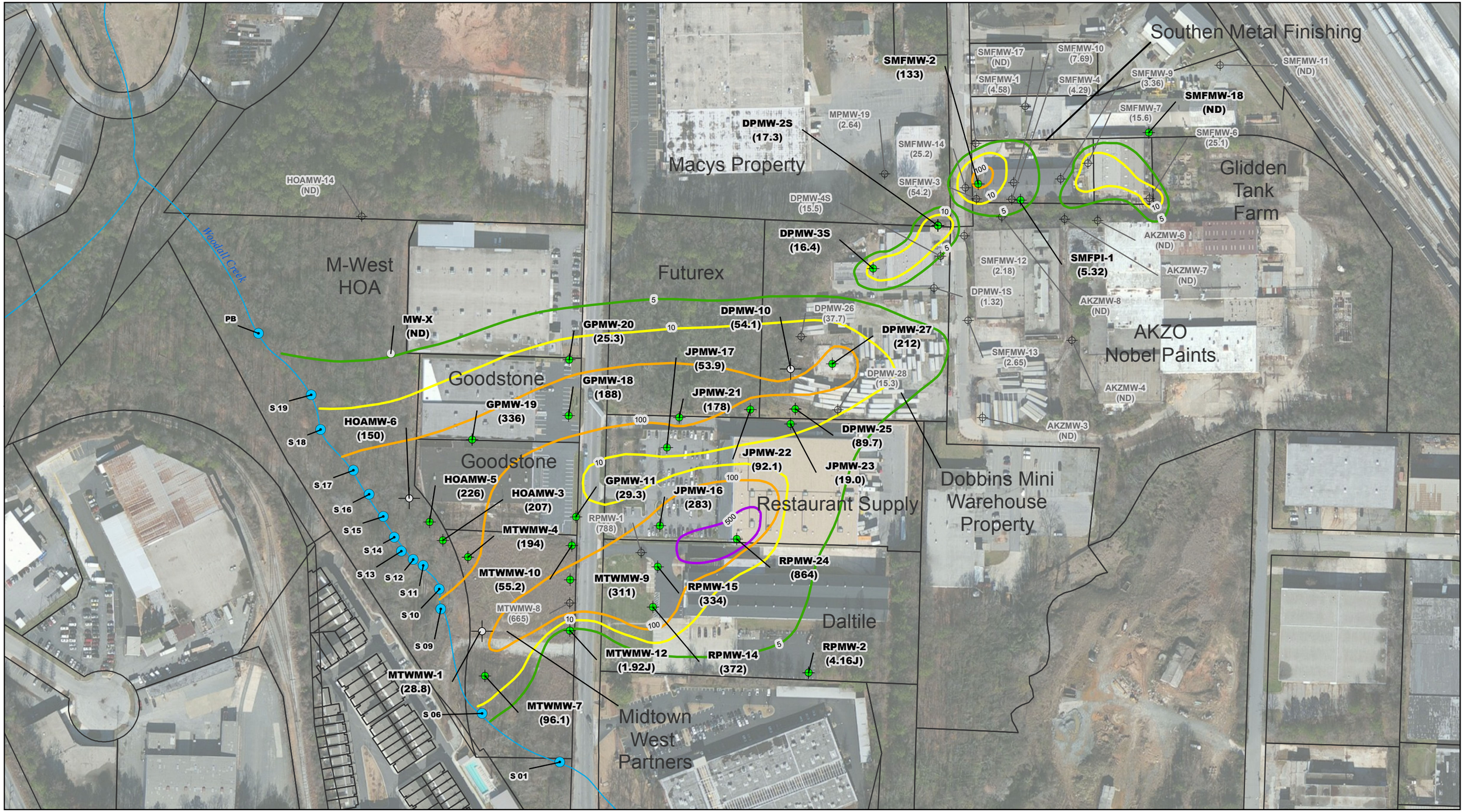
-Base map imagery obtained through ESRI Online Services

FIGURE 1
Woodall Creek Site
Potentiometric Surface
Shallow Groundwater Bearing Zone, March 2015

G:\SouthernMetalFinishing\2ndSemi2015\MXD\Fig1_POT_032015.mxd
Date Saved: 6/29/2015

Drawn: TDN

PROJ: 6122130015



Concentration Contour (ug/L)
- 5
- 10
- 100
- 500

*contour dashed where inferred

- Surface Water Sample Location
- Shallow Groundwater Monitoring Well
  Semi-Annual Sampling Event - March 2015
- Shallow Groundwater Monitoring Well
  Baseline Sampling Event- March 2014

(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 2
Woodall Creek Site
PCE Isoconcentration Map March 2015
Shallow Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi32015\MXD\Fig2_PCE_Shl_032015.mxd
Date Saved: 6/24/2015
Drawn: TDN
PROJ: 6122130015

Intermediate Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 3
Woodall Creek Site
PCE Concentration Map March 2015
Intermediate Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi32015\MXD\Fig3_PCE_Int_32015.mxd
Date Saved: 6/24/2015
Drawn: TDN
PROJ: 6122130015

Fractured Bedrock Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 4
Woodall Creek Site
PCE Concentration Map March 2015
Fractured Bedrock Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi2015\MXD\Fig4_PCE_BR_032015.mxd
Date Saved: 6/24/2015
Drawn: TDN
PROJ: 6122130015

Concentration Contour (ug/L)
- 5
- 10
- 100
- 500

*contour dashed where inferred

- Surface Water Sample Location
- Shallow Groundwater Monitoring Well
  Semi-Annual Sampling Event - March 2015
- Shallow Groundwater Monitoring Well
  Baseline Sampling Event- March 2014

(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 7.5 15 30 45 60 75 90 Meters
0 62.5 125 250 375 500 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 5
Woodall Creek Site
TCE Isoconcentration Map March 2015
Shallow Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi32015\MXD\Fig5_TCE_Shl_032015.mxd
Date Saved: 6/24/2015
Drawn: TDN
PROJ: 6122130015

Intermediate Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 6
Woodall Creek Site
TCE Concentration Map March 2015
Intermediate Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi2015\MXD\Fig6_TCE_Int_032015.mxd
Date Saved: 6/22/2015
Drawn: TDN
PROJ: 6122130015

Fractured Bedrock Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 7
Woodall Creek Site
TCE Concentration Map March 2015
Fractured Bedrock Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi2015\MXD\Fig7_TCE_BR_032015.mxd
Date Saved: 6/29/2015
Drawn: TDN
PROJ: 6122130015

Concentration Contour (ug/L)
- 10
- 50
- 100

*contour dashed where inferred

- Surface Water Sample Location
- Shallow Groundwater Monitoring Well
  Semi-Annual Sampling Event - September 2014
- Shallow Groundwater Monitoring Well
  Baseline Sampling Event- March 2014

(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

NOTES:
-Base map imagery obtained through ESRI Online Services

G:\SouthernMetalFinishing\2ndSemi32015\MXD\Fig8_DCE_Shl_032015.mxd
Date Saved: 6/29/2015
Drawn: TDN
PROJ: 6122130015

FIGURE 8
Woodall Creek Site
cis-1,2 DCE Isoconcentration Map March 2015
Shallow Groundwater Bearing Zone

Intermediate Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

FIGURE 9
Woodall Creek Site
cis-1,2 DCE Concentration Map March 2015
Intermediate Groundwater Bearing Zone

NOTES:
-Base map imagery obtained through ESRI Online Services

G:\SouthernMetalFinishing\2ndSemi32015\MXD\Fig9_DCE_Int_032015.mxd
Date Saved: 6/22/2015
Drawn: TDN
PROJ: 6122130015

Fractured Bedrock Groundwater Monitoring Well
Semi-Annual Sampling Event - March 2015
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration
"ND" indicates constituent below detection limit. Refer to Table 4.

Southern Metal Finishing Company, LLC
1581 Huber Street, N.W.
Atlanta, Georgia 30381-7701

N

0 12.5 25 50 75 100 125 150 Meters
0 100 200 400 600 800 Feet

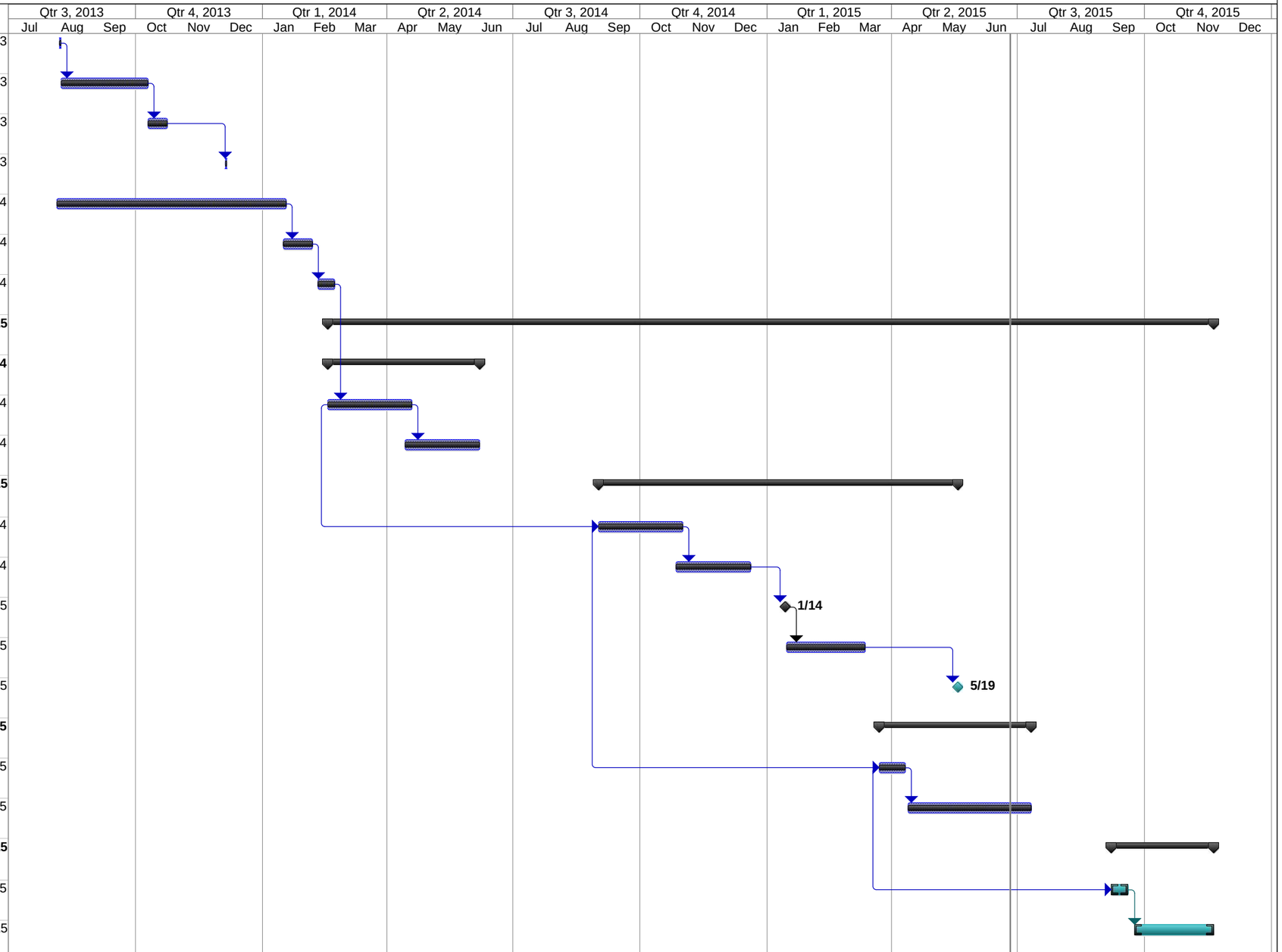
NOTES:
-Base map imagery obtained through ESRI Online Services

FIGURE 10
Woodall Creek Site
cis-1,2 DCE Concentration Map March 2015
Fractured Bedrock Groundwater Bearing Zone

G:\SouthernMetalFinishing\2ndSemi2015\MXD\Fig10_DCE_BR_032015.mxd
Date Saved: 6/22/2015
Drawn: TDN
PROJ: 6122130015

Figure 11
CAP Implementation Schedule
Updated June 2015

ID	Task Name	Duration	Start	Finish
1	Submit Revised CAP	1 day	Wed 8/7/13	Wed 8/7/13
2	EPD Review	45 days	Thu 8/8/13	Wed 10/9/13
3	Respond to Comments and resubmit	10 days	Thu 10/10/13	Wed 10/23/13
4	CAP Approval	1 day?	Thu 12/5/13	Thu 12/5/13
5	Property/Access Agreements	120 days	Mon 8/5/13	Fri 1/17/14
6	Monitoring Well Survey and Reporting	15 days	Thu 1/16/14	Wed 2/5/14
7	New Well Installation	10 days	Mon 2/10/14	Fri 2/21/14
8	**MNA Sampling and Reporting**	**459 days**	**Mon 2/17/14**	**Thu 11/19/15**
9	**Semiannual Event 1**	**80 days**	**Mon 2/17/14**	**Fri 6/6/14**
10	Baseline Sampling and Analysis (Winter)	45 days	Mon 2/17/14	Fri 4/18/14
11	Summary Progress Report	40 days	Mon 4/14/14	Fri 6/6/14
12	**Setember 2014 Semiannual Event**	**186 days**	**Mon 9/1/14**	**Tue 5/19/15**
13	MNA Summer Sampling Event	45 days	Mon 9/1/14	Fri 10/31/14
14	September Progress Report	40 days	Mon 10/27/14	Fri 12/19/14
15	EPD Comments	0 days	Wed 1/14/15	Wed 1/14/15
16	Revised Sept. Progress Report	40 days	Thu 1/15/15	Thu 3/12/15
17	EPD Approval	0 days	Tue 5/19/15	Tue 5/19/15
18	**March 2015 Semiannual Event**	**80 days**	**Mon 3/23/15**	**Fri 7/10/15**
19	MNA Winter Sampling Event	15 days	Mon 3/23/15	Fri 4/10/15
20	Summary Annual Progress Report 1	65 days	Mon 4/13/15	Fri 7/10/15
21	**September 2015 Semiannual Event**	**54 days**	**Mon 9/7/15**	**Thu 11/19/15**
22	MNA Summer Sampling Event	10 days	Mon 9/7/15	Fri 9/18/15
23	MNA Summary Progress Report	41 days	Thu 9/24/15	Thu 11/19/15



Project: Figure 5 schedule 12.2014
Date: Fri 6/26/15

Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Progress
Split	External Tasks	Inactive Summary	Manual Summary	Deadline
Milestone	External Milestone	Manual Task	Start-only	
Summary	Inactive Task	Duration-only	Finish-only	

APPENDIX A
GROUNDWATER SAMPLING LOGS

DPMW-2I

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Well Identifier: DPMW-2I

Initial Depth to Water*: ~~17.86~~ 17.86 (ft)

Property: Dobbins

Casing volume: 5.30 (gal)

Page 1 of 1

Equipment: Peristaltic Pump
(IDs for wl meter, wq meter, pump, controller) w/meter:901868/pump:024652/wqual:R8315/turb:17967

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ml/m)	Incremental Volume Removed (gal)	TOTAL Volume Removed (___)	Casing Volume Removed	Comments (include controller settings)
17-03-15	1350		17.86	—	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1400			—	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1405			—	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1415	45	17.84	—	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1425				5.49	0.422	19.96	2.42	160	0.0	0.0	0.0	*Initial water quality readings****
	1435				5.38	0.312	20.34	1.01	150	.39	.39		
	1445				5.47	0.302	20.55	1.0	150	.39	.78		
	1455				5.54	0.305	21.06	1.03	150	.39	1.17		
	1505				5.46	0.300	20.67	0.87	150	.39	1.56		
	1515				5.40	0.296	19.68	0.79	150	.39	1.95		
	1525				5.53	0.300	20.58	0.84	150	.39	2.34		
	1535				5.55	0.302	20.87	1.02	150	.39	2.73		
	1545				5.54	0.302	20.84	0.96	150	.39	3.12		
	1555		18.4		5.54	0.301	20.52	0.80	150	.39	3.51		
17-03-15	1605	45	Sample Collected										

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump
Show casing volume calculations on appropriate form

** upon sufficient re-equilibration of water column

*** upon filling of flow-cell

(____) indicate units of measurement for this parameter

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

FD BY: Tela Noreikas, 3-17-15
(Print name, Signature, Date)
Tela Noreikas

QA CHECKED BY: _____
(Print name, Signature, Date)

DPMW-2I

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Southern Metal / Dobbins

SAMPLE ID NUMBER:	DPMW-2I
SAMPLE LOCATION:	Dobbins
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	No. 351

Field book # →

DATE COLLECTED (mm/dd/yy): 03-17-15
TIME COLLECTED (hh:mm): ~~1505~~ 1605
DEPTH _____ TO _____ FT
~45 ft pump depth

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1.48	mg/L	—
ORP	203.6		—
Ferrous Iron	0.0	mg/L	—

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	X
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	X
3	Clear 40 ml	VOC	HCl	GCAL	X
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	X
2	Amber 40 ml	TOC	HCl	GCAL	X

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
Tela Noreikas	1550 March 17, 2015		
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Southern Metal Finishing

Well Identifier: SMFMW-2 **Initial Depth to Water*:** 16.48 (ft) Total depth 28.45 **Casing volume:** 1.95 (1) Page 1 of 1

Equipment:
(IDs for wl meter, wq meter, pump, controller) WL (Heron A03763), bladder pump (10310) YSI (4788) Lamotte (624057)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/17/15	1240	21.5'	16.40		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1330	21.5'	16.48		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1330	21.5'	16.65	.17	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1335	21.5'	16.65	.17	3.58	0.283	19.40	41.3	100 ml/min	0.0	0.0	0.0	*Initial water quality readings****
	1345	21.5	16.65	.17	3.51	0.288	20.73	41.9	100 ml/min	~~.50~~ .25	.25 gal		7 sec recharge 1 sec discharge
	1355	↓	↓	↓	3.36	0.285	20.80	35.5	100 ml/min	.25	.50 gal		
	1405				3.37	0.285	21.07	45.1	↓	.25	.75 gal		
	1415				3.40	0.285	20.78	43.1		.25	1.00 gal		
	1425				3.36	0.282	21.66	30.8		.25	1.25 gal		
	1435				3.40	0.285	21.34	27.8		.25	1.50 gal		
	1445				3.45	0.285	21.41	24.2		.25	1.75 gal		
	1455				3.44	0.283	21.23	21.3		.25	2.00 gal	1 casing volume	
	1505				3.43	0.282	20.44	15.1		.25	2.25 gal		
	1515	↓	↓	↓	3.43	0.284	20.61	7.85	↓	.25	2.50 gal		
	1518	Sample time SMFMW-2											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/17/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Southern Metal Finishings

SAMPLE ID NUMBER:	SMFMW-2
SAMPLE LOCATION:	Southern Metals Finishings
SAMPLING POINT:	21.5'
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/17/15
TIME COLLECTED (hh:mm): 1518
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	3.36		
ORP	314.3		
Ferrous Iron	0		

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	↓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	↓
3	Clear 40 ml	VOC	HCl	GCAL	↓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	↓
2	Amber 40 ml	TOC	HCl	GCAL	↓

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: [signature]	DATE / TIME 3/17/15 1814	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Southern Metals

Well Identifier: SMFMW-18 **Initial Depth to Water*:** 20.96 (ft) **Casing volume:** 1.36 (gal) Page 1 of 1

Equipment: YSI 556 MPS, QED Sample Pro Bladder Pump, MP10 Controller, Lamotte 2020 *(IDs for wl meter, wq meter, pump, controller)* Hach Fe^{2+} Kit

Remarks: TD = 29.5'

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (mL)	TOTAL Volume Removed (L)	Casing Volume Removed	Comments (include controller settings)
3/18/15	1045	25	21.12	+0.16	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1050	25	20.97	+0.01	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1056	25	20.96	0	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1058	25	21.00	0.04	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1105	↓	21.04	0.08	8.21	5.13	16.38	57.9	120	0.0	0.0	0.0	*Initial water quality readings****
	1116		21.05	0.09	8.29	4.00	16.71	53.2	120	600	600		$\Delta s_i = 18$, $R/D = 8/2$
	1120		21.07	0.11	8.08	4.01	16.78	33.9	120	1200	1.8L		
	1130		21.09	0.13	7.99	3.94	17.02	19.6	120	1200	3L		
	1140		21.09	0.13	7.97	3.94	17.13	14.1	120	1200	4.2L		
	1150		21.09	0.13	8.00	3.93	17.05	10.3	120	1200	5.4L	1	
↓	1200	↓	21.09	0.13	8.02	3.87	17.36	8.60	120	1200	6.6L		Total gallons removed = 1.7 gal Collected sample - SMFMW-18 Containerized purge water in 55 gal drum

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Mavis, [signature] 3/18/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	MTWMW-18
SAMPLE LOCATION:	Soutter Metals
SAMPLING POINT:	25' bTOC
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 3/12/15
TIME COLLECTED (hh:mm): 1200
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Ferrous Iron	0.0	mg/L	
DO	4.01	mg/L	
ORP	175.7	ORP	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plasbi	Nitrate	none	GCAL	X
1	Plasbi	Chloride/Sulfate	none	↓	↓
1	Plasbi	Sulfide	NaOH		
3	VOA	VOC	HCl		
2	Amb VOA	TOC	HCl		
2	VOA	Methane, Ethane, Ethene	HCl	↓	↓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC	3/18 1630	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Dobbins Property

Well Identifier: DPMW-25 **Initial Depth to Water*:** 15.15 (ft) **Casing volume:** 1.46 (gal) Page 1 of 1

Equipment: YSI 556 MPS, GED Sample Pro Bladder Pump, MP10 Controller, Lamotte 2020 *(IDs for wl meter, wq meter, pump, controller)* Hach Fe^{2+} Kit

Remarks: TD = 24.3'

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (mL)	TOTAL Volume Removed (___)	Casing Volume Removed	Comments (include controller settings)
3/18/15	1415	20	15.01	+0.14	-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
DM ~~1420~~	1420		15.10	+0.04	-	-	-	-		0.0	0.0	0.0	Recovery period
	1425		15.12	+0.02	-	-	-	-		0.0	0.0	0.0	Recovery period
	1425		15.25	0.10	-	-	-	-		0.0	0.0	0.0	Start pump**
	1433		15.29	0.14	5.81	0.201	17.12	82.8	30	0.0	0.0	0.0	Initial water quality readings***
	1443		15.32	0.17	5.82	0.175	16.42	52.1		300	300		psi = 18 RPD = 9/1
	1453		15.32	0.17	5.99	0.176	16.62	40.5			600		
	1903		15.32	0.17	6.03	0.178	16.55	32.9			900		
	1913		15.32	0.17	6.03	0.178	16.64	25.5			1.2L		
	1923		15.32	0.17	5.99	0.177	16.45	18.50			1.5L		
	1933		15.32	0.17	6.00	0.177	16.48	10.14			1.8L		
	1943		15.32	0.17	5.99	0.176	16.57	9.89			2.1L	~1/3	Total 0.5 gallons removed Collected Sample @ DPMW-25 Containerized purge water in 55 gal drum.
DM	~~1503~~												

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Morris, DM 3/18/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	DPMW-25
SAMPLE LOCATION:	Dobbins Property
SAMPLING POINT:	20 Ft bTOC
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 3/18/15
TIME COLLECTED (hh:mm): 1453
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Ferrous Iron	mg/L		
DO	mg/L	3.43	
ORP	ORP	172.4	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic	Nitrate	none	GCAL	X
1	Plastic	Chloride/Sulfate	none	↓	↓
1	Plastic	Sulfide	NaOH		
3	VOA	VOC	HCl		
2	Amb VOA	TOC	HCl		
2	VOA	Methane, Ethane, Ethene	HCl	↓	↓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY:	DATE / TIME: 3/18 1630	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Southern Metal Finishing

Well Identifier: SMFDR-3

Initial Depth to Water*: 14.85 (ft) Total Depth = 53.50

Casing volume: 18.55 (3)

Page 1 of 1

Equipment: *(IDs for wl meter, wq meter, pump, controller)* Pump (18650), WL (Solinst 101868), YSI (4314) Lamott (024057)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/18/15	1100	53.00'	13.91		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1123		14.85		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1123		14.85	n/a 3/18/15	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1141		14.90	.05 .5'	5.51	0.354	19.17	13.15	300	0.0	0.0	0.0	*Initial water quality readings****
	1159		15.81		5.12	0.354	18.82	17.6	300	1.50	1.50		7 readings ✓ 3 spc discharge
	1217		16.80		5.11	0.351	18.70	12.5	300	1.50	3.00		water level not stabalizing will purge 3 until volume
	1235		17.80		5.08	0.348	14.75	18.3	300	1.50	4.50		
	1253		16.91		5.08	0.347	18.66	9.06	300	1.50	6.00		
	1311		21.20		5.03	0.347	18.30	6.70	300	1.50	7.50	1 Casing volume	
	1329		24.90		5.03	0.345	18.25	5.08	300	1.50	9.00		
	1414		29.71		4.97	0.339	18.30	6.42	300	3.75	12.75	2 Casing volumes	
	1432		35.50		4.81	0.331	18.53	5.71	300	1.50	14.25		
	1450		37.20		4.80	0.332	18.51	4.81	300	1.50	15.75		
	1508		39.00		4.79	0.329	18.36	8.71	300	1.50	17.25		water level stabalized
	1526	↓	39.00	24.15'	4.78	0.327	18.38	7.61	300	1.50	18.75	3 Casing volumes	
	1532	Sample	time		SMFDR-3								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/18/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Southern Metal Finishing

SAMPLE ID NUMBER:	SMFDR-3
SAMPLE LOCATION:	Southern Metal Finishing
SAMPLING POINT:	53.00'
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/18/15
TIME COLLECTED (hh:mm): 1532
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	3.28		
ORP	255.0		
Ferrous Iron	0		

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: [signature]	DATE / TIME 3/18/15 1843	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Southern Metal Finishing

Well Identifier: SMFP1-1 **Initial Depth to Water*:** 14.53 (ft) **Casing volume:** 3.3 (1) Page 1 of 1

Equipment: pump (10310) WL (Heron H03763) YSI (4788) LaMotte (024057)
(IDs for wl meter, wq meter, pump, controller)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/18/15	1145	30'	14.41		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1205		14.50		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1211		14.53		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1213		14.53		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1218		14.75		5.14	0.428	19.25	46	100	0.0	0.0	0.0	*Initial water quality readings****
	1228		14.70		4.87	0.420	19.14	163	100	.25	.25		7 sec recharge 1 sec discharge
	1238		14.70		4.71	0.419	18.88	126	100	.25	.50		
	1248		14.70		4.57	0.417	19.21	164	100	.25	.75		
	1258		14.71		4.51	0.414	18.87	58.8	100	.25	1.00		
	1308		14.71		4.48	0.411	18.67	32.3	100	.25	1.25		
	1318		14.71		4.46	0.409	18.98	30.2	100	.25	1.50		
	1328		14.71		4.42	0.406	19.14	27.1	100	.25	1.75		
	1338		14.71		4.41	0.405	19.12	23.1	100	.25	2.00		
	1348		14.71		4.40	0.403	18.11	15.3	100	.25	2.25		
	1358		14.71		4.40	0.402	18.18	10.4	100	.25	2.50		
	1400	Sample time			SMFP1-1								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/18/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

10310

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Southern Metal Finishing

SAMPLE ID NUMBER:	SMFPI-1
SAMPLE LOCATION:	Southern Metal Finishing
SAMPLING POINT:	35.00'
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/18/15
TIME COLLECTED (hh:mm): 1600
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	3.36		
ORP	159.9		
Ferrous Iron	0		

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: Mark Andrews	DATE / TIME 3/18/15 1843	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Southern Metal Finishing

Well Identifier: SMFMw-1D

Initial Depth to Water*: 17.35 (ft) total depth = 96.50'

3" well (0.367 gal/ft)

Casing volume: 27.04 (1)

Page 1 of 1

Equipment: *(IDs for wl meter, wq meter, pump, controller)* WL (Heron A 03763), YSI (04314), Lamotte (024057), Pump (18650)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. ( )	Temperature (C)	Tubidity (NTU)	Withdrawal Rate ( )	Incremental Volume Removed ( )	TOTAL Volume Removed ( )	Casing Volume Removed	Comments (include controller settings)
3/19/15	0950	92.00*	17.30		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1000	92'	17.33		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/15/15	1016	92'	17.35		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1017	92'	17.37		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1030	92'	17.36		6.88	0.240	14.04	8.64	50 ml/min	0.0	0.0	0.0	*Initial water quality readings****
	1040	92'	17.36		6.84	0.239	14.40	4.45	50 ml/min	~~1.3~~ .25	~~.13~~ .25 gal		75sec recharge .75 discharge
	1050	92'	17.36		6.45	0.241	14.45	4.31	50 ml/min	.13	.26 gal		
	1100	92'	17.36		6.25	0.236	14.55	4.11	50 ml/min	.13	.39 gal		
	1110	92'	17.36		6.16	0.232	14.54	4.22	50 ml/min	.13	.52 gal		
	1120	92'	17.36		6.08	0.240	14.65	4.21	50 ml/min	.13	.65 gal		
	1130	92'	17.36		6.07	0.240	14.71	3.38	50 ml/min	.13	.78 gal		
	1140	92'	17.36		6.06	0.237	14.70	4.56	50 ml/min	.13	0.91 gal		
	1142	Sample time SMFMw-1D											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell ( ) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/19/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

pump ID 18650 water level 5 gal 55

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Southern Metals Finishing

SAMPLE ID NUMBER:	SMFMW-1D
SAMPLE LOCATION:	Southern Metal Finishing
SAMPLING POINT:	92.00'
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/19/15
TIME COLLECTED (hh:mm): 1142
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.92		
ORP	191.7		
Ferrous Iron	0		

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: [signature]	DATE / TIME 3/19/15 1630	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Dobbins

Well Identifier: DPmw-25 **Initial Depth to Water*:** 38.29 (ft) **Casing volume:** 1.96 (1) Page 1 of 1

Total Depth = 50.30

Equipment: YSI (04314) LaMotte (024057) WL (A03763) Pump (18650) *(IDs for wl meter, wq meter, pump, controller)*

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/20/15	1054	40'	38.26		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/20/15	1059	40'	38.29		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/20/15	1100	40.00	38.31		-	-	-	-		0.0	0.0	0.0	*Start pump***
3/20/15	1116	↓	38.36		3.89	0.212	13.50	54.6	50ml/min	0.0	0.0	0.0	*Initial water quality readings****
3/20/15	1126		38.36		3.97	0.190	14.05	37.6	50ml/min	.13	.13		7 sec recharge .75 sec discharge
3/20/15	1136		39.36		4.05	0.187	14.58	33.5	50ml/min	.13	.26		
3/20/15	1146		38.36		4.07	0.197	14.66	20.7	50ml/min	.13	.39		
3/20/15	1156		38.36		4.10	0.194	15.04	20.8	50ml/min	.13	.52		
3/20/15	1206		39.36		4.11	0.196	15.12	12.81	50ml/min	.13	0.65		
3/20/15	1216	↓	38.36		4.11	0.198	15.36	9.74	50ml/min	.13	.78		
	1218	Sample time DPmw-25											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/20/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

YSI 4484

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Dobbins Property

SAMPLE ID NUMBER:	DPMW-2 5
SAMPLE LOCATION:	Dobbins
SAMPLING POINT:	40'
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/20/15
TIME COLLECTED (hh:mm): 1218
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1.70	mg/L	
ORP	231.9	ORP	
Ferrous Iron	0		

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: [signature]	DATE / TIME: 3/20/15	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Dobbins Property

Well Identifier: DPMW-27 **Initial Depth to Water*:** 39.72 (ft) **Casing volume:** 2.32 (gal) Page 1 of 1

Equipment: *(IDs for wl meter, wq meter, pump, controller)* YSI 556 MPS, QED Sample Pro Pump, MP10 Controller, LaMotte 2020 Hach Fe2+ kit

Remarks: TD = 54.2'

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (mL)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/20/15	0947	44	39.65	+0.07	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	0959	44	39.70	+0.02	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	—	—	—	—	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1061	44	39.80	0.08	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1016	44	39.81	0.09	5.19	0.174	15.17	223	80	0.0	0.0	0.0	*Initial water quality readings****
	1020	44	39.82	0.10	5.03	0.173	16.01	102.8	80	720mL	720mL		
	1030	44	39.82	0.10	4.98	0.173	16.34	66.3	80	1440	1440		
	1040	44	39.82	0.10	4.95	0.171	16.60	38.0	80	720	2.16L		
	1050	44	39.82	0.10	4.93	0.169	16.70	34.3	80	720	2.88L		
	1100	44	39.82	0.10	4.87	0.166	16.57	25.3	80	720	3.6L		
	1110	44	39.82	0.10	4.86	0.165	16.52	14.4	80	720	4.32L	2 1/2	
	1120	44	39.82	0.10	4.85	0.163	16.51	27.2	80	720	5.04L		
	1130	44	39.82	0.10	4.83	0.162	16.44	12.4	80	720	5.76L		
	1140	44	39.82	0.10	4.83	0.160	16.54	11.02	80	720	6.48L		
V	1150	44	39.82	0.10	4.84	0.160	16.67	8.05	80	720	7.20L		Total 1.9 gallons removed Collected sample DPMW-27 Containerized purge water in 55 gal drum.

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Morris 3/20/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	DPMW-27
SAMPLE LOCATION:	Dobbins Property
SAMPLING POINT:	44' bTOC
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 3/20/15
TIME COLLECTED (hh:mm): 1155
DEPTH _____ TO _____ FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1.51	mg/L	
ORP	196.5		
Ferrous Iron	0.0	mg/L	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	K
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	↓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	↓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY:	DATE / TIME 3/20/15 1500	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Southern Metals/Hiker Street

Well Identifier: SMEDR-2

Initial Depth to Water*: 12.10 (ft) 3/23/15 = 11.93 ft

Casing volume: 4.6 (gal) x3 = 13.8

Equipment: YSI 556 MPS, QED Sample Pro Bladder Pump, MP10 Controller, Lamott 2020 Hach Fe2+ Kit
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 40.85' *Purged 3 casing volumes due to excessive drawdown.

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/20/15	1344	~~40.67~~ 39.5	10.67	+1.43	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1355	39.5	10.85	+1.25	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1405	39.5	10.92	+1.18	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1417	39.5	11.05	+1.05	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1420	39.5	13.44	1.84	5.40	0.270	16.30	58.9	90	0.0	0.0	0.0	*Initial water quality readings***; Pulled pump from well.
	—	—	—	—	—	—	—	—	—	—	—	—	
3/23/15	1005	39.5	10.40	+1.53	—	—	—	—	—	—	—	—	Measurement upon intro of pump
	1010		10.60	~~+.52~~ +1.33	—	—	—	—	—	—	—	—	Started pump
	1020		11.45	0.48	5.82	0.279	14.36	16.00	80	800mL	800mL		20psi, R/D = 7.0/3.0
	1040		12.83	0.9	5.71	0.277	14.99	17.40	80	1.6L	2.4L		
	~~105~~-1100		13.59	1.64	5.69	0.276	15.24	12.60	80	1.6L	4L		
	1120		13.86	1.93	5.85	0.277	15.44	8.89	80	1.6L	5.6L		
	1140		13.92	1.99	5.63	0.278	15.56	9.05	80	1.6L	8.1L		~~30~~ 40 psi, R/D = 10/5
	1200		16.65	4.72	5.69	0.279	16.17	9.57	250	5L	13.1L		
	1230		19.66	~~7.73~~	5.64	0.282	16.33	11.7	250	7.5L	20.6L	~~4~~ mL+	
	1300		25.21	13.28	5.75	0.282	16.35	15.5	250	7.5L	28.1L		
	1330		29.75	17.82	5.67	0.285	16.31	17.3	250	7.5L	35.6L	2	
	1400		~~35.78~~ 35.28	20.27	5.68	0.286	16.43	13.7	250	7.5L	43.1		
	1430		37.05	25.21	5.71	0.285	16.40	14.6	250	7.5L	50.6		
	~~1455~~ 1500		Pumped well dry, allow to recharge for sample collection as per J. Cancelliere. Left pump in well to recharge overnight.										DO = 2.34, ORP = 281.8 Fe^{2+} = 0.0

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Morris, [signature] 3/24/
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Southern Metals / Huber Street

Well Identifier: SMFDR-2

Initial Depth to Water*: 10.99* (ft) Measured on 3/24/15

Casing volume: See Page 1 of 1

Equipment: *(IDs for wl meter, wq meter, pump, controller)* See Page 1 of 1

Remarks: See Page 1 of 1

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
					-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/24/15	1043	39.5	10.99	0	-	-	-	-	190	0.0	0.0	0.0	*Start pump***: 28 psi; RR = 10/s
—	—	—	—	—	—	—	—	—	—	0.0	0.0	0.0	*Initial water quality readings****
3/24/15	1143	39.5	19.20	8.21	—	—	—	—	190	11.4L	62L	~3+	Collected sample SMFDR-2. Containerized purge water in DRUM 2.

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Morris, [signature] 3/24/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: SMFDR-2

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

TD = 40.85 ft bToC

H_L = 12.10 ft bToC

Casing volume = (40.85' - 12.10')(0.16) = 4.6 gallons

3 Casing volumes = (4.6)(3) = 13.8 gallons

Recommended purge volume: 13.8 gallons

Calculated by: D. Morris QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Soo Woodall Creek

SAMPLE ID NUMBER:	SMFDR-2
SAMPLE LOCATION:	Huber Street
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/24/15
TIME COLLECTED (hh:mm): 1143
DEPTH — TO 39.5 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	2.34	mg/L	
ORP	251.8	—	
Ferrous Iron	0.0	mg/L	
pH	5.71		
Spec Cond.	0.285	mS/cm	
Temp	16.40	°C	
Turbidity	14.6	NTU	

Collected 3/23/15

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY: K Vann	DATE / TIME: 3/24/15 1600	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Dobbins property

Well Identifier: DPMW-16 **Initial Depth to Water*:** 38.73 (ft) (in well) **Casing volume:** 85.05 (gal) Page 1 of 1

Equipment: bladder pump (18650) water level (C901868) YSI (04314) Lachat (19955)
(IDs for wl meter, wq meter, pump, controller)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/24/15	1217	93.50	38.70		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/24/15	1342	93.50	38.73		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/24/15	1345	93.50	38.73		-	-	-	-		0.0	0.0	0.0	*Start pump***
3/24/15	1347	93.5	38.80	0.07	6.91	0.306	19.32	0.75	200ml/min	0.0	0.0	0.0	*Initial water quality readings****
3/24/15	1357	93.5	38.80	|	5.97	0.291	18.87	0.52	200ml/min	.5	.5		7 spc pathway 5 src discharge
3/24/15	1407	93.5	38.80	|	5.75	0.290	18.83	0.57	200ml/min	.5	1.00		
3/24/15	1417	93.5	38.80	|	5.93	0.290	18.89	0.51	200ml/min	.5	1.50		
3/24/15	1427	93.5	38.80	|	5.98	0.290	18.85	0.48	200ml/min	.5	2.00		
3/24/15	1437	93.5	38.80	|	6.30	0.290	18.71	0.43	200ml/min	.5	2.50		
3/24/15	1447	93.5	38.80	|	6.56	0.290	18.75	0.40	200ml/min	.5	3.00		
3/24/15	1457	93.5	38.80	|	6.30	0.291	19.05	0.38	200ml/min	.5	3.50		
3/24/15	1507	93.5	38.80	↓	6.29	0.291	18.32	0.30	200ml/min	.5	4.00		
3/24/15	1517	93.5	38.80		6.29	0.291	18.26	0.33	200ml/min	.5	5.00		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/24/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: DPMW-16

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	96.59 ft toc
H	=	depth to water (ft toc)	=	38.73 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

6in well casing volume $1.47_{\text{gal/ft}} \times 57.86\text{ft} = 85.05\text{gal}$

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 3/24/15 QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodhill Creek / Dobbins Property

SAMPLE ID NUMBER:	DPMW-16
SAMPLE LOCATION:	Dobbins Property
SAMPLING POINT:	Bladder Pump discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/24/15
TIME COLLECTED (hh:mm): 1520
DEPTH — TO 93.50 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	1.08	mg/L	
ORP	49.2	ORP	
Ferrous Iron	0	mg/L	
pH	6.29	pH	
SC	0.291	mS/cm	
Temp	18.18		
Turbidity	0.35	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-1

RELINQUISHED BY: Mark Andrews	DATE / TIME 3/24/15 1400	RELINQUISHED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	
RECEIVED BY: Daniel Morris	DATE / TIME 3/24/15 1400	RECEIVED BY:	DATE / TIME
COMPANY: AMEC		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Dabbins Property

Well Identifier: DPMW-35 **Initial Depth to Water*:** 26.43 (ft) **Casing volume:** 0.59 (gal) x 3 = 1.77 gal Page 1 of 1

Equipment:
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 30.12' Purged 3 casing volumes due to excessive drawdown.

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/24/15	1343	28.30	26.15	+0.28	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1353		26.30	+0.13	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1403		26.46	+0.09	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1410		26.41	+0.02	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1418		27.67	1.19	4.29	0.254	19.15	19.3	128	0.0	0.0	0.0	*Initial water quality readings**** 30 psi; R/D = 9/1
	1428		ToP	Intake	4.52	0.274	19.14	13.2	60	128	1.28L		15 psi, R/D = 9/1
	1438		ToP	Intake	4.60	0.271	19.19	12.07	60	60	1.34L		
	1538		ToP	Intake	4.58	0.253	18.37	1.75	60	3.6L	4.94	~2+	Stopped pump for overnight recharge
3/25/15	0912		26.45	+0.62	~~4.47~~	~~0.250~~	~~16.30~~	~~74.0~~	—	—	—	—	Retracted Pump
	0920		27.15	0.72	4.43	0.250	16.70	74.0	90	720ml	5.66		
	0945		ToP	Intake	4.56	0.253	16.86	44.2	75	1.875L	7.5L	~3+	Stopped Pump to allow recharge for sampling
	1015		27.43	1.00	—	—	—	—	—	—	—	—	DO = 1.72 mg/L, ORP = 256.8
													Fe^{2+} = 0.0
													Collected Sample DPMW-35 @ 1020

Notes: ToP = Top of Pump

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Daniel Morris, [signature] 3/25/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	DPMW - 3S
SAMPLE LOCATION:	Dobbins Property
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): ~~10~~ 3/25/15
TIME COLLECTED (hh:mm): 1020
DEPTH ~~0~~ TO 28.3 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1.72	mg/L	
ORP	256.8		
Ferrous Iron	0.0	mg/L	
pH	4.56		
Spec Cond	0.253	mS/cm	
Temp	16.8	°C	
Turbidity	44.2	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	↓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 2

RELINQUISHED BY:	DATE / TIME 3/25/15	RELINQUISHED BY:	DATE / TIME
COMPANY:	1702	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: DPMW-35

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

TD = 30.12 bTOC

H_L = 26.43 bTOC

One casing volume = (30.12 − 26.43)(0.16) = 0.59 gallons

Three casing volumes = 0.59 gal (3) = 1.77 gallons

Recommended purge volume: 1.77 gallons

Calculated by: D. Morris QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Restaurant Supply

Well Identifier: JPMW-16 **Initial Depth to Water*:** 20.20 (ft) Total Depth = 47.90 **Casing volume:** 4.84 (Gal) Page 1 of 2

Equipment: YSI 4788 Limnot 024051 WL #03763 Pump Bladder 1465 0 *(IDs for wl meter, wq meter, pump, controller)*

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/25/15	1030	35.00	20.15		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/25/15	1034	35'	20.20		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/25/15	1038	35'	20.23	0.03	-	-	-	-		0.0	0.0	0.0	*Start pump***
3/25/15	1050	35'	20.23		5.56	0.253	20.43	51.5 NTU	100 ml/min	0.0	0.0	0.0	*Initial water quality readings****
3/25/15	1100	35'	20.23		5.55	0.262	20.35	76 NTU	100 ml/min	.25	.25		750 ml to clear 1.5 Gal
3/25/15	1110	35'	20.23		5.56	0.265	20.66	133 NTU	100 ml/min	.25	.50		
3/25/15	1120	35'	20.23		5.54	0.267	20.49	626 NTU	100 ml/min	.25	.75		water light orange slightly cloudy
3/25/15	1130	35'	20.23		5.50	0.264	20.24	702 NTU	100 ml/min	.25	1.00		
3/25/15	1140	35'	20.23		5.46	0.264	20.30	651 NTU	100 ml/min	.25	1.25		
3/25/15	1150	35'	20.23		5.47	0.264	20.31	715 NTU	100 ml/min	.25	1.50		
3/25/15	1200	35'	20.23		5.46	0.263	20.37	835 NTU	100 ml/min	.25	1.75 Gal		
3/25/15	1210	35'	20.23		5.44	0.261	20.28	726 NTU	100 ml/min	.25	2.00		
3/25/15	1220	35'	20.23		5.41	0.258	20.23	627 NTU	100 ml/min	.25	2.25 Gal		
3/25/15	1230	35'	20.23		5.37	0.254	20.04	693 NTU	100 ml/min	.25	2.50 Gal		
3/25/15	1240	35'	20.23		5.36	0.251	20.03	646 NTU	100 ml/min	.25	2.75 Gal		
3/25/15	1250	35'	20.23		5.35	0.249	20.37	654 NTU	100 ml/min	.25	3.00 Gal		
3/25/15	1300	35'	20.23		5.35	0.249	20.86	1000 NTU	100 ml/min	.25	3.25 Gal		water clearing slightly, still cloudy + full of sediment
3/25/15	1310	35'	20.23	↓	5.35	0.245	20.76	225 NTU	100 ml/min	.25	3.50		
3/25/15	1320	35'	20.23		5.34	0.242	20.77	114 NTU	100 ml/min	.25	3.75		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/25/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Restaurant Supply

Well Identifier: JPMW-16 **Initial Depth to Water*:** 20.20 (ft) **Casing volume:** 4.94 (gal)

Equipment:
(IDs for wl meter, wq meter, pump, controller)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/25/15					-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Start pump***
										0.0	0.0	0.0	*Initial water quality readings****
3/25/15	1330	35'	20.23	0.03	5.33	0.240	21.21	147 NTU	100	.25	4.00		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/25/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: JPmw-16

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

Casing volume = (20.20 - 17.90) x 0.163 = 4.84 gal

1 Well MA 3/25/15

Recommended purge volume: NA gallons

Calculated by: _____ QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Restaurant supply

SAMPLE ID NUMBER:	JPMW-16
SAMPLE LOCATION:	Restaurant supply
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/25/15
TIME COLLECTED (hh:mm): 1332
DEPTH _____ TO 35.00' FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	2.32	mg/L	
ORP	193.8	orp	
Ferrous Iron	0	mg/L	
PH	5.33	pH	
SC	0.239	mS/cm	
Temp	21.34	C°	
Turbid	189 NTU	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-2

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:	3/25/15 1702	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Restaurant Supply

Well Identifier: JPMW-17 **Initial Depth to Water*:** 14.29 (ft) **Casing volume:** 5.7 (gal) Page 1 of 1

Equipment: YSI 556 MPS, GED Sample Pro Bladder Pump, MP10 Controller, Lamotte 2020
(IDs for wl meter, wq meter, pump, controller) 600386-4M, 06C2658 Am

Remarks: TD = 49.80'

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate mL/min	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/26/15	0940	35.50 ~~35.60~~	14.35		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	0947		14.28		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	~		~		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	0948		14.35		-	-	-	-		0.0	0.0	0.0	*Start pump* 38 psi, R/D = 9/1
	1000		14.39	0.10	5.76	0.258	17.36	38.6	80	0.0	0.0	0.0	*Initial water quality readings***
	1010		14.40	0.11	5.81	0.234	17.41	58.1	80	800mL	800mL		
	1020		14.40	0.11	5.82	0.233	17.36	79.7	80	800mL	1.6L		
	1030		14.40	0.11	5.86	0.233	17.46	406	80	800mL	2.4L		
	1040		14.39	0.10	5.84	0.233	17.39	129	80	800mL	3.2L		
	1050		14.39	0.10	5.85	0.232	17.44	235	80	800mL	4.0L		
	1100		14.39	0.10	5.84	0.232	17.41	243	80	800mL	4.8L		
	1110		14.39	0.10	5.86	0.232	17.52	63	80	800mL	5.6L		
	1120		14.39	0.10	5.87	0.232	17.70	128	80	800mL	6.4L		
	1130		14.39	0.10	5.86	0.232	17.63	245	80	800mL	7.2L		
	1140		14.39	0.10	5.90	0.232	17.52	101.7	80	800mL	8.0L		
	1150		14.39	0.10	5.88	0.231	18.10	181	80	800mL	8.8L		
	1200		14.39	0.10	5.89	0.231	18.26	91.3	80	800mL	9.6L		
	1210		14.39	0.10	5.87	0.232	18.15	212	80	800mL	10.4L		
	1220		14.39	0.10	5.86	0.231	18.63	81.5	80	800mL	11.2L		
	1230		14.39	0.10	5.86	0.231	18.09	91.8	80	800mL	12L		DO = 4.76 mg/L, ORP = 195.3

Fe^{2+} = 0.2 Collected sample JPMW-17.

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form.

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

Containerized 3.2 gal purge water into Drum 2.

RECORDED BY: Daniel Morris, [signature] 3/26/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	JPMW-17
SAMPLE LOCATION:	Restaurant Property
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/26/15
TIME COLLECTED (hh:mm): 1230
DEPTH ~~0~~ TO 35.50 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	4.76	mg/L	
ORP	195.9	mV	
Ferrous Iron	0.2	mg/L	
pH	5.86		
Spec. Cond.	0.231	mS/cm	
Temp	18.05	°C	
Turbidity	91.8	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	↓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	↓

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: _____

RELINQUISHED BY:	DATE / TIME 3/26/15 1400	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: JPMW-17

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

TD = 49.80' bTOC

H_i = 14.29' bTOC

One Casing Volume = (49.80' - 14.29')(0.16) = 5.7 gal

Recommended purge volume: 5.7 gallons

Calculated by: D. Morris QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Nostaw

Well Identifier: JPBRW-1 **Initial Depth to Water*:** 31.20 (ft) Total Depth 164.5 **Casing volume:** 86.64 (gal) Page 1 of 1

Equipment: Bladder pump 10310 water level (A-03463) YSI (4788) Lamotte C024057
(IDs for wl meter, wq meter, pump, controller)

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (µS/cm)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ml/min)	Incremental Volume Removed (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
3/25/15	1450	~156.0	30.45		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/25/15	1530	~156.0	30.50		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/26/15	1003	~156	30.95		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/26/15	1006	~156	30.95		-	-	-	-		0.0	0.0	0.0	*Start pump***
3/26/15	1233	~156	31.21		11.45	0.610	22.25	54.9	50ml/min	0.0	0.0	0.0	*Initial water quality readings****
3/26/15	1243	~156	31.25		11.66	0.757	22.96	24.8	50ml/m	~.13	.125gal		10sec purge 7sec discharge
3/26/15	1253	~15	31.45	.25	11.69	0.719	22.88	27.8	50ml/min	.13	.250gal		
3/26/15	1303	~156	31.45	.25	11.74	0.808	22.85	18.3	50ml/min	.13	.38gal		
3/26/15	1313	~156	31.45	.25	11.75	0.806	23.53	15.9	50ml/min	.13	.50gal		
3/26/15	1323	~156	31.45	.25	11.74	0.805	24.13	15.1	50ml/min	.13	.63gal		
3/26/15	1333	~156	31.45	.25	11.74	0.807	23.91	17.3	50ml/min	.13	.75gal		
3/26/15	1343	~156	31.45	.25	11.74	0.807	23.90	10.5	50ml/m	.13	0.88gal		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, 3/26/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: JPBRW-1

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

1 Casing Volume

133.3 X 0.65 gal/ft = 86.64 gal

TD = 164.5

WL = 31.20

164.5
- 31.20
133.33

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 3/26/15 QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Restaurant Supply

SAMPLE ID NUMBER:	JPBRW-1
SAMPLE LOCATION:	Restaurant Property
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/26/15
TIME COLLECTED (hh:mm): 1345
DEPTH _____ TO ~156 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.90	mg/L	
ORP	-231.8		
Ferrous Iron	0	mg/L	
Temp	23.86	°C	
PH	11.74		
Spec cond	0.808		
Turbidity	9.87	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1	Plastic 250 m	Nitrate	none	GCAL	
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank -3

RELINQUISHED BY:	DATE / TIME 3/26/15 1645	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Restaurant Supply

Well Identifier: JPMW-22 **Initial Depth to Water*:** 11.93 (ft) **Casing volume:** 5.94 (gal) Page _____ of _____

Equipment: YSI 4788 Lamotte 14967 WL A03163 Bladder pump 10310
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 48.40

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/30/15	1500	35.00	12.10		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/30/15	1504	35.00	11.97		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/30/15	1507	35.00	11.93		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/30/15	1508	35.00	12.05	.12	-	-	-	-		0.0	0.0	0.0	*Start pump***
3/30/15	1512	35.00	12.06	.13	4.64	0.237	20.30	300 ntu	150 ml/min	0.0	0.0	0.0	*Initial water quality readings****
3/30/15	1524	35.00	12.06	↓	4.41	0.233	20.06	178	150 ml/min	.50 gal	.50 gal		TSC recharge - 7 sec discharge
3/30/15	1536	35.00	12.06		4.43	0.229	20.02	166	150 ml/min	.50 gal	1.00		
3/30/15	1548	35.00	12.06		4.34	0.227	20.31	98.00	150	.50	1.50		
3/30/15	1600	35.00	12.06		4.31	0.223	20.05	121	150	.50	2.00		
3/30/15	1612	35.00	12.06		4.33	0.223	20.17	122	150	.50	2.50		
3/30/15	1624	35.00	12.06		4.29	0.221	20.17	54.1	150	.50	3.00		
3/30/15	1636	35.00	12.06		4.25	0.221	19.95	89.1	150	.50	3.50		
3/30/15	1648	35.00	12.06		4.23	0.220	19.54	88.7	150	.50	4.00		
3/30/15	1700	35.00	12.06		4.25	0.221	20.06	87.3	150	.50	4.50		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/30/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Restaurant Supply

SAMPLE ID NUMBER:	JPMW-22
SAMPLE LOCATION:	Restaurant Supply
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/30/15
TIME COLLECTED (hh:mm): 1703
DEPTH — TO 35.00 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.46	mg/L	
ORP	212.6	ORP	
Ferrous Iron	0	mg/L	
Temp	20.16	°C	
Specific Cond	0.220	mS/cm	
pH	4.27	pH	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 ml	Nitrate	none	GCAL	X
1	Plastic 500 ml	Chloride/Sulfate	none	GCAL	
1	Plastic 500 ml	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-4

RELINQUISHED BY: [signature]	DATE / TIME 3/30/15 1900	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: JPMW-22

Use the following formulas to calculate the well volume:

Volume of water in casing:

$$V_c = \pi \times (d_i/2)^2 \times (TD - H)$$

Volume of water in the filter pack:

$$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	_____ ft toc
H	=	depth to water (ft toc)	=	_____ ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

WL = 11.93

TD = 48.40

1 Casing volume

48.40 - 11.93 = 36.47 X .163 = 5.94 gal

Recommended purge volume: — gallons

Calculated by: _____ QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** RESTAURANT SUPPLY

Well Identifier: JPMW-23 **Initial Depth to Water*:** 10.51 (ft) **Casing volume:** 18.18 (GALS) Page 1 of 1

Equipment: LAMOTTE #19955, YSI #R8515, SOLINST #3884, PUMP #19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 46.16

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
3-30-15	1440	36.0	11.43	—	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1450	36.0	10.88		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1500		10.61		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1510		10.51		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1525		10.52	0.01	6.10	0.074	19.45	257.0	70	0.0	0.0	0.0	*Initial water quality readings****
	1540		10.52	0.0	5.94	0.074	19.49	145.0		0.25	0.5		
	1555		10.53	0.01	6.23	0.074	21.88	127.0		0.25	0.75		
	1610		10.53	0.0	6.18	0.075	22.89	93.3		0.25	1.0		
	1625		10.53	0.0	6.13	0.078	22.91	56.7		0.25	1.25		
	1640		10.53	0.0	6.04	0.079	22.79	36.6		0.25	1.5		
	1655		10.53	0.0	6.04	0.078	22.82	37.8		0.25	1.75		
	1710		10.53	0.0	6.04	0.079	22.84	36.7		0.25	2.0		
	1725	Collected Sample											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, , 3-30-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	JPMW-23
SAMPLE LOCATION:	Restaurant Supply
SAMPLING POINT:	~~JPMW-23~~ Pump Discharge
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 3-30-15
TIME COLLECTED (hh:mm): 1725
DEPTH — TO 36 FT

COMMENTS: Soft Bottom in Well - @ Recomend Well Development

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	5.52	mg/L	
ORP	108.6	mV	
Ferrous Iron	0.0	mg/L	
pH	6.09		
Sp. Cond	0.079	mS/cm	
Temp	22.84	°C	
Turb	36.7	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-4

RELINQUISHED BY:	DATE / TIME 3/30/15 1900	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: JPMW-23

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	46.16 ft toc
H	=	depth to water (ft toc)	=	10.51 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

46.16 − 10.51 = 35.65 × 0.17 = 6.06 × 3 = 18.18

DTW 10.51
TD 46.16

Recommended purge volume: 18.18 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Dobbins Property

Well Identifier: DPMW-10 **Initial Depth to Water*:** 37.90 (ft) **Casing volume:** 2.17 (gal) Page 1 of 1

Equipment: YSI 4798 Lamotte 17967 Bladder pump 10310 WL Heron 403763
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 51.25

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
3/31/15	1515	46.00	37.41		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
3/31/15	1520	46	37.61		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/31/15	1525	46	37.90		-	-	-	-		0.0	0.0	0.0	*Recovery period*
3/31/15	1526	46	38.03	0.13	-	-	-	-		0.0	0.0	0.0	*Start pump***
3/31/15	1539	46	38.03	↓	5.77	0.211	19.53	61.1	100	0.0	0.0	0.0	*Initial water quality readings****
3/31/15	1549	46	38.03		4.47	0.207	19.13	13.8	100	.25	.25		7 sec recharge 2 sec discharge
3/31/15	1559	46	38.03		4.69	0.206	18.76	11.1	100	.25	.50		
3/31/15	1609	46	38.03		4.69	0.205	19.80	10.81	100	.25	.75		
3/31/15	1619	46	38.03		4.70	0.206	18.87	9.51	100	.25	1.00		
3/31/15	1629	46	38.03		4.71	0.205	19.15	8.09	100	.25	1.25		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, 3/31/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Dobbins Property

SAMPLE ID NUMBER:	DPMW-10
SAMPLE LOCATION:	Dobbins property
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/31/15
TIME COLLECTED (hh:mm): 1631
DEPTH ~ TO 46 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	1.19	mg/L	
ORP	239.3	ORP	
Ferrous Iron	0	mg/L	
PH	4.71	PH	
Specific conductivity	0.204	mS/cm	
Temp	19.19	°C	
Turbidity	8.17	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE**
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-5

RELINQUISHED BY: [signature]	DATE / TIME 3/31/15 1956	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: DPMW-10

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	51.25 ft toc
H	=	depth to water (ft toc)	=	37.90 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

51.25
- 37.90
13.35

1 casing volume

13.35 X .163 = 2.1751

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** DALTILE

Well Identifier: RPMW-2 **Initial Depth to Water*:** 24.57 (ft) **Casing volume:** 2.56 (GALS) Page 1 of 1

Equipment: LAMOTTE#19955, YSI#R8315, SOLINST#3884, PUMP#19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 29.60

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GALS)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
3-31-15	1410	28.0	24.45		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1415	28.0	24.52	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1420		24.52	0.0	5.59	0.134	21.17	2237	200	0.0	0.0	0.0	*Initial water quality readings****
	1425		24.52	0.0	5.42	0.132	20.06	845	200	0.25	0.5		
	1430		24.53	0.01	5.46	0.132	20.05	44	200	0.25	0.75		
	1435		24.53	0.0	5.56	0.131	20.42	73.1	200	.25	1.0		
	1440		24.53	0.0	5.85	0.131	21.49	58.8	200	.25	1.25		
	1445		24.53	0.0	5.84	0.131	21.77	65.3	200	.25	1.5		
	1450		24.53	0.0	5.84	0.131	22.07	69.9	200	.25	1.75		
	1455		24.53	0.0	5.80	0.130	22.11	28.9	200	.25	2.0		
	1500		24.54	0.01	5.78	0.131	22.17	36.1	200	.25	2.25		
	1505		24.54	0.0	5.82	0.131	22.29	31.4	200	.25	2.5		
	1510	collect			Sample								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 3-31-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Daltile

SAMPLE ID NUMBER:	RPMW-2
SAMPLE LOCATION:	Daltile
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 3-31-15
TIME COLLECTED (hh:mm): 1510
DEPTH — TO 28' FT

COMMENTS: Silty/Sandy Bottom of Well - Recomend Well Development
NO Lock on PRO Casing - NEEDS Lock.

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	1.59	mg/L	
ORP	138.5	mV	
Ferrous Iron	0.0	mg/L	
PH	5.82		
Cond	0.131	ms/cm	
Temp	22.79	°C	
Turb	31.4	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 5

RELINQUISHED BY:	DATE / TIME 3/31/15 1456	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: RPMW-2

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	29.60 ft toc
H	=	depth to water (ft toc)	=	24.57 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

29.60 - 24.57 = 5.03 × 0.17 = 0.85 × 3 = 2.56

Recommended purge volume: 2.56 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: RESTAURANT SUPPLY

Well Identifier: JPMW-21 **Initial Depth to Water*:** 6.46 (ft) **Casing volume:** 15.30 (Gal) Page 1 of 1

Equipment: LAMOTTE #19955, YSI # R8315, SOLINST #3884, PUMP # 19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 36.47

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
3-31-15	1100	26'	6.41	0.05	-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1110	26'	6.45	0.01	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1118	26'	6.45	0.00	4.88	0.172	19.10	2054	125	0.0	0.0	0.0	*Initial water quality readings****
	1126		6.45	0.0	5.11	0.162	18.50	875	125	.25	.5		
	1134		6.45	0.0	5.22	0.161	18.44	216		.25	.75		
	1142		6.46	0.01	5.28	0.161	18.46	42		.25	1.0		
	1150		6.46	0.00	5.36	0.161	1859	38		.25	1.25		
	1158		6.46	0.0	5.44	0.162	1823	46		.25	1.5		
	1206		6.46	0.0	5.38	0.162	18.30	43		.25	1.75		
	1214		6.46	0.0	5.38	0.162	18.35	44		.25	2.0		
	1222		6.46	0.0	5.39	0.162	1838	47		.25	2.25		
	1230		6.46	0.0	5.39	0.162	18.54	42		.25	2.5		
	1235		collect Sample										

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 3-31-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: WOODALL CREEK / RESTAURANT SUPPLY

SAMPLE ID NUMBER:	JPMW-21
SAMPLE LOCATION:	RESTAURANT SUPPLY
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 3-31-15
TIME COLLECTED (hh:mm): 1235
DEPTH — TO 26' FT

COMMENTS: SOFT WELL BOTTOM — WATER SILTY-TAN — RECOMEND WELL DEVELOPMENT

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1,16	MG/L	
ORP	406.3	MV	
Ferrous Iron	0,0	MG/L	
PH	5,39		
COND	0,162	MS/CM	
TEMP	18.54	°C	
TURB	42	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 5

RELINQUISHED BY: [signature]	DATE / TIME 3/31/15 1856	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** —

Well ID: JPMW-21

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	36.47 ft toc
H	=	depth to water (ft toc)	=	6.46 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

36.47 − 6.46 = 30.01 × 0.17 = 5.10 × 3 = 15.30

Recommended purge volume: 15.30 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Southern Metals

Well Identifier: SMFDS-1 **Initial Depth to Water*:** 17.05 (ft) **Casing volume:** 2.82 (gal) Page 1 of 1

Equipment: YSI 4788 Lamotte 17967 Bladder Pump 10310 WL Heron A03763
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD 34.40

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
3/31/15	1130	~~33.0~~ 34.40	16.99		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1137	33.0'	17.06		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1138	33.0	17.29	~.21	-	-	-	-		0.0	0.0	0.0	*Start pump**
	1208	33.0	17.31	0.26	5.41	0.389	19.66	44.7	50 ml/min	0.0	0.0	0.0	*Initial water quality readings****
	1214	33.0	17.31		5.33	0.391	19.85	47.3	50 ml/min	.13	~.13		9 sec recharge .7 sec discharge
	1224	33.0	17.31		5.32	0.391	20.00	43.8	50 ml/min	.13	.25		
	1238	33.0	17.31		5.24	0.392	20.46	14.7	50 ml/min	.13	~.38		
	1246	33.0	17.31		5.23	0.392	20.56	12.8	50 ml/min	.13	.50		
	1258	33.0	17.31		5.20	0.393	20.84	12.5	50 ml/min	.13	~.63		
	1305	33.0	17.31		5.19	0.392	21.20	12.3	50 ml/min	.13	.75		
	12 MW-3 3/31/15												

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 3/31/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Southern Metals

SAMPLE ID NUMBER:	SMFDS-1
SAMPLE LOCATION:	Southern Metals
SAMPLING POINT:	Bladder Pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 3/31/15
TIME COLLECTED (hh:mm): 1310
DEPTH — TO 3.3 FT

COMMENTS: water has green color but clear and free of sediment.

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	4.07	mg/L	
ORP	246.7	ORP	
Ferrous Iron	0	mg/L	
PH	5.19	PH	
Specific conductivity	0.393	mS/cm	
temp	21.26	°C	
turbity	12.9	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank -5

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:	3/31/15 1856	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall creek D.O. No.: _____

Well ID: SMFDS-1

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	34.40 ft toc
H	=	depth to water (ft toc)	=	17.05 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

1 Casing Volume

34.40
-17.05
17.35

17.35 X .163 = 2.83 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** DALTILE

Well Identifier: RPMW-15 **Initial Depth to Water*:** 20.92 (ft) **Casing volume:** 13.91 (Gal) Page 1 of 1

Equipment: LAMOTTE #19955, YSI #R8315, SOLINST #901868, Pump #19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 48.20

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-1-15	1140	36'	20.70		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1150		20.85		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1200		20.92		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1205		20.92	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1220		20.93	0.01	6.39	0.398	22.27	664	70	0.0	0.0	0.0	*Initial water quality readings****
	1235		20.93	0.0	5.52	0.253	22.44	602		.25	.5		
	1250		20.93	0.0	5.52	0.251	22.72	157.0		.25	.75		
	1305		20.93	0.0	5.50	0.250	22.93	53.7		.25	1.0		
	1320		20.94	0.1	5.51	0.250	23.08	43.5		.25	1.25		
	1335		20.94	0.0	5.49	0.249	23.01	53.2		.25	1.5		
	1340		COLLECT		SAMPLE								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 4-1-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: WOODALL CREEK / DALTILE

SAMPLE ID NUMBER:	RPMW-15
SAMPLE LOCATION:	DALTILE
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-1-15
TIME COLLECTED (hh:mm): 1340
DEPTH — TO 36' FT

COMMENTS: SOFT WELL BOTTOM
RECOMMEND WELL DEVELOPMENT

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	0.40	MG/L	
ORP	158.4	MV	
Ferrous Iron	0.0	MG/L	
PH	5.49	-	
COND	0.249	MS/CM	
TEMP	23.01	°C	
TURB	53.2	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: TRIP BLANK-6

RELINQUISHED BY: [signature]	DATE / TIME: 4/1/15 1434	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: RPMW-15

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	48.20 ft toc
H	=	depth to water (ft toc)	=	20.92 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

48.20 - 20.92 = 27.28 × 0.17 = 4.63 × 3 = 13.91

Recommended purge volume: 13.91 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** DALTILE

Well Identifier: RPMW-24 **Initial Depth to Water*:** 16.95 (ft) **Casing volume:** 16.44 (GAL) Page 1 of 1

Equipment: LAMOTTE #19955, YSI #R8315, SOLINST #901868, PUMP #19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 49.20

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
4-1-15	1440	36'	16.78		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1450		1697		-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1455		1697	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1505		17.00	0.03	5.87	0.283	20.40	1848	100	0.0	0.0	0.0	*Initial water quality readings****
	1515		17.01	0.01	5.51	0.288	20.48	2294		.25	.50		
	1525		17.01	0.0	5.51	0.290	20.70	>3000		.25	.75		
	1535		17.01	0.0	5.67	0.288	19.68	>3000		.25	1.0		
	1545		17.01	0.0	5.74	0.284	19.17	>3000		.25	1.25		
	1555		17.01	0.0	5.78	0.284	18.76	>3000		.25	1.5		
	1605		17.01	0.0	5.77	0.284	18.90	>3000		.25	1.75		
	1615		17.01	0.0	5.79	0.284	18.93	>3000		.25	2.0		
	1625		17.01	0.0	5.79	0.285	18.60	>3000		.25	2.25		
	1630		Collect Sample										

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 4-1-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Daltice

SAMPLE ID NUMBER:	RPMW-24
SAMPLE LOCATION:	DALTILE
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-1-15
TIME COLLECTED (hh:mm): 1630
DEPTH — TO 36' FT

COMMENTS: VERY SILTY - SOFT BOTTOM - RECOMED WELL DEVELOPMENT

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	1.10	MG/L	
ORP	284	MV	
Ferrous Iron	0.10	MG/L	
PH	5.79	-	
COND	0.1285	MS/CM	
TEMP	18.60	°C	
TURB	>3000	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 6

RELINQUISHED BY: [signature]	DATE / TIME 4/1/15	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: RPMW-24

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	49.20 ft toc
H	=	depth to water (ft toc)	=	16.95 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

49.20 - 16.95 = 32.25 × 0.17 = 5.48 × 3 = 16.44

Recommended purge volume: 16.44 gallons

Calculated by:_____ QA Check by:_____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Daltile

Well Identifier: RPMW-14 **Initial Depth to Water*:** 25.95 (ft) **Casing volume:** 3.83 (gal) Page 1 of 1

Equipment: YSI 4788 Lamotte 17967 WL Heron A03763 Bladder Pump 10310
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD= 49.50 soft bottom

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ml/min)	Incremental Volume Removed (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
4/1/15	1135	37.3	25.97		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1138	37.3	25.95		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1140	37.3	25.95		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1150				6.05	0.317	20.23	1750AV	150	0.0	0.0	0.0	*Initial water quality readings****
	1202		25.97	0.02	6.08	0.297	20.43	1790AV	150	.50	.50		VP-1 muddy yellowish red
	1214		25.97		6.21	0.280	20.52	1452AV	150	.50	1.00		7 sec discharge 1.4 sec discharge
	1226		25.97		6.03	0.240	20.87	1451AV	150	.50	1.50		
	1238		25.97		6.03	0.271	21.56	1271AV	150	.50	2.00		
	1250		25.97		6.02	0.278	21.41	1274AV	150	.50	2.50		
	1302		25.97		6.02	0.275	21.00	1259AV	150	.50	3.00		
	1314		25.97		6.04	0.273	21.01	1271AV	150	.50	3.50		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 4/1/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: ~~RI MW~~ MA 4/1/15 14 Woodall Creek / Daltile

SAMPLE ID NUMBER:	RPMW-14
SAMPLE LOCATION:	Daltile
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/1/15
TIME COLLECTED (hh:mm): 1316
DEPTH ~ TO 37.3 FT

COMMENTS: very silty muddy
recommend re development

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	5.91	mg/L	
ORP	316.8	ORP	
Ferrous Iron	0	mg/L	
Temp	21.05	°C	
Specific Conductivity	0.772	mS/cm	
PH	6.04	PH	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-6

RELINQUISHED BY:	DATE / TIME 4/1/15 1934	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: RPMW-14

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	49.50 ft toc
H	=	depth to water (ft toc)	=	25.95 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

49.50
− 25.95
23.55

1 casing volume
23.55 X .163 = 3.84 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** Goodstone

Well Identifier: GPMW-11 **Initial Depth to Water*:** 12.06 (ft) **Casing volume:** 4.44 (gal) Page 1 of 1

Equipment: YSI 4748 Lamotte 17961 WL Heron A03763 Bladder Pump 10310 *(IDs for wl meter, wq meter, pump, controller)*

Remarks: TD = 39.30

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4/1/15	1510	26.8	12.06		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
4/1/15	1515	↓	12.06		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/1/15	1519		12.10	.04	-	-	-	-		0.0	0.0	0.0	*Start pump***
↓	1530		12.21	.15	5.30	0.220	21.33	78 AV	50 ml/m	0.0	0.0	0.0	*Initial water quality readings****
	1540		12.20	.14	6.08	0.207	21.84	822 AV	50 ml/m	.13	~.13		75sec recharge .85sec discharge
	1550		12.20		5.83	0.206	21.12	742 AV	50 ml/m	.13	.25		
	1600		12.20		5.71	0.204	21.02	971 AV	50 ml/m	.13	~0.38		
	1610	↓	12.20		5.68	0.204	20.95	940 AV	50 ml/m	.13	.50		
	1620		12.20	↓	5.67	0.204	20.89	960 AV	50 ml/m	.13	~0.63		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 4/1/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall creek / Goodstone

SAMPLE ID NUMBER:	GPMW-11
SAMPLE LOCATION:	Goodstone
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/1/15
TIME COLLECTED (hh:mm): 1622
DEPTH _____ TO 26.8 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	5.51	mg/L	
ORP	168.1	ORP	
Ferrous Iron	0	mg/L	
PH	5.67	PH	
Specific conductivity	0.204	mS/cm	
Turbidity	950 NV	NV	
Temp	20.87	°C	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	V

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-6

RELINQUISHED BY: [signature]	DATE / TIME 4/1/15 1834	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: GPMW-11

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	39.30 ft toc
H	=	depth to water (ft toc)	=	12.06 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

39.30
-12.06
27.24

1 Casing Volume
27.24 X .163 = 4.44 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 4/1/15 QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** GOODSTONE

Well Identifier: GPMW-19 **Initial Depth to Water*:** 12.66 (ft) **Casing volume:** 11.14 (Gal) Page 1 of 1

Equipment: LAMOTTE #19955, YSI #RB315, SOLINST #901868, PUMP #19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 34.52

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-2-15	1450	22'	12.52		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1500	22	12.71		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1510		12.73	0.02	5.42	0.200	19.75	754	100	0.0	0.0	0.0	*Initial water quality readings****
	1520		12.75	0.02	5.26	0.203	19.54	707	100	.25	.50		
	1530		12.77	0.02	5.45	0.204	1941	243		.25	.75		
	1540		12.79	0.02	5.68	0.204	1980	54		.25	1.0		
	1550		12.81	0.02	5.66	0.203	19.64	44		.25	1.25		
	1600		12.81	0.0	5.68	0.204	19.36	77		.25	1.5		
	1610		Collect Sample										
	* Note-	also	COLLECTED	DUP-1 @ 1200	—								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, 4-2-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek/Goodstone

SAMPLE ID NUMBER:	GPMW-19
SAMPLE LOCATION:	Goodstone
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-2-15
TIME COLLECTED (hh:mm): 1610
DEPTH — TO 22 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen		mg/L	
ORP		mv	
Ferrous Iron		mg/L	
pH			
Cond		ms/cm	
Temp		°C	
Turb		NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓
* Note — Also		Collected Dup-1 @ 1200 —			✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-1

RELINQUISHED BY: [signature]	DATE / TIME 4/2/15 1925	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: GPMW-19

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	34.52 ft toc
H	=	depth to water (ft toc)	=	12.66 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

34.52 − 12.66 = 21.86 × 0.17 = 3.71 × 3 = 11.14

Recommended purge volume: 11.14 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** GOODSTONE

Well Identifier: GPMW-18 **Initial Depth to Water*:** 10.00 (ft) **Casing volume:** 14.73 (GAL) Page 1 of 1

Equipment: LAMOTTE#19955, YSI#R8315, SOLINST#901868, PUMP#19693
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB= 38.90

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
4-2-15	1150	~26'	9.75		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1155		10.01	0.01	-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1200		10.01	0.01	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1210		10.06	0.05	5.73	0.203	17.10	>3000	100	0.0	0.0	0.0	*Initial water quality readings****
	1220		10.06	0.0	5.53	0.200	17.33	>3000		.25	.5		
	1230		10.06	0.0	5.66	0.201	17.42	>3000		.25	.75		
	1240		10.06	0.0	5.60	0.202	17.41	>3000		.25	1.0		
	1250		10.06	0.0	5.58	0.202	17.15	>3000		.25	1.25		
	1300		10.06	0.0	5.65	0.203	17.40	>3000		.25	1.5		
	1310		10.06	0.0	5.66	0.203	17.57	>3000		.25	1.75		
	1320		10.06	0.0	5.61	0.203	17.63	>3000		.25	2.0		
	1325		collect		Sample								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 4-2-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Goodstone

SAMPLE ID NUMBER:	GPMW-18
SAMPLE LOCATION:	Goodstone
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-2-15
TIME COLLECTED (hh:mm): _____
DEPTH ~ TO 26' FT

COMMENTS: Well Has Soft Bottom
Lots of Silty Sediment
Recomend Well Development

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	4.49	mg/L	
ORP	176.2	mV	
Ferrous Iron	0.0	mg/L	
PH	5.61		
Cond	0.203	mS/cm	
Temp	17.63	°C	
Turb	>3000	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-1

RELINQUISHED BY: [signature]	DATE / TIME 4/2/15 1925	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: GPMW-18

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	38.90 ft toc
H	=	depth to water (ft toc)	=	10.00 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

38.90 - 10.00 = 28.90 X 0.17 = 4.19 X 3 = 14.73

Recommended purge volume: 14.73 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: GOODSTONE

Well Identifier: GPMW-20 **Initial Depth to Water*:** 10.59 (ft) **Casing volume:** 13.79 (Gal) Page 1 of 1

Equipment:
(IDs for wl meter, wq meter, pump, controller)

Remarks:
DTB = 37.64

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-2-15	920	25'	10.58		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	930	25'	10.59	0.01	-	-	-	-		0.0	0.0	0.0	*Start pump***
	937		10.64	0.05	6.09	0.285	1615	>3000	150	0.0	0.0	0.0	*Initial water quality readings****
	944		10.67	0.03	5.64	0.232	1642	>3000		.25	.5		
	951		10.67	0.0	5.66	0.230	16.23	>3000		.25	.75		
	958		10.67	0.0	5.71	0.230	1635	>3000		.25	1.0		
	1005		10.67	0.0	5.73	0.230	1644	>3000		.25	1.25		
	1012		10.67	0.0	5.72	0.230	1659	>3000		.25	1.5		
	1019		10.67	0.0	5.72	0.230	16.62	>3000		.25	1.75		
	1026		10.67	0.0	5.71	0.230	16.61	>3000		.25	2.0		
	1030		Collect Sample										

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 4-2-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Goodstone

SAMPLE ID NUMBER:	GPMW-20
SAMPLE LOCATION:	Goodstone
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-2-15
TIME COLLECTED (hh:mm): 1030
DEPTH — TO 25' FT

COMMENTS: Well Has Soft Bottom and Lots of Silty Sediment — Recomend Well Devecopment

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	2.07	Mg/L	
ORP	224.1	MV	
Ferrous Iron	0.0	Mg/L	
PH	5.71		
Cond	0.230	Ms/cm	
TEMP	16.61	°C	
TURB	>3000	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-7

RELINQUISHED BY: [signature]	DATE / TIME 4/2/15 1925	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: GPMW-20

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	37.64 ft toc
H	=	depth to water (ft toc)	=	10.59 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

37.64 - 10.59 = 27.05 x 0.17 = 4.59 x 3 = 13.79

Recommended purge volume: 13.79 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** M-West

Well Identifier: MW-X **Initial Depth to Water*:** 18.55 (ft) **Casing volume:** 0.99 (gal) Page 1 of 1

Equipment: YSI 4788 LaMotte 17967 Heron A03763 Bladder pump 10310 *(IDs for wl meter, wq meter, pump, controller)*

Remarks: TD = 24.65

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4/2/15	1100	20.00'	19.45		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
4/2/15	1110	20.00	19.55		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/2/15	1118	20.00	18.61		-	-	-	-		0.0	0.0	0.0	*Start pump***
4/2/15	1121	20.00	18.70	0.15	5.94	0.427	16.92	79.7	50 ml/min	0.0	0.0	0.0	*Initial water quality readings****
4/2/15	1131	20.00	18.70	0.15	5.93	0.428	17.14	17.0	50ml/min	.13	~.13		Tygon reducer to 3/8 SCH discharge
4/2/15	1141	20.00	18.70	0.15	5.95	0.427	17.13	19.4	50ml/min	.13	.25		
4/2/15	1151	20.00	18.70	0.15	5.93	0.423	17.10	9.04	50ml/min	.13	0.38		
4/2/15	1201	20.00	18.70	0.15	5.94	0.421	17.12	8.89	50ml/min	.13	.50 gal		
4/2/15	1211	20.00	18.70	0.15	5.92	0.422	17.35	5.50	50ml/min	.13	~0.63 gal		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark, [signature], 4/2/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: MW-X

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	24.65 ft toc
H	=	depth to water (ft toc)	=	18.55 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

24.65
- 18.55
6.1

6.1 X 0.163 = 0.99 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 4/2/15 QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / M-West

SAMPLE ID NUMBER:	MW-X
SAMPLE LOCATION:	M-West
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4-2-15
TIME COLLECTED (hh:mm): 1213
DEPTH — TO 20' FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	0.82	mg/L	
ORP	-7.4	ORP	
Ferrous Iron	2.0	mg/L	
Specific Conductivity	0.420	mS/cm	
PH	5.92	PH	
Turbidity	5.21	NTU	
Temp	17.37	°C	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-1

RELINQUISHED BY: [signature]	DATE / TIME 4/2/15 1925	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: M-West

Well Identifier: HOAMW-5I **Initial Depth to Water*:** 20.68 (ft) **Casing volume:** 3.19 (gal) Page 1 of 1

Equipment: WL 3884 YSI 04314 Lamotte 17967 Bladder Pump 10310
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 40.30 DUP-2 taken at this location

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ml/min)	Incremental Volume Removed (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
4/2/15	1400	37.8	20.71		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
4/2/15	1439	37.8	20.68		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/2/15	1440	37.8	20.76		-	-	-	-		0.0	0.0	0.0	*Start pump***
	1448		20.75	.07	6.21	0.278	14.56	155 NTU	50 ml/min	0.0	0.0	0.0	*Initial water quality readings****
	1458		20.75		5.96	0.257	18.94	65.2		.13	~.13		TSC reading . 8 sec discharge
	1508		20.75		5.66	0.250	16.92	26.9		.13	.25		
	1518		20.75		5.59	0.241	19.17	24.7		.13	~.38		
	1528		20.75		5.52	0.246	19.66	19.4		.13	.50		
	1538		20.75		5.51	0.246	19.68	13.2		.13	~.63		
	1548		20.75		5.50	0.244	19.79	11.3		.13	.75		
	1558		20.75		5.49	0.244	19.92	8.71		.13	~.88		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 4/2/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / M-West

SAMPLE ID NUMBER:	HOAMW-5I
SAMPLE LOCATION:	M-West
SAMPLING POINT:	Bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/2/15
TIME COLLECTED (hh:mm): 1600
DEPTH — TO 37.8 FT

COMMENTS: DUP-2 taken at this location 1200 sample time

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	1.10	mg/L	
ORP	85.1	ORP	
Ferrous Iron	0	mg/L	
Temp	19.92	°C	
PH	5.49	PH	
Specific conductivity	0.244	mS/cm	
Turbidity	8.71	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE * *
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	↓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

* * "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 7

RELINQUISHED BY: [signature]	DATE / TIME 4/2/15 1925	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: HOAMW-5I

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	40.30 ft toc
H	=	depth to water (ft toc)	=	20.68 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

40.30
-20.68
19.62

1 Casing Volume
19.62 X 0.163 = 3.19 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event* **Property:** MIDTOWN WEST

Well Identifier: MTW MW-1 **Initial Depth to Water*:** 14.33 (ft) **Casing volume:** 12.35 (Gal) Page 1 of 1

Equipment: LAMOTTE# 19955, YSI#R8315, SOLINST #901868, PUMP#19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 38.55

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-3-15		26'	14.33		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1110	26	14.33	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1120		14.35	0.02	5.47	0.315	18.14	642	100	0.0	0.0	0.0	*Initial water quality readings****
	1130		1437	0.02	5.12	0.210	17.10	54.7	100	.125	.5		
	1140		1437	0.0	5.24	0.201	16.73	57.5		.25	.75		
	1150		1437	0.0	5.36	0.199	16.63	65.8		.25	1.0		
	1200		14.37	0.0	5.47	0.200	16.73	47.3		.25	1.25		
	1210		1437	0.0	5.52	0.200	16.81	34.7		.25	1.5		
	1220		14.37	0.0	5.55	0.200	16.91	35.0		.25	1.75		
	1230		14.37	0.0	5.53	0.201	17.08	17.2		.25	2.0		
	1235	Collect Sample											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 4-3-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: WOODALL CREEK

SAMPLE ID NUMBER:	MTWMW-1
SAMPLE LOCATION:	MIDTOWN WEST
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-3-15
TIME COLLECTED (hh:mm): 1235
DEPTH — TO 26 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0,41	MG/L	
ORP	73,8	MV	
Ferrous Iron	3,0	MG/L	
PH	5,53		
COND	0,200	MS/CM	
TEMP	17,08	°C	
TURB	17,2	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: TRIP Blank-8

RELINQUISHED BY: [signature]	DATE / TIME 4/3/15 1754	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK **D.O. No.:** —

Well ID: MTWMW-1

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	38.55 ft toc
H	=	depth to water (ft toc)	=	14.33 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

38.55 - 14.33 = 24.22 X 0.17 = 4.11 X 3 = 12.35

Recommended purge volume: 12.35 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: MIDTOWN WEST

Well Identifier: MTWMW-12 **Initial Depth to Water*:** 14.50 (ft) **Casing volume:** 12.69 (Gal) Page 1 of 1

Equipment: LAMOTTE#19955, YSI#R8315, SOLINST#901868, PUMP#19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 39.10

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-3-15	1420	26'	14.20		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1425		1445	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1435		14.55	0.1	5.41	0.252	20.19	657	100	0.0	0.0	0.0	*Initial water quality readings****
	1445		1455	0.0	5.33	0.246	18.70	84.6		.25	.50		
	1455		1455	0.0	5.32	0.244	18.43	66.2		.25	.75		
	1505		14.55	0.0	5.33	0.243	18.34	51.8		.25	1.0		
	1515		14.55	0.0	5.45	0.242	18.33	38.7		.25	1.25		
	1525		14.55	0.0	5.60	0.238	18.21	16.8		.25	1.5		
	1535		14.55	0.0	5.64	0.235	18.05	12.1		.25	1.75		
	1545		14.55	0.0	5.62	0.234	17.98	11.3		.25	2.0		
	1555		14.55	0.0	5.61	0.234	17.74	8.53		.25	2.25		
	1600	collect sample											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 4-3-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: WOODALL CREEK

SAMPLE ID NUMBER:	MTW MW-12
SAMPLE LOCATION:	MIDTOWN WEST
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	~~#~~ 2

DATE COLLECTED (mm/dd/yy): 4-3-15
TIME COLLECTED (hh:mm): 1600
DEPTH — TO 26 FT

COMMENTS: BROKEN BOLT ON COVER

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	0.21	mg/L	
ORP	94.8	MV	
Ferrous Iron	2.10	mg/L	
PH	5.61		
COND	0.234	MS/CM	
TEMP	17.74	°C	
TURB	8.53	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: TRIP Blank-8

RELINQUISHED BY: [signature]	DATE / TIME: 4/3/15 1754	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-12

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	39.10 ft toc
H	=	depth to water (ft toc)	=	14.20 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

39.10 - 14.20 = 24.9 × 0.17 = 4.23 × 3 = 12.69

Recommended purge volume: 12.69 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

MK 4/3/15 **Property:** M-west

Well Identifier: HOAmw-5 **Initial Depth to Water*:** 17.71 (ft) **Casing volume:** ~~17.~~ 3.20 (Gal) Page 1 of 2

Equipment: 95I 4798 Lamotte 1967 WL Hron A03763 Bladder pump 18650 *(IDs for wl meter, wq meter, pump, controller)*

Remarks: TD = 37.40

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ml/min)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4/2/15	1436	24.9	17.75		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
4/2/15	1440	24.9	17.70		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/3/15	1441	24.9	17.75		-	-	-	-		0.0	0.0	0.0	*Start pump***
↓	1459	↓	17.80		6.13	0.255	19.37	7/58AV	50 ml/min	0.0	0.0	0.0	*Initial water quality readings****
	1509		17.80		5.91	0.250	18.88	1117AV	50 ml/min	.13	~.13		
	1519		17.80		5.68	0.250	18.97	1130AV	50 ml/min	↓	.25		
	1529		17.80		5.67	0.250	18.91	1247AV	50 ml/min		~.38		
	1539		17.80		5.66	0.249	18.94	1179AV	50 ml/min		.50		
	1549		17.80		5.62	0.249	19.09	619AV	50 ml/min		~.63		
	1559		17.80		5.62	0.248	18.15	980NTU	50 ml/min		.75		
	1609		17.80		5.53	0.249	19.18	540NTU	50 ml/m		~.88		
	1619		17.80		5.58	0.248	19.17	109NTU	50 ml/m		1.00		
	1629	↓	17.80		5.56	0.248	19.30	140NTU	50 ml/m	↓	~1.13		
↓	1639		17.90		5.55	0.248	19.31	131NTU	50 ml/min		1.25		Sediment stops up pump, stop pump.
4/3/15	1330	24.9	17.70								~~1.38~~		after pump redeployed
											~~1.50~~ MK 4/3/15		
4/3/15	1335	24.9	17.76								~~1.63~~		Start pump
4/3/15	1345		17.80		8.52	0.238	19.70	3033AV	50 ml/m	.13	~1.38		
4/3/15	1355		17.80		8.66	0.237	19.56	3987AV	50 ml/m	.13	1.50		

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 4/3/15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: M-West

Well Identifier: HDA MW-5 **Initial Depth to Water*:** 17.71 (ft) **Casing volume:** 3.20 (____)

Equipment: *(IDs for wl meter, wq meter, pump, controller)*

Remarks:

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
					-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Start pump***
										0.0	0.0	0.0	*Initial water quality readings****
4/3/15	1405	24.9	17.80		6.90	0.250	19.88	320 NTU	50 ml/min	.13	~1.63		
	1415		17.80		6.53	0.247	19.78	248 NTU	50 ml/min		1.75		
	1425		17.80		6.13	0.248	19.98	692 NTU	50 ml/min		~1.88		
	1435		17.80		5.05	0.248	20.11	167 NTU	50 ml/min		2.00		
	1445		17.80		5.53	0.248	20.03	94.7 NTU	50 ml/min		~2.13		
	1455		17.80		5.27	0.247	19.82	81.7 NTU	50 ml/min		2.25		
	1505		17.80		5.25	0.247	19.86	118 NTU	50 ml/min		~2.38		
	1515		17.80		5.27	0.247	19.89	117 NTU	50 ml/min		2.50		

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump
** upon sufficient re-equilibration of water column
*** upon filling of flow-cell
(____) indicate units of measurement for this parameter
Show casing volume calculations on appropriate form
Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form
Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature] 4/3/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / M-West

SAMPLE ID NUMBER:	HOA MW-5
SAMPLE LOCATION:	M-West
SAMPLING POINT:	bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/3/15
TIME COLLECTED (hh:mm): 1517
DEPTH _____ TO 24.7 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.98	mg/L	
ORP	185.2		
Ferrous Iron			
pH	5.28		
Temp	19.53		
Cond	0.247		
Turbity	73.2	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-8

RELINQUISHED BY: [signature]	DATE / TIME 4/3/15 1754	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: HOA mw-5

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	37.40 ft toc
H	=	depth to water (ft toc)	=	17.71 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

1 casing volume

19.69 X .163 = 3.209al

37.40
-17.71
19.69

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 4/3/15 QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: M-West

Well Identifier: HOAMW-3 **Initial Depth to Water*:** 16.32 (ft) **Casing volume:** 3.65 (gal) Page 1 of 1

Equipment: YSI 04314 Lamotte 17967 bladder Pump 10310 WL A03763 *(IDs for wl meter, wq meter, pump, controller)*

Remarks: TD = 38.70

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4/6/15	1157	24.00'	16.35		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/6/15	1200	24.00	16.40	0.08	-	-	-	-		0.0	0.0	0.0	*Start pump***
4/6/15	1205	24.00	16.40	0.08	3.95	0.292	16.69	924AV	100ml/min	0.0	0.0	0.0	*Initial water quality readings****
4/6/15	1215	24.00	16.40	0.08	5.55	0.272	16.83	791AV	100ml/min	.25	.25		75sec recharge 15sec discharge
4/6/15	1225	24.00	16.40	0.08	5.47	0.272	16.85	161NTU	100ml/min	.25	.50		
4/6/15	1235	24.00	16.40	0.08	5.50	0.288	17.00	100.8NTU	100ml/min	.25	.75		
4/6/15	1245	24.00	16.40	0.08	5.47	0.289	17.46	55.5NTU	100ml/min	.25	1.00		
4/6/15	1255	24.00	16.40	0.08	5.45	0.289	18.15	65.1NTU	100ml/min	.25	1.25		

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, _____, 4/6/15 (Print name, Signature, Date)

QA CHECKED BY: _____ (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / M-West

SAMPLE ID NUMBER:	H0AMW-3
SAMPLE LOCATION:	M-WEST
SAMPLING POINT:	bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/6/15
TIME COLLECTED (hh:mm): 1257
DEPTH ~ TO 24 FT

COMMENTS: well very silty, recommend redevelopment.

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	1.95	mg/L	
ORP	144.1	ORP	
Ferrous Iron	0	mg/L	
Temp	18.16	°C	
pH	5.45	pH	
Cond	0.288	mS/cm	
Turb			

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-9

RELINQUISHED BY: [signature]	DATE / TIME 4/6/15 1910	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: HOAMW-3

Use the following formulas to calculate the well volume:

Volume of water in casing:

$$V_c = \pi \times (d_i/2)^2 \times (TD - H)$$

Volume of water in the filter pack:

$$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	38.70 ft toc
H	=	depth to water (ft toc)	=	16.32 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

1 casing volume

38.70
−16.32
22.38

22.38 X .163 = 3.645 gl

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Midtown West

Well Identifier: MTWMW-4 **Initial Depth to Water*:** 13.24 (ft) **Casing volume:** 3.55 (gal) Page 1 of 1

Equipment: YSI 04314 LaMotte 1797 Bladder Pump 10310 WL A03763
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 35.05

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4/6/15	1540	23.00	13.20		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
	1547	23.00	13.25		-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/6/15	1549	23.00	13.35		-	-	-	-		0.0	0.0	0.0	*Start pump***
4/6/15	1555	23.00	13.38		6.89	0.217	19.07	161 NTU	100 ml/min	0.0	0.0	0.0	*Initial water quality readings****
4/6/15	1605	23.00	13.37	0.13	6.81	0.216	18.77	74 NTU	100 ml/min	.25	.25		7 sec recharge 1 sec discharge
4/6/15	1615	23.00	13.37	0.13	6.33	0.215	18.94	636 NTU	100 ml/min	.25	.50		
4/6/15	1625	23.00	13.37	0.13	5.99	0.214	19.37	686 NTU	100 ml/min	.25	.75		
4/6/15	1635	23.00	13.37	0.13	5.83	0.213	19.97	645 NTU	100 ml/min	.25	1.00		
4/6/15	1645	23.00	13.37	0.13	5.80	0.213	19.24	660 NTU	100 ml/min	.25	1.25		
4/6/15	1655	23.00	13.37	0.13	5.81	0.213	19.25	658 NTU	100 ml/min	.25	1.50		

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump
** upon sufficient re-equilibration of water column
*** upon filling of flow-cell
(____) indicate units of measurement for this parameter
Show casing volume calculations on appropriate form
Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form
Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Mark Andrews, [signature], 4/6/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Midtown West Woodall Creek

SAMPLE ID NUMBER:	MT MW-4
SAMPLE LOCATION:	Midtown West
SAMPLING POINT:	bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/6/15
TIME COLLECTED (hh:mm): 1657
DEPTH — TO 23 FT

COMMENTS: Very silty, soft bottom in well. Recomm'd well development

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	2.54	mg/L	
ORP	175.8	ORP	
Ferrous Iron	0	mg/L	
Temp	18.26	°C	
Cond	0.213	mS/cm	
PH	5.81	·	
Turb	684 AU	AU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-4

RELINQUISHED BY:	DATE / TIME 4/6/15 1910	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek D.O. No.: _____

Well ID: MTLWMW-4

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	35.05 ft toc
H	=	depth to water (ft toc)	=	13.24 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

1 Casing volume

35.05
-13.24
21.81

21.91 X .163 = 3.55 gal

Recommended purge volume: _____ gallons

Calculated by: [signature] 4/6/15 QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: MIDTOWN WEST

Well Identifier: MTWMW-8 **Initial Depth to Water*:** 14.82 (ft) **Casing volume:** 11.77 (Gal) Page 1 of 1

Equipment:
(IDs for wl meter, wq meter, pump, controller)

Remarks:
DTB = 37.90

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/cm)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-6-15	855	27'	14.73		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4-6-15	910	27'	14.82	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	920		14.82	0.0	5.46	0.256	15.39	>3000	100	0.0	0.0	0.0	*Initial water quality readings****
	930		14.82	0.0	5.38	0.217	16.31	1412		.125	.5		
	940		14.82	0.0	5.31	0.203	16.54	1131		.125	.75		
	950		14.82	0.0	5.27	0.196	16.48	779		.125	1.0		
	1000		14.82	0.0	5.19	0.188	16.39	592		.25	1.25		
	1010		14.82	0.0	5.24	0.178	16.42	367		.25	1.5		
	1020		14.82	0.0	5.19	0.174	16.51	176		.125	1.75		
	1030		14.82	0.0	5.19	0.175	16.45	67		.125	2.0		
	1040		14.82	0.0	5.18	0.174	16.55	77.4		.25	2.25		
	1050		Collect		Sample								

Notes:

* Record Initial DTW prior to introduction of pump
** upon sufficient re-equilibration of water column
*** upon filling of flow-cell
(____) indicate units of measurement for this parameter
Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 4-6-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-8

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	37.90 ft toc
H	=	depth to water (ft toc)	=	14.82 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

37.90 − 14.82 = 23.08 × 0.17 = 3.92 × 3 = 11.77

Recommended purge volume: 11.77 gallons

Calculated by: EVER GUILLEN QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	MTWMW-8
SAMPLE LOCATION:	Midtown West
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-6-15
TIME COLLECTED (hh:mm): 1050
DEPTH — TO 27' FT

COMMENTS:
Soft Well Bottom
Recomend Well Development

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	2.47	mg/L	
ORP	338	mV	
Ferrous Iron	0.10	mg/L	
pH	5.18		
Cond	0.174	mS/cm	
Temp	16.55	°C	
Turb	77.4	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-4

RELINQUISHED BY: [signature]	DATE / TIME 4/6/15 1910	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Midtown West

Well Identifier: MTWMW-9 **Initial Depth to Water*:** 15.40 (ft) **Casing volume:** 9.45 (Gal) Page 1 of 1

Equipment:
(IDs for wl meter, wq meter, pump, controller)

Remarks:
DTW-33.93

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate mL/min	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-6-15	1205	23'	15.42		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	1210	23	15.42	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1215		15.42	0.0	5.38	0.191	17.22	1059	200	0.0	0.0	0.0	*Initial water quality readings****
	1220		15.42	0.0	5.08	0.191	17.44	731		.25	.5		
	1225		15.42	0.0	5.11	0.190	17.46	197		.25	.75		
	1230		15.42	0.0	5.24	1.189	17.50	58.1		.25	1.0		
	1235		15.42	0.0	5.26	0.188	17.46	36.2		.25	1.25		
	1240		15.42	0.0	5.32	0.187	17.57	37.5		.25	1.5		
	1245		15.42	0.0	5.41	0.187	17.92	19.4		.25	1.75		
	1250		15.42	0.0	5.40	0.186	17.97	16.9		.25	2.0		
	1255		15.42	0.0	5.40	0.187	18.04	15.6		.25	2.25		
	1300	Collect Sample											

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: Ever Guillen, [signature], 4-6-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	MTWMW-9
SAMPLE LOCATION:	MIDTOWN WEST
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-6-15
TIME COLLECTED (hh:mm): 1300
DEPTH — TO 23 FT

COMMENTS: SOFT BOTTOM IN WELL - RECOMEND WELL DEVELOPMENT

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	2.92	mg/L	
ORP	210.0	MV	
Ferrous Iron	0.0	mg/L	
PH	5.40		
Cond	0.187	ms/cm	
TEMP	18.04	°C	
TURB	15.6	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blnk-9

RELINQUISHED BY: [signature]	DATE / TIME 4/6/15 1410	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-9

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	33.93 ft toc
H	=	depth to water (ft toc)	=	15.40 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

33.93 - 15.40 = 18.53 × 0.17 = 3.15 × 3 = 9.45

Recommended purge volume: 9.45 gallons

Calculated by: EVER GUILLEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: MIDTOWN WEST

Well Identifier: MTW MW-10 **Initial Depth to Water*:** 15.00 (ft) **Casing volume:** 9.0 (Gal) Page 1 of 1

Equipment: CA MOTTE #9955, YSI #R8315, SOLINST #901868, Pump # 19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTW = 32.70

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (mS/cm)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (mL/min)	Incremental Volume Removed (Gal)	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
4-6-15	1415	22'	14.87		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4-6-15	1420	22'	15.03	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1430		15.03	0.0	5.22	0.231	18.33	1359	100	0.0	0.0	0.0	*Initial water quality readings****
	1440		15.05	0.02	5.15	0.234	17.93	1204		.25	.5		
	1450		15.07	0.02	5.19	0.235	17.59	731		.25	.75		
	1500		15.09	0.02	5.22	0.235	17.47	346		.25	1.0		
	1510		15.10	0.02	5.47	0.238	17.16	168		.25	1.25		
	1520		15.10	0.0	5.50	0.238	17.07	70.0		.25	1.5		
	1530		15.10	0.0	5.70	0.238	17.82	46.9		.25	1.75		
	1540		15.10	0.0	5.71	0.238	17.93	21.6		.25	2.0		
	1550		15.10	0.0	5.73	0.239	18.23	12.5		.25	2.25		
	1600		15.10	0.0	5.75	0.238	18.40	12.1		.25	2.5		
	1610		Collect		Sample								

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, [signature], 4-6-15 QA CHECKED BY: _____

(Print name, Signature, Date) (Print name, Signature, Date)

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-10

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	32.70 ft toc
H	=	depth to water (ft toc)	=	15.00 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

32.70 - 15.00 = 17.70 × 0.17 = 3.00 × 3 = 9.00

Recommended purge volume: 9.0 gallons

Calculated by: EVER GUILLEN QA Check by: _____

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: WOODALL CREEK

SAMPLE ID NUMBER:	MTWMW-10
SAMPLE LOCATION:	MIDTOWN WEST
SAMPLING POINT:	PUMP DISCHARGE
SAMPLE MEDIA:	WATER
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-6-15
TIME COLLECTED (hh:mm): 1610
DEPTH — TO 22 FT

COMMENTS:
SOFT WELL BOTTOM
RECOMEND WELL DEVELOPMENT

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	3.51	MG/L	
ORP	168.7	MV	
Ferrous Iron	0.0	MG/L	
PH	5.75		
COND	0.238	MS/CM	
TEMP	18.40	°C	
TURB	12.1	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: TRIP BLANK-4

RELINQUISHED BY:	DATE / TIME 4/6/15 1410	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

MA 4/7/15
Property: ~~Dabl~~ M-W 52

Well Identifier: AOA MW-6 **Initial Depth to Water*:** 18.29 (ft) **Casing volume:** 2.63 (gal) Page 1 of 1

Equipment: *(IDs for wl meter, wq meter, pump, controller)* bladder pump 10310 · YSI 04314 LaMotte 17967 WL A03763

Remarks: TD = 34.45

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (____)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (____)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4/7/15	1420	29.00'	18.30		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/7/15	1429	29.00'	18.30		-	-	-	-		0.0	0.0	0.0	*Start pump***
4/7/15	1435	29.00'	18.34	0.05	6.85	0.224	19.91	17.8	100ml/min	0.0	0.0	0.0	*Initial water quality readings****
4/7/15	1445	29.00'	18.34	0.05	6.90	0.218	19.91	14.8	100 ml/min	.25	.25		TSAC rochamp 1 SAC discharge MA 4/7/15
4/7/15	1455	29.00'	18.34	0.05	6.43	0.218	19.50	12.4	100ml/min	.25	.50		
4/7/15	1505	29.00'	18.34	0.05	6.17	0.219	19.57	15.7	100ml/min	.25	.75		
4/7/15	1515	29.00	18.34	0.05	5.98	0.224	19.97	17.7	100ml/min	.25	1.00		
4/7/15	1525	29.00	18.34	0.05	5.96	0.224	19.99	19.4	100ml/min	.25	1.25		
4/7/15	1535	29.00	18.34	0.05	5.94	0.224	20.10	13.7	100ml/min	.25	1.50		
4/7/15	1545	29.00	18.34	0.05	5.95	0.225	20.13	18.6	100ml/min	.25	1.75		

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RDED BY: Mark Andrews, Mark Carey, 4/7/15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / M-west

SAMPLE ID NUMBER:	HOAMW-6
SAMPLE LOCATION:	M-west
SAMPLING POINT:	Solar Straw method peristaltic pump
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/7/15
TIME COLLECTED (hh:mm): 1547
DEPTH — TO 29.00 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	0.62	mg/L	
ORP	74.1	ORP	
Ferrous Iron	0	mg/L	
Temp	19.95	°C	
Cond	0.225	mS/cm	
Turb	17.4	NTU	
pH	5.94	pH	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	X
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-11

RELINQUISHED BY:	DATE / TIME 4/7/15 1814	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: AOAMW-6

Use the following formulas to calculate the well volume:

Volume of water in casing:

$$V_c = \pi \times (d_i/2)^2 \times (TD - H)$$

Volume of water in the filter pack:

$$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____	ft
d_o	=	outside diameter of well casing (ft)=	=	_____	ft
d_h	=	diameter of borehole (ft)=	=	_____	ft
TD	=	total depth of well (ft toc)	=	34.45	ft toc
H	=	depth to water (ft toc)	=	18.29	ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____	ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30	%

34.45
−18.29
16.16

1 Casing Volume

16.16 X .163 = 2.63 gal

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 4/7/15 QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: Dobbins property

Well Identifier: DPMW-15 **Initial Depth to Water*:** 38.35 (ft) **Casing volume:** 7.64 (Gal) Page 1 of 1

Equipment: YSI 04314 Lamotte 17967 bladder pump 10310 WL Horn A03763 *(IDs for wl meter, wq meter, pump, controller)*

Remarks: TD 88.55

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. ( )	Temperature (C)	Tubidity (NTU)	Withdrawal Rate ( )	Incremental Volume Removed ( )	TOTAL Volume Removed ( )	Casing Volume Removed	Comments (include controller settings)
4/7/15	1122	~~80.00~~ 38.30	38.30		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
		~~80.00~~ NA 4/7/15			-	-	-	-		0.0	0.0	0.0	*Recovery period*
		~~80.00~~ NA 4/7/15			-	-	-	-		0.0	0.0	0.0	*Recovery period*
4/7/15	1125	~~80.00~~ 38.35	38.35	0	-	-	-	-		0.0	0.0	0.0	*Start pump***
4/7/15	1150	80.00	38.35	0	6.84	0.307	18.53	21.6	100ml/min	0.0	0.0	0.0	*Initial water quality readings****
4/7/15	1200	80.00	38.35	0	6.67	0.305	18.41	11.2	100ml/min	.25	.25		7 sec recharge 3 sec discharge
4/7/15	1210	80.00	38.35	0	6.13	0.288	18.07	9.76	100ml/min	.25	.50		
4/7/15	1220	80.00	38.35	0	6.00	0.284	18.14	8.18	100ml/min	.25	.75		
4/7/15	1230	80.00	38.35	0	5.87	0.279	18.10	6.10	100ml/min	.25	1.00		
4/7/15	1240	80.00	38.35	0	5.85	0.278	18.18	4.14	100ml/min	.25	1.25		
4/7/15	1250	80.00	38.35	0	5.84	0.278	18.21	5.23	100ml/min	.25	1.50		

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell ( ) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

Mark Andrews, [signature] 4/7/15

(Signature, Date)

QA CHECKED BY: _____

(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek / Dabbins

SAMPLE ID NUMBER:	DPMW-15
SAMPLE LOCATION:	Dabbins
SAMPLING POINT:	bladder pump discharge
SAMPLE MEDIA:	water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	1

DATE COLLECTED (mm/dd/yy): 4/7/15
TIME COLLECTED (hh:mm): 1252
DEPTH ← TO 90 FT

COMMENTS: None

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.60	mg/L	
ORP	-35.0		
Ferrous Iron	0.5	mg/L	
Temp	18.28	°C	
pH	5.84	pH	
Cond	0.276	mS/cm	
Turb	5.15	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 ml	Nitrate	none	GCAL	X
1	Plastic 500 ml	Chloride/Sulfate	none	GCAL	
1	Plastic 500 ml	Sulfide	ZnAc+NaOH	GCAL	
3	Clear 40 ml	VOC	HCl	GCAL	
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	
2	Amber 40 ml	TOC	HCl	GCAL	

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank - 11

RELINQUISHED BY:	DATE / TIME: 4/7/15 1814	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: Woodall Creek **D.O. No.:** _____

Well ID: DPMW-15

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	85.55 ft toc
H	=	depth to water (ft toc)	=	38.35 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

85.55
−38.35
47.2

(Casing Volume
47.2 X .163 = 7.69

Recommended purge volume: _____ gallons

Calculated by: Mark Andrews 4/7/15 QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: MIDTOWN WEST

Well Identifier: MTWMW-7I **Initial Depth to Water*:** 15.37 (ft) **Casing volume:** 7.62 (GAL) Page 1 of 1

Equipment: LAMOTTE# 19955, YSI# R8315, SOLINST #901868, PUMP # 19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 30.32

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
4-7-15	1235	27'	15.13		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
4-7-15	1245		1540	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	1255		1540	0.0	6.44	0.282	16.01	1103	100	0.0	0.0	0.0	*Initial water quality readings****
	1305		15.40	0.0	6.00	0.285	15.53	954		.25	.5		
	1315		15.40	0.0	6.01	0.285	15.60	748		.25	.75		
	1325		15.40	0.0	6.12	0.285	15.38	422		.25	1.0		
	1335		15.40	0.0	6.17	0.285	15.77	138		.25	1.25		
	1345		15.40	0.0	6.19	0.285	15.76	32.7		.25	1.5		
	1355		15.40	0.0	6.17	0.285	15.61	18.3		.25	1.75		
	1400	Collect Sample											

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 4-7-15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	MTWMW-7I
SAMPLE LOCATION:	Midtown West
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	GRAB
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-7-15
TIME COLLECTED (hh:mm): 1400
DEPTH — TO 27 FT

COMMENTS:

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.30	mg/L	
ORP	123.5	MV	
Ferrous Iron	0.0	mg/L	
pH	6.17		
Cond	0.285	ms/cm	
Temp	15.61	°C	
Turb	18.3	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-11

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:	4/7/15 1814	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-7I

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	30.32 ft toc
H	=	depth to water (ft toc)	=	15.37 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

30,32 − 15,37 = 14,95 × 0,17 = 2,54 × 3 = 7,62

Recommended purge volume: 7,62 gallons

Calculated by: EVER GUICCEN QA Check by: _____

PURGE LOG

Project: *Woodall Creeek HSI, Semi-Annual Sampling Event*

Property: MIDTOWN WEST

Well Identifier: MTWMW-7 **Initial Depth to Water*:** 15.18 (ft) **Casing volume:** 8.24 (gal) Page 1 of 1

Equipment: LAMOTTE # 19955, YSI # RB315, SOLINST # 901868, PUMP # 19643
(IDs for wl meter, wq meter, pump, controller)

Remarks: DTB = 31.35

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (MS/CM)	Temperature (C)	Tubidity (NTU)	Withdrawal Rate (ML/MIN)	Incremental Volume Removed (____)	TOTAL Volume Removed (____)	Casing Volume Removed	Comments (include controller settings)
4-7-15	855	21'	15.03		-	-	-	-	0.0	0.0	0.0	0.0	*Measurement upon introduction of pump.*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
					-	-	-	-		0.0	0.0	0.0	*Recovery period*
	915	21	15.19	0.0	-	-	-	-		0.0	0.0	0.0	*Start pump***
	925		15.19	0.0	5.79	0.404	16.54	2920	100	0.0	0.0	0.0	*Initial water quality readings****
	935		15.19	0.0	5.88	0.384	15.93	2950		.25	.5		
	945		15.19	0.0	6.00	0.384	15.00	1461		.25	.75		
	955		15.21	0.02	6.06	0.385	1501	1174		.25	1.0		
	1005		15 21	0.0	6.11	0.385	14.96	697		.25	1.25		
	1015		15 21	0.0	6.18	0.384	14.93	412		.25	1.5		
	1025		15 21	0.0	6.20	0.384	15.0	192		.25	2.0		
	1035		15 21	0.0	6.25	0.384	14.85	66.7		.25	2.25		
	1045		15.21	0.0	6.26	0.384	14.78	47.9		.25	2.5		
	1050		Collect Sample										

Additional Comments: _____

Notes:

* Record Initial DTW prior to introduction of pump ** upon sufficient re-equilibration of water column *** upon filling of flow-cell (____) indicate units of measurement for this parameter

Show casing volume calculations on appropriate form

Indicate sample collection by recording sample ID in COMMENTS, record associated measurements, including water quality parameters that will be associated with the sample. Record sample details on appropriate sampling form

Indicate purge water disposition by recording container ID in COMMENTS, record containerization of purge water on IDW Inventory form.

RECORDED BY: EVER GUILLEN, _____, 4-7-15
(Print name, Signature, Date)

QA CHECKED BY: _____
(Print name, Signature, Date)

SAMPLE COLLECTION / FIELD CHAIN-OF-CUSTODY RECORD
FIELD SAMPLE

PROJECT/SITE: Woodall Creek

SAMPLE ID NUMBER:	MTWMW-7
SAMPLE LOCATION:	Midtown West
SAMPLING POINT:	Pump Discharge
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	2

DATE COLLECTED (mm/dd/yy): 4-7-15
TIME COLLECTED (hh:mm): 1050
DEPTH — TO 21 FT

COMMENTS:
Soft Well Bottom
Recomend Well Development

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	0.27	mg/L	
ORP	26.9	mV	
Ferrous Iron	5.16	mg/L	
PH	6.26		
Cond	0.384	mS/cm	
Temp	14.78	°C	
Turb	47.9	NTU	

ALIQUOT DETAILS

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 m	Nitrate	none	GCAL	✓
1	Plastic 500 m	Chloride/Sulfate	none	GCAL	✓
1	Plastic 500 m	Sulfide	ZnAc+NaOH	GCAL	✓
3	Clear 40 ml	VOC	HCl	GCAL	✓
2	Clear 40 ml	Methane, Ethane, Ethene	HCl	GCAL	✓
2	Amber 40 ml	TOC	HCl	GCAL	✓

** "X" analysis collected; "IS" insufficient volume; "NR" not required; define other code as appropriate.

TRIP BLANK ID: Trip Blank-11

RELINQUISHED BY: [signature]	DATE / TIME 4/7/15 1814	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

Well Volume Calculation Worksheet

Project: WOODALL CREEK D.O. No.: —

Well ID: MTWMW-7

Use the following formulas to calculate the well volume:

Volume of water in casing:

$V_c = \pi \times (d_i/2)^2 \times (TD - H)$

Volume of water in the filter pack:

$V_f = \pi \times [(d_h/2)^2 - (d_o/2)^2] \times (TD - S \text{ or } H^*) \times (\phi_f)$

*If S > H, then use S, otherwise use H.

Total Volume = $(V_c + V_f) \times (7.48 \text{ gallons/ft}^3)$

Where:

d_i	=	inside diameter of well casing (ft)	=	_____ ft
d_o	=	outside diameter of well casing (ft)=	=	_____ ft
d_h	=	diameter of borehole (ft)=	=	_____ ft
TD	=	total depth of well (ft toc)	=	31,35 ft toc
H	=	depth to water (ft toc)	=	15,18 ft toc
S	=	depth to base of seal (top of filter pack) (ft toc)	=	_____ ft toc
ϕ_f	=	porosity of filter pack (~30%)	=	30 %

31,35 - 15,18 = 16,17 x 0,17 = 2,74 x 3 = 8,24

Recommended purge volume: 8,24 gallons

Calculated by: EVER GUILLEN QA Check by: _____

APPENDIX B
LAB REPORTS – ON CD

December 15, 2014

GCAL, LLC
7979 Innovation Drive
Baton Rouge, LA 70820

Stipulation of Approval for Commercial Laboratories

According to Georgia State Law (O.C.G.A. 12-2-9) Commercial Rules for Commercial Laboratory Accreditation, any person submitting data to EPD prepared by a commercial laboratory shall stipulate the laboratory is approved (Chapter 391-3-26-05). The following information is provided as requested.

Laboratory:	Gulf Coast Analytical Laboratories 7979 GSRI Avenue Baton Rouge, LA 70820 (225)769-4900
Primary Accrediting Authority:	Louisiana Department of Environmental Quality
Accreditation ID:	01955
Scope:	CWA: Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs Solid and Chemical Materials: Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs Biological Tissues: Metals, Volatile Organics, Extractable Organics, Pesticides, Herbicides, PCBs
Effective:	July 1, 2014
Expiration:	June 30, 2015

Any question regarding this stipulation of approval may be directed to GCAL at (225)769-4900. Thank you for your business and do not hesitate to contact me if I can be of further assistance.

Sincerely,

Allison M. Naquin
Mon Dec 15 2014 11:54:39

Allison Naquin, Director of Quality and Technical Services

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 03/30/2015

GCAL Report 215031811

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

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.

Curtis Ekker

Authorized Signature
GCAL Report 215031811

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215031811

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 for analytical batch 554513, 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.

CONVENTIONALS

In the EPA 9056A analysis, samples 21503181102 (SMFMW-2) and 21503181101 (DPMW-2I) 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
21503181101	DPMW-2I	Water	03/17/2015 15:05	03/18/2015 10:30
21503181102	SMFMW-2	Water	03/17/2015 15:18	03/18/2015 10:30
21503181103	TRIP BLANK	Water	03/17/2015 00:00	03/18/2015 10:30

Summary of Compounds Detected

DPMW-2I

Collect Date 03/17/2015 15:05 **GCAL ID** 21503181101
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.568J	0.208	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.89J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	23.3	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.66J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	41.2	1.00	4.00	mg/L
14797-55-8	Nitrate	7.87	0.100	0.400	mg/L
14808-79-8	Sulfate	26.0	1.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.58J	0.30	2.0	mg/L

SMFMW-2

Collect Date 03/17/2015 15:18 **GCAL ID** 21503181102
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	2.93J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	3.04J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	133	0.193	5.00	ug/L
79-01-6	Trichloroethene	22.0	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	23.1	0.250	1.00	mg/L
14797-55-8	Nitrate	11.8	0.250	1.00	mg/L
14808-79-8	Sulfate	26.9	0.250	1.00	mg/L

Sample Results

DPMW-2I

Collect Date	03/17/2015 15:05	**GCAL ID**	21503181101
Receive Date	03/18/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 20:37	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**0.568J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.89J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**23.3**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.66J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

DPMW-2I

Collect Date	03/17/2015 15:05	**GCAL ID**	21503181101
Receive Date	03/18/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 20:37	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.3	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	53.8	ug/L	108	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.3	ug/L	97	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 23:18	BMR	554852

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.6	ug/L	73	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/19/2015 14:28	DMT	554468

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**7.87**	**0.100**	**0.400**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/27/2015 15:17	DMT	555063

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**41.2**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**26.0**	**1.00**	**4.00**	**mg/L**

Sample Results

DPMW-2I

Collect Date 03/17/2015 15:05 **GCAL ID** 21503181101
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/20/2015 08:54	KGL2	554572

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.58J	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 15:36	KLC2	554820

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

SMFMW-2

Collect Date 03/17/2015 15:18 **GCAL ID** 21503181102
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 21:00	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	2.93J	0.155	5.00	ug/L

Sample Results

SMFMW-2

Collect Date	03/17/2015 15:18	**GCAL ID**	21503181102
Receive Date	03/18/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 21:00	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**3.04J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**133**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**22.0**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	50.9	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	52.8	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.1	ug/L	98	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 23:24	BMR	554852

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.4	ug/L	73	40 - 143

Sample Results

SMFMW-2

Collect Date 03/17/2015 15:18 **GCAL ID** 21503181102
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	03/24/2015 11:45	DMT	554818

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	23.1	0.250	1.00	mg/L
14797-55-8	Nitrate	11.8	0.250	1.00	mg/L
14808-79-8	Sulfate	26.9	0.250	1.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/20/2015 09:20	KGL2	554572

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 15:36	KLC2	554820

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK

Collect Date 03/17/2015 00:00 **GCAL ID** 21503181103
Receive Date 03/18/2015 10:30 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 21:23	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L

Sample Results

TRIP BLANK

Collect Date	03/17/2015 00:00	**GCAL ID**	21503181103
Receive Date	03/18/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 21:23	LBH	554513

CAS#	Parameter	Result	MDL	LOQ	Units
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.8	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	50.5	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	52.7	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.6	ug/L	99	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 554513	Client ID	MB554513	LCS554513	LCSD554513
	GCAL ID	1426211	1426212	1426213
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	03/19/2015 13:38	03/19/2015 11:45	03/19/2015 12:07
	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	50.1	100	76 - 126	50.0	48.7	97	3	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	50.7	101	70 - 122	50.0	54.2	108	7	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	52.8	106	72 - 121	50.0	54.9	110	4	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	55.3	111	74 - 127	50.0	54.5	109	1	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	54.5	109	69 - 129	50.0	50.5	101	8	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	59.5	119	61 - 135	50.0	62.0	124	4	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	54.6	109	57 - 121	50.0	60.9	**122***	11	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	54.0	108	70 - 124	50.0	55.6	111	3	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	48.7	97	71 - 126	50.0	50.5	101	4	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	52.1	104	71 - 129	50.0	51.1	102	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	50.4	101	72 - 128	50.0	50.3	101	0	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	48.9	98	74 - 126	50.0	49.2	98	1	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	47.7	95	72 - 122	50.0	48.1	96	1	30
2-Butanone	78-93-3	0.142U	0.142	50.0	54.2	108	58 - 137	50.0	57.2	114	5	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	41.2	82	56 - 124	50.0	39.8	80	3	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	51.4	103	50 - 135	50.0	54.1	108	5	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	55.1	110	57 - 132	50.0	59.0	118	7	30
Acetone	67-64-1	0.193U	0.193	50.0	50.4	101	44 - 156	50.0	51.5	103	2	30
Benzene	71-43-2	0.111U	0.111	50.0	49.6	99	70 - 129	50.0	48.7	97	2	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	53.9	108	74 - 125	50.0	53.2	106	1	30
Bromoform	75-25-2	0.215U	0.215	50.0	52.0	104	64 - 122	50.0	53.2	106	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	54.5	109	47 - 138	50.0	53.6	107	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	51.6	103	69 - 136	50.0	48.1	96	7	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	51.6	103	76 - 128	50.0	49.5	99	4	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	51.1	102	74 - 123	50.0	50.0	100	2	20
Chloroethane	75-00-3	0.235U	0.235	50.0	42.3	85	62 - 141	50.0	36.0	72	16	30
Chloroform	67-66-3	0.155U	0.155	50.0	53.5	107	75 - 122	50.0	52.5	105	2	30
Chloromethane	74-87-3	0.144U	0.144	50.0	45.2	90	59 - 132	50.0	44.2	88	2	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	52.8	106	73 - 130	50.0	51.4	103	3	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	50.9	102	71 - 132	50.0	49.6	99	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	52.7	105	69 - 132	50.0	50.5	101	4	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	52.9	106	71 - 123	50.0	54.0	108	2	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	44.6	89	58 - 140	50.0	42.7	85	4	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	49.4	99	74 - 126	50.0	48.2	96	2	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	53.4	107	71 - 125	50.0	51.9	104	3	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	100	100	74 - 126	100	97.7	98	2	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	51.9	104	57 - 139	50.0	50.0	100	4	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	52.2	104	67 - 138	50.0	48.5	97	7	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	52.7	105	68 - 132	50.0	50.4	101	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	54.4	109	73 - 130	50.0	53.7	107	1	30
Styrene	100-42-5	0.089U	0.089	50.0	54.9	110	71 - 127	50.0	54.9	110	0	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	57.7	115	71 - 125	50.0	57.8	116	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	52.9	106	68 - 128	50.0	51.3	103	3	30
Toluene	108-88-3	0.122U	0.122	50.0	51.1	102	72 - 120	50.0	51.3	103	0	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	53.1	106	69 - 132	50.0	50.4	101	5	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	48.7	97	71 - 131	50.0	47.9	96	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	50.9	102	76 - 129	50.0	48.9	98	4	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	51.9	104	72 - 136	50.0	48.4	97	7	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	54.2	108	72 - 136	50.0	50.6	101	7	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	67.0	134	54 - 147	50.0	64.6	129	4	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.2	102	68 - 132	50.0	48.5	97	5	30
Xylene (total)	1330-20-7	0.179U	0.179	150	155	103	74 - 127	150	151	101	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	49.9	100	50	51.2	102	71 - 127	50	51.1	102	0	NA
4-Bromofluorobenzene	460-00-4	51	102	50	53.9	108	78 - 130	50	52.5	105	3	NA
Dibromofluoromethane	1868-53-7	50.7	101	50	51.8	104	77 - 127	50	51.9	104	0	NA
Toluene d8	2037-26-5	52.9	106	50	50.1	100	76 - 134	50	50.3	101	0	NA

GC Volatiles Quality Control Summary

Analytical Batch 554852	Client ID	MB554852		LCS554852			
	GCAL ID	1427713		1427714			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/24/2015 20:28		03/24/2015 20:34			
	Matrix	Water		Water			
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R
Ethane	74-84-0	0.087U	0.087	3.28	3.10	95	45 - 128
Ethene	74-85-1	0.071U	0.071	3.06	2.97	97	45 - 134
Methane	74-82-8	0.435U	0.435	17.5	15.0	86	39 - 120
Surrogate							
Propene	115-07-1	34.5	85	40.5	29.8	74	40 - 143

Analytical Batch 554852	Client ID	WP003/WW-1 MW-102		WP003/WW-1 MW-102 MS				WP003/WW-1 MW-102 MSD				
	GCAL ID	21503170810		21503170811				21503170812				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/24/2015 21:26		03/24/2015 21:34				03/24/2015 21:40				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.087	3.28	2.95	90	45 - 128	3.28	2.82	86	5	29
Ethene	74-85-1	1.13	0.071	3.06	3.92	91	45 - 134	3.06	3.59	80	9	25
Surrogate												
Propene	115-07-1			40.5	28.9	71	40 - 143	40.5	29	72	0	NA

Analytical Batch 554852	Client ID	WP003/WW-1 MW-256		WP003/WW-1 MW-256 MS				WP003/WW-1 MW-256 MSD				
	GCAL ID	21503180808		21503180809				21503180810				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/24/2015 22:19		03/24/2015 22:35				03/24/2015 22:46				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.087	3.28	3.13	95	45 - 128	3.28	2.81	86	11	29
Ethene	74-85-1	0.00	0.071	3.06	3.12	102	45 - 134	3.06	2.90	95	7	25
Methane	74-82-8	0.00	0.435	17.5	15.2	87	39 - 120	17.5	14.0	80	8	27
Surrogate												
Propene	115-07-1	27.2	67	40.5	32.6	80	40 - 143	40.5	29.7	73	9	NA

General Chemistry Quality Control Summary

Analytical Batch 554820		Client ID	MB554820		LCS554820			
		GCAL ID	1427512		1427513			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
		Matrix	Water		Water			
SM 4500-S2 F-2011			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		2.00U	2.00	25.0	29.1	116	80 - 120

Analytical Batch 554820		Client ID	DPMW-2I		1425770MS			
		GCAL ID	21503181101		1427514			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
		Matrix	Water		Water			
SM 4500-S2 F-2011			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		0.000	2.00	25.0	28.7	115	75 - 125

Analytical Batch 554820		Client ID	SMFMW-2		1425771DUP		
		GCAL ID	21503181102		1427515		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	03/24/2015 15:36		03/24/2015 15:36		
		Matrix	Water		Water		
SM 4500-S2 F-2011			Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8		0.000	2.00	0.000	0	25

Analytical Batch 554468		Client ID	MB554468		LCS554468			
		GCAL ID	1426032		1426033			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/19/2015 11:51		03/19/2015 11:34			
		Matrix	Water		Water			
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8		0.050U	0.050	2.50	2.40	96	80 - 120

Analytical Batch 554468		Client ID	WP003/WW-1 MW-256		WP003/WW-1 MW-256 MS				WP003/WW-1 MW-256 MSD				
		GCAL ID	21503180808		21503180809				21503180810				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/19/2015 12:09		03/19/2015 12:26				03/19/2015 12:43				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8		10.7	0.250	12.5	24.2	108	80 - 120	12.5	24.2	108	0	15

Analytical Batch 554818		Client ID	MB554818		LCS554818			
		GCAL ID	1427484		1427485			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/24/2015 15:38		03/24/2015 15:20			
		Matrix	Water		Water			
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6		0.050U	0.050	2.50	2.39	96	80 - 120
Sulfate	14808-79-8		0.050U	0.050	2.50	2.45	98	80 - 120

General Chemistry Quality Control Summary

Analytical Batch	Client ID	MW-03	1424232MS	1424232MSD
554818	GCAL ID	21503130307	1427487	1427488
	Sample Type	SAMPLE	MS	MSD
	Prep Date	NA	NA	NA
	Analysis Date	03/24/2015 20:51	03/24/2015 21:09	03/24/2015 21:26
	Matrix	Water	Water	Water

EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	10.4	0.500	25.0	35.8	102	80 - 120	25.0	35.8	102	0	15
Sulfate	14808-79-8	11.0	0.500	25.0	35.7	99	80 - 120	25.0	35.6	98	0	15

Analytical Batch	Client ID	MB555063	LCS555063
555063	GCAL ID	1428647	1428648
	Sample Type	MB	LCS
	Prep Date	NA	NA
	Analysis Date	03/27/2015 14:24	03/27/2015 14:07
	Matrix	Water	Water

EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.37	95	80 - 120
Sulfate	14808-79-8	0.050U	0.050	2.50	2.44	98	80 - 120

Analytical Batch	Client ID	ST007-MW10-3-031715	ST007-MW10-3MS-031715	ST007-MW10-3MSD-031715
555063	GCAL ID	21503183404	21503183405	21503183406
	Sample Type	SAMPLE	MS	MSD
	Prep Date	NA	NA	NA
	Analysis Date	03/27/2015 16:09	03/27/2015 16:26	03/27/2015 16:44
	Matrix	Water	Water	Water

EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	12.3	0.250	12.5	24.7	99	80 - 120	12.5	24.5	97	1	15

Analytical Batch	Client ID	ST007-MW10-3-031715	ST007-MW10-3MS-031715	ST007-MW10-3MSD-031715
554572	GCAL ID	21503183404	21503183405	21503183406
	Sample Type	SAMPLE	MS	MSD
	Prep Date	NA	NA	NA
	Analysis Date	03/20/2015 20:36	03/20/2015 21:00	03/20/2015 21:23
	Matrix	Water	Water	Water

EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	9.3	0.60	100	113	104	75 - 125	100	116	107	3	25

Analytical Batch	Client ID	MB554572	LCS554572
554572	GCAL ID	1426474	1426475
	Sample Type	MB	LCS
	Prep Date	NA	NA
	Analysis Date	03/20/2015 08:06	03/20/2015 07:07
	Matrix	Water	Water

EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	48.5	97	80 - 120

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/10/2015

GCAL Report 215031908

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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.

Curtis Ekker
Authorized Signature
GCAL Report 215031908

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215031908

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 04/10/15. The client revised the ID for sample 21503190801 (SMFMW-18).

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, sample 21503190804 (SMFDR-3) 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.

CONVENTIONALS

In the EPA 9056A analysis, samples 21503190801 (SMFMW-18), 21503190802 (SMFP1-1) 21503190803 (DPMW-25), and 21503190804 (SMFDR-3) had to be diluted in order to bracket the concentration of target analytes within the calibration range of the instrument.

In the EPA 9060A analysis, sample 21503190801 (SMFMW-18) had to be diluted in order to bracket the Total Carbon and/or Total Inorganic Carbon concentrations within the calibration range of the instrument. The Total Organic Carbon is based on the difference between the Total Carbon and the Inorganic Carbon. The dilution is reflected in the elevated reporting limit.

In the SM 4500-S2 F-2011 analysis for analytical batch 554707, the MS and/or MSD recovery is outside control limits for Sulfide. The LCS recovery is acceptable. This indicates the analysis is in control and the sample is affected by matrix interference.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21503190801	SMFMW-18	Water	03/18/2015 12:00	03/19/2015 10:20
21503190802	SMFP1-1	Water	03/18/2015 14:00	03/19/2015 10:20
21503190803	DPMW-25	Water	03/18/2015 14:53	03/19/2015 10:20
21503190804	SMFDR-3	Water	03/18/2015 15:32	03/19/2015 10:20
21503190805	TRIP BLANK	Water	03/18/2015 00:00	03/19/2015 10:20

Summary of Compounds Detected

SMFMW-18

Collect Date 03/18/2015 12:00 **GCAL ID** 21503190801
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
136777-61-2	m,p-Xylene	1.10J	0.123	10.0	ug/L
1330-20-7	Xylene (total)	1.10J	0.179	15.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	18.4	0.500	2.00	mg/L
14797-55-8	Nitrate	7.98	0.500	2.00	mg/L
14808-79-8	Sulfate	327	5.00	20.0	mg/L

SMFP1-1

Collect Date 03/18/2015 14:00 **GCAL ID** 21503190802
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.36J	0.103	5.00	ug/L
136777-61-2	m,p-Xylene	0.831J	0.123	10.0	ug/L
127-18-4	Tetrachloroethene	5.32	0.193	5.00	ug/L
1330-20-7	Xylene (total)	0.831J	0.179	15.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	32.8	0.500	2.00	mg/L
14797-55-8	Nitrate	12.7	0.500	2.00	mg/L
14808-79-8	Sulfate	60.0	0.500	2.00	mg/L

DPMW-25

Collect Date 03/18/2015 14:53 **GCAL ID** 21503190803
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
136777-61-2	m,p-Xylene	0.673J	0.123	10.0	ug/L
127-18-4	Tetrachloroethene	17.3	0.193	5.00	ug/L
79-01-6	Trichloroethene	4.46J	0.161	5.00	ug/L

Summary of Compounds Detected

DPMW-25

Collect Date 03/18/2015 14:53 **GCAL ID** 21503190803
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.673J	0.179	15.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	5.09	0.100	0.400	mg/L
14797-55-8	Nitrate	0.134J	0.050	0.200	mg/L
14808-79-8	Sulfate	10.7	0.100	0.400	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.70J	0.30	2.0	mg/L

SM 4500-S2 F-2011

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.40	2.00	2.00	mg/L

SMFDR-3

Collect Date 03/18/2015 15:32 **GCAL ID** 21503190804
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.74J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	236	0.385	10.0	ug/L
79-01-6	Trichloroethene	3.14J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	4.95	0.050	0.200	mg/L
14797-55-8	Nitrate	0.130J	0.050	0.200	mg/L
14808-79-8	Sulfate	38.7	0.500	2.00	mg/L

Summary of Compounds Detected

SMFDR-3

Collect Date 03/18/2015 15:32 **GCAL ID** 21503190804
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.66J	0.30	2.0	mg/L

SM 4500-S2 F-2011

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.40	2.00	2.00	mg/L

TRIP BLANK

Collect Date 03/18/2015 00:00 **GCAL ID** 21503190805
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	1.52J	0.193	5.00	ug/L

Sample Results

SMFMW-18	**Collect Date**	03/18/2015 12:00	**GCAL ID**	21503190801
	Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 19:52	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	**m,p-Xylene**	**1.10J**	**0.123**	**10.0**	**ug/L**
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

SMFMW-18

Collect Date	03/18/2015 12:00	**GCAL ID**	21503190801
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 19:52	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	**Xylene (total)**	**1.10J**	**0.179**	**15.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	39.9	ug/L	80	78 - 130
1868-53-7	Dibromofluoromethane	50	49.2	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	56.4	ug/L	113	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 12:35	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	23.1	ug/L	57	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/19/2015 20:18	JEM	554530

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**18.4**	**0.500**	**2.00**	**mg/L**
14797-55-8	**Nitrate**	**7.98**	**0.500**	**2.00**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	03/19/2015 21:11	RXJ	554530

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	**Sulfate**	**327**	**5.00**	**20.0**	**mg/L**

Sample Results

SMFMW-18

Collect Date 03/18/2015 12:00 **GCAL ID** 21503190801
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	03/21/2015 20:11	KGL2	554657

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	1.5U	1.5	10.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/22/2015 17:58	RXJ	554707

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

SMFP1-1

Collect Date 03/18/2015 14:00 **GCAL ID** 21503190802
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:11	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

SMFP1-1

Collect Date	03/18/2015 14:00	**GCAL ID**	21503190802
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:11	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.36J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	**m,p-Xylene**	**0.831J**	**0.123**	**10.0**	**ug/L**
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**5.32**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	**Xylene (total)**	**0.831J**	**0.179**	**15.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	41	ug/L	82	78 - 130
1868-53-7	Dibromofluoromethane	50	49.4	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	50.3	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	55.2	ug/L	110	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 12:43	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.2	ug/L	72	40 - 143

Sample Results

SMFP1-1

Collect Date 03/18/2015 14:00 **GCAL ID** 21503190802
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/20/2015 09:00	JEM	554530

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	32.8	0.500	2.00	mg/L
14797-55-8	Nitrate	12.7	0.500	2.00	mg/L
14808-79-8	Sulfate	60.0	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/20/2015 17:55	KGL2	554572

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/22/2015 17:58	RXJ	554707

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DPMW-25

Collect Date 03/18/2015 14:53 **GCAL ID** 21503190803
Receive Date 03/19/2015 10:20 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:31	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L

Sample Results

DPMW-25

Collect Date	03/18/2015 14:53	**GCAL ID**	21503190803
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:31	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	**m,p-Xylene**	**0.673J**	**0.123**	**10.0**	**ug/L**
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**17.3**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**4.46J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	**Xylene (total)**	**0.673J**	**0.179**	**15.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	41.1	ug/L	82	78 - 130
1868-53-7	Dibromofluoromethane	50	49.5	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	50.3	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	56.2	ug/L	112	71 - 127

Sample Results

DPMW-25	**Collect Date**	03/18/2015 14:53	**GCAL ID**	21503190803
	Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 13:00	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	24.9	ug/L	61	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 19:44	JEM	554530

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.134J	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/20/2015 09:18	JEM	554530

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	5.09	0.100	0.400	mg/L
14808-79-8	Sulfate	10.7	0.100	0.400	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/20/2015 18:20	KGL2	554572

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.70J	0.30	2.0	mg/L

Sample Results

DPMW-25

Collect Date	03/18/2015 14:53	**GCAL ID**	21503190803
Receive Date	03/19/2015 10:20	**Matrix**	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/22/2015 17:58	RXJ	554707

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	**Sulfide**	**2.40**	**2.00**	**2.00**	**mg/L**

SMFDR-3

Collect Date	03/18/2015 15:32	**GCAL ID**	21503190804
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:51	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.74J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L

Sample Results

SMFDR-3

Collect Date	03/18/2015 15:32	**GCAL ID**	21503190804
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 20:51	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.14J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	41.8	ug/L	84	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	50.2	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	56.4	ug/L	113	71 - 127

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/24/2015 18:34	BMC2	554861

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	**Tetrachloroethene**	**236**	**0.385**	**10.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	79.8	ug/L	80	78 - 130
1868-53-7	Dibromofluoromethane	100	99.6	ug/L	100	77 - 127
2037-26-5	Toluene d8	100	98	ug/L	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	118	ug/L	118	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 13:15	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L

Sample Results

SMFDR-3

Collect Date	03/18/2015 15:32	**GCAL ID**	21503190804
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA RSK-175 (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 13:15	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26.4	ug/L	65	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/19/2015 20:01	JEM	554530

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**4.95**	**0.050**	**0.200**	**mg/L**
14797-55-8	**Nitrate**	**0.130J**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/20/2015 11:53	RXJ	554530

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	**Sulfate**	**38.7**	**0.500**	**2.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/20/2015 20:10	KGL2	554572

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**0.66J**	**0.30**	**2.0**	**mg/L**

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/22/2015 17:58	RXJ	554707

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	**Sulfide**	**2.40**	**2.00**	**2.00**	**mg/L**

Sample Results

TRIP BLANK

Collect Date	03/18/2015 00:00	**GCAL ID**	21503190805
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 21:10	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**1.52J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

TRIP BLANK

Collect Date	03/18/2015 00:00	**GCAL ID**	21503190805
Receive Date	03/19/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 21:10	BMC2	554755

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	39.8	ug/L	80	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	49.6	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	56.2	ug/L	112	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 554755	Client ID	MB554755	LCS554755	LCSD554755
	GCAL ID	1427259	1427260	1427261
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	03/23/2015 15:38	03/23/2015 13:49	03/23/2015 14:08
	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	57.0	114	76 - 126	50.0	46.9	94	19	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	52.7	105	70 - 122	50.0	49.2	98	7	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	52.0	104	72 - 121	50.0	48.2	96	8	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	52.9	106	74 - 127	50.0	45.6	91	15	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	45.1	90	69 - 129	50.0	38.8	78	15	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	59.2	118	61 - 135	50.0	51.0	102	15	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	48.1	96	57 - 121	50.0	45.7	91	5	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	51.2	102	70 - 124	50.0	47.0	94	9	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	55.9	112	71 - 126	50.0	48.8	98	14	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	58.0	116	71 - 129	50.0	50.5	101	14	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	52.4	105	72 - 128	50.0	46.0	92	13	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	55.7	111	74 - 126	50.0	48.5	97	14	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	55.9	112	72 - 122	50.0	49.3	99	13	30
2-Butanone	78-93-3	0.142U	0.142	50.0	43.8	88	58 - 137	50.0	40.5	81	8	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	36.0	72	56 - 124	50.0	37.5	75	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	49.0	98	50 - 135	50.0	45.6	91	7	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	51.7	103	57 - 132	50.0	47.9	96	8	30
Acetone	67-64-1	0.193U	0.193	50.0	38.3	77	44 - 156	50.0	33.3	67	14	30
Benzene	71-43-2	0.111U	0.111	50.0	51.7	103	70 - 129	50.0	45.2	90	13	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	58.5	117	74 - 125	50.0	51.0	102	14	30
Bromoform	75-25-2	0.215U	0.215	50.0	50.1	100	64 - 122	50.0	45.5	91	10	30
Bromomethane	74-83-9	0.427U	0.427	50.0	42.9	86	47 - 138	50.0	39.3	79	9	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	45.0	90	69 - 136	50.0	39.3	79	14	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	53.3	107	76 - 128	50.0	43.8	88	20	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	52.4	105	74 - 123	50.0	45.3	91	15	20
Chloroethane	75-00-3	0.235U	0.235	50.0	44.0	88	62 - 141	50.0	40.7	81	8	30
Chloroform	67-66-3	0.155U	0.155	50.0	57.1	114	75 - 122	50.0	49.6	99	14	30
Chloromethane	74-87-3	0.144U	0.144	50.0	44.6	89	59 - 132	50.0	40.9	82	9	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	53.9	108	73 - 130	50.0	47.0	94	14	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	55.9	112	71 - 132	50.0	49.5	99	12	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	47.3	95	69 - 132	50.0	38.0	76	22	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	55.9	112	71 - 123	50.0	50.6	101	10	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	45.2	90	58 - 140	50.0	38.4	77	16	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	54.0	108	74 - 126	50.0	44.5	89	19	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	57.3	115	71 - 125	50.0	46.8	94	20	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	108	108	74 - 126	100	91.6	92	16	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	44.2	88	57 - 139	50.0	40.1	80	10	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	48.3	97	67 - 138	50.0	39.0	78	21	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	51.8	104	68 - 132	50.0	45.0	90	14	30
o-Xylene	95-47-6	0.055U	0.055	50.0	54.4	109	73 - 130	50.0	47.0	94	15	30
Styrene	100-42-5	0.089U	0.089	50.0	57.4	115	71 - 127	50.0	48.9	98	16	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	50.1	100	71 - 125	50.0	45.2	90	10	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	51.1	102	68 - 128	50.0	42.8	86	18	30
Toluene	108-88-3	0.122U	0.122	50.0	52.4	105	72 - 120	50.0	44.5	89	16	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	53.8	108	69 - 132	50.0	45.9	92	16	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	58.7	117	71 - 131	50.0	51.4	103	13	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	54.9	110	76 - 129	50.0	46.4	93	17	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	45.3	91	72 - 136	50.0	38.9	78	15	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	46.9	94	72 - 136	50.0	38.2	76	20	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	70.4	141	54 - 147	50.0	61.4	123	14	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	42.1	84	68 - 132	50.0	38.5	77	9	30
Xylene (total)	1330-20-7	0.179U	0.179	150	163	109	74 - 127	150	139	93	16	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	53.7	107	50	54	108	71 - 127	50	52	104	4	NA
4-Bromofluorobenzene	460-00-4	48.6	97	50	49.1	98	78 - 130	50	48.8	98	1	NA
Dibromofluoromethane	1868-53-7	51.5	103	50	52.3	105	77 - 127	50	51.4	103	2	NA
Toluene d8	2037-26-5	50.7	101	50	48.3	97	76 - 134	50	48.8	98	1	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 554861	Client ID	MB554861		LCS554861				LCSD554861				
	GCAL ID	1427743		1427744				1427745				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/24/2015 15:09		03/24/2015 13:49				03/24/2015 14:09				
	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
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	42.5	85	68 - 128	50.0	37.3	75	13	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	57.6	115	50	54.5	109	71 - 127	50	55.3	111	1	NA
4-Bromofluorobenzene	460-00-4	39.8	80	50	39.9	80	78 - 130	50	40.8	82	2	NA
Dibromofluoromethane	1868-53-7	49.5	99	50	50.1	100	77 - 127	50	50	100	0	NA
Toluene d8	2037-26-5	49.2	98	50	48.4	97	76 - 134	50	48.6	97	0	NA

GC Volatiles Quality Control Summary

Analytical Batch 555195		Client ID	MB555195		LCS555195				LCSD555195				
		GCAL ID	1429249		1429250				1429251				
		Sample Type	MB		LCS				LCSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/30/2015 12:13		03/30/2015 12:20				03/30/2015 12:28				
		Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.81	86	45 - 128		3.28	2.71	83	4	29
Ethene	74-85-1	0.071U	0.071	3.06	2.52	82	45 - 134		3.06	2.39	78	5	25
Methane	74-82-8	0.435U	0.435	17.5	13.8	79	39 - 120		17.5	13.2	75	4	27
Surrogate													
Propene	115-07-1	24.9	61	40.5	24.1	60	40 - 143		40.5	23.2	57	4	NA

General Chemistry Quality Control Summary

Analytical Batch 554707		Client ID	MB554707		LCS554707			
		GCAL ID	1427107		1427108			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/22/2015 17:58		03/22/2015 17:58			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	26.0	104	80 - 120

Analytical Batch 554707		Client ID	SMFMW-18		1426194MS			
		GCAL ID	21503190801		1427110			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	03/22/2015 17:58		03/22/2015 17:58			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	35.1	**140***	75 - 125

Analytical Batch 554707		Client ID	SMFP1-1		1426195DUP		
		GCAL ID	21503190802		1427114		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	03/22/2015 17:58		03/22/2015 17:58		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 554530		Client ID	MB554530		LCS554530			
		GCAL ID	1426267		1426268			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/19/2015 15:57		03/19/2015 15:40			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050		2.50	2.40	96	80 - 120
Nitrate	14797-55-8	0.050U	0.050		2.50	2.41	96	80 - 120
Sulfate	14808-79-8	0.050U	0.050		2.50	2.44	98	80 - 120

Analytical Batch 554530		Client ID	SMFMW-18		1426194MS				1426194MSD				
		GCAL ID	21503190801		1426269				1426270				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/19/2015 20:18		03/19/2015 20:36				03/19/2015 20:53				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	18.4	0.500		25.0	42.8	98	80 - 120	25.0	42.9	98	0	15
Nitrate	14797-55-8	7.98	0.500		25.0	31.9	96	80 - 120	25.0	31.9	96	0	15

General Chemistry Quality Control Summary

Analytical Batch 554530		Client ID	SMFMW-18		1426194MS				1426194MSD				
		GCAL ID	21503190801		1429221				1429222				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/19/2015 21:11		03/19/2015 21:28				03/19/2015 21:46				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8		327	5.00	250	574	99	80 - 120	250	574	99	0	15

Analytical Batch 554572		Client ID	MB554572		LCS554572			
		GCAL ID	1426474		1426475			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/20/2015 08:06		03/20/2015 07:07			
		Matrix	Water		Water			
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012		0.30U	0.30	50.0	48.5	97	80 - 120

Analytical Batch 554572		Client ID	001-NZ2 RIVER WATER RET..		1425951MS				1425951MSD				
		GCAL ID	21503184201		1426476				1426477				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/20/2015 16:04		03/20/2015 16:23				03/20/2015 16:41				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		2.3	0.30	50.0	52.0	99	75 - 125	50.0	52.2	100	1	25

Analytical Batch 554657		Client ID	MB554657		LCS554657				LCSD554657				
		GCAL ID	1426940		1426941				1427126				
		Sample Type	MB		LCS				LCSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/21/2015 08:05		03/21/2015 06:58				03/21/2015 17:32				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		0.30U	0.30	50.0	47.1	94	80 - 120	50.0	49.6	99	5	25

Analytical Batch 554657		Client ID	Ave H (004)		1426243MS				1426243MSD				
		GCAL ID	21503191405		1426944				1426945				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/21/2015 14:09		03/21/2015 14:31				03/21/2015 14:53				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		2.4	0.30	50.0	52.6	100	75 - 125	50.0	53.6	102	2	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215031908
Due Date: 03/31/15

Report to:	Bill to:
Client: AMEC	Client: Same as adjacent
Address: 1075 Big Shanty RD NW Suite 100	Address:
Contact: Jerry G	Contact:
Phone: 770-421-3400	Phone:
E-mail:	E-mail:

P.O. Number:
Project Name/Number: Woodall Creek 6122130015
Sampled By:

GCAL use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 2.4 E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	chloride / sulfate	sulfide	VOCs	TOC	methane, Ethane, Ethene	Preservative
W	3/18/15	1200		✓	~~MFTWMW-18~~ SMFMW-18 *	10	1	1	1	3	2	2	1
W	3/18/15	1400		✓	SMFPI-1	10	1	1	1	3	2	2	2
W	3/18/15	1453		✓	DPMW-25	10	1	1	1	3	2	2	3
W	3/18/15	1532		✓	SMFDR-3	10	1	1	1	3	2	2	4
W	3/18/15				Trip Blank	2				2			5

Air Bill No: 7731 1431 1690

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]	3/18/15	1843			
FedEx	3-19-15	10:20	Dodie Meune	3-19-15	10:20
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 48hr hold time for Nitrate
* ID updated per client 4-6-15 rgm

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

215031908

SAMPLE DELIVERY GROUP 215031908	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/19/15

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)
7731 4317 1690		2.4

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 03/31/2015

GCAL Report 215032009

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek 6122130015

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 215032009

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215032009

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.

CONVENTIONALS

In the EPA 9056A analysis, sample 21503200901 (SMFMW-1D) 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
21503200901	SMFMW-1D	Water	03/19/2015 11:42	03/20/2015 10:20
21503200903	TRIP BLANK	Water	03/19/2015 00:00	03/20/2015 10:20

Summary of Compounds Detected

SMFMW-1D	**Collect Date**	03/19/2015 11:42	**GCAL ID**	21503200901
	Receive Date	03/20/2015 10:20	**Matrix**	Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-34-3	1,1-Dichloroethane	0.712J	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	1.37J	0.208	5.00	ug/L
67-66-3	Chloroform	0.484J	0.155	5.00	ug/L
127-18-4	Tetrachloroethene	1.20J	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.63J	0.161	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	0.485J	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	28.1	1.00	4.00	mg/L
14797-55-8	Nitrate	25.1	0.500	2.00	mg/L
14808-79-8	Sulfate	25.1	1.00	4.00	mg/L

Sample Results

SMFMW-1D

Collect Date	03/19/2015 11:42	**GCAL ID**	21503200901
Receive Date	03/20/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 22:34	CLH	554764

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**0.712J**	**0.171**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**1.37J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**0.484J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**1.20J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.63J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

SMFMW-1D	**Collect Date**	03/19/2015 11:42	**GCAL ID**	21503200901
	Receive Date	03/20/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 22:34	CLH	554764

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	42.7	ug/L	85	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	49.9	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.6	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 14:53	JAR	555195

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**0.485J**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	19.9	ug/L	49	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/20/2015 12:10	RXJ	554530

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**25.1**	**0.500**	**2.00**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/28/2015 19:01	DMT	555127

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**28.1**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**25.1**	**1.00**	**4.00**	**mg/L**

Sample Results

SMFMW-1D

Collect Date 03/19/2015 11:42 **GCAL ID** 21503200901
Receive Date 03/20/2015 10:20 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/21/2015 19:18	KGL2	554657

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 15:36	KLC2	554820

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK

Collect Date 03/19/2015 00:00 **GCAL ID** 21503200903
Receive Date 03/20/2015 10:20 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 23:55	CLH	554764

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

TRIP BLANK

Collect Date	03/19/2015 00:00	**GCAL ID**	21503200903
Receive Date	03/20/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/23/2015 23:55	CLH	554764

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	42.4	ug/L	85	78 - 130
1868-53-7	Dibromofluoromethane	50	50.4	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.8	ug/L	106	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 554764	Client ID	MB554764	LCS554764					LCSD554764				
	GCAL ID	1427277	1427278					1427279				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	03/23/2015 17:14	03/23/2015 14:25					03/23/2015 14:45				
	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	46.2	92	76 - 126	50.0	49.8	100	8	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	48.0	96	70 - 122	50.0	49.0	98	2	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	46.8	94	72 - 121	50.0	46.4	93	1	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	47.7	95	74 - 127	50.0	50.8	102	6	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	51.3	103	69 - 129	50.0	55.1	110	7	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	44.3	89	61 - 135	50.0	46.7	93	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	34.5	69	57 - 121	50.0	37.8	76	9	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	47.1	94	70 - 124	50.0	47.9	96	2	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	48.8	98	71 - 126	50.0	49.8	100	2	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	49.0	98	71 - 129	50.0	50.2	100	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	50.5	101	72 - 128	50.0	52.6	105	4	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.0	100	74 - 126	50.0	50.9	102	2	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	50.1	100	72 - 122	50.0	51.4	103	3	30
2-Butanone	78-93-3	0.142U	0.142	50.0	35.6	71	58 - 137	50.0	39.0	78	9	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	44.1	88	56 - 124	50.0	44.7	89	1	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	36.7	73	50 - 135	50.0	39.5	79	7	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	36.6	73	57 - 132	50.0	37.9	76	3	30
Acetone	67-64-1	0.193U	0.193	50.0	36.9	74	44 - 156	50.0	40.0	80	8	30
Benzene	71-43-2	0.111U	0.111	50.0	49.1	98	70 - 129	50.0	52.2	104	6	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.8	102	74 - 125	50.0	51.9	104	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	41.8	84	64 - 122	50.0	42.4	85	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	53.5	107	47 - 138	50.0	61.8	124	14	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	59.2	118	69 - 136	50.0	64.3	129	8	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	45.2	90	76 - 128	50.0	47.7	95	5	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	46.9	94	74 - 123	50.0	48.0	96	2	20
Chloroethane	75-00-3	0.235U	0.235	50.0	57.9	116	62 - 141	50.0	62.0	124	7	30
Chloroform	67-66-3	0.155U	0.155	50.0	47.4	95	75 - 122	50.0	50.1	100	6	30
Chloromethane	74-87-3	0.144U	0.144	50.0	49.3	99	59 - 132	50.0	53.6	107	8	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	49.6	99	73 - 130	50.0	52.1	104	5	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	52.7	105	71 - 132	50.0	54.1	108	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	46.6	93	69 - 132	50.0	49.7	99	6	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	47.4	95	71 - 123	50.0	47.8	96	1	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	45.2	90	58 - 140	50.0	48.5	97	7	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	48.7	97	74 - 126	50.0	50.3	101	3	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	46.8	94	71 - 125	50.0	49.0	98	5	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	94.5	95	74 - 126	100	97.3	97	3	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	43.8	88	57 - 139	50.0	45.4	91	4	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	46.8	94	67 - 138	50.0	50.4	101	7	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	50.8	102	68 - 132	50.0	53.1	106	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	46.5	93	73 - 130	50.0	48.5	97	4	30
Styrene	100-42-5	0.089U	0.089	50.0	48.0	96	71 - 127	50.0	48.9	98	2	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	43.6	87	71 - 125	50.0	45.0	90	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	41.3	83	68 - 128	50.0	43.0	86	4	30
Toluene	108-88-3	0.122U	0.122	50.0	47.8	96	72 - 120	50.0	49.8	100	4	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	49.4	99	69 - 132	50.0	52.7	105	6	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	52.3	105	71 - 131	50.0	53.6	107	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	44.0	88	76 - 129	50.0	47.4	95	7	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	56.9	114	72 - 136	50.0	61.5	123	8	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	53.8	108	72 - 136	50.0	58.0	116	8	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	36.6	73	54 - 147	50.0	36.6	73	0	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	52.2	104	68 - 132	50.0	56.7	113	8	30
Xylene (total)	1330-20-7	0.179U	0.179	150	141	94	74 - 127	150	146	97	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	53.2	106	50	51.7	103	71 - 127	50	51.8	104	0	NA
4-Bromofluorobenzene	460-00-4	42.5	85	50	44	88	78 - 130	50	43.4	87	1	NA
Dibromofluoromethane	1868-53-7	51.4	103	50	50.8	102	77 - 127	50	50.6	101	0	NA
Toluene d8	2037-26-5	49.5	99	50	48.8	98	76 - 134	50	47.4	95	3	NA

GC Volatiles Quality Control Summary

Analytical Batch 555195	Client ID	MB555195		LCS555195				LCSD555195				
	GCAL ID	1429249		1429250				1429251				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/30/2015 12:13		03/30/2015 12:20				03/30/2015 12:28				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.81	86	45 - 128	3.28	2.71	83	4	29
Ethene	74-85-1	0.071U	0.071	3.06	2.52	82	45 - 134	3.06	2.39	78	5	25
Methane	74-82-8	0.435U	0.435	17.5	13.8	79	39 - 120	17.5	13.2	75	4	27
Surrogate												
Propene	115-07-1	24.9	61	40.5	24.1	60	40 - 143	40.5	23.2	57	4	NA

General Chemistry Quality Control Summary

Analytical Batch	Client ID	MB554820		LCS554820			
554820	GCAL ID	1427512		1427513			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	29.1	116	80 - 120

Analytical Batch	Client ID	DPMW-2I		1425770MS			
554820	GCAL ID	21503181101		1427514			
	Sample Type	SAMPLE		MS			
	Prep Date	NA		NA			
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	28.7	115	75 - 125

Analytical Batch	Client ID	SMFMW-2		1425771DUP		
554820	GCAL ID	21503181102		1427515		
	Sample Type	SAMPLE		DUP		
	Prep Date	NA		NA		
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36		
	Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

Analytical Batch	Client ID	MB554530		LCS554530			
554530	GCAL ID	1426267		1426268			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/19/2015 15:57		03/19/2015 15:40			
	Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.40	96	80 - 120
Nitrate	14797-55-8	0.050U	0.050	2.50	2.41	96	80 - 120
Sulfate	14808-79-8	0.050U	0.050	2.50	2.44	98	80 - 120

Analytical Batch	Client ID	MTWMW-18		1426194MS				1426194MSD				
554530	GCAL ID	21503190801		1429221				1429222				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/19/2015 21:11		03/19/2015 21:28				03/19/2015 21:46				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	327	5.00	250	574	99	80 - 120	250	574	99	0	15

General Chemistry Quality Control Summary

Analytical Batch 555127		Client ID	MB555127		LCS555127			
		GCAL ID	1429049		1429050			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/28/2015 18:26		03/28/2015 18:08			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	
Chloride	16887-00-6	0.050U	0.050	2.50	2.51	100	80 - 120	
Sulfate	14808-79-8	0.050U	0.050	2.50	2.36	94	80 - 120	

Analytical Batch 555127		Client ID	SMFMW-1D		1426602MS				1426602MSD				
		GCAL ID	21503200901		1429051				1429052				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/28/2015 19:01		03/29/2015 12:21				03/28/2015 19:37				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	28.1	1.00	50.0	72.2	88	80 - 120		50.0	77.7	99	7	15
Sulfate	14808-79-8	25.1	1.00	50.0	71.5	93	80 - 120		50.0	72.0	94	1	15

Analytical Batch 554657		Client ID	MB554657		LCS554657				LCSD554657				
		GCAL ID	1426940		1426941				1427126				
		Sample Type	MB		LCS				LCSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/21/2015 08:05		03/21/2015 06:58				03/21/2015 17:32				
		Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.1	94	80 - 120		50.0	49.6	99	5	25

Analytical Batch 554657		Client ID	Ave H (004)		1426243MS				1426243MSD				
		GCAL ID	21503191405		1426944				1426945				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/21/2015 14:09		03/21/2015 14:31				03/21/2015 14:53				
		Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	2.4	0.30	50.0	52.6	100	75 - 125		50.0	53.6	102	2	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215032009
Due Date: 04/01/15

Report to:
Client: AMEC
Address: 1075 Bigshanty Rd NW Suite 100
Contact: Jerry G.
Phone: 770-421-3400
E-mail:

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

P.O. Number:
Project Name/Number: Woodall Creek 6122130015
Sampled By:

Analytical Requests & Method

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 5.0 E26

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	Chloride / Sulfate	Sulfide	VOCs	TOCs	Methanol, Ethanol, Ethylene	Preservative
							NA	NA	NA	HCl	HCl	HCl	
W	3/19/15	1142		✓	SMFMW-1D	10	1	1	1	3	2	2	1
~~W~~	~~3/19/15~~	~~1201~~		✓	~~DPMW-4I~~	10	1	1	1	3	2	2	~~2~~ removed per client ggm
W	3/19/15				Trip Blank	2				2			3

Air Bill No: 7731 4317 2138

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]	3/19/15	1630			
FedEx	3/20/15	1020	[signature]	3/20/15	1020
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 48hr hold time for Nitrate

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

215032009

SAMPLE DELIVERY GROUP 215032009	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/20/15

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: E26	Temp(°C)
773143172138		5.0

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/01/2015

GCAL Report 215032108

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek 6122130015

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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.

Curtis Ekker
Authorized Signature
GCAL Report 215032108

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215032108

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 21503210801 (DPMW-27) 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 554814, the LCS and/or LCSD recoveries are above the upper control limit for 1,2-Dibromo-3-Chloropropane. This compound was not detected in the associated samples.

In the EPA 8260B analysis for analytical batch 555046, the LCS and/or LCSD recoveries are above the upper control limit for Vinyl acetate. This compound was not detected in the associated samples. The %D/%Drift is outside ± 40% for Vinyl Acetate in the CCV. The response is high and this analyte was not detected in the associated samples.

CONVENTIONALS

In the EPA 9060A analysis for analytical batch 554996, a matrix spike was not performed due to limited sample volume.

In the EPA 9056A analysis, samples 21503210802 (DPMW-25) and 21503210801 (DPMW-27) 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
21503210801	DPMW-27	Water	03/20/2015 12:01	03/21/2015 09:55
21503210802	DPMW-25	Water	03/20/2015 12:18	03/21/2015 09:55
21503210803	TRIP BLANK	Water	03/20/2015 00:00	03/21/2015 09:55

Summary of Compounds Detected

DPMW-27

Collect Date 03/20/2015 12:01 **GCAL ID** 21503210801
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	1.32J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	26.0	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	212	0.385	10.0	ug/L
79-01-6	Trichloroethene	36.9	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	11.8	0.500	2.00	mg/L
14797-55-8	Nitrate	4.91	0.050	0.200	mg/L
14808-79-8	Sulfate	20.6	0.500	2.00	mg/L

DPMW-25

Collect Date 03/20/2015 12:18 **GCAL ID** 21503210802
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	5.91	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.42J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	89.7	0.193	5.00	ug/L
79-01-6	Trichloroethene	8.48	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.80	0.250	1.00	mg/L
14797-55-8	Nitrate	6.32	0.250	1.00	mg/L
14808-79-8	Sulfate	15.6	0.250	1.00	mg/L

SM 4500-S2 F-2011

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.60	2.00	2.00	mg/L

Sample Results

DPMW-27

Collect Date	03/20/2015 12:01	**GCAL ID**	21503210801
Receive Date	03/21/2015 09:55	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/27/2015 15:56	TJB	555046

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**1.32J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**26.0**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**212**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**36.9**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

DPMW-27

Collect Date	03/20/2015 12:01	**GCAL ID**	21503210801
Receive Date	03/21/2015 09:55	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/27/2015 15:56	TJB	555046

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	96.2	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	100	102	ug/L	102	77 - 127
2037-26-5	Toluene d8	100	103	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	98.4	ug/L	98	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 19:30	BMR	555322

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	31.7	ug/L	78	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/21/2015 11:18	RXJ	554672

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**4.91**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/29/2015 11:28	DMT	555127

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**11.8**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**20.6**	**0.500**	**2.00**	**mg/L**

Sample Results

DPMW-27

Collect Date 03/20/2015 12:01 **GCAL ID** 21503210801
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/26/2015 17:02	KGL2	554996

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 15:36	KLC2	554820

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DPMW-25

Collect Date 03/20/2015 12:18 **GCAL ID** 21503210802
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 16:19	LBH	555046

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**5.91**	**0.155**	**5.00**	**ug/L**

Sample Results

DPMW-25	**Collect Date**	03/20/2015 12:18	**GCAL ID**	21503210802
	Receive Date	03/21/2015 09:55	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 16:19	LBH	555046

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.42J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**89.7**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**8.48**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.7	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	50.6	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	50.3	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.9	ug/L	100	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 19:35	BMR	555322

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	34.3	ug/L	85	40 - 143

Sample Results

DPMW-25

Collect Date 03/20/2015 12:18 **GCAL ID** 21503210802
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	03/21/2015 11:53	RXJ	554672

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.80	0.250	1.00	mg/L
14797-55-8	Nitrate	6.32	0.250	1.00	mg/L
14808-79-8	Sulfate	15.6	0.250	1.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/26/2015 17:29	KGL2	554996

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 15:36	KLC2	554820

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.60	2.00	2.00	mg/L

TRIP BLANK

Collect Date 03/20/2015 00:00 **GCAL ID** 21503210803
Receive Date 03/21/2015 09:55 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 18:58	LBH	554814

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L

Sample Results

TRIP BLANK

Collect Date	03/20/2015 00:00	**GCAL ID**	21503210803
Receive Date	03/21/2015 09:55	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/24/2015 18:58	LBH	554814

CAS#	Parameter	Result	MDL	LOQ	Units
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	55.1	ug/L	110	78 - 130
1868-53-7	Dibromofluoromethane	50	52.9	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	52.9	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 554814	Client ID	MB554814	LCS554814	LCSD554814
	GCAL ID	1427455	1427456	1427457
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	03/24/2015 12:52	03/24/2015 10:59	03/24/2015 11:22
	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	51.5	103	76 - 126	50.0	52.5	105	2	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	52.8	106	70 - 122	50.0	50.6	101	4	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	55.3	111	72 - 121	50.0	53.4	107	3	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	58.1	116	74 - 127	50.0	58.9	118	1	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	55.2	110	69 - 129	50.0	56.1	112	2	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	64.6	129	61 - 135	50.0	63.6	127	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	61.1	**122***	57 - 121	50.0	58.9	118	4	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	57.2	114	70 - 124	50.0	54.7	109	4	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	52.2	104	71 - 126	50.0	51.2	102	2	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	55.3	111	71 - 129	50.0	54.5	109	1	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	51.4	103	72 - 128	50.0	51.9	104	1	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	51.1	102	74 - 126	50.0	50.8	102	1	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	49.6	99	72 - 122	50.0	49.6	99	0	30
2-Butanone	78-93-3	0.142U	0.142	50.0	57.7	115	58 - 137	50.0	54.7	109	5	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	41.6	83	56 - 124	50.0	41.9	84	1	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	53.2	106	50 - 135	50.0	50.8	102	5	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	55.0	110	57 - 132	50.0	51.5	103	7	30
Acetone	67-64-1	0.193U	0.193	50.0	51.8	104	44 - 156	50.0	52.3	105	1	30
Benzene	71-43-2	0.111U	0.111	50.0	51.1	102	70 - 129	50.0	51.0	102	0	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	57.0	114	74 - 125	50.0	55.8	112	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	53.7	107	64 - 122	50.0	52.4	105	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	40.2	80	47 - 138	50.0	44.2	88	9	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	52.7	105	69 - 136	50.0	54.8	110	4	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	53.0	106	76 - 128	50.0	54.2	108	2	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	52.1	104	74 - 123	50.0	51.9	104	0	20
Chloroethane	75-00-3	0.235U	0.235	50.0	42.9	86	62 - 141	50.0	36.6	73	16	30
Chloroform	67-66-3	0.155U	0.155	50.0	56.1	112	75 - 122	50.0	55.3	111	1	30
Chloromethane	74-87-3	0.144U	0.144	50.0	40.9	82	59 - 132	50.0	39.4	79	4	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	55.1	110	73 - 130	50.0	54.7	109	1	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	53.0	106	71 - 132	50.0	52.0	104	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	51.5	103	69 - 132	50.0	52.6	105	2	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	56.2	112	71 - 123	50.0	55.0	110	2	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	42.6	85	58 - 140	50.0	44.7	89	5	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	49.5	99	74 - 126	50.0	49.9	100	1	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	54.2	108	71 - 125	50.0	54.9	110	1	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	103	103	74 - 126	100	103	103	0	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	49.2	98	57 - 139	50.0	48.8	98	1	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	51.1	102	67 - 138	50.0	52.8	106	3	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	53.0	106	68 - 132	50.0	53.5	107	1	30
o-Xylene	95-47-6	0.055U	0.055	50.0	56.6	113	73 - 130	50.0	56.3	113	1	30
Styrene	100-42-5	0.089U	0.089	50.0	56.5	113	71 - 127	50.0	56.4	113	0	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	60.1	120	71 - 125	50.0	60.0	120	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	52.8	106	68 - 128	50.0	52.9	106	0	30
Toluene	108-88-3	0.122U	0.122	50.0	52.7	105	72 - 120	50.0	51.3	103	3	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	53.0	106	69 - 132	50.0	52.9	106	0	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	50.8	102	71 - 131	50.0	51.0	102	0	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	51.9	104	76 - 129	50.0	52.1	104	0	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	48.2	96	72 - 136	50.0	54.4	109	12	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	51.4	103	72 - 136	50.0	54.7	109	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	52.3	105	54 - 147	50.0	58.3	117	11	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	49.6	99	68 - 132	50.0	50.4	101	2	30
Xylene (total)	1330-20-7	0.179U	0.179	150	160	107	74 - 127	150	159	106	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	49.3	99	50	51.2	102	71 - 127	50	50.2	100	2	NA
4-Bromofluorobenzene	460-00-4	55.4	111	50	54.2	108	78 - 130	50	54.5	109	1	NA
Dibromofluoromethane	1868-53-7	50.3	101	50	52.8	106	77 - 127	50	52.1	104	1	NA
Toluene d8	2037-26-5	49.9	100	50	50.8	102	76 - 134	50	49.3	99	3	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 555046	Client ID	MB555046	LCS555046					LCSD555046				
	GCAL ID	1428598	1428599					1428600				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	03/27/2015 10:04	03/27/2015 08:12					03/27/2015 08:35				
	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	57.4	115	76 - 126	50.0	55.3	111	4	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	47.6	95	70 - 122	50.0	50.3	101	6	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.0	102	72 - 121	50.0	50.0	100	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	56.8	114	74 - 127	50.0	57.9	116	2	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	56.3	113	69 - 129	50.0	54.6	109	3	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	54.6	109	61 - 135	50.0	55.7	111	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	50.4	101	57 - 121	50.0	54.1	108	7	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	53.8	108	70 - 124	50.0	53.2	106	1	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	50.2	100	71 - 126	50.0	50.8	102	1	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	53.2	106	71 - 129	50.0	52.5	105	1	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	52.7	105	72 - 128	50.0	52.7	105	0	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.4	101	74 - 126	50.0	51.3	103	2	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	50.1	100	72 - 122	50.0	50.1	100	0	30
2-Butanone	78-93-3	0.142U	0.142	50.0	47.2	94	58 - 137	50.0	50.7	101	7	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	47.5	95	56 - 124	50.0	49.5	99	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	47.7	95	50 - 135	50.0	50.6	101	6	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	50.1	100	57 - 132	50.0	51.6	103	3	30
Acetone	67-64-1	0.193U	0.193	50.0	47.4	95	44 - 156	50.0	51.4	103	8	30
Benzene	71-43-2	0.111U	0.111	50.0	52.1	104	70 - 129	50.0	50.9	102	2	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	54.9	110	74 - 125	50.0	53.5	107	3	30
Bromoform	75-25-2	0.215U	0.215	50.0	54.0	108	64 - 122	50.0	55.1	110	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	51.1	102	47 - 138	50.0	59.4	119	15	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	54.1	108	69 - 136	50.0	53.3	107	1	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	59.8	120	76 - 128	50.0	56.6	113	5	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	51.7	103	74 - 123	50.0	50.5	101	2	20
Chloroethane	75-00-3	0.235U	0.235	50.0	52.7	105	62 - 141	50.0	52.1	104	1	30
Chloroform	67-66-3	0.155U	0.155	50.0	53.5	107	75 - 122	50.0	51.6	103	4	30
Chloromethane	74-87-3	0.144U	0.144	50.0	50.2	100	59 - 132	50.0	57.6	115	14	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	53.1	106	73 - 130	50.0	52.0	104	2	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	49.9	100	71 - 132	50.0	49.0	98	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	54.0	108	69 - 132	50.0	51.5	103	5	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	54.0	108	71 - 123	50.0	51.5	103	5	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	58.9	118	58 - 140	50.0	58.1	116	1	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	53.7	107	74 - 126	50.0	51.8	104	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	56.1	112	71 - 125	50.0	53.9	108	4	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	107	107	74 - 126	100	104	104	3	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	54.3	109	57 - 139	50.0	53.5	107	1	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	55.5	111	67 - 138	50.0	52.8	106	5	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	49.6	99	68 - 132	50.0	50.4	101	2	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.4	105	73 - 130	50.0	50.9	102	3	30
Styrene	100-42-5	0.089U	0.089	50.0	54.3	109	71 - 127	50.0	53.6	107	1	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	52.9	106	71 - 125	50.0	52.9	106	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	55.6	111	68 - 128	50.0	51.4	103	8	30
Toluene	108-88-3	0.122U	0.122	50.0	51.8	104	72 - 120	50.0	49.0	98	6	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	54.8	110	69 - 132	50.0	53.1	106	3	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	48.9	98	71 - 131	50.0	49.5	99	1	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	54.2	108	76 - 129	50.0	52.5	105	3	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	59.8	120	72 - 136	50.0	57.4	115	4	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	56.1	112	72 - 136	50.0	53.2	106	5	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	85.8	**172***	54 - 147	50.0	84.8	**170***	1	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	54.3	109	68 - 132	50.0	56.2	112	3	30
Xylene (total)	1330-20-7	0.179U	0.179	150	159	106	74 - 127	150	154	103	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.4	101	50	52.1	104	71 - 127	50	50.8	102	3	NA
4-Bromofluorobenzene	460-00-4	48.5	97	50	51.2	102	78 - 130	50	51.5	103	1	NA
Dibromofluoromethane	1868-53-7	49.2	98	50	51.1	102	77 - 127	50	50.4	101	1	NA
Toluene d8	2037-26-5	51.6	103	50	49.3	99	76 - 134	50	47.7	95	3	NA

GC Volatiles Quality Control Summary

Analytical Batch 555322	Client ID	MB555322		LCS555322				LCSD555322				
	GCAL ID	1429813		1429814				1429815				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/31/2015 18:25		03/31/2015 18:32				03/31/2015 18:39				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.80	85	45 - 128	3.28	2.61	80	7	29
Ethene	74-85-1	0.071U	0.071	3.06	2.63	86	45 - 134	3.06	2.39	78	10	25
Methane	74-82-8	0.435U	0.435	17.5	14.3	82	39 - 120	17.5	12.8	73	11	27
Surrogate												
Propene	115-07-1	27.9	69	40.5	28.5	70	40 - 143	40.5	25.1	62	13	NA

General Chemistry Quality Control Summary

Analytical Batch	Client ID	MB554820		LCS554820			
554820	GCAL ID	1427512		1427513			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	29.1	116	80 - 120

Analytical Batch	Client ID	DPMW-2I		1425770MS			
554820	GCAL ID	21503181101		1427514			
	Sample Type	SAMPLE		MS			
	Prep Date	NA		NA			
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	28.7	115	75 - 125

Analytical Batch	Client ID	SMFMW-2		1425771DUP		
554820	GCAL ID	21503181102		1427515		
	Sample Type	SAMPLE		DUP		
	Prep Date	NA		NA		
	Analysis Date	03/24/2015 15:36		03/24/2015 15:36		
	Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

Analytical Batch	Client ID	MB554672		LCS554672			
554672	GCAL ID	1426996		1426997			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/21/2015 11:01		03/21/2015 10:43			
	Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.39	95	80 - 120
Nitrate	14797-55-8	0.050U	0.050	2.50	2.43	97	80 - 120
Sulfate	14808-79-8	0.050U	0.050	2.50	2.56	102	80 - 120

Analytical Batch	Client ID	DPMW-25		1426969MS				1426969MSD				
554672	GCAL ID	21503210802		1427000				1427001				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/21/2015 11:53		03/21/2015 12:10				03/21/2015 12:28				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	9.80	0.250	12.5	22.5	102	80 - 120	12.5	22.5	102	0	15
Nitrate	14797-55-8	6.32	0.250	12.5	19.1	102	80 - 120	12.5	19.1	103	0	15
Sulfate	14808-79-8	15.6	0.250	12.5	28.7	105	80 - 120	12.5	28.8	106	1	15

General Chemistry Quality Control Summary

Analytical Batch	Client ID	MB555127		LCS555127			
555127	GCAL ID	1429049		1429050			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/28/2015 18:26		03/28/2015 18:08			
	Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.51	100	80 - 120
Sulfate	14808-79-8	0.050U	0.050	2.50	2.36	94	80 - 120

Analytical Batch	Client ID	SMFMW-1D		1426602MS				1426602MSD				
555127	GCAL ID	21503200901		1429051				1429052				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/28/2015 19:01		03/29/2015 12:21				03/28/2015 19:37				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	28.1	1.00	50.0	72.2	88	80 - 120	50.0	77.7	99	7	15
Sulfate	14808-79-8	25.1	1.00	50.0	71.5	93	80 - 120	50.0	72.0	94	1	15

Analytical Batch	Client ID	LOW PRESSURE INTAKE		1427648MS				1427648MSD				
555127	GCAL ID	21503245701		1429053				1429054				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/28/2015 23:43		03/29/2015 00:01				03/29/2015 00:18				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	1120	50.0	2500	3650	101	80 - 120	2500	3670	102	1	15
Sulfate	14808-79-8	0.000	50.0	2500	2510	100	80 - 120	2500	2500	100	0	15

Analytical Batch	Client ID	MB554996		LCS554996				LCSD554996				
554996	GCAL ID	1428438		1428439				1429902				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/26/2015 16:28		03/26/2015 15:40				03/26/2015 20:51				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.30U	0.30	50.0	45.0	90	80 - 120	50.0	46.4	93	3	25

Analytical Batch	Client ID	OUTFALL 001		1427601MS				1427601MSD				
554996	GCAL ID	21503244107		1428440				1428441				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/26/2015 18:18		03/26/2015 18:36				03/26/2015 18:53				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	14.7	0.30	50.0	65.9	103	75 - 125	50.0	62.8	96	5	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215032108
Due Date: 04/01/15

Report to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry G.
Phone: 770-421-3400
E-mail:

Bill to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry G
Phone: 770-421-3400
E-mail:

P.O. Number:
Project Name/Number: Woodall Creek 612213.0015
Sampled By: Mark Andrews and Daniel Morris

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 3.2E26

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	Chloride/Sulfate	Sulfide	VOCs	TOC	Methane, Ethane, Ethene						Preservative
							none	none	ZNAC + NaOH	HCl	HCl	HCl						
W	3/20/15	1201		✓	DPMW-27	10	X	X	X	X	X	X	pgpm					01
W	3/20/15	1218		✓	DPMW-25	10	X	X	X	X	X	X						02
W	3/20/15				Trip Blank	2				X								03

Air Bill No: 7731 4318 9063

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]	3/20/15		FedEx		
FedEx	3/21/15	0955	[signature]	3/21/15	0955
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Note: 48 hr hold time for Nitrate
No analysis requested on COC. Logged in per containers. BJM

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

21503210 8

SAMPLE DELIVERY GROUP 215032108	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Naquin, Allison
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/21/15

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: E26	Temp(°C)
7731 4318 9063		3.2

DISCREPANCIES

SPARE (Container 10 - Unassigned):
21503210801 - DPMW-27
21503210802 - DPMW-25

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/06/2015

GCAL Report 215032505

Deliver To	AMEC E&I 396 Plasters Ave NE Atlanta, GA 30324 770-547-4409
Attn	Daniel Morris

Project Woodall Creek 6122130015

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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.

Karen Melchiner, Project Mgr.

Authorized Signature
GCAL Report 215032505

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215032505

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 21503250502 (DPMW-16) 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.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis for analytical batch 555387, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS recovery is acceptable. The recoveries for the surrogates are not applicable for those analyses at a 10 or higher dilution.

CONVENTIONALS

In the EPA 9056A analysis, samples 21503250501 (SMFDR-2) and 21503250502 (DPMW-16) 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
21503250501	SMFDR-2	Water	03/24/2015 11:43	03/25/2015 10:20
21503250502	DPMW-16	Water	03/24/2015 15:20	03/25/2015 10:20
21503250503	TRIP BLANK 1	Water	03/24/2015 00:00	03/25/2015 10:20

Summary of Compounds Detected

SMFDR-2

Collect Date 03/24/2015 11:43 **GCAL ID** 21503250501
Receive Date 03/25/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.854J	0.208	5.00	ug/L
127-18-4	Tetrachloroethene	3.69J	0.193	5.00	ug/L
79-01-6	Trichloroethene	2.71J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	33.4	1.00	4.00	mg/L
14797-55-8	Nitrate	2.99	0.100	0.400	mg/L
14808-79-8	Sulfate	32.6	1.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.33J	0.30	2.0	mg/L

DPMW-16

Collect Date 03/24/2015 15:20 **GCAL ID** 21503250502
Receive Date 03/25/2015 10:20 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	3.74J	0.208	5.00	ug/L
67-66-3	Chloroform	2.07J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	33.8	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	264	0.963	25.0	ug/L
79-01-6	Trichloroethene	83.6	0.161	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	1.66J	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	34.9	1.00	4.00	mg/L

Summary of Compounds Detected

DPMW-16	**Collect Date**	03/24/2015 15:20	**GCAL ID**	21503250502
	Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 9056A (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	2.82	0.050	0.200	mg/L
14808-79-8	Sulfate	18.0	1.00	4.00	mg/L

Sample Results

SMFDR-2

Collect Date	03/24/2015 11:43	**GCAL ID**	21503250501
Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 02:46	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**0.854J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**3.69J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**2.71J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

SMFDR-2

Collect Date	03/24/2015 11:43	**GCAL ID**	21503250501
Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 02:46	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.4	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	51.7	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	50.8	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/01/2015 23:58	BMR	555387

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	24.6	ug/L	61	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	03/25/2015 14:28	JEM	554893

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.99**	**0.100**	**0.400**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/25/2015 22:49	JEM	554893

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**33.4**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**32.6**	**1.00**	**4.00**	**mg/L**

Sample Results

SMFDR-2

Collect Date 03/24/2015 11:43 **GCAL ID** 21503250501
Receive Date 03/25/2015 10:20 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 19:14	KGL2	555213

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**0.33J**	**0.30**	**2.0**	**mg/L**

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 09:00	RYC	554931

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DPMW-16

Collect Date 03/24/2015 15:20 **GCAL ID** 21503250502
Receive Date 03/25/2015 10:20 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 03:31	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**3.74J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**2.07J**	**0.155**	**5.00**	**ug/L**

Sample Results

DPMW-16

Collect Date	03/24/2015 15:20	**GCAL ID**	21503250502
Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 03:31	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**33.8**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**83.6**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	50.6	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	49.8	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.3	ug/L	105	71 - 127

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	03/28/2015 03:08	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	**Tetrachloroethene**	**264**	**0.963**	**25.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	248	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	250	259	ug/L	104	77 - 127
2037-26-5	Toluene d8	250	252	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	269	ug/L	108	71 - 127

Sample Results

DPMW-16

Collect Date 03/24/2015 15:20 **GCAL ID** 21503250502
Receive Date 03/25/2015 10:20 **Matrix** Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 00:03	BMR	555387

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**1.66J**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	27.5	ug/L	68	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/25/2015 13:19	JEM	554893

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.82**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/25/2015 23:41	JEM	554893

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**34.9**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**18.0**	**1.00**	**4.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/30/2015 19:38	KGL2	555213

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

Sample Results

DPMW-16

Collect Date	03/24/2015 15:20	**GCAL ID**	21503250502
Receive Date	03/25/2015 10:20	**Matrix**	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 09:00	RYC	554931

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK 1

Collect Date	03/24/2015 00:00	**GCAL ID**	21503250503
Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 04:16	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L

Sample Results

TRIP BLANK 1

Collect Date	03/24/2015 00:00	**GCAL ID**	21503250503
Receive Date	03/25/2015 10:20	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/28/2015 04:16	JCK	555114

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.5	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	51.8	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.8	ug/L	102	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555114	Client ID	MB555114	LCS555114					LCSD555114				
	GCAL ID	1428991	1428992					1428993				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	03/28/2015 01:07	03/27/2015 21:54					03/27/2015 22:17				
	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	55.0	110	76 - 126	50.0	59.7	119	8	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	43.2	86	70 - 122	50.0	46.2	92	7	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	47.7	95	72 - 121	50.0	49.9	100	5	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.7	101	74 - 127	50.0	53.7	107	6	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	51.2	102	69 - 129	50.0	56.9	114	11	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	53.3	107	61 - 135	50.0	56.3	113	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	49.1	98	57 - 121	50.0	54.5	109	10	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.0	100	70 - 124	50.0	52.1	104	4	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	48.2	96	71 - 126	50.0	50.8	102	5	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	52.7	105	71 - 129	50.0	54.8	110	4	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	47.7	95	72 - 128	50.0	50.9	102	6	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	48.3	97	74 - 126	50.0	51.8	104	7	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	47.6	95	72 - 122	50.0	50.1	100	5	30
2-Butanone	78-93-3	0.142U	0.142	50.0	44.1	88	58 - 137	50.0	50.0	100	13	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	36.3	73	56 - 124	50.0	40.1	80	10	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	41.8	84	50 - 135	50.0	48.1	96	14	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	45.8	92	57 - 132	50.0	48.2	96	5	30
Acetone	67-64-1	0.193U	0.193	50.0	43.2	86	44 - 156	50.0	54.3	109	23	30
Benzene	71-43-2	0.111U	0.111	50.0	48.8	98	70 - 129	50.0	52.5	105	7	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	52.4	105	74 - 125	50.0	54.2	108	3	30
Bromoform	75-25-2	0.215U	0.215	50.0	53.8	108	64 - 122	50.0	55.4	111	3	30
Bromomethane	74-83-9	0.427U	0.427	50.0	51.1	102	47 - 138	50.0	60.8	122	17	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	49.8	100	69 - 136	50.0	55.8	112	11	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	56.8	114	76 - 128	50.0	61.8	124	8	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	50.5	101	74 - 123	50.0	51.9	104	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	49.7	99	62 - 141	50.0	56.4	113	13	30
Chloroform	67-66-3	0.155U	0.155	50.0	51.6	103	75 - 122	50.0	54.9	110	6	30
Chloromethane	74-87-3	0.144U	0.144	50.0	47.6	95	59 - 132	50.0	60.1	120	23	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	50.3	101	73 - 130	50.0	54.0	108	7	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	45.4	91	71 - 132	50.0	49.3	99	8	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	49.4	99	69 - 132	50.0	53.5	107	8	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	52.2	104	71 - 123	50.0	52.3	105	0	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	54.7	109	58 - 140	50.0	62.3	125	13	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	51.5	103	74 - 126	50.0	54.0	108	5	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	54.5	109	71 - 125	50.0	57.6	115	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	104	104	74 - 126	100	105	105	1	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	50.3	101	57 - 139	50.0	54.5	109	8	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	51.0	102	67 - 138	50.0	54.4	109	6	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.4	95	68 - 132	50.0	51.6	103	8	30
o-Xylene	95-47-6	0.055U	0.055	50.0	50.9	102	73 - 130	50.0	51.5	103	1	30
Styrene	100-42-5	0.089U	0.089	50.0	52.8	106	71 - 127	50.0	55.3	111	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	50.2	100	71 - 125	50.0	54.2	108	8	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	53.0	106	68 - 128	50.0	52.7	105	1	30
Toluene	108-88-3	0.122U	0.122	50.0	47.7	95	72 - 120	50.0	49.1	98	3	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	51.6	103	69 - 132	50.0	55.0	110	6	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	45.4	91	71 - 131	50.0	50.7	101	11	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	51.7	103	76 - 129	50.0	56.0	112	8	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	58.6	117	72 - 136	50.0	63.0	126	7	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	53.1	106	72 - 136	50.0	56.4	113	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	57.7	115	54 - 147	50.0	60.6	121	5	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	48.9	98	68 - 132	50.0	57.0	114	15	30
Xylene (total)	1330-20-7	0.179U	0.179	150	155	103	74 - 127	150	156	104	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.6	103	50	53.5	107	71 - 127	50	52.9	106	1	NA
4-Bromofluorobenzene	460-00-4	48.8	98	50	53.1	106	78 - 130	50	53.7	107	1	NA
Dibromofluoromethane	1868-53-7	51	102	50	51.4	103	77 - 127	50	51.5	103	0	NA
Toluene d8	2037-26-5	50.5	101	50	49.2	98	76 - 134	50	46.7	93	5	NA

GC Volatiles Quality Control Summary

Analytical Batch 555387	Client ID	MB555387		LCS555387			
	GCAL ID	1430100		1430101			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	04/01/2015 19:51		04/01/2015 19:56			
	Matrix	Water		Water			
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R
Ethane	74-84-0	0.087U	0.087	3.28	2.70	82	45 - 128
Ethene	74-85-1	0.071U	0.071	3.06	2.59	85	45 - 134
Methane	74-82-8	0.435U	0.435	17.5	14.0	80	39 - 120
Surrogate							
Propene	115-07-1	31.3	77	40.5	26.9	66	40 - 143

Analytical Batch 555387	Client ID	SS028-A-TW15		SS028-A-TW15-MS				SS028-A-TW15-MSD				
	GCAL ID	21503252201		21503252202				21503252203				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/01/2015 20:28		04/01/2015 20:35				04/01/2015 20:42				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.346	0.087	3.28	2.77	74	45 - 128	3.28	2.86	77	3	29
Surrogate												
Propene	115-07-1	25.8	64	40.5	20.5	51	40 - 143	40.5	21.1	52	3	NA

Analytical Batch 555387	Client ID	SS028-A-TW15		SS028-A-TW15-MS				SS028-A-TW15-MSD				
	GCAL ID	21503252201		21503252202				21503252203				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/01/2015 20:49		04/01/2015 20:54				04/01/2015 21:09				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethene	74-85-1	39.3	42.8	3.06	42.6	108	45 - 134	3.06	39.8	**16***	7	25
Methane	74-82-8	9910	261	17.5	10200	**1660***	39 - 120	17.5	9400	**-2910***	8	27

General Chemistry Quality Control Summary

Analytical Batch 554931	Client ID	MB554931		LCS554931			
	GCAL ID	1428080		1428081			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/27/2015 09:00		03/27/2015 09:00			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	22.4	90	80 - 120

Analytical Batch 554931	Client ID	SMFDR-2		1427839MS			
	GCAL ID	21503250501		1428082			
	Sample Type	SAMPLE		MS			
	Prep Date	NA		NA			
	Analysis Date	03/27/2015 09:00		03/27/2015 09:00			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	29.7	119	75 - 125

Analytical Batch 554931	Client ID	DPMW-16		1427840DUP		
	GCAL ID	21503250502		1428083		
	Sample Type	SAMPLE		DUP		
	Prep Date	NA		NA		
	Analysis Date	03/27/2015 09:00		03/27/2015 09:00		
	Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

Analytical Batch 554893	Client ID	MB554893		LCS554893				LCSD554893				
	GCAL ID	1427820		1427821				1428109				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/25/2015 12:09		03/25/2015 11:52				03/25/2015 15:21				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	0.050U	0.050	2.50	2.36	95	80 - 120	2.50	2.39	96	1	15
Nitrate	14797-55-8	0.050U	0.050	2.50	2.42	97	80 - 120	2.50	2.51	100	4	15
Sulfate	14808-79-8	0.050U	0.050	2.50	2.44	98	80 - 120	2.50	2.46	99	1	15

Analytical Batch 554893	Client ID	SMFDR-2		1427839MS				1427839MSD				
	GCAL ID	21503250501		1427822				1427823				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/25/2015 14:28		03/25/2015 14:46				03/25/2015 15:03				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	2.99	0.100	5.00	8.12	103	80 - 120	5.00	8.14	103	0	15

General Chemistry Quality Control Summary

Analytical Batch 554893	Client ID	SMFDR-2		1427839MS				1427839MSD				
	GCAL ID	21503250501		1428193				1428194				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/25/2015 22:49		03/25/2015 23:07				03/25/2015 23:24				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	33.4	1.00	50.0	82.5	98	80 - 120	50.0	82.5	98	0	15
Sulfate	14808-79-8	32.6	1.00	50.0	80.8	96	80 - 120	50.0	80.9	97	0	15

Analytical Batch 555213	Client ID	MB555213		LCS555213			
	GCAL ID	1429340		1429341			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/30/2015 17:37		03/30/2015 16:29			
	Matrix	Water		Water			
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	45.1	90	80 - 120

Analytical Batch 555213	Client ID	001-NZ2 RIVER WATER RET..		1428041MS				1428041MSD				
	GCAL ID	21503254701		1429342				1429343				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/31/2015 04:05		03/31/2015 04:26				03/31/2015 04:44				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	1.9	0.30	50.0	48.2	93	75 - 125	50.0	47.6	91	1	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215032505
Due Date: 04/03/15

Report to:	Bill to:
Client: Amec Foster Wheeler	Client:
Address: 1075 Big Shanty Rd Kennesaw, GA	Address: Default
Contact: Daniel Morris	Contact:
Phone: 770-547-4409	Phone:
E-mail: daniel.morris@amec.com	E-mail:

P.O. Number:

Project Name/Number: Woodall Creek

Sampled By: Daniel Morris & Mark Andrews

GCAL use only:
Custody Seal used ☐ yes ☐ no intact ☐ yes ☐ no
Temperature °C 2.3 E26

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	VOCs HCl	TOC HCl	Methane/Ethane/Ethene HCl	Sulfate/Sulfide/Chloride 4C	Sulfide Zn Ac + NaOH	NITRATE 4C	Preservative
W	3/24/15	1143		X	SMFDR-2	10	X	X	X	X	X	X	1
		1520		X	DPMW-16	10	X	X	X	X	X	X	2
		—		X	TRIP BLANK #1		X						3

3/24/15

Air Bill No: 7731 4317 1911

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:
	3/24/15	1700		3/25/15	1050
FedEx	3/25/15	1020		3/25/15	1020

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

215032505

SAMPLE DELIVERY GROUP 215032505

Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Saucier, Charlotte M.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/25/15

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: E26	Temp(°C)
7731 4317 1911		2.3

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/09/2015

GCAL Report 215032615

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek 6122130015

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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 215032615

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215032615

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 21503261502 (JPMW-16) 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 555396, the LCS/LCSD exhibited a marginal sporadic recovery failure for the extended list of spike compounds.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis for analytical batch 555687, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS recoveries are acceptable. The recoveries for the surrogates are not applicable for those analyses at a 10 or higher dilution.

CONVENTIONALS

In the EPA 9056A analysis, samples 21503261501 (DPMW-3S) and 21503261502 (JPMW-16) 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
21503261501	DPMW-3S	Water	03/25/2015 10:20	03/26/2015 11:00
21503261502	JPMW-16	Water	03/25/2015 13:32	03/26/2015 11:00
21503261503	TRIP BLANK-2	Water	03/25/2015 00:00	03/26/2015 11:00

Summary of Compounds Detected

DPMW-3S

Collect Date 03/25/2015 10:20 **GCAL ID** 21503261501
Receive Date 03/26/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	0.630J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	16.4	0.193	5.00	ug/L
79-01-6	Trichloroethene	1.01J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	8.49	0.500	2.00	mg/L
14797-55-8	Nitrate	1.39	0.050	0.200	mg/L
14808-79-8	Sulfate	79.2	1.00	4.00	mg/L

JPMW-16

Collect Date 03/25/2015 13:32 **GCAL ID** 21503261502
Receive Date 03/26/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	4.51J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	45.6	0.207	10.0	ug/L
75-09-2	Methylene chloride	1.71J	0.298	10.0	ug/L
127-18-4	Tetrachloroethene	283	0.385	10.0	ug/L
79-01-6	Trichloroethene	108	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	12.2	1.00	4.00	mg/L
14797-55-8	Nitrate	3.63	0.050	0.200	mg/L
14808-79-8	Sulfate	28.6	1.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.32J	0.30	2.0	mg/L

Summary of Compounds Detected

TRIP BLANK-2	**Collect Date**	03/25/2015 00:00	**GCAL ID**	21503261503
	Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	0.535J	0.193	5.00	ug/L

Sample Results

DPMW-3S

Collect Date	03/25/2015 10:20	**GCAL ID**	21503261501
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 04:28	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**0.630J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**16.4**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**1.01J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

DPMW-3S

Collect Date	03/25/2015 10:20	**GCAL ID**	21503261501
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 04:28	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	53.2	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	50.6	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.9	ug/L	106	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 18:16	BMR	555687

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	37.7	ug/L	93	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/26/2015 14:38	RXJ	554992

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.39**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/26/2015 16:23	RXJ	554992

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**8.49**	**0.500**	**2.00**	**mg/L**

Sample Results

DPMW-3S

Collect Date 03/25/2015 10:20 **GCAL ID** 21503261501
Receive Date 03/26/2015 11:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/27/2015 22:47	DMT	555063

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	Sulfate	79.2	1.00	4.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 22:03	KGL2	555287

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 11:00	KGL2	555269

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

JPMW-16

Collect Date 03/25/2015 13:32 **GCAL ID** 21503261502
Receive Date 03/26/2015 11:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/02/2015 04:49	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L

Sample Results

JPMW-16

Collect Date	03/25/2015 13:32	**GCAL ID**	21503261502
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/02/2015 04:49	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**4.51J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**45.6**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	**Methylene chloride**	**1.71J**	**0.298**	**10.0**	**ug/L**
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**283**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**108**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	96.9	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	100	107	ug/L	107	77 - 127
2037-26-5	Toluene d8	100	102	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	105	ug/L	105	71 - 127

Sample Results

JPMW-16

Collect Date	03/25/2015 13:32	**GCAL ID**	21503261502
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 18:26	BMR	555687

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	34	ug/L	84	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/26/2015 14:56	RXJ	554992

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**3.63**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	03/26/2015 19:17	RXJ	554992

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**12.2**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**28.6**	**1.00**	**4.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 22:26	KGL2	555287

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**0.32J**	**0.30**	**2.0**	**mg/L**

Sample Results

JPMW-16

Collect Date	03/25/2015 13:32	**GCAL ID**	21503261502
Receive Date	03/26/2015 11:00	**Matrix**	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 11:00	KGL2	555269

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-2

Collect Date	03/25/2015 00:00	**GCAL ID**	21503261503
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 05:09	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L

Sample Results

TRIP BLANK-2

Collect Date	03/25/2015 00:00	**GCAL ID**	21503261503
Receive Date	03/26/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 05:09	LBH	555396

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**0.535J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.4	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	53.2	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	51.4	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.9	ug/L	106	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555396	Client ID	MB555396	LCS555396					LCSD555396				
	GCAL ID	1430202	1430203					1430204				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	04/01/2015 23:43	04/01/2015 22:22					04/01/2015 22:42				
	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	48.6	97	76 - 126	50.0	46.3	93	5	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	51.3	103	70 - 122	50.0	51.1	102	0	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	49.6	99	72 - 121	50.0	48.6	97	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	46.6	93	74 - 127	50.0	44.2	88	5	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	41.6	83	69 - 129	50.0	39.3	79	6	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	54.7	109	61 - 135	50.0	54.6	109	0	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	47.6	95	57 - 121	50.0	50.4	101	6	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.1	100	70 - 124	50.0	49.6	99	1	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	51.3	103	71 - 126	50.0	49.8	100	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	47.9	96	71 - 129	50.0	46.8	94	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	48.8	98	72 - 128	50.0	46.3	93	5	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	51.2	102	74 - 126	50.0	48.9	98	5	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	50.9	102	72 - 122	50.0	48.2	96	5	30
2-Butanone	78-93-3	0.142U	0.142	50.0	48.1	96	58 - 137	50.0	52.1	104	8	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	45.4	91	56 - 124	50.0	46.2	92	2	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	43.5	87	50 - 135	50.0	47.1	94	8	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	45.5	91	57 - 132	50.0	47.3	95	4	30
Acetone	67-64-1	0.193U	0.193	50.0	42.5	85	44 - 156	50.0	48.2	96	13	30
Benzene	71-43-2	0.111U	0.111	50.0	48.5	97	70 - 129	50.0	46.1	92	5	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	49.4	99	74 - 125	50.0	46.9	94	5	30
Bromoform	75-25-2	0.215U	0.215	50.0	47.4	95	64 - 122	50.0	46.5	93	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	41.7	83	47 - 138	50.0	44.2	88	6	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	41.7	83	69 - 136	50.0	39.2	78	6	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	50.9	102	76 - 128	50.0	46.9	94	8	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	49.3	99	74 - 123	50.0	46.5	93	6	20
Chloroethane	75-00-3	0.235U	0.235	50.0	39.2	78	62 - 141	50.0	37.4	75	5	30
Chloroform	67-66-3	0.155U	0.155	50.0	47.5	95	75 - 122	50.0	45.2	90	5	30
Chloromethane	74-87-3	0.144U	0.144	50.0	46.8	94	59 - 132	50.0	42.8	86	9	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	48.3	97	73 - 130	50.0	46.3	93	4	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	51.1	102	71 - 132	50.0	49.9	100	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	41.9	84	69 - 132	50.0	37.6	75	11	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	50.2	100	71 - 123	50.0	48.7	97	3	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	34.2	68	58 - 140	50.0	31.7	63	8	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	51.6	103	74 - 126	50.0	48.8	98	6	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	54.8	110	71 - 125	50.0	51.5	103	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	105	105	74 - 126	100	98.0	98	7	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	45.5	91	57 - 139	50.0	44.9	90	1	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	46.5	93	67 - 138	50.0	41.8	84	11	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.1	94	68 - 132	50.0	45.1	90	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	53.2	106	73 - 130	50.0	50.5	101	5	30
Styrene	100-42-5	0.089U	0.089	50.0	54.4	109	71 - 127	50.0	51.0	102	6	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	48.9	98	71 - 125	50.0	49.0	98	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	51.4	103	68 - 128	50.0	47.4	95	8	30
Toluene	108-88-3	0.122U	0.122	50.0	48.7	97	72 - 120	50.0	45.9	92	6	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	47.2	94	69 - 132	50.0	43.8	88	7	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	51.9	104	71 - 131	50.0	50.8	102	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	49.2	98	76 - 129	50.0	46.3	93	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	36.6	73	72 - 136	50.0	33.7	67*	8	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	38.6	77	72 - 136	50.0	36.1	72	7	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	51.3	103	54 - 147	50.0	51.0	102	1	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	41.0	82	68 - 132	50.0	38.9	78	5	30
Xylene (total)	1330-20-7	0.179U	0.179	150	158	105	74 - 127	150	149	99	6	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.4	103	50	49.9	100	71 - 127	50	49.4	99	1	NA
4-Bromofluorobenzene	460-00-4	50.5	101	50	50.7	101	78 - 130	50	50.2	100	1	NA
Dibromofluoromethane	1868-53-7	52	104	50	50.9	102	77 - 127	50	50	100	2	NA
Toluene d8	2037-26-5	51.6	103	50	49.9	100	76 - 134	50	49.3	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 555687	Client ID	MB555687		LCS555687			
	GCAL ID	1431577		1431578			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	04/06/2015 17:38		04/06/2015 17:50			
	Matrix	Water		Water			
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R
Ethane	74-84-0	0.087U	0.087	3.28	2.89	88	45 - 128
Ethene	74-85-1	0.071U	0.071	3.06	2.64	86	45 - 134
Methane	74-82-8	0.435U	0.435	17.5	14.1	81	39 - 120
Surrogate							
Propene	115-07-1	26.3	65	40.5	23.7	59	40 - 143

Analytical Batch 555687	Client ID	SRA-OMW-07-032415		SRA-OMW-07-032415 MS				SRA-OMW-07-032415 MSD				
	GCAL ID	21503263505		21503263506				21503263507				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/06/2015 19:00		04/06/2015 19:13				04/06/2015 19:21				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Methane	74-82-8	9.04	0.435	17.5	24.9	91	39 - 120	17.5	23.3	81	7	27
Surrogate												
Propene	115-07-1	33.7	83	40.5	34.7	86	40 - 143	40.5	32.4	80	7	NA

Analytical Batch 555687	Client ID	SRA-OMW-07-032415		SRA-OMW-07-032415 MS				SRA-OMW-07-032415 MSD				
	GCAL ID	21503263505		21503263506				21503263507				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/06/2015 19:33		04/06/2015 19:40				04/06/2015 19:48				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	85.5	2.60	3.28	84.8	**-21***	45 - 128	3.28	87.6	64	3	29
Ethene	74-85-1	42.4	2.14	3.06	42.2	**-7***	45 - 134	3.06	43.0	**20***	2	25

General Chemistry Quality Control Summary

Analytical Batch 555269	Client ID	MB555269		LCS555269			
	GCAL ID	1429497		1429498			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/31/2015 11:00		03/31/2015 11:00			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	28.7	115	80 - 120

Analytical Batch 555269	Client ID	DPMW-3S		1428327MS			
	GCAL ID	21503261501		1429499			
	Sample Type	SAMPLE		MS			
	Prep Date	NA		NA			
	Analysis Date	03/31/2015 11:00		03/31/2015 11:00			
	Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	28.7	115	75 - 125

Analytical Batch 555269	Client ID	JPMW-16		1428328DUP		
	GCAL ID	21503261502		1429500		
	Sample Type	SAMPLE		DUP		
	Prep Date	NA		NA		
	Analysis Date	03/31/2015 11:00		03/31/2015 11:00		
	Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

Analytical Batch 554992	Client ID	MB554992		LCS554992			
	GCAL ID	1428381		1428382			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/26/2015 14:21		03/26/2015 14:03			
	Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.36	94	80 - 120
Nitrate	14797-55-8	0.050U	0.050	2.50	2.43	97	80 - 120
Sulfate	14808-79-8	0.050U	0.050	2.50	2.56	102	80 - 120

Analytical Batch 554992	Client ID	WP003/WW-1 MW-102		WP003/WW-1 MW-102 MS				WP003/WW-1 MW-102 MSD				
	GCAL ID	21503170810		21503170811				21503170812				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/26/2015 21:19		03/26/2015 21:36				03/26/2015 21:53				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	9.97	0.500	25.0	37.9	112	80 - 120	25.0	38.1	112	0	15

Analytical Batch 554992	Client ID	DPMW-3S		1428327MS				1428327MSD				
	GCAL ID	21503261501		1428387				1428388				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/26/2015 14:38		03/26/2015 15:48				03/26/2015 16:05				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	1.39	0.050	2.50	3.91	101	80 - 120	2.50	3.92	101	0	15

General Chemistry Quality Control Summary

Analytical Batch 555063	Client ID	MB555063		LCS555063			
	GCAL ID	1428647		1428648			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	03/27/2015 14:24		03/27/2015 14:07			
	Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfate	14808-79-8	0.050U	0.050	2.50	2.44	98	80 - 120

Analytical Batch 555063	Client ID	DPMW-3S		1428327MS				1428327MSD				
	GCAL ID	21503261501		1428387				1428388				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/27/2015 22:47		03/27/2015 23:04				03/27/2015 23:22				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	79.2	1.00	50.0	131	104	80 - 120	50.0	131	103	0	15

Analytical Batch 555287	Client ID	MB555287		LCS555287				LCSD555287				
	GCAL ID	1429604		1429605				1430291				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	03/31/2015 18:42		03/31/2015 17:47				03/31/2015 23:14				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.30U	0.30	50.0	46.1	92	80 - 120	50.0	46.6	93	1	25

Analytical Batch 555287	Client ID	Ave C (003)		1428339MS				1428339MSD				
	GCAL ID	21503261803		1429606				1429607				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/01/2015 00:40		04/01/2015 00:58				04/01/2015 01:13				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	3.0	0.30	50.0	50.0	94	75 - 125	50.0	50.0	94	0	25

GCAL ANALYTICAL LABORATORIES, LLC

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CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215032615
Due Date: 04/07/15

Report to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta
Phone: 770-421-3400
E-mail: Jerry.gaccetta@amec.com

Bill to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta
Phone: 770-421-3400
E-mail: Jerry.gaccetta@amec.com

P.O. Number:
Project Name/Number: Woodall creek 6122130015
Sampled By: Mark Andrews and Daniel Morris

GCAL use only:
Custody Seal used ☐ yes ☐ no intact ☐ yes ☐ no
Temperature °C 2.8E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Analytical Requests & Method

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	Chloride / Sulfate	Sulfide	VOCs	TOCs	Methane, Ethane, Ethene	Preservative
							none	none	Zinc Acetate	HCl	HCl	HCl	
W	3/25/15	1020		✓	DPMW-3S	10	1	1	1	3	2	2	1
W	3/25/15	1332		✓	JPMW-16	10	1	1	1	3	2	2	2
W	3/25/15				TRIP Blank-2	3				3			3

Air Bill No: 7731 9047 8714

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:
Mark Andrews	3/25/15	1702			
FedEx	3-26-15	11:00	Dale McClure	3-26-15	11:00

Note: 48 Hr hold time for Nitrate

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

* 2 1 5 0 3 2 6 1 5 *

SAMPLE DELIVERY GROUP 215032615

Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Saucier, Charlotte M.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/26/15

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: E26	Temp(°C)
7731 9047 8714		2.8

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/09/2015

GCAL Report 215032703

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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.

Karen Mullennix, Data Auditor

Authorized Signature
GCAL Report 215032703

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215032703

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 for analytical batch 555266, the LCS and/or LCSD exhibited recoveries above the control limits for Vinyl acetate. This analyte was not detected in the associated samples. The %D/%Drift is outside ± 20% for Vinyl acetate in the CCV. The response is high and this analyte was not detected in the associated samples.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis for analytical batch 555687, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS recoveries are acceptable. The recoveries for the surrogates are not applicable for those analyses at a 10 or higher dilution.

CONVENTIONALS

In the EPA 9056A analysis, samples 21503270301 (JPMW-17) and 21503270302 (JPBRW-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
21503270301	JPMW-17	Water	03/26/2015 12:30	03/27/2015 10:30
21503270302	JPBRW-1	Water	03/26/2015 13:45	03/27/2015 10:30
21503270303	TRIP BLANK-3	Water	03/26/2015 00:00	03/27/2015 10:30

Summary of Compounds Detected

JPMW-17

Collect Date 03/26/2015 12:30 **GCAL ID** 21503270301
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	1.35J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.66J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	53.9	0.193	5.00	ug/L
79-01-6	Trichloroethene	7.45	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.82	0.500	2.00	mg/L
14797-55-8	Nitrate	3.40	0.050	0.200	mg/L
14808-79-8	Sulfate	40.8	0.500	2.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.95J	0.30	2.0	mg/L

JPBRW-1

Collect Date 03/26/2015 13:45 **GCAL ID** 21503270302
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	1.52J	0.120	5.00	ug/L
67-64-1	Acetone	10.2	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	30.7	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	104	0.193	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	4.30J	0.077	5.00	ug/L
79-01-6	Trichloroethene	101	0.161	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	1.52	0.087	1.00	ug/L
74-85-1	Ethene	11.6	0.071	1.00	ug/L

Summary of Compounds Detected

JPBRW-1	**Collect Date**	03/26/2015 13:45	**GCAL ID**	21503270302
	Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	31.2	0.500	2.00	mg/L
14808-79-8	Sulfate	17.4	0.500	2.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	3.6	0.30	2.0	mg/L

Sample Results

JPMW-17	**Collect Date**	03/26/2015 12:30	**GCAL ID**	21503270301
	Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 16:48	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**1.35J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.66J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**53.9**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**7.45**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

JPMW-17	**Collect Date**	03/26/2015 12:30	**GCAL ID**	21503270301
	Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 16:48	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.8	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	49.4	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	52.1	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 19:54	BMR	555687

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	30.5	ug/L	75	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 14:42	DMT	555063

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**3.40**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/30/2015 20:52	RXJ	555221

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**9.82**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**40.8**	**0.500**	**2.00**	**mg/L**

Sample Results

JPMW-17

Collect Date 03/26/2015 12:30 **GCAL ID** 21503270301
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 16:34	KLC2	555416

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**0.95J**	**0.30**	**2.0**	**mg/L**

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 11:00	KGL2	555269

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

JPBRW-1

Collect Date 03/26/2015 13:45 **GCAL ID** 21503270302
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 17:11	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**1.52J**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**10.2**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

JPBRW-1	**Collect Date**	03/26/2015 13:45	**GCAL ID**	21503270302
	Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 17:11	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**30.7**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**104**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**4.30J**	**0.077**	**5.00**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**101**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.4	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	54.6	ug/L	109	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 20:02	BMR	555687

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	**Ethane**	**1.52**	**0.087**	**1.00**	**ug/L**
74-85-1	**Ethene**	**11.6**	**0.071**	**1.00**	**ug/L**
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	39.6	ug/L	98	40 - 143

Sample Results

JPBRW-1

Collect Date 03/26/2015 13:45 **GCAL ID** 21503270302
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/27/2015 14:59	DMT	555063

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.050U	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	03/30/2015 21:09	RXJ	555221

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**31.2**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**17.4**	**0.500**	**2.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 17:00	KLC2	555416

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**3.6**	**0.30**	**2.0**	**mg/L**

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 11:00	KGL2	555269

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-3

Collect Date 03/26/2015 00:00 **GCAL ID** 21503270303
Receive Date 03/27/2015 10:30 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 17:33	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

TRIP BLANK-3

Collect Date	03/26/2015 00:00	**GCAL ID**	21503270303
Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 17:33	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

TRIP BLANK-3

Collect Date	03/26/2015 00:00	**GCAL ID**	21503270303
Receive Date	03/27/2015 10:30	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	03/31/2015 17:33	LBH	555266

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.1	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	51.7	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.2	ug/L	106	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555266	Client ID	MB555266	LCS555266	LCSD555266
	GCAL ID	1429485	1429486	1429487
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	03/31/2015 10:42	03/31/2015 08:48	03/31/2015 09:12
	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	50.2	100	76 - 126	50.0	55.9	112	11	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	48.8	98	70 - 122	50.0	50.2	100	3	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.2	102	72 - 121	50.0	51.3	103	0	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	52.7	105	74 - 127	50.0	54.1	108	3	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	47.0	94	69 - 129	50.0	52.9	106	12	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	53.5	107	61 - 135	50.0	57.5	115	7	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	54.1	108	57 - 121	50.0	51.1	102	6	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	55.1	110	70 - 124	50.0	55.6	111	1	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	50.0	100	71 - 126	50.0	50.9	102	2	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	50.7	101	71 - 129	50.0	51.4	103	1	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	53.6	107	72 - 128	50.0	55.9	112	4	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.4	101	74 - 126	50.0	53.3	107	6	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	49.2	98	72 - 122	50.0	51.9	104	5	30
2-Butanone	78-93-3	0.142U	0.142	50.0	48.6	97	58 - 137	50.0	46.3	93	5	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	51.7	103	56 - 124	50.0	58.2	116	12	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	49.8	100	50 - 135	50.0	47.8	96	4	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	50.7	101	57 - 132	50.0	50.0	100	1	30
Acetone	67-64-1	0.193U	0.193	50.0	41.9	84	44 - 156	50.0	40.3	81	4	30
Benzene	71-43-2	0.111U	0.111	50.0	50.7	101	70 - 129	50.0	53.7	107	6	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	53.1	106	74 - 125	50.0	54.0	108	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	54.2	108	64 - 122	50.0	55.0	110	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	38.0	76	47 - 138	50.0	47.0	94	21	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	48.0	96	69 - 136	50.0	54.4	109	13	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	50.1	100	76 - 128	50.0	57.5	115	14	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	51.0	102	74 - 123	50.0	54.5	109	7	20
Chloroethane	75-00-3	0.235U	0.235	50.0	49.2	98	62 - 141	50.0	53.1	106	8	30
Chloroform	67-66-3	0.155U	0.155	50.0	51.0	102	75 - 122	50.0	53.0	106	4	30
Chloromethane	74-87-3	0.144U	0.144	50.0	52.7	105	59 - 132	50.0	57.3	115	8	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	51.9	104	73 - 130	50.0	53.2	106	2	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	48.7	97	71 - 132	50.0	50.3	101	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	47.2	94	69 - 132	50.0	56.2	112	17	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	52.2	104	71 - 123	50.0	52.9	106	1	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	52.4	105	58 - 140	50.0	64.2	128	20	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	50.9	102	74 - 126	50.0	56.5	113	10	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	51.9	104	71 - 125	50.0	57.9	116	11	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	100	100	74 - 126	100	109	109	9	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	48.3	97	57 - 139	50.0	50.5	101	4	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	47.1	94	67 - 138	50.0	56.4	113	18	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.7	95	68 - 132	50.0	48.8	98	2	30
o-Xylene	95-47-6	0.055U	0.055	50.0	51.1	102	73 - 130	50.0	54.1	108	6	30
Styrene	100-42-5	0.089U	0.089	50.0	53.3	107	71 - 127	50.0	56.2	112	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	49.6	99	71 - 125	50.0	49.2	98	1	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	48.1	96	68 - 128	50.0	55.6	111	14	30
Toluene	108-88-3	0.122U	0.122	50.0	48.6	97	72 - 120	50.0	52.4	105	8	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	48.8	98	69 - 132	50.0	52.0	104	6	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	48.0	96	71 - 131	50.0	48.6	97	1	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	50.3	101	76 - 129	50.0	54.1	108	7	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	46.5	93	72 - 136	50.0	56.5	113	19	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	43.2	86	72 - 136	50.0	52.3	105	19	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	73.8	**148***	54 - 147	50.0	67.8	136	8	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	47.1	94	68 - 132	50.0	55.6	111	17	30
Xylene (total)	1330-20-7	0.179U	0.179	150	151	101	74 - 127	150	163	109	8	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	49.5	99	50	51.2	102	71 - 127	50	49.4	99	4	NA
4-Bromofluorobenzene	460-00-4	48.1	96	50	53.2	106	78 - 130	50	52.5	105	1	NA
Dibromofluoromethane	1868-53-7	50.4	101	50	50.9	102	77 - 127	50	50	100	2	NA
Toluene d8	2037-26-5	50.9	102	50	49.2	98	76 - 134	50	49.2	98	0	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 555266	Client ID	MW-3	MW-3 DUPLICATE WELL-MS	MW-3 DUPLICATE WELL-MSD
	GCAL ID	21503262203	21503262204	21503262205
	Sample Type	SAMPLE	MS	MSD
	Prep Date	NA	NA	NA
	Analysis Date	03/31/2015 11:05	03/31/2015 13:43	03/31/2015 14:06
	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
Acetone	67-64-1	6.23	0.193	50.0	52.6	93	44 - 156	50.0	53.0	94	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.4	101	50	52.4	105	71 - 127	50	53.9	108	3	NA
4-Bromofluorobenzene	460-00-4	48.3	97	50	51.9	104	78 - 130	50	52.3	105	1	NA
Dibromofluoromethane	1868-53-7	50.5	101	50	52.4	105	77 - 127	50	52.4	105	0	NA
Toluene d8	2037-26-5	50.5	101	50	49.8	100	76 - 134	50	49.6	99	0	NA

GC Volatiles Quality Control Summary

Analytical Batch 555687		Client ID	MB555687		LCS555687			
		GCAL ID	1431577		1431578			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/06/2015 17:38		04/06/2015 17:50			
		Matrix	Water		Water			
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	
Ethane	74-84-0	0.087U	0.087	3.28	2.89	88	45 - 128	
Ethene	74-85-1	0.071U	0.071	3.06	2.64	86	45 - 134	
Methane	74-82-8	0.435U	0.435	17.5	14.1	81	39 - 120	
Surrogate								
Propene	115-07-1	26.3	65	40.5	23.7	59	40 - 143	

Analytical Batch 555687		Client ID	SRA-OMW-07-032415		SRA-OMW-07-032415 MS				SRA-OMW-07-032415 MSD				
		GCAL ID	21503263505		21503263506				21503263507				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/06/2015 19:00		04/06/2015 19:13				04/06/2015 19:21				
		Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Methane	74-82-8	9.04	0.435	17.5	24.9	91	39 - 120		17.5	23.3	81	7	27
Surrogate													
Propene	115-07-1	33.7	83	40.5	34.7	86	40 - 143		40.5	32.4	80	7	NA

Analytical Batch 555687		Client ID	SRA-OMW-07-032415		SRA-OMW-07-032415 MS				SRA-OMW-07-032415 MSD				
		GCAL ID	21503263505		21503263506				21503263507				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/06/2015 19:33		04/06/2015 19:40				04/06/2015 19:48				
		Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R		Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	85.5	2.60	3.28	84.8	**-21***	45 - 128		3.28	87.6	64	3	29
Ethene	74-85-1	42.4	2.14	3.06	42.2	**-7***	45 - 134		3.06	43.0	**20***	2	25

General Chemistry Quality Control Summary

Analytical Batch 555269		Client ID	MB555269		LCS555269			
		GCAL ID	1429497		1429498			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/31/2015 11:00		03/31/2015 11:00			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	28.7	115	80 - 120

Analytical Batch 555269		Client ID	DPMW-3S		1428327MS			
		GCAL ID	21503261501		1429499			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	03/31/2015 11:00		03/31/2015 11:00			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	28.7	115	75 - 125

Analytical Batch 555269		Client ID	JPMW-16		1428328DUP		
		GCAL ID	21503261502		1429500		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	03/31/2015 11:00		03/31/2015 11:00		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555063		Client ID	MB555063		LCS555063			
		GCAL ID	1428647		1428648			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/27/2015 14:24		03/27/2015 14:07			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8	0.050U	0.050		2.50	2.47	99	80 - 120

Analytical Batch 555221		Client ID	MB555221		LCS555221			
		GCAL ID	1429373		1429374			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	03/30/2015 16:30		03/30/2015 16:13			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050		2.50	2.27	91	80 - 120
Sulfate	14808-79-8	0.050U	0.050		2.50	2.48	99	80 - 120

Analytical Batch 555221		Client ID	SRA-OMW-07-032415		SRA-OMW-07-032415 MS				SRA-OMW-07-032415 MSD				
		GCAL ID	21503263505		21503263506				21503263507				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	03/30/2015 19:25		03/30/2015 20:17				03/30/2015 20:34				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	48.4	2.50		125	166	94	80 - 120	125	167	95	0	15
Sulfate	14808-79-8	12.9	2.50		125	136	99	80 - 120	125	136	98	1	15

General Chemistry Quality Control Summary

Analytical Batch 555416	Client ID	MB555416		LCS555416			
	GCAL ID	1430254		1430255			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	04/02/2015 09:43		04/02/2015 08:41			
	Matrix	Water		Water			
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.5	95	80 - 120

Analytical Batch 555416	Client ID	SS028-B-TW6		1429227MS				1429227MSD				
	GCAL ID	21503300705		1430258				1430259				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/02/2015 18:02		04/02/2015 18:29				04/02/2015 18:52				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	319	3.0	500	792	95	75 - 125	500	812	99	3	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215032703
Due Date: 04/08/15

Report to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta
Phone: 770-421-3400
E-mail: Jerry.Gaccetta@amec.com

Bill to:
Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta
Phone: 770-421-3400
E-mail: Jerry.Gaccetta@amec.com

P.O. Number:
Project Name/Number: Woodall Creek 6122130015

Sampled By: Mark Andrews and Daniel Morris

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 1.6 E26

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate (none)	Chloride/Sulfate (none)	Sulfide (ZnAc+NaOH)	VOCs (HCl)	TOCs (HCl)	Methane, Ethane, Ethene (HCl)	Preservative
W	3/26/15	1230		✓	JPMW-17	10	1	1	1	3	2	2	1
W	3/24/15	1345		✓	JPBRW-1	10	1	1	1	3	2	2	2
W	3/24/15				Trip Blank-3	2				2			3

Air Bill No: 7731 9047 9938

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]	3/26/15	1645			
Fed Ex	3/27/15	1030	[signature]	3/27/15	1030

Note: 48hr hold time Nitrate

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

215032703

SAMPLE DELIVERY GROUP 215032703

Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Saucier, Charlotte M.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 03/27/15

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: E26	Temp(°C)
7731 9047 9938		1.6

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 215040121

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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.

Curtis Ekker
Authorized Signature
GCAL Report 215040121

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040121

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 for analytical batch 555454, the %D/%Drift is outside ± 30% for Bromomethane in the CCV. The response is high and this analyte was not detected in the associated samples.

In the EPA 8260B analysis, sample 21504012101 (JPMW-21) 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 555454, the LCS and/or LCSD recoveries are above the upper control limit for Bromomethane. This compound was not detected in the associated samples.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504012101 (JPMW-21), 21504012102 (SMFDS-1), 21504012103 (RPMW-2) and 21504012104 (DPMW-10) 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
21504012101	JPMW-21	Water	03/31/2015 12:35	04/01/2015 10:50
21504012102	SMFDS-1	Water	03/31/2015 13:10	04/01/2015 10:50
21504012103	RPMW-2	Water	03/31/2015 15:10	04/01/2015 10:50
21504012104	DPMW-10	Water	03/31/2015 16:31	04/01/2015 10:50
21504012105	TRIP BLANK-5	Water	03/31/2015 00:00	04/01/2015 10:50

Summary of Compounds Detected

JPMW-21

Collect Date 03/31/2015 12:35 **GCAL ID** 21504012101
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.808J	0.416	10.0	ug/L
75-27-4	Bromodichloromethane	2.68J	0.167	10.0	ug/L
67-66-3	Chloroform	18.6	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	35.8	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	178	0.385	10.0	ug/L
79-01-6	Trichloroethene	28.5	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	15.4	0.500	2.00	mg/L
14797-55-8	Nitrate	1.44	0.050	0.200	mg/L
14808-79-8	Sulfate	8.50	0.500	2.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.48J	0.30	2.0	mg/L

SMFDS-1

Collect Date 03/31/2015 13:10 **GCAL ID** 21504012102
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	3.64J	0.193	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	2.72	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	8.81	1.00	4.00	mg/L

Summary of Compounds Detected

SMFDS-1

Collect Date 03/31/2015 13:10 **GCAL ID** 21504012102
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 9056A (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	Sulfate	94.6	1.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	2.3	0.30	2.0	mg/L

RPMW-2

Collect Date 03/31/2015 15:10 **GCAL ID** 21504012103
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	4.16J	0.193	5.00	ug/L
79-01-6	Trichloroethene	1.06J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	8.11	0.250	1.00	mg/L
14808-79-8	Sulfate	14.2	0.250	1.00	mg/L

DPMW-10

Collect Date 03/31/2015 16:31 **GCAL ID** 21504012104
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	4.41J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.93J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	54.1	0.193	5.00	ug/L
79-01-6	Trichloroethene	5.09	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	6.07	0.500	2.00	mg/L
14797-55-8	Nitrate	2.06	0.050	0.200	mg/L

Summary of Compounds Detected

DPMW-10	**Collect Date**	03/31/2015 16:31	**GCAL ID**	21504012104
	Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 9056A (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	Sulfate	46.1	0.500	2.00	mg/L

Sample Results

JPMW-21	**Collect Date**	03/31/2015 12:35	**GCAL ID**	21504012101
	Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/02/2015 21:44	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	**1,1-Dichloroethene**	**0.808J**	**0.416**	**10.0**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	**Bromodichloromethane**	**2.68J**	**0.167**	**10.0**	**ug/L**
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**18.6**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**35.8**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**178**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**28.5**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

JPMW-21	**Collect Date**	03/31/2015 12:35	**GCAL ID**	21504012101
	Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/02/2015 21:44	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	109	ug/L	109	78 - 130
1868-53-7	Dibromofluoromethane	100	106	ug/L	106	77 - 127
2037-26-5	Toluene d8	100	106	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	93.8	ug/L	94	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 20:17	BMR	555883

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.8	ug/L	71	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/01/2015 15:12	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.44**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/02/2015 10:36	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**15.4**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**8.50**	**0.500**	**2.00**	**mg/L**

Sample Results

JPMW-21

Collect Date	03/31/2015 12:35	**GCAL ID**	21504012101
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 18:59	KGL2	555555

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.48J	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

SMFDS-1

Collect Date	03/31/2015 13:10	**GCAL ID**	21504012102
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:14	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

SMFDS-1

Collect Date	03/31/2015 13:10	**GCAL ID**	21504012102
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:14	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**3.64J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	56.3	ug/L	113	78 - 130
1868-53-7	Dibromofluoromethane	50	54.2	ug/L	108	77 - 127
2037-26-5	Toluene d8	50	52.5	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.1	ug/L	100	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 20:23	BMR	555883

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**2.72**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	33.7	ug/L	83	40 - 143

Sample Results

SMFDS-1

Collect Date 03/31/2015 13:10 **GCAL ID** 21504012102
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/01/2015 16:05	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.050U	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	04/02/2015 11:28	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**8.81**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**94.6**	**1.00**	**4.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 19:29	KGL2	555555

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**2.3**	**0.30**	**2.0**	**mg/L**

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

RPMW-2

Collect Date 03/31/2015 15:10 **GCAL ID** 21504012103
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:35	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

RPMW-2

Collect Date	03/31/2015 15:10	**GCAL ID**	21504012103
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:35	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**4.16J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**1.06J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

RPMW-2

Collect Date	03/31/2015 15:10	**GCAL ID**	21504012103
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:35	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	56	ug/L	112	78 - 130
1868-53-7	Dibromofluoromethane	50	55.1	ug/L	110	77 - 127
2037-26-5	Toluene d8	50	52.6	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.6	ug/L	97	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 20:31	BMR	555883

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.8	ug/L	74	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/01/2015 16:22	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.050U	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/02/2015 11:45	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**8.11**	**0.250**	**1.00**	**mg/L**
14808-79-8	**Sulfate**	**14.2**	**0.250**	**1.00**	**mg/L**

Sample Results

RPMW-2

Collect Date 03/31/2015 15:10 **GCAL ID** 21504012103
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 21:23	KGL2	555555

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DPMW-10

Collect Date 03/31/2015 16:31 **GCAL ID** 21504012104
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:56	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**4.41J**	**0.155**	**5.00**	**ug/L**

Sample Results

DPMW-10	**Collect Date**	03/31/2015 16:31	**GCAL ID**	21504012104
	Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:56	JCK	555454

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.93J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**54.1**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**5.09**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	57.6	ug/L	115	78 - 130
1868-53-7	Dibromofluoromethane	50	54.5	ug/L	109	77 - 127
2037-26-5	Toluene d8	50	52.2	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.8	ug/L	100	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 20:38	BMR	555883

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	34.8	ug/L	86	40 - 143

Sample Results

DPMW-10

Collect Date 03/31/2015 16:31 **GCAL ID** 21504012104
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/01/2015 16:39	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	2.06	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/02/2015 12:03	DMT	555382

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	6.07	0.500	2.00	mg/L
14808-79-8	Sulfate	46.1	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 12:53	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-5

Collect Date 03/31/2015 00:00 **GCAL ID** 21504012105
Receive Date 04/01/2015 10:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 20:17	TJB	555454

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

TRIP BLANK-5

Collect Date	03/31/2015 00:00	**GCAL ID**	21504012105
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 20:17	TJB	555454

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

TRIP BLANK-5

Collect Date	03/31/2015 00:00	**GCAL ID**	21504012105
Receive Date	04/01/2015 10:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 20:17	TJB	555454

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	57.4	ug/L	115	78 - 130
1868-53-7	Dibromofluoromethane	50	54.5	ug/L	109	77 - 127
2037-26-5	Toluene d8	50	53.4	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.2	ug/L	98	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555454		Client ID	MB555454	LCS555454				LCSD555454				
		GCAL ID	1430424	1430425				1430426				
		Sample Type	MB	LCS				LCSD				
		Prep Date	NA	NA				NA				
		Analysis Date	04/02/2015 13:56	04/02/2015 12:05				04/02/2015 12:26				
		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	47.4	95	76 - 126	50.0	45.2	90	5	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	43.1	86	70 - 122	50.0	44.6	89	3	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	49.3	99	72 - 121	50.0	48.7	97	1	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	56.6	113	74 - 127	50.0	54.6	109	4	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	56.5	113	69 - 129	50.0	54.0	108	5	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	45.2	90	61 - 135	50.0	45.1	90	0	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	43.1	86	57 - 121	50.0	45.2	90	5	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	47.6	95	70 - 124	50.0	47.5	95	0	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	45.6	91	71 - 126	50.0	45.8	92	0	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	47.4	95	71 - 129	50.0	45.3	91	5	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	43.3	87	72 - 128	50.0	42.5	85	2	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	46.4	93	74 - 126	50.0	45.0	90	3	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	47.1	94	72 - 122	50.0	45.3	91	4	30
2-Butanone	78-93-3	0.142U	0.142	50.0	37.9	76	58 - 137	50.0	40.1	80	6	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	42.0	84	56 - 124	50.0	43.6	87	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	37.1	74	50 - 135	50.0	40.3	81	8	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	39.6	79	57 - 132	50.0	40.0	80	1	30
Acetone	67-64-1	0.193U	0.193	50.0	46.1	92	44 - 156	50.0	49.3	99	7	30
Benzene	71-43-2	0.111U	0.111	50.0	48.8	98	70 - 129	50.0	45.2	90	8	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.0	100	74 - 125	50.0	47.8	96	4	30
Bromoform	75-25-2	0.215U	0.215	50.0	52.6	105	64 - 122	50.0	51.8	104	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	83.8	**168***	47 - 138	50.0	84.9	**170***	1	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	55.1	110	69 - 136	50.0	53.1	106	4	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	49.7	99	76 - 128	50.0	46.1	92	8	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	49.9	100	74 - 123	50.0	48.6	97	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	50.6	101	62 - 141	50.0	50.7	101	0	30
Chloroform	67-66-3	0.155U	0.155	50.0	49.8	100	75 - 122	50.0	48.5	97	3	30
Chloromethane	74-87-3	0.144U	0.144	50.0	40.2	80	59 - 132	50.0	43.0	86	7	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	45.5	91	73 - 130	50.0	45.0	90	1	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	48.7	97	71 - 132	50.0	47.6	95	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	44.6	89	69 - 132	50.0	41.0	82	8	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	50.1	100	71 - 123	50.0	49.6	99	1	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	53.9	108	58 - 140	50.0	51.2	102	5	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	49.9	100	74 - 126	50.0	47.6	95	5	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	50.8	102	71 - 125	50.0	48.5	97	5	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	106	106	74 - 126	100	102	102	4	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	42.3	85	57 - 139	50.0	47.0	94	11	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	49.1	98	67 - 138	50.0	44.2	88	11	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	52.5	105	68 - 132	50.0	51.5	103	2	30
o-Xylene	95-47-6	0.055U	0.055	50.0	51.2	102	73 - 130	50.0	50.1	100	2	30
Styrene	100-42-5	0.089U	0.089	50.0	53.6	107	71 - 127	50.0	50.8	102	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	53.1	106	71 - 125	50.0	53.0	106	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	50.9	102	68 - 128	50.0	48.9	98	4	30
Toluene	108-88-3	0.122U	0.122	50.0	49.3	99	72 - 120	50.0	46.9	94	5	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	55.1	110	69 - 132	50.0	53.6	107	3	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	50.3	101	71 - 131	50.0	48.0	96	5	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	52.1	104	76 - 129	50.0	49.2	98	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	62.4	125	72 - 136	50.0	55.3	111	12	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	56.3	113	72 - 136	50.0	51.8	104	8	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	56.5	113	54 - 147	50.0	54.5	109	4	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	47.2	94	68 - 132	50.0	48.7	97	3	30
Xylene (total)	1330-20-7	0.179U	0.179	150	157	105	74 - 127	150	152	101	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	49.3	99	50	50.4	101	71 - 127	50	49.5	99	2	NA
4-Bromofluorobenzene	460-00-4	56.7	113	50	54.3	109	78 - 130	50	54.2	108	0	NA
Dibromofluoromethane	1868-53-7	52.5	105	50	53.1	106	77 - 127	50	52	104	2	NA
Toluene d8	2037-26-5	52.9	106	50	48.9	98	76 - 134	50	49.3	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 555883	Client ID	MB555883		LCS555883				LCSD555883				
	GCAL ID	1432573		1432574				1432575				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/08/2015 19:41		04/08/2015 20:03				04/08/2015 20:09				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.49	76	45 - 128	3.28	2.66	81	7	29
Ethene	74-85-1	0.071U	0.071	3.06	2.47	81	45 - 134	3.06	2.46	80	0	25
Methane	74-82-8	0.435U	0.435	17.5	12.9	74	39 - 120	17.5	13.4	77	4	27
Surrogate												
Propene	115-07-1	34.6	85	40.5	24.6	61	40 - 143	40.5	25.2	62	2	NA

General Chemistry Quality Control Summary

Analytical Batch 555589		Client ID	MB555589		LCS555589			
		GCAL ID	1431227		1431228			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	28.5	114	80 - 120

Analytical Batch 555589		Client ID	JPMW-22		1429511MS			
		GCAL ID	21503310701		1431229			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	28.3	113	75 - 125

Analytical Batch 555589		Client ID	JPMW-23		1429512DUP		
		GCAL ID	21503310702		1431230		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555382		Client ID	MB555382		LCS555382			
		GCAL ID	1430012		1430013			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/01/2015 14:55		04/01/2015 14:38			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050		2.50	2.35	94	80 - 120
Nitrate	14797-55-8	0.050U	0.050		2.50	2.29	92	80 - 120
Sulfate	14808-79-8	0.050U	0.050		2.50	2.48	99	80 - 120

Analytical Batch 555382		Client ID	JPMW-21		1429966MS				1429966MSD				
		GCAL ID	21504012101		1430014				1430015				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/01/2015 15:12		04/01/2015 15:30				04/01/2015 15:47				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	1.44	0.050		2.50	4.02	103	80 - 120	2.50	4.03	103	0	15

Analytical Batch 555555		Client ID	MB555555		LCS555555			
		GCAL ID	1431064		1431065			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 08:21		04/04/2015 07:25			
		Matrix	Water		Water			
EPA 9060A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30		50.0	49.6	99	80 - 120

General Chemistry Quality Control Summary

Analytical Batch 555555	Client ID	Ave C (003)		1430453MS				1430453MSD				
	GCAL ID	21504023703		1431066				1431067				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/04/2015 09:28		04/04/2015 09:49				04/04/2015 10:08				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	4.4	0.30	50.0	53.8	99	75 - 125	50.0	56.1	103	4	25

Analytical Batch 555555	Client ID	Ave H (004)		1430455MS				1430455MSD				
	GCAL ID	21504023705		1431068				1431069				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/04/2015 21:53		04/04/2015 22:13				04/04/2015 22:29				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	3.1	0.30	50.0	55.8	106	75 - 125	50.0	55.9	106	0	25

Analytical Batch 555639	Client ID	MB555639		LCS555639			
	GCAL ID	1431401		1431402			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	04/06/2015 12:26		04/06/2015 11:05			
	Matrix	Water		Water			
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.7	95	80 - 120

Analytical Batch 555639	Client ID	DPMW-10		1429969MS				1429969MSD				
	GCAL ID	21504012104		1431403				1431404				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/06/2015 12:53		04/06/2015 13:23				04/06/2015 13:53				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.00	0.30	50.0	45.4	91	75 - 125	50.0	49.4	99	8	25

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
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CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040121
Due Date: 04/10/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta	Contact: Jerry Gaccetta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.gaccetta@amec.com	E-mail: Jerry.gaccetta@amec.com

P.O. Number:

Project Name/Number: Woodall Creek 6122/30015

Sampled By: Mark A. & Ever G.

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 2.5 E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate NONE	Chloride/Sulfate NONE	Sul Fide ZnAc + NaOH	VOCs HCl	TOC HCl	Methane, Ethane, Ethene HCl	Preservative
W	3/31/15	1235		✓	JPMW-21	10	1	1	1	3	2	2	1
W	3/31/15	1310		✓	SMFDS-1	10	1	1	1	3	2	2	2
W	3/31/15	1510		✓	RPMW-2	10	1	1	1	3	2	2	3
W	3/31/15	1631		✓	DPMW-10	10	1	1	1	3	2	2	4
W	3/31/15				Trip Blank-5	3				3			5

Air Bill No: 7731 4047 8438

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]	3/31/15	1856	FED EX	3/31/15	1856
FED EX	4/1/15	10 50	[signature]	4/1/15	1050
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 48 hr hold time Nitrate

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

215040121

SAMPLE DELIVERY GROUP 215040121	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Saucier, Charlotte M.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/01/15

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)
7731 9047 8438		2.5

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/14/2015

GCAL Report 215040225

Deliver To	AMEC E&I 396 Plasters Ave NE Atlanta, GA 30324 770-547-4409
Attn	Daniel Morris

Project Woodall Creek

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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 215040225

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040225

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, samples 21504022501 (RPMW-14), 21504022504 (RPMW-24) and 21504022502 (RPMW-15) 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.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504022504 (RPMW-24), 21504022501 (RPMW-14), 21504022502 (RPMW-15) and 21504022503 (GPMW-11) 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
21504022501	RPMW-14	Water	04/01/2015 13:16	04/02/2015 10:00
21504022502	RPMW-15	Water	04/01/2015 13:40	04/02/2015 10:00
21504022503	GPMW-11	Water	04/01/2015 16:22	04/02/2015 10:00
21504022504	RPMW-24	Water	04/01/2015 16:30	04/02/2015 10:00
21504022505	TRIP BLANK-6	Water	04/01/2015 00:00	04/02/2015 10:00

Summary of Compounds Detected

RPMW-14

Collect Date 04/01/2015 13:16 **GCAL ID** 21504022501
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.33J	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	372	0.385	10.0	ug/L
79-01-6	Trichloroethene	128	0.323	10.0	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	1.07J	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	13.9	0.500	2.00	mg/L
14797-55-8	Nitrate	2.39	0.050	0.200	mg/L
14808-79-8	Sulfate	23.5	0.500	2.00	mg/L

RPMW-15

Collect Date 04/01/2015 13:40 **GCAL ID** 21504022502
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.10J	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	334	0.385	10.0	ug/L
79-01-6	Trichloroethene	121	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.4	0.500	2.00	mg/L
14797-55-8	Nitrate	1.92	0.050	0.200	mg/L
14808-79-8	Sulfate	26.3	0.500	2.00	mg/L

Summary of Compounds Detected

GPMW-11

Collect Date 04/01/2015 16:22 **GCAL ID** 21504022503
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	1.07J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.15J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	29.3	0.193	5.00	ug/L
79-01-6	Trichloroethene	4.83J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	8.73	0.500	2.00	mg/L
14797-55-8	Nitrate	2.18	0.050	0.200	mg/L
14808-79-8	Sulfate	33.4	0.500	2.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	1.0J	0.30	2.0	mg/L

RPMW-24

Collect Date 04/01/2015 16:30 **GCAL ID** 21504022504
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	2.23J	0.775	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	33.5	0.517	25.0	ug/L
127-18-4	Tetrachloroethene	864	0.963	25.0	ug/L
79-01-6	Trichloroethene	256	0.807	25.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	24.7	0.500	2.00	mg/L
14797-55-8	Nitrate	4.93	0.100	0.400	mg/L
14808-79-8	Sulfate	40.8	0.500	2.00	mg/L

Sample Results

RPMW-14

Collect Date	04/01/2015 13:16	**GCAL ID**	21504022501
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/04/2015 00:55	CLH	555553

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	Chloroform	0.310U	0.310	10.0	ug/L
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.33J**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**372**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**128**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

RPMW-14

Collect Date	04/01/2015 13:16	**GCAL ID**	21504022501
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/04/2015 00:55	CLH	555553

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	97.9	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	100	108	ug/L	108	77 - 127
2037-26-5	Toluene d8	100	104	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	105	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 19:49	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**1.07J**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.3	ug/L	72	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:15	DMT	555451

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.39**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/14/2015 13:57	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**13.9**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**23.5**	**0.500**	**2.00**	**mg/L**

Sample Results

RPMW-14

Collect Date 04/01/2015 13:16 **GCAL ID** 21504022501
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 14:56	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

RPMW-15

Collect Date 04/01/2015 13:40 **GCAL ID** 21504022502
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 21:22	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	Chloroform	0.310U	0.310	10.0	ug/L

Sample Results

RPMW-15	**Collect Date**	04/01/2015 13:40	**GCAL ID**	21504022502
	Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 21:22	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.10J**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**334**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**121**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	97.6	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	100	103	ug/L	103	77 - 127
2037-26-5	Toluene d8	100	101	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	102	ug/L	102	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 19:53	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	31.4	ug/L	78	40 - 143

Sample Results

RPMW-15

Collect Date 04/01/2015 13:40 **GCAL ID** 21504022502
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:32	DMT	555451

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	1.92	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/14/2015 14:49	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.4	0.500	2.00	mg/L
14808-79-8	Sulfate	26.3	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 15:22	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

GPMW-11

Collect Date 04/01/2015 16:22 **GCAL ID** 21504022503
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 21:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

GPMW-11

Collect Date	04/01/2015 16:22	**GCAL ID**	21504022503
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 21:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**1.07J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.15J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**29.3**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**4.83J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

GPMW-11

Collect Date	04/01/2015 16:22	**GCAL ID**	21504022503
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 21:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.3	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:00	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.2	ug/L	70	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/02/2015 19:50	DMT	555451

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.18**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/14/2015 15:06	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**8.73**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**33.4**	**0.500**	**2.00**	**mg/L**

Sample Results

GPMW-11

Collect Date 04/01/2015 16:22 **GCAL ID** 21504022503
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 15:46	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	1.0J	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

RPMW-24

Collect Date 04/01/2015 16:30 **GCAL ID** 21504022504
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/04/2015 04:06	CLH	555553

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	25.0	ug/L
75-34-3	1,1-Dichloroethane	0.856U	0.856	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.04U	1.04	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	25.0	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	25.0	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	25.0	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	25.0	ug/L
78-93-3	2-Butanone	0.711U	0.711	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.729U	0.729	25.0	ug/L
591-78-6	2-Hexanone	0.612U	0.612	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	25.0	ug/L
67-64-1	Acetone	0.967U	0.967	25.0	ug/L
71-43-2	Benzene	0.555U	0.555	25.0	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	25.0	ug/L
75-25-2	Bromoform	1.08U	1.08	25.0	ug/L
74-83-9	Bromomethane	2.14U	2.14	25.0	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	25.0	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	25.0	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	25.0	ug/L
75-00-3	Chloroethane	1.18U	1.18	25.0	ug/L
67-66-3	Chloroform	2.23J	0.775	25.0	ug/L

Sample Results

RPMW-24

Collect Date	04/01/2015 16:30	**GCAL ID**	21504022504
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/04/2015 04:06	CLH	555553

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.718U	0.718	25.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**33.5**	**0.517**	**25.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	25.0	ug/L
110-82-7	Cyclohexane	1.69U	1.69	25.0	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	25.0	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	25.0	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	25.0	ug/L
136777-61-2	m,p-Xylene	0.617U	0.617	50.0	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	25.0	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	25.0	ug/L
75-09-2	Methylene chloride	0.745U	0.745	25.0	ug/L
95-47-6	o-Xylene	0.277U	0.277	25.0	ug/L
100-42-5	Styrene	0.447U	0.447	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	25.0	ug/L
127-18-4	**Tetrachloroethene**	**864**	**0.963**	**25.0**	**ug/L**
108-88-3	Toluene	0.609U	0.609	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.385U	0.385	25.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	25.0	ug/L
79-01-6	**Trichloroethene**	**256**	**0.807**	**25.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	25.0	ug/L
108-05-4	Vinyl acetate	0.755U	0.755	25.0	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	25.0	ug/L
1330-20-7	Xylene (total)	0.894U	0.894	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	247	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	250	266	ug/L	106	77 - 127
2037-26-5	Toluene d8	250	262	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	260	ug/L	104	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:06	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.2	ug/L	70	40 - 143

Sample Results

RPMW-24

Collect Date 04/01/2015 16:30 **GCAL ID** 21504022504
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/03/2015 08:41	RXJ	555451

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	4.93	0.100	0.400	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/14/2015 15:24	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	24.7	0.500	2.00	mg/L
14808-79-8	Sulfate	40.8	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 16:09	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:15	KGL2	555589

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-6

Collect Date 04/01/2015 00:00 **GCAL ID** 21504022505
Receive Date 04/02/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 22:02	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

TRIP BLANK-6

Collect Date	04/01/2015 00:00	**GCAL ID**	21504022505
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 22:02	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

TRIP BLANK-6

Collect Date	04/01/2015 00:00	**GCAL ID**	21504022505
Receive Date	04/02/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 22:02	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.8	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	52.4	ug/L	105	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555553	Client ID	MB555553	LCS555553	LCSD555553
	GCAL ID	1431058	1431059	1431060
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/03/2015 21:05	04/03/2015 19:34	04/03/2015 19:57
	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	58.1	116	76 - 126	50.0	58.5	117	1	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	47.2	94	70 - 122	50.0	49.5	99	5	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.2	102	72 - 121	50.0	51.4	103	0	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	57.1	114	74 - 127	50.0	56.2	112	2	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	58.4	117	69 - 129	50.0	57.7	115	1	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	51.5	103	61 - 135	50.0	52.8	106	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	40.7	81	57 - 121	50.0	43.8	88	7	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.5	101	70 - 124	50.0	51.8	104	3	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	56.5	113	71 - 126	50.0	58.2	116	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	55.2	110	71 - 129	50.0	53.9	108	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	56.8	114	72 - 128	50.0	55.9	112	2	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	57.4	115	74 - 126	50.0	58.2	116	1	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	56.0	112	72 - 122	50.0	56.0	112	0	30
2-Butanone	78-93-3	0.142U	0.142	50.0	44.0	88	58 - 137	50.0	45.3	91	3	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	40.5	81	56 - 124	50.0	40.4	81	0	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	37.0	74	50 - 135	50.0	40.0	80	8	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	41.9	84	57 - 132	50.0	45.0	90	7	30
Acetone	67-64-1	0.193U	0.193	50.0	40.0	80	44 - 156	50.0	46.7	93	15	30
Benzene	71-43-2	0.111U	0.111	50.0	57.8	116	70 - 129	50.0	58.0	116	0	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	55.9	112	74 - 125	50.0	55.5	111	1	30
Bromoform	75-25-2	0.215U	0.215	50.0	47.5	95	64 - 122	50.0	49.2	98	4	30
Bromomethane	74-83-9	0.427U	0.427	50.0	60.4	121	47 - 138	50.0	60.6	121	0	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	57.9	116	69 - 136	50.0	58.0	116	0	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	59.8	120	76 - 128	50.0	58.9	118	2	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	53.9	108	74 - 123	50.0	54.7	109	1	20
Chloroethane	75-00-3	0.235U	0.235	50.0	61.7	123	62 - 141	50.0	61.0	122	1	30
Chloroform	67-66-3	0.155U	0.155	50.0	56.5	113	75 - 122	50.0	55.1	110	3	30
Chloromethane	74-87-3	0.144U	0.144	50.0	51.2	102	59 - 132	50.0	55.8	112	9	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	59.7	119	73 - 130	50.0	57.9	116	3	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	52.9	106	71 - 132	50.0	52.3	105	1	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	54.7	109	69 - 132	50.0	53.1	106	3	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	53.8	108	71 - 123	50.0	54.0	108	0	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	59.1	118	58 - 140	50.0	59.3	119	0	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	58.5	117	74 - 126	50.0	59.5	119	2	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	52.7	105	71 - 125	50.0	53.3	107	1	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	107	107	74 - 126	100	109	109	2	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	37.9	76	57 - 139	50.0	40.5	81	7	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	54.4	109	67 - 138	50.0	52.4	105	4	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	53.7	107	68 - 132	50.0	54.2	108	1	30
o-Xylene	95-47-6	0.055U	0.055	50.0	51.7	103	73 - 130	50.0	53.1	106	3	30
Styrene	100-42-5	0.089U	0.089	50.0	52.6	105	71 - 127	50.0	53.8	108	2	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	53.1	106	71 - 125	50.0	54.5	109	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	58.0	116	68 - 128	50.0	57.2	114	1	30
Toluene	108-88-3	0.122U	0.122	50.0	54.6	109	72 - 120	50.0	56.0	112	3	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	55.6	111	69 - 132	50.0	59.2	118	6	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	51.4	103	71 - 131	50.0	50.5	101	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	55.7	111	76 - 129	50.0	55.0	110	1	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	61.2	122	72 - 136	50.0	60.4	121	1	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	61.5	123	72 - 136	50.0	58.9	118	4	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	38.5	77	54 - 147	50.0	37.8	76	2	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	57.6	115	68 - 132	50.0	59.5	119	3	30
Xylene (total)	1330-20-7	0.179U	0.179	150	159	106	74 - 127	150	162	108	2	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.1	100	50	50.3	101	71 - 127	50	48.8	98	3	NA
4-Bromofluorobenzene	460-00-4	48.9	98	50	48.2	96	78 - 130	50	49.8	100	3	NA
Dibromofluoromethane	1868-53-7	51.5	103	50	51.3	103	77 - 127	50	49.8	100	3	NA
Toluene d8	2037-26-5	52.6	105	50	49.4	99	76 - 134	50	50	100	1	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 555778	Client ID	MB555778	LCS555778	LCSD555778
	GCAL ID	1432130	1432131	1432132
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/07/2015 19:35	04/07/2015 18:12	04/07/2015 18:32
	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	50.9	102	76 - 126	50.0	54.4	109	7	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	50.4	101	70 - 122	50.0	50.7	101	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	48.6	97	72 - 121	50.0	49.6	99	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.0	100	74 - 127	50.0	52.3	105	4	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	50.3	101	69 - 129	50.0	53.9	108	7	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	53.6	107	61 - 135	50.0	56.5	113	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	52.2	104	57 - 121	50.0	52.8	106	1	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.2	100	70 - 124	50.0	50.4	101	0	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	49.7	99	71 - 126	50.0	51.3	103	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	49.2	98	71 - 129	50.0	50.0	100	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	49.5	99	72 - 128	50.0	52.2	104	5	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.3	101	74 - 126	50.0	51.9	104	3	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	49.6	99	72 - 122	50.0	50.6	101	2	30
2-Butanone	78-93-3	0.142U	0.142	50.0	51.6	103	58 - 137	50.0	53.5	107	4	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	56.2	112	56 - 124	50.0	58.7	117	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	47.1	94	50 - 135	50.0	48.7	97	3	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	51.9	104	57 - 132	50.0	53.3	107	3	30
Acetone	67-64-1	0.193U	0.193	50.0	48.5	97	44 - 156	50.0	49.1	98	1	30
Benzene	71-43-2	0.111U	0.111	50.0	50.4	101	70 - 129	50.0	52.9	106	5	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.1	100	74 - 125	50.0	52.0	104	4	30
Bromoform	75-25-2	0.215U	0.215	50.0	50.1	100	64 - 122	50.0	50.6	101	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	49.8	100	47 - 138	50.0	51.0	102	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	52.3	105	69 - 136	50.0	56.0	112	7	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	53.1	106	76 - 128	50.0	56.7	113	7	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	48.9	98	74 - 123	50.0	50.2	100	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	49.3	99	62 - 141	50.0	52.7	105	7	30
Chloroform	67-66-3	0.155U	0.155	50.0	49.4	99	75 - 122	50.0	51.9	104	5	30
Chloromethane	74-87-3	0.144U	0.144	50.0	51.3	103	59 - 132	50.0	54.2	108	5	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	49.7	99	73 - 130	50.0	52.4	105	5	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	53.4	107	71 - 132	50.0	55.2	110	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	42.1	84	69 - 132	50.0	45.0	90	7	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	49.9	100	71 - 123	50.0	50.7	101	2	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	45.2	90	58 - 140	50.0	48.5	97	7	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	51.4	103	74 - 126	50.0	53.3	107	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	53.7	107	71 - 125	50.0	56.9	114	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	105	105	74 - 126	100	109	109	4	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	48.0	96	57 - 139	50.0	50.3	101	5	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	42.2	84	67 - 138	50.0	44.8	90	6	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.4	95	68 - 132	50.0	49.2	98	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.3	105	73 - 130	50.0	54.7	109	4	30
Styrene	100-42-5	0.089U	0.089	50.0	52.7	105	71 - 127	50.0	54.1	108	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	50.9	102	71 - 125	50.0	52.4	105	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	49.2	98	68 - 128	50.0	52.8	106	7	30
Toluene	108-88-3	0.122U	0.122	50.0	49.1	98	72 - 120	50.0	51.6	103	5	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	50.0	100	69 - 132	50.0	54.0	108	8	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	53.2	106	71 - 131	50.0	54.5	109	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	49.3	99	76 - 129	50.0	52.4	105	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	47.9	96	72 - 136	50.0	51.3	103	7	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	45.5	91	72 - 136	50.0	48.2	96	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	47.3	95	54 - 147	50.0	46.3	93	2	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.1	102	68 - 132	50.0	55.5	111	8	30
Xylene (total)	1330-20-7	0.179U	0.179	150	158	105	74 - 127	150	164	109	4	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.9	102	50	49.9	100	71 - 127	50	50.1	100	0	NA
4-Bromofluorobenzene	460-00-4	48.5	97	50	50	100	78 - 130	50	49.5	99	1	NA
Dibromofluoromethane	1868-53-7	51.3	103	50	50.4	101	77 - 127	50	49.9	100	1	NA
Toluene d8	2037-26-5	50.9	102	50	49.6	99	76 - 134	50	49.3	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 556092	Client ID	MB556092		LCS556092				LCSD556092				
	GCAL ID	1433625		1433626				1433627				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/10/2015 19:03		04/10/2015 19:09				04/10/2015 19:16				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.88	88	45 - 128	3.28	2.95	90	2	29
Ethene	74-85-1	0.071U	0.071	3.06	2.68	88	45 - 134	3.06	2.71	89	1	25
Methane	74-82-8	0.435U	0.435	17.5	14.0	80	39 - 120	17.5	14.2	81	1	27
Surrogate												
Propene	115-07-1	34	84	40.5	26.9	66	40 - 143	40.5	27.1	67	1	NA

General Chemistry Quality Control Summary

Analytical Batch 555589		Client ID	MB555589		LCS555589			
		GCAL ID	1431227		1431228			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	28.5	114	80 - 120

Analytical Batch 555589		Client ID	JPMW-22		1429511MS			
		GCAL ID	21503310701		1431229			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	28.3	113	75 - 125

Analytical Batch 555589		Client ID	JPMW-23		1429512DUP		
		GCAL ID	21503310702		1431230		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/04/2015 17:15		04/04/2015 17:15		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555451		Client ID	M114MW001		M114MW001-MS				M114MW001-SD				
		GCAL ID	21504021706		21504021708				21504021709				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/02/2015 17:48		04/02/2015 18:40				04/02/2015 18:57				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	2.78	1.00		50.0	50.4	95	80 - 120	50.0	50.0	95	1	15

Analytical Batch 555451		Client ID	MB555451		LCS555451			
		GCAL ID	1430389		1430390			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/02/2015 12:55		04/02/2015 12:37			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8	0.050U	0.050		2.50	2.30	92	80 - 120

Analytical Batch 556245		Client ID	MB556245		LCS556245			
		GCAL ID	1434178		1434179			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/14/2015 13:39		04/14/2015 13:22			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050		2.50	2.44	98	80 - 120
Sulfate	14808-79-8	0.050U	0.050		2.50	2.58	103	80 - 120

General Chemistry Quality Control Summary

Analytical Batch 556245	Client ID	RPMW-14		1430384MS				1430384MSD				
	GCAL ID	21504022501		1434182				1434183				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/14/2015 13:57		04/14/2015 14:14				04/14/2015 14:31				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	13.9	0.500	25.0	37.1	93	80 - 120	25.0	37.1	93	0	15
Sulfate	14808-79-8	23.5	0.500	25.0	48.8	101	80 - 120	25.0	49.1	102	1	15

Analytical Batch 555639	Client ID	MB555639		LCS555639			
	GCAL ID	1431401		1431402			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	04/06/2015 12:26		04/06/2015 11:05			
	Matrix	Water		Water			
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.7	95	80 - 120

Analytical Batch 555639	Client ID	DPMW-10		1429969MS				1429969MSD				
	GCAL ID	21504012104		1431403				1431404				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/06/2015 12:53		04/06/2015 13:23				04/06/2015 13:53				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.00	0.30	50.0	45.4	91	75 - 125	50.0	49.4	99	8	25

Analytical Batch 555639	Client ID	SS16-MW05		1430939MS				1430939MSD				
	GCAL ID	21504031004		1431405				1431406				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/07/2015 01:57		04/07/2015 02:22				04/07/2015 02:45				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.00	0.30	50.0	51.3	103	75 - 125	50.0	52.6	105	2	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040225
Due Date: 04/14/15

GCAL use only: 249065, 1

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gallotta	Contact: Jerry Gallotta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.gallotta@amec.com	E-mail: Jerry.gallotta@amec.com

P.O. Number:

Project Name/Number: Woodall Creek 6122130015

Sampled By: Mark A. & Ever G.

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

Temperature °C: 1.7 E26

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate None	Chloride / Sulfate None	SULFIDE ZINC ACETATE	VOCs HCl	TOCs HCl	Methane, Ethane, Ethene HCl	Preservative
W	4/1/15	1316		✓	RPMW-14	10	1	1	1	3	2	2	1
W	4/1/15	1340		✓	RPMW-15	10	1	1	1	3	2	2	2
W	4/1/15	1622		✓	GPMW-11	10	1	1	1	3	2	2	3
W	4/1/15	1630		✓	RPMW-24	10	1	1	1	3	2	2	4
W	4/1/15				Trip Blank-6	3				3			5

Air Bill No: 7731 9047 8449

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]	4/1/15	1834			
FEDEX	4/2/15	1000	[signature]	4/2/15	1000
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

215040225

SAMPLE DELIVERY GROUP 215040225	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/02/15

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: E26	Temp(°C)
773190478449		1.7

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

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 04/22/2015

GCAL Report 215040308

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

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 215040308

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040308

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, samples 21504030804 (GPMW-19), 21504030805 (HOAMW-5I), 21504030806 (DUP-1) and 21504030807 (DUP-2) 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 555613, the LCS and/or LCSD recoveries are above the upper control limit for Carbon Tetrachloride. This compound was not detected in the associated samples.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis, sample 21504030802 (MW-X) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument. The recoveries for the surrogates are not applicable for those analyses at a 10 or higher dilution.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504030801 (GPMW-20), 21504030802 (MW-X), 21504030803 (GPMW-18), 21504030804 (GPMW-19), 21504030805 (HOAMW-5I), 21504030806 (DUP-1) and 21504030807 (DUP-2) 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
21504030801	GPMW-20	Water	04/02/2015 10:30	04/03/2015 09:50
21504030802	MW-X	Water	04/02/2015 12:13	04/03/2015 09:50
21504030803	GPMW-18	Water	04/02/2015 13:25	04/03/2015 09:50
21504030804	GPMW-19	Water	04/02/2015 16:10	04/03/2015 09:50
21504030805	HOAMW-5I	Water	04/02/2015 16:00	04/03/2015 09:50
21504030806	DUP-1	Water	04/02/2015 12:00	04/03/2015 09:50
21504030807	DUP-2	Water	04/02/2015 12:00	04/03/2015 09:50
21504030808	TRIP BLANK-7	Water	04/02/2015 00:00	04/03/2015 09:50

Summary of Compounds Detected

GPMW-20

Collect Date 04/02/2015 10:30 **GCAL ID** 21504030801
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	5.73	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	25.3	0.193	5.00	ug/L
79-01-6	Trichloroethene	4.44J	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	26.5	2.50	10.0	mg/L
14797-55-8	Nitrate	1.61	0.050	0.200	mg/L
14808-79-8	Sulfate	21.5	5.00	10.0	mg/L

MW-X

Collect Date 04/02/2015 12:13 **GCAL ID** 21504030802
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	1460	21.8	100	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	3.78	0.250	1.00	mg/L
14797-55-8	Nitrate	0.102J	0.050	0.200	mg/L
14808-79-8	Sulfate	7.35	0.250	1.00	mg/L

GPMW-18

Collect Date 04/02/2015 13:25 **GCAL ID** 21504030803
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	2.09J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	88.4	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	188	0.193	5.00	ug/L
79-01-6	Trichloroethene	47.8	0.161	5.00	ug/L

Summary of Compounds Detected

GPMW-18

Collect Date 04/02/2015 13:25 **GCAL ID** 21504030803
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.0	0.500	2.00	mg/L
14797-55-8	Nitrate	1.20	0.050	0.200	mg/L
14808-79-8	Sulfate	11.7	0.500	2.00	mg/L

GPMW-19

Collect Date 04/02/2015 16:10 **GCAL ID** 21504030804
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.22J	0.775	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	151	0.517	25.0	ug/L
127-18-4	Tetrachloroethene	336	0.963	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	1.79J	0.385	25.0	ug/L
79-01-6	Trichloroethene	107	0.807	25.0	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	26.9	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.9	0.500	2.00	mg/L
14797-55-8	Nitrate	1.46	0.050	0.200	mg/L
14808-79-8	Sulfate	10.2	0.500	2.00	mg/L

HOAMW-5I

Collect Date 04/02/2015 16:00 **GCAL ID** 21504030805
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.18J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	63.9	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	192	0.385	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.539J	0.154	10.0	ug/L
79-01-6	Trichloroethene	59.9	0.323	10.0	ug/L

Summary of Compounds Detected

HOAMW-5I

Collect Date 04/02/2015 16:00 **GCAL ID** 21504030805
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	19.8	0.500	2.00	mg/L
14797-55-8	Nitrate	1.47	0.050	0.200	mg/L
14808-79-8	Sulfate	19.7	0.500	2.00	mg/L

DUP-1

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030806
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.48J	0.775	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	151	0.517	25.0	ug/L
127-18-4	Tetrachloroethene	332	0.963	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	2.26J	0.385	25.0	ug/L
79-01-6	Trichloroethene	106	0.807	25.0	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	37.4	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	22.4	0.500	2.00	mg/L
14797-55-8	Nitrate	1.46	0.050	0.200	mg/L
14808-79-8	Sulfate	10.1	0.500	2.00	mg/L

DUP-2

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030807
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.11J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	63.1	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	192	0.385	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.509J	0.154	10.0	ug/L
79-01-6	Trichloroethene	59.4	0.323	10.0	ug/L

Summary of Compounds Detected

DUP-2				
	Collect Date	04/02/2015 12:00	**GCAL ID**	21504030807
	Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	19.7	0.500	2.00	mg/L
14797-55-8	Nitrate	1.46	0.050	0.200	mg/L
14808-79-8	Sulfate	20.4	0.500	2.00	mg/L

Sample Results

GPMW-20

Collect Date	04/02/2015 10:30	**GCAL ID**	21504030801
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 21:59	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**5.73**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**25.3**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**4.44J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

GPMW-20

Collect Date	04/02/2015 10:30	**GCAL ID**	21504030801
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 21:59	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.4	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	52.2	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	53.2	ug/L	106	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:12	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	30.7	ug/L	76	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 13:53	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.61**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	50	04/16/2015 02:48	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**26.5**	**2.50**	**10.0**	**mg/L**
14808-79-8	**Sulfate**	**21.5**	**5.00**	**10.0**	**mg/L**

Sample Results

GPMW-20

Collect Date	04/02/2015 10:30	**GCAL ID**	21504030801
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 20:55	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MW-X

Collect Date	04/02/2015 12:13	**GCAL ID**	21504030802
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 22:22	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

MW-X

Collect Date	04/02/2015 12:13	**GCAL ID**	21504030802
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 22:22	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.6	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	50	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.6	ug/L	107	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:18	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	34.8	ug/L	86	40 - 143

Sample Results

MW-X

Collect Date 04/02/2015 12:13 **GCAL ID** 21504030802
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	50	04/10/2015 20:24	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	1460	21.8	100	ug/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 14:10	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.102J	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/15/2015 16:21	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	3.78	0.250	1.00	mg/L
14808-79-8	Sulfate	7.35	0.250	1.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 21:19	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

Sample Results

GPMW-18

Collect Date	04/02/2015 13:25	**GCAL ID**	21504030803
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 22:44	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**2.09J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**88.4**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**188**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**47.8**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

GPMW-18

Collect Date	04/02/2015 13:25	**GCAL ID**	21504030803
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 22:44	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.7	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.5	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.7	ug/L	107	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:36	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	31	ug/L	77	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 15:03	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.20**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 17:14	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**21.0**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**11.7**	**0.500**	**2.00**	**mg/L**

Sample Results

GPMW-18

Collect Date 04/02/2015 13:25 **GCAL ID** 21504030803
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 21:47	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

GPMW-19

Collect Date 04/02/2015 16:10 **GCAL ID** 21504030804
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/07/2015 22:22	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	25.0	ug/L
75-34-3	1,1-Dichloroethane	0.856U	0.856	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.04U	1.04	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	25.0	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	25.0	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	25.0	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	25.0	ug/L
78-93-3	2-Butanone	0.711U	0.711	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.729U	0.729	25.0	ug/L
591-78-6	2-Hexanone	0.612U	0.612	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	25.0	ug/L
67-64-1	Acetone	0.967U	0.967	25.0	ug/L
71-43-2	Benzene	0.555U	0.555	25.0	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	25.0	ug/L
75-25-2	Bromoform	1.08U	1.08	25.0	ug/L
74-83-9	Bromomethane	2.14U	2.14	25.0	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	25.0	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	25.0	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	25.0	ug/L
75-00-3	Chloroethane	1.18U	1.18	25.0	ug/L
67-66-3	**Chloroform**	**3.22J**	**0.775**	**25.0**	**ug/L**

Sample Results

GPMW-19

Collect Date	04/02/2015 16:10	**GCAL ID**	21504030804
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/07/2015 22:22	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.718U	0.718	25.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**151**	**0.517**	**25.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	25.0	ug/L
110-82-7	Cyclohexane	1.69U	1.69	25.0	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	25.0	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	25.0	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	25.0	ug/L
136777-61-2	m,p-Xylene	0.617U	0.617	50.0	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	25.0	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	25.0	ug/L
75-09-2	Methylene chloride	0.745U	0.745	25.0	ug/L
95-47-6	o-Xylene	0.277U	0.277	25.0	ug/L
100-42-5	Styrene	0.447U	0.447	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	25.0	ug/L
127-18-4	**Tetrachloroethene**	**336**	**0.963**	**25.0**	**ug/L**
108-88-3	Toluene	0.609U	0.609	25.0	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**1.79J**	**0.385**	**25.0**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	25.0	ug/L
79-01-6	**Trichloroethene**	**107**	**0.807**	**25.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	25.0	ug/L
108-05-4	Vinyl acetate	0.755U	0.755	25.0	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	25.0	ug/L
1330-20-7	Xylene (total)	0.894U	0.894	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	237	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	250	257	ug/L	103	77 - 127
2037-26-5	Toluene d8	250	252	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	258	ug/L	103	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:43	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**26.9**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	32	ug/L	79	40 - 143

Sample Results

GPMW-19

Collect Date 04/02/2015 16:10 **GCAL ID** 21504030804
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 15:20	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	1.46	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 17:31	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.9	0.500	2.00	mg/L
14808-79-8	Sulfate	10.2	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 22:11	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

HOAMW-5I

Collect Date 04/02/2015 16:00 **GCAL ID** 21504030805
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 22:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L

Sample Results

HOAMW-5I

Collect Date	04/02/2015 16:00	**GCAL ID**	21504030805
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 22:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**3.18J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**63.9**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**192**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**0.539J**	**0.154**	**10.0**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**59.9**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

HOAMW-5I	**Collect Date**	04/02/2015 16:00	**GCAL ID**	21504030805
	Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 22:42	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	94.7	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	100	103	ug/L	103	77 - 127
2037-26-5	Toluene d8	100	102	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	105	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:48	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26	ug/L	64	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 15:37	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.47**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 18:06	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**19.8**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**19.7**	**0.500**	**2.00**	**mg/L**

Sample Results

HOAMW-5I

Collect Date 04/02/2015 16:00 **GCAL ID** 21504030805
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 22:35	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DUP-1

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030806
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/07/2015 23:02	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	25.0	ug/L
75-34-3	1,1-Dichloroethane	0.856U	0.856	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.04U	1.04	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	25.0	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	25.0	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	25.0	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	25.0	ug/L
78-93-3	2-Butanone	0.711U	0.711	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.729U	0.729	25.0	ug/L
591-78-6	2-Hexanone	0.612U	0.612	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	25.0	ug/L
67-64-1	Acetone	0.967U	0.967	25.0	ug/L
71-43-2	Benzene	0.555U	0.555	25.0	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	25.0	ug/L
75-25-2	Bromoform	1.08U	1.08	25.0	ug/L
74-83-9	Bromomethane	2.14U	2.14	25.0	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	25.0	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	25.0	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	25.0	ug/L
75-00-3	Chloroethane	1.18U	1.18	25.0	ug/L
67-66-3	**Chloroform**	**3.48J**	**0.775**	**25.0**	**ug/L**

Sample Results

DUP-1

Collect Date	04/02/2015 12:00	**GCAL ID**	21504030806
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/07/2015 23:02	BMC2	555778

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.718U	0.718	25.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**151**	**0.517**	**25.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	25.0	ug/L
110-82-7	Cyclohexane	1.69U	1.69	25.0	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	25.0	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	25.0	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	25.0	ug/L
136777-61-2	m,p-Xylene	0.617U	0.617	50.0	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	25.0	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	25.0	ug/L
75-09-2	Methylene chloride	0.745U	0.745	25.0	ug/L
95-47-6	o-Xylene	0.277U	0.277	25.0	ug/L
100-42-5	Styrene	0.447U	0.447	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	25.0	ug/L
127-18-4	**Tetrachloroethene**	**332**	**0.963**	**25.0**	**ug/L**
108-88-3	Toluene	0.609U	0.609	25.0	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**2.26J**	**0.385**	**25.0**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	25.0	ug/L
79-01-6	**Trichloroethene**	**106**	**0.807**	**25.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	25.0	ug/L
108-05-4	Vinyl acetate	0.755U	0.755	25.0	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	25.0	ug/L
1330-20-7	Xylene (total)	0.894U	0.894	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	237	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	250	258	ug/L	103	77 - 127
2037-26-5	Toluene d8	250	253	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	260	ug/L	104	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 20:53	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	**Methane**	**37.4**	**0.435**	**2.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26.1	ug/L	64	40 - 143

Sample Results

DUP-1

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030806
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 15:55	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	1.46	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 11:43	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	22.4	0.500	2.00	mg/L
14808-79-8	Sulfate	10.1	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 23:02	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DUP-2

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030807
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 23:23	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L

Sample Results

DUP-2

Collect Date	04/02/2015 12:00	**GCAL ID**	21504030807
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 23:23	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**3.11J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**63.1**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**192**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**0.509J**	**0.154**	**10.0**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**59.4**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

DUP-2

Collect Date	04/02/2015 12:00	**GCAL ID**	21504030807
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/07/2015 23:23	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	95.4	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	100	105	ug/L	105	77 - 127
2037-26-5	Toluene d8	100	101	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	105	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 21:01	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26.8	ug/L	66	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/03/2015 16:12	RXJ	555534

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.46**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 16:04	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**19.7**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**20.4**	**0.500**	**2.00**	**mg/L**

Sample Results

DUP-2

Collect Date 04/02/2015 12:00 **GCAL ID** 21504030807
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/06/2015 23:28	KLC2	555639

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-7

Collect Date 04/02/2015 00:00 **GCAL ID** 21504030808
Receive Date 04/03/2015 09:50 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 21:14	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

TRIP BLANK-7

Collect Date	04/02/2015 00:00	**GCAL ID**	21504030808
Receive Date	04/03/2015 09:50	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/05/2015 21:14	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.5	ug/L	101	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	51.5	ug/L	103	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555613	Client ID	MB555613	LCS555613					LCSD555613				
	GCAL ID	1431290	1431291					1431292				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	04/05/2015 18:36	04/05/2015 17:06					04/05/2015 17:29				
	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	62.0	124	76 - 126	50.0	59.6	119	4	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	49.5	99	70 - 122	50.0	48.8	98	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.9	104	72 - 121	50.0	50.8	102	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.9	102	74 - 127	50.0	50.5	101	1	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	54.6	109	69 - 129	50.0	51.8	104	5	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	60.1	120	61 - 135	50.0	54.6	109	10	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	55.3	111	57 - 121	50.0	53.9	108	3	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	54.8	110	70 - 124	50.0	53.5	107	2	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	52.8	106	71 - 126	50.0	51.0	102	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	58.3	117	71 - 129	50.0	56.7	113	3	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	51.5	103	72 - 128	50.0	50.7	101	2	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	53.5	107	74 - 126	50.0	51.1	102	5	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	52.6	105	72 - 122	50.0	50.7	101	4	30
2-Butanone	78-93-3	0.142U	0.142	50.0	44.5	89	58 - 137	50.0	44.9	90	1	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	42.1	84	56 - 124	50.0	42.4	85	1	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	45.4	91	50 - 135	50.0	44.5	89	2	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	48.5	97	57 - 132	50.0	46.9	94	3	30
Acetone	67-64-1	0.193U	0.193	50.0	44.4	89	44 - 156	50.0	43.3	87	3	30
Benzene	71-43-2	0.111U	0.111	50.0	51.4	103	70 - 129	50.0	49.7	99	3	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	56.7	113	74 - 125	50.0	55.6	111	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	58.6	117	64 - 122	50.0	58.4	117	0	30
Bromomethane	74-83-9	0.427U	0.427	50.0	40.4	81	47 - 138	50.0	40.0	80	1	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	53.2	106	69 - 136	50.0	50.4	101	5	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	64.6	**129***	76 - 128	50.0	61.2	122	5	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	53.4	107	74 - 123	50.0	51.7	103	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	58.6	117	62 - 141	50.0	53.3	107	9	30
Chloroform	67-66-3	0.155U	0.155	50.0	55.6	111	75 - 122	50.0	53.2	106	4	30
Chloromethane	74-87-3	0.144U	0.144	50.0	49.1	98	59 - 132	50.0	42.8	86	14	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	52.5	105	73 - 130	50.0	50.4	101	4	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	50.8	102	71 - 132	50.0	49.7	99	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	52.3	105	69 - 132	50.0	49.6	99	5	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	56.7	113	71 - 123	50.0	54.2	108	5	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	68.6	137	58 - 140	50.0	63.0	126	9	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	54.7	109	74 - 126	50.0	52.4	105	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	58.4	117	71 - 125	50.0	53.8	108	8	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	113	113	74 - 126	100	102	102	10	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	50.9	102	57 - 139	50.0	48.1	96	6	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	55.6	111	67 - 138	50.0	51.8	104	7	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	46.9	94	68 - 132	50.0	46.0	92	2	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.9	106	73 - 130	50.0	50.9	102	4	30
Styrene	100-42-5	0.089U	0.089	50.0	54.9	110	71 - 127	50.0	53.2	106	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	52.4	105	71 - 125	50.0	51.6	103	2	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	57.9	116	68 - 128	50.0	53.8	108	7	30
Toluene	108-88-3	0.122U	0.122	50.0	51.7	103	72 - 120	50.0	48.1	96	7	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	51.5	103	69 - 132	50.0	50.3	101	2	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	50.5	101	71 - 131	50.0	50.8	102	1	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	56.5	113	76 - 129	50.0	54.5	109	4	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	63.0	126	72 - 136	50.0	59.7	119	5	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	55.3	111	72 - 136	50.0	52.1	104	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	46.0	92	54 - 147	50.0	44.2	88	4	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.8	104	68 - 132	50.0	48.1	96	7	30
Xylene (total)	1330-20-7	0.179U	0.179	150	165	110	74 - 127	150	153	102	8	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	52.8	106	50	52.4	105	71 - 127	50	54	108	3	NA
4-Bromofluorobenzene	460-00-4	49.9	100	50	53.4	107	78 - 130	50	52.9	106	1	NA
Dibromofluoromethane	1868-53-7	51.9	104	50	52	104	77 - 127	50	52.7	105	1	NA
Toluene d8	2037-26-5	49.9	100	50	48.6	97	76 - 134	50	48.5	97	0	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 555778	Client ID	MB555778	LCS555778	LCSD555778
	GCAL ID	1432130	1432131	1432132
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/07/2015 19:35	04/07/2015 18:12	04/07/2015 18:32
	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	50.9	102	76 - 126	50.0	54.4	109	7	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	50.4	101	70 - 122	50.0	50.7	101	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	48.6	97	72 - 121	50.0	49.6	99	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.0	100	74 - 127	50.0	52.3	105	4	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	50.3	101	69 - 129	50.0	53.9	108	7	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	53.6	107	61 - 135	50.0	56.5	113	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	52.2	104	57 - 121	50.0	52.8	106	1	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.2	100	70 - 124	50.0	50.4	101	0	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	49.7	99	71 - 126	50.0	51.3	103	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	49.2	98	71 - 129	50.0	50.0	100	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	49.5	99	72 - 128	50.0	52.2	104	5	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.3	101	74 - 126	50.0	51.9	104	3	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	49.6	99	72 - 122	50.0	50.6	101	2	30
2-Butanone	78-93-3	0.142U	0.142	50.0	51.6	103	58 - 137	50.0	53.5	107	4	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	56.2	112	56 - 124	50.0	58.7	117	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	47.1	94	50 - 135	50.0	48.7	97	3	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	51.9	104	57 - 132	50.0	53.3	107	3	30
Acetone	67-64-1	0.193U	0.193	50.0	48.5	97	44 - 156	50.0	49.1	98	1	30
Benzene	71-43-2	0.111U	0.111	50.0	50.4	101	70 - 129	50.0	52.9	106	5	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.1	100	74 - 125	50.0	52.0	104	4	30
Bromoform	75-25-2	0.215U	0.215	50.0	50.1	100	64 - 122	50.0	50.6	101	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	49.8	100	47 - 138	50.0	51.0	102	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	52.3	105	69 - 136	50.0	56.0	112	7	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	53.1	106	76 - 128	50.0	56.7	113	7	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	48.9	98	74 - 123	50.0	50.2	100	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	49.3	99	62 - 141	50.0	52.7	105	7	30
Chloroform	67-66-3	0.155U	0.155	50.0	49.4	99	75 - 122	50.0	51.9	104	5	30
Chloromethane	74-87-3	0.144U	0.144	50.0	51.3	103	59 - 132	50.0	54.2	108	5	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	49.7	99	73 - 130	50.0	52.4	105	5	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	53.4	107	71 - 132	50.0	55.2	110	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	42.1	84	69 - 132	50.0	45.0	90	7	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	49.9	100	71 - 123	50.0	50.7	101	2	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	45.2	90	58 - 140	50.0	48.5	97	7	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	51.4	103	74 - 126	50.0	53.3	107	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	53.7	107	71 - 125	50.0	56.9	114	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	105	105	74 - 126	100	109	109	4	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	48.0	96	57 - 139	50.0	50.3	101	5	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	42.2	84	67 - 138	50.0	44.8	90	6	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.4	95	68 - 132	50.0	49.2	98	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.3	105	73 - 130	50.0	54.7	109	4	30
Styrene	100-42-5	0.089U	0.089	50.0	52.7	105	71 - 127	50.0	54.1	108	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	50.9	102	71 - 125	50.0	52.4	105	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	49.2	98	68 - 128	50.0	52.8	106	7	30
Toluene	108-88-3	0.122U	0.122	50.0	49.1	98	72 - 120	50.0	51.6	103	5	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	50.0	100	69 - 132	50.0	54.0	108	8	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	53.2	106	71 - 131	50.0	54.5	109	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	49.3	99	76 - 129	50.0	52.4	105	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	47.9	96	72 - 136	50.0	51.3	103	7	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	45.5	91	72 - 136	50.0	48.2	96	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	47.3	95	54 - 147	50.0	46.3	93	2	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.1	102	68 - 132	50.0	55.5	111	8	30
Xylene (total)	1330-20-7	0.179U	0.179	150	158	105	74 - 127	150	164	109	4	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.9	102	50	49.9	100	71 - 127	50	50.1	100	0	NA
4-Bromofluorobenzene	460-00-4	48.5	97	50	50	100	78 - 130	50	49.5	99	1	NA
Dibromofluoromethane	1868-53-7	51.3	103	50	50.4	101	77 - 127	50	49.9	100	1	NA
Toluene d8	2037-26-5	50.9	102	50	49.6	99	76 - 134	50	49.3	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 556092	Client ID	MB556092		LCS556092				LCSD556092				
	GCAL ID	1433625		1433626				1433627				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/10/2015 19:03		04/10/2015 19:09				04/10/2015 19:16				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.88	88	45 - 128	3.28	2.95	90	2	29
Ethene	74-85-1	0.071U	0.071	3.06	2.68	88	45 - 134	3.06	2.71	89	1	25
Methane	74-82-8	0.435U	0.435	17.5	14.0	80	39 - 120	17.5	14.2	81	1	27
Surrogate												
Propene	115-07-1	34	84	40.5	26.9	66	40 - 143	40.5	27.1	67	1	NA

General Chemistry Quality Control Summary

Analytical Batch 555876		Client ID	MB555876		LCS555876			
		GCAL ID	1432548		1432549			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		2.00U	2.00	25.0	27.5	110	80 - 120

Analytical Batch 555876		Client ID	GPMW-20		1430917MS			
		GCAL ID	21504030801		1432550			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		0.000	2.00	25.0	27.1	108	75 - 125

Analytical Batch 555876		Client ID	MW-X		1430918DUP		
		GCAL ID	21504030802		1432551		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30		
		Matrix	Water		Water		
SM 4500-S2 F-2011			Units Result	mg/L MDL	Result	RPD	RPD Limit
Sulfide	18496-25-8		0.000	2.00	0.000	0	25

Analytical Batch 555534		Client ID	MB555534		LCS555534			
		GCAL ID	1430925		1430926			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/03/2015 11:34		04/03/2015 11:16			
		Matrix	Water		Water			
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8		0.050U	0.050	2.50	2.38	95	80 - 120

Analytical Batch 555534		Client ID	MA01MW004		1430914MS				1430914MSD				
		GCAL ID	21504030701		1430957				1430958				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/03/2015 13:01		04/03/2015 18:14				04/03/2015 18:31				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8		1.05	0.200	10.0	9.96	89	80 - 120	10.0	10.4	93	4	15

Analytical Batch 556331		Client ID	MB556331		LCS556331			
		GCAL ID	1434509		1434510			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/15/2015 14:37		04/15/2015 14:20			
		Matrix	Water		Water			
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6		0.050U	0.050	2.50	2.32	93	80 - 120
Sulfate	14808-79-8		0.050U	0.050	2.50	2.55	102	80 - 120

General Chemistry Quality Control Summary

Analytical Batch 556331		Client ID	MW-X		1430918MS				1430918MSD				
		GCAL ID	21504030802		1434513				1434514				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/15/2015 16:21		04/15/2015 16:39				04/15/2015 16:56				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6		3.78	0.250	12.5	16.7	103	80 - 120	12.5	16.7	103	0	15
Sulfate	14808-79-8		7.35	0.250	12.5	21.5	113	80 - 120	12.5	21.5	113	0	15

Analytical Batch 556331		Client ID	OXY #1		1432105MS				1432105MSD				
		GCAL ID	21504077901		1434511				1434512				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/15/2015 20:25		04/15/2015 22:44				04/15/2015 23:02				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8		1.72	2.00	50.0	51.3	99	80 - 120	50.0	51.3	99	0	15

Analytical Batch 556331		Client ID	OXY #1		1432105MS				1432105MSD				
		GCAL ID	21504077901		1434511				1434512				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/15/2015 20:43		04/15/2015 21:00				04/15/2015 21:17				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6		3360	100	5000	8140	96	80 - 120	5000	8170	96	0	15

Analytical Batch 555639		Client ID	MB555639		LCS555639			
		GCAL ID	1431401		1431402			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/06/2015 12:26		04/06/2015 11:05			
		Matrix	Water		Water			
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012		0.30U	0.30	50.0	47.7	95	80 - 120

Analytical Batch 555639		Client ID	DPMW-10		1429969MS				1429969MSD				
		GCAL ID	21504012104		1431403				1431404				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/06/2015 12:53		04/06/2015 13:23				04/06/2015 13:53				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		0.00	0.30	50.0	45.4	91	75 - 125	50.0	49.4	99	8	25

Analytical Batch 555639		Client ID	SS16-MW05		1430939MS				1430939MSD				
		GCAL ID	21504031004		1431405				1431406				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/07/2015 01:57		04/07/2015 02:22				04/07/2015 02:45				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		0.00	0.30	50.0	51.3	103	75 - 125	50.0	52.6	105	2	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040308
Due Date: 04/15/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta	Contact: Jerry Gaccetta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.Gaccetta@amec.com	E-mail: Jerry.Gaccetta@amec.com

P.O. Number:

Project Name/Number: Woodall Creek 6122130015

Sampled By: Mark A. + Ever G

Analytical Requests & Method

GCAL use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 4.3E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate (Nitrate)	Chloride/Sulfate (Chloride/Sulfate)	Sulfide (Sulfide)	VOCs (HCl)	TOC (HCl)	Methane, Ethane, Ethene (HCl)	Preservative
W	4/2/15	1030		✓	GPMW-20	10	1	1	1	3	2	2	1
W	4/2/15	1213		✓	MW-X	10	1	1	1	3	2	2	2
W	4/2/15	1325		✓	GPMW-18	10	1	1	1	3	2	2	3
W	4/2/15	1610		✓	GPMW-19	10	1	1	1	3	2	2	4
W	4/2/15	1600		✓	HOAMW-5I	10	1	1	1	3	2	2	5
W	4/2/15	1200		✓	DUP-1	10	1	1	1	3	2	2	6
W	4/2/15	1200		✓	DUP-2	10	1	1	1	3	2	2	7
W	4/2/15			✓	Trip Blank-7	3				3			8

Air Bill No: 7731 9047 9261

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:
	4/2/15	1925			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
FedEx	4-3-15	9:50	Doug McCune	4-3-15	9:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 48 hr hold time Nitrate

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

215040308

SAMPLE DELIVERY GROUP 215040308	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/03/15

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)
7731 9047 9261		4.3

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/20/2015

GCAL Report 215040409

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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 215040409

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040409

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, samples 21504040901 (MTWMW-1) and 21504040903 (HOAMW-5) 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 555613, the LCS and/or LCSD recoveries are above the upper control limit for Carbon tetrachloride. This compound was not detected in the associated samples.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis, samples 21504040901 (MTWMW-1) and 21504040902 (MTWMW-12) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument. The recoveries for the surrogates are not applicable for those analyses at a 10 or higher dilution.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504040901 (MTWMW-1), 21504040902 (MTWMW-12) and 21504040903 (HOAMW-5) 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
21504040901	MTWMW-1	Water	04/03/2015 12:35	04/04/2015 09:45
21504040902	MTWMW-12	Water	04/03/2015 16:00	04/04/2015 09:45
21504040903	HOAMW-5	Water	04/03/2015 15:17	04/04/2015 09:45
21504040904	TRIP BLANK-8	Water	04/03/2015 00:00	04/04/2015 09:45

Summary of Compounds Detected

MTWMW-1

Collect Date 04/03/2015 12:35 **GCAL ID** 21504040901
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	1.61J	1.04	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	370	0.517	25.0	ug/L
127-18-4	Tetrachloroethene	28.8	0.963	25.0	ug/L
79-01-6	Trichloroethene	31.9	0.807	25.0	ug/L
75-01-4	Vinyl chloride	8.30J	0.636	25.0	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	1.75	0.087	1.00	ug/L
74-82-8	Methane	213	4.35	20.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	10.1	0.250	1.00	mg/L
14808-79-8	Sulfate	18.8	0.250	1.00	mg/L

MTWMW-12

Collect Date 04/03/2015 16:00 **GCAL ID** 21504040902
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	1.92J	0.193	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	490	4.35	20.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	16.0	0.250	1.00	mg/L
14797-55-8	Nitrate	0.543	0.050	0.200	mg/L

Summary of Compounds Detected

MTWMW-12

Collect Date 04/03/2015 16:00 **GCAL ID** 21504040902
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 9056A (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	Sulfate	22.4	0.250	1.00	mg/L

HOAMW-5

Collect Date 04/03/2015 15:17 **GCAL ID** 21504040903
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.29J	0.775	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	68.4	0.517	25.0	ug/L
127-18-4	Tetrachloroethene	226	0.963	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	1.18J	0.385	25.0	ug/L
79-01-6	Trichloroethene	70.7	0.807	25.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.0	0.500	2.00	mg/L
14797-55-8	Nitrate	1.58	0.050	0.200	mg/L
14808-79-8	Sulfate	20.4	0.500	2.00	mg/L

Sample Results

MTWMW-1

Collect Date	04/03/2015 12:35	**GCAL ID**	21504040901
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	04/07/2015 23:43	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	25.0	ug/L
75-34-3	1,1-Dichloroethane	0.856U	0.856	25.0	ug/L
75-35-4	**1,1-Dichloroethene**	**1.61J**	**1.04**	**25.0**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	25.0	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	25.0	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	25.0	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	25.0	ug/L
78-93-3	2-Butanone	0.711U	0.711	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.729U	0.729	25.0	ug/L
591-78-6	2-Hexanone	0.612U	0.612	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	25.0	ug/L
67-64-1	Acetone	0.967U	0.967	25.0	ug/L
71-43-2	Benzene	0.555U	0.555	25.0	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	25.0	ug/L
75-25-2	Bromoform	1.08U	1.08	25.0	ug/L
74-83-9	Bromomethane	2.14U	2.14	25.0	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	25.0	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	25.0	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	25.0	ug/L
75-00-3	Chloroethane	1.18U	1.18	25.0	ug/L
67-66-3	Chloroform	0.775U	0.775	25.0	ug/L
74-87-3	Chloromethane	0.718U	0.718	25.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**370**	**0.517**	**25.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	25.0	ug/L
110-82-7	Cyclohexane	1.69U	1.69	25.0	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	25.0	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	25.0	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	25.0	ug/L
136777-61-2	m,p-Xylene	0.617U	0.617	50.0	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	25.0	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	25.0	ug/L
75-09-2	Methylene chloride	0.745U	0.745	25.0	ug/L
95-47-6	o-Xylene	0.277U	0.277	25.0	ug/L
100-42-5	Styrene	0.447U	0.447	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	25.0	ug/L
127-18-4	**Tetrachloroethene**	**28.8**	**0.963**	**25.0**	**ug/L**
108-88-3	Toluene	0.609U	0.609	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.385U	0.385	25.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	25.0	ug/L
79-01-6	**Trichloroethene**	**31.9**	**0.807**	**25.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	25.0	ug/L
108-05-4	Vinyl acetate	0.755U	0.755	25.0	ug/L
75-01-4	**Vinyl chloride**	**8.30J**	**0.636**	**25.0**	**ug/L**

Sample Results

MTWMW-1	**Collect Date**	04/03/2015 12:35	**GCAL ID**	21504040901
	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	04/07/2015 23:43	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.894U	0.894	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	240	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	250	264	ug/L	106	77 - 127
2037-26-5	Toluene d8	250	255	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	262	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 21:18	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	**Ethane**	**1.75**	**0.087**	**1.00**	**ug/L**
74-85-1	Ethene	0.071U	0.071	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.6	ug/L	73	40 - 143

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/10/2015 21:24	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	**Methane**	**213**	**4.35**	**20.0**	**ug/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 17:46	RXJ	555590

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.050U	0.050	0.200	mg/L

Sample Results

MTWMW-1

Collect Date 04/03/2015 12:35 **GCAL ID** 21504040901
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/14/2015 19:27	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	10.1	0.250	1.00	mg/L
14808-79-8	Sulfate	18.8	0.250	1.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 20:15	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MTWMW-12

Collect Date 04/03/2015 16:00 **GCAL ID** 21504040902
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	04/06/2015 00:15	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L

Sample Results

MTWMW-12

Collect Date	04/03/2015 16:00	**GCAL ID**	21504040902
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	04/06/2015 00:15	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**1.92J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.8	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	52.2	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.1	ug/L	104	71 - 127

Sample Results

MTWMW-12

Collect Date 04/03/2015 16:00 **GCAL ID** 21504040902
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 21:30	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.3	ug/L	70	40 - 143

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/10/2015 21:42	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	**Methane**	**490**	**4.35**	**20.0**	**ug/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 19:48	RXJ	555590

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**0.543**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	04/14/2015 20:20	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**16.0**	**0.250**	**1.00**	**mg/L**
14808-79-8	**Sulfate**	**22.4**	**0.250**	**1.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 20:39	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

Sample Results

MTWMW-12

Collect Date	04/03/2015 16:00	**GCAL ID**	21504040902
Receive Date	04/04/2015 09:45	**Matrix**	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

HOAMW-5

Collect Date	04/03/2015 15:17	**GCAL ID**	21504040903
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	04/08/2015 00:03	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.615U	0.615	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.546U	0.546	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.795U	0.795	25.0	ug/L
75-34-3	1,1-Dichloroethane	0.856U	0.856	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.04U	1.04	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.526U	0.526	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.971U	0.971	25.0	ug/L
106-93-4	1,2-Dibromoethane	0.512U	0.512	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.674U	0.674	25.0	ug/L
107-06-2	1,2-Dichloroethane	0.581U	0.581	25.0	ug/L
78-87-5	1,2-Dichloropropane	0.752U	0.752	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.689U	0.689	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.416U	0.416	25.0	ug/L
78-93-3	2-Butanone	0.711U	0.711	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.729U	0.729	25.0	ug/L
591-78-6	2-Hexanone	0.612U	0.612	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.600U	0.600	25.0	ug/L
67-64-1	Acetone	0.967U	0.967	25.0	ug/L
71-43-2	Benzene	0.555U	0.555	25.0	ug/L
75-27-4	Bromodichloromethane	0.417U	0.417	25.0	ug/L
75-25-2	Bromoform	1.08U	1.08	25.0	ug/L
74-83-9	Bromomethane	2.14U	2.14	25.0	ug/L
75-15-0	Carbon disulfide	0.950U	0.950	25.0	ug/L
56-23-5	Carbon tetrachloride	1.24U	1.24	25.0	ug/L
108-90-7	Chlorobenzene	0.414U	0.414	25.0	ug/L
75-00-3	Chloroethane	1.18U	1.18	25.0	ug/L
67-66-3	**Chloroform**	**3.29J**	**0.775**	**25.0**	**ug/L**
74-87-3	Chloromethane	0.718U	0.718	25.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**68.4**	**0.517**	**25.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.621U	0.621	25.0	ug/L
110-82-7	Cyclohexane	1.69U	1.69	25.0	ug/L
124-48-1	Dibromochloromethane	0.270U	0.270	25.0	ug/L
75-71-8	Dichlorodifluoromethane	0.724U	0.724	25.0	ug/L
100-41-4	Ethylbenzene	0.545U	0.545	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.651U	0.651	25.0	ug/L
136777-61-2	m,p-Xylene	0.617U	0.617	50.0	ug/L
79-20-9	Methyl Acetate	0.797U	0.797	25.0	ug/L
108-87-2	Methylcyclohexane	0.717U	0.717	25.0	ug/L

Sample Results

HOAMW-5

Collect Date	04/03/2015 15:17	**GCAL ID**	21504040903
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	04/08/2015 00:03	JCK	555778

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	Methylene chloride	0.745U	0.745	25.0	ug/L
95-47-6	o-Xylene	0.277U	0.277	25.0	ug/L
100-42-5	Styrene	0.447U	0.447	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.389U	0.389	25.0	ug/L
127-18-4	**Tetrachloroethene**	**226**	**0.963**	**25.0**	**ug/L**
108-88-3	Toluene	0.609U	0.609	25.0	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**1.18J**	**0.385**	**25.0**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.639U	0.639	25.0	ug/L
79-01-6	**Trichloroethene**	**70.7**	**0.807**	**25.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.785U	0.785	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.790U	0.790	25.0	ug/L
108-05-4	Vinyl acetate	0.755U	0.755	25.0	ug/L
75-01-4	Vinyl chloride	0.636U	0.636	25.0	ug/L
1330-20-7	Xylene (total)	0.894U	0.894	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	235	ug/L	94	78 - 130
1868-53-7	Dibromofluoromethane	250	261	ug/L	104	77 - 127
2037-26-5	Toluene d8	250	253	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	263	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 21:48	BMR	556092

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26.1	ug/L	64	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/04/2015 18:55	RXJ	555590

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**1.58**	**0.050**	**0.200**	**mg/L**

Sample Results

HOAMW-5

Collect Date 04/03/2015 15:17 **GCAL ID** 21504040903
Receive Date 04/04/2015 09:45 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/14/2015 20:37	JEM	556245

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	21.0	0.500	2.00	mg/L
14808-79-8	Sulfate	20.4	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/07/2015 21:06	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-8

Collect Date 04/03/2015 00:00 **GCAL ID** 21504040904
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	04/05/2015 21:37	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L

Sample Results

TRIP BLANK-8

Collect Date	04/03/2015 00:00	**GCAL ID**	21504040904
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	04/05/2015 21:37	CLH	555613

CAS#	Parameter	Result	MDL	LOQ	Units
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.2	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	49.7	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.9	ug/L	104	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555613	Client ID	MB555613	LCS555613					LCSD555613				
	GCAL ID	1431290	1431291					1431292				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	04/05/2015 18:36	04/05/2015 17:06					04/05/2015 17:29				
	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	62.0	124	76 - 126	50.0	59.6	119	4	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	49.5	99	70 - 122	50.0	48.8	98	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	51.9	104	72 - 121	50.0	50.8	102	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.9	102	74 - 127	50.0	50.5	101	1	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	54.6	109	69 - 129	50.0	51.8	104	5	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	60.1	120	61 - 135	50.0	54.6	109	10	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	55.3	111	57 - 121	50.0	53.9	108	3	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	54.8	110	70 - 124	50.0	53.5	107	2	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	52.8	106	71 - 126	50.0	51.0	102	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	58.3	117	71 - 129	50.0	56.7	113	3	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	51.5	103	72 - 128	50.0	50.7	101	2	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	53.5	107	74 - 126	50.0	51.1	102	5	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	52.6	105	72 - 122	50.0	50.7	101	4	30
2-Butanone	78-93-3	0.142U	0.142	50.0	44.5	89	58 - 137	50.0	44.9	90	1	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	42.1	84	56 - 124	50.0	42.4	85	1	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	45.4	91	50 - 135	50.0	44.5	89	2	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	48.5	97	57 - 132	50.0	46.9	94	3	30
Acetone	67-64-1	0.193U	0.193	50.0	44.4	89	44 - 156	50.0	43.3	87	3	30
Benzene	71-43-2	0.111U	0.111	50.0	51.4	103	70 - 129	50.0	49.7	99	3	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	56.7	113	74 - 125	50.0	55.6	111	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	58.6	117	64 - 122	50.0	58.4	117	0	30
Bromomethane	74-83-9	0.427U	0.427	50.0	40.4	81	47 - 138	50.0	40.0	80	1	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	53.2	106	69 - 136	50.0	50.4	101	5	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	64.6	**129***	76 - 128	50.0	61.2	122	5	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	53.4	107	74 - 123	50.0	51.7	103	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	58.6	117	62 - 141	50.0	53.3	107	9	30
Chloroform	67-66-3	0.155U	0.155	50.0	55.6	111	75 - 122	50.0	53.2	106	4	30
Chloromethane	74-87-3	0.144U	0.144	50.0	49.1	98	59 - 132	50.0	42.8	86	14	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	52.5	105	73 - 130	50.0	50.4	101	4	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	50.8	102	71 - 132	50.0	49.7	99	2	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	52.3	105	69 - 132	50.0	49.6	99	5	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	56.7	113	71 - 123	50.0	54.2	108	5	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	68.6	137	58 - 140	50.0	63.0	126	9	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	54.7	109	74 - 126	50.0	52.4	105	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	58.4	117	71 - 125	50.0	53.8	108	8	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	113	113	74 - 126	100	102	102	10	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	50.9	102	57 - 139	50.0	48.1	96	6	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	55.6	111	67 - 138	50.0	51.8	104	7	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	46.9	94	68 - 132	50.0	46.0	92	2	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.9	106	73 - 130	50.0	50.9	102	4	30
Styrene	100-42-5	0.089U	0.089	50.0	54.9	110	71 - 127	50.0	53.2	106	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	52.4	105	71 - 125	50.0	51.6	103	2	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	57.9	116	68 - 128	50.0	53.8	108	7	30
Toluene	108-88-3	0.122U	0.122	50.0	51.7	103	72 - 120	50.0	48.1	96	7	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	51.5	103	69 - 132	50.0	50.3	101	2	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	50.5	101	71 - 131	50.0	50.8	102	1	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	56.5	113	76 - 129	50.0	54.5	109	4	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	63.0	126	72 - 136	50.0	59.7	119	5	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	55.3	111	72 - 136	50.0	52.1	104	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	46.0	92	54 - 147	50.0	44.2	88	4	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.8	104	68 - 132	50.0	48.1	96	7	30
Xylene (total)	1330-20-7	0.179U	0.179	150	165	110	74 - 127	150	153	102	8	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	52.8	106	50	52.4	105	71 - 127	50	54	108	3	NA
4-Bromofluorobenzene	460-00-4	49.9	100	50	53.4	107	78 - 130	50	52.9	106	1	NA
Dibromofluoromethane	1868-53-7	51.9	104	50	52	104	77 - 127	50	52.7	105	1	NA
Toluene d8	2037-26-5	49.9	100	50	48.6	97	76 - 134	50	48.5	97	0	NA

GC/MS Volatiles Quality Control Summary

Analytical Batch 555778	Client ID	MB555778	LCS555778	LCSD555778
	GCAL ID	1432130	1432131	1432132
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/07/2015 19:35	04/07/2015 18:12	04/07/2015 18:32
	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	50.9	102	76 - 126	50.0	54.4	109	7	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	50.4	101	70 - 122	50.0	50.7	101	1	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	48.6	97	72 - 121	50.0	49.6	99	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	50.0	100	74 - 127	50.0	52.3	105	4	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	50.3	101	69 - 129	50.0	53.9	108	7	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	53.6	107	61 - 135	50.0	56.5	113	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	52.2	104	57 - 121	50.0	52.8	106	1	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	50.2	100	70 - 124	50.0	50.4	101	0	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	49.7	99	71 - 126	50.0	51.3	103	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	49.2	98	71 - 129	50.0	50.0	100	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	49.5	99	72 - 128	50.0	52.2	104	5	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	50.3	101	74 - 126	50.0	51.9	104	3	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	49.6	99	72 - 122	50.0	50.6	101	2	30
2-Butanone	78-93-3	0.142U	0.142	50.0	51.6	103	58 - 137	50.0	53.5	107	4	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	56.2	112	56 - 124	50.0	58.7	117	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	47.1	94	50 - 135	50.0	48.7	97	3	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	51.9	104	57 - 132	50.0	53.3	107	3	30
Acetone	67-64-1	0.193U	0.193	50.0	48.5	97	44 - 156	50.0	49.1	98	1	30
Benzene	71-43-2	0.111U	0.111	50.0	50.4	101	70 - 129	50.0	52.9	106	5	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	50.1	100	74 - 125	50.0	52.0	104	4	30
Bromoform	75-25-2	0.215U	0.215	50.0	50.1	100	64 - 122	50.0	50.6	101	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	49.8	100	47 - 138	50.0	51.0	102	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	52.3	105	69 - 136	50.0	56.0	112	7	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	53.1	106	76 - 128	50.0	56.7	113	7	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	48.9	98	74 - 123	50.0	50.2	100	3	20
Chloroethane	75-00-3	0.235U	0.235	50.0	49.3	99	62 - 141	50.0	52.7	105	7	30
Chloroform	67-66-3	0.155U	0.155	50.0	49.4	99	75 - 122	50.0	51.9	104	5	30
Chloromethane	74-87-3	0.144U	0.144	50.0	51.3	103	59 - 132	50.0	54.2	108	5	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	49.7	99	73 - 130	50.0	52.4	105	5	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	53.4	107	71 - 132	50.0	55.2	110	3	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	42.1	84	69 - 132	50.0	45.0	90	7	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	49.9	100	71 - 123	50.0	50.7	101	2	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	45.2	90	58 - 140	50.0	48.5	97	7	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	51.4	103	74 - 126	50.0	53.3	107	4	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	53.7	107	71 - 125	50.0	56.9	114	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	105	105	74 - 126	100	109	109	4	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	48.0	96	57 - 139	50.0	50.3	101	5	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	42.2	84	67 - 138	50.0	44.8	90	6	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	47.4	95	68 - 132	50.0	49.2	98	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.3	105	73 - 130	50.0	54.7	109	4	30
Styrene	100-42-5	0.089U	0.089	50.0	52.7	105	71 - 127	50.0	54.1	108	3	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	50.9	102	71 - 125	50.0	52.4	105	3	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	49.2	98	68 - 128	50.0	52.8	106	7	30
Toluene	108-88-3	0.122U	0.122	50.0	49.1	98	72 - 120	50.0	51.6	103	5	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	50.0	100	69 - 132	50.0	54.0	108	8	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	53.2	106	71 - 131	50.0	54.5	109	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	49.3	99	76 - 129	50.0	52.4	105	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	47.9	96	72 - 136	50.0	51.3	103	7	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	45.5	91	72 - 136	50.0	48.2	96	6	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	47.3	95	54 - 147	50.0	46.3	93	2	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	51.1	102	68 - 132	50.0	55.5	111	8	30
Xylene (total)	1330-20-7	0.179U	0.179	150	158	105	74 - 127	150	164	109	4	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.9	102	50	49.9	100	71 - 127	50	50.1	100	0	NA
4-Bromofluorobenzene	460-00-4	48.5	97	50	50	100	78 - 130	50	49.5	99	1	NA
Dibromofluoromethane	1868-53-7	51.3	103	50	50.4	101	77 - 127	50	49.9	100	1	NA
Toluene d8	2037-26-5	50.9	102	50	49.6	99	76 - 134	50	49.3	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 556092	Client ID	MB556092		LCS556092				LCSD556092				
	GCAL ID	1433625		1433626				1433627				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/10/2015 19:03		04/10/2015 19:09				04/10/2015 19:16				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.88	88	45 - 128	3.28	2.95	90	2	29
Ethene	74-85-1	0.071U	0.071	3.06	2.68	88	45 - 134	3.06	2.71	89	1	25
Methane	74-82-8	0.435U	0.435	17.5	14.0	80	39 - 120	17.5	14.2	81	1	27
Surrogate												
Propene	115-07-1	34	84	40.5	26.9	66	40 - 143	40.5	27.1	67	1	NA

General Chemistry Quality Control Summary

Analytical Batch 555876		Client ID	MB555876		LCS555876			
		GCAL ID	1432548		1432549			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	27.5	110	80 - 120

Analytical Batch 555876		Client ID	GPMW-20		1430917MS			
		GCAL ID	21504030801		1432550			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	27.1	108	75 - 125

Analytical Batch 555876		Client ID	MW-X		1430918DUP		
		GCAL ID	21504030802		1432551		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555590		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	04/04/2015 16:19		04/04/2015 16:36				04/04/2015 16:53				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	0.000	0.150		7.50	7.01	94	80 - 120	7.50	7.06	94	1	15

Analytical Batch 555590		Client ID	MB555590		LCS555590			
		GCAL ID	1431231		1431232			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/04/2015 16:01		04/04/2015 15:44			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8	0.050U	0.050		2.50	2.38	95	80 - 120

Analytical Batch 555590		Client ID	MWQ-21		1431110MS				1431110MSD				
		GCAL ID	21504040601		1431233				1431234				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/04/2015 20:05		04/04/2015 20:22				04/04/2015 20:40				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	3.30	0.100		5.00	8.31	100	80 - 120	5.00	8.27	99	1	15

General Chemistry Quality Control Summary

Analytical Batch 556245		Client ID	MB556245		LCS556245			
		GCAL ID	1434178		1434179			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/14/2015 13:39		04/14/2015 13:22			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	
Chloride	16887-00-6	0.050U	0.050	2.50	2.44	98	80 - 120	
Sulfate	14808-79-8	0.050U	0.050	2.50	2.58	103	80 - 120	

Analytical Batch 556245		Client ID	RPMW-14		1430384MS				1430384MSD				
		GCAL ID	21504022501		1434182				1434183				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/14/2015 13:57		04/14/2015 14:14				04/14/2015 14:31				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit	
Chloride	16887-00-6	13.9	0.500	25.0	37.1	93	80 - 120	25.0	37.1	93	0	15	
Sulfate	14808-79-8	23.5	0.500	25.0	48.8	101	80 - 120	25.0	49.1	102	1	15	

Analytical Batch 556245		Client ID	MTWMW-1		1431119MS				1431119MSD				
		GCAL ID	21504040901		1434180				1434181				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/14/2015 19:27		04/14/2015 19:45				04/14/2015 20:02				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit	
Chloride	16887-00-6	10.1	0.250	12.5	21.9	94	80 - 120	12.5	21.9	95	0	15	
Sulfate	14808-79-8	18.8	0.250	12.5	31.3	100	80 - 120	12.5	31.7	103	1	15	

Analytical Batch 555770		Client ID	MB555770		LCS555770				LCSD555770				
		GCAL ID	1432064		1432065				1432616				
		Sample Type	MB		LCS				LCSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/07/2015 18:24		04/07/2015 17:10				04/07/2015 11:36				
		Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit	
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.8	96	80 - 120	50.0	48.8	98	2	25	

Analytical Batch 555770		Client ID	OT07-MW006		1431864MS				1431864MSD				
		GCAL ID	21504073706		1432068				1432069				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/08/2015 07:01		04/08/2015 07:25				04/08/2015 07:53				
		Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit	
Total Organic Carbon	C-012	6.9	1.5	250	247	96	75 - 125	250	256	100	4	25	

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040409
Due Date: 04/15/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta	Contact: Jerry Gaccetta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.gaccetta@amec.com	E-mail: Jerry.gaccetta@amec.com

P.O. Number:

Project Name/Number: Woodall Creek 6122130015

Sampled By: Mark Andrews & Ever Guillen

Analytical Requests & Method

GCAL use only:
Custody Seal used ☐ yes ☐ no intact ☐ yes ☐ no
Temperature °C 0.4 E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate none	Chloride/Sulfate none	Sulfide ~~Zinc Acetate~~	VOCs HCl	TOC HCl	Methane, Ethane, Ethene HCl	Preservative
W	4/3/15	1235		✓	MTW MW-1	10	1	1	1	3	2	2	1
W	4/3/15	1600		✓	MTW MW-12	10	1	1	1	3	2	2	2
W	4/3/15	1517		✓	HOA MW-5	10	1	1	1	3	2	2	3
W	4/3/15				Trip Blank-8	3				3			4

Air Bill No: 7732 6553 1478

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	1754			
Fed EX	4-4-15	11:45	Didi McCune	4-4-15	9:45

Note: 48hr hold time for Nitrate

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

215040409

SAMPLE DELIVERY GROUP 215040409	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**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)
7732 6553 1478		0.4

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 04/20/2015

GCAL Report 215040703

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

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 215040703

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040703

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, samples 21504070301 (MTWMW-8), 21504070302 (HOAMW-3) and 21504070303 (MTWMW-9) 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 555838, the LCS and/or LCSD recoveries are above the upper control limit for 2-Chloroethylvinyl ether. This compound was not detected in the associated samples.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504070301 (MTWMW-8), 21504070302 (HOAMW-3), 21504070303 (MTWMW-9), 21504070305 (MTWMW-4) and 21504070306 (MTWMW-10) 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
21504070301	MTWMW-8	Water	04/06/2015 10:50	04/07/2015 10:00
21504070302	HOAMW-3	Water	04/06/2015 12:57	04/07/2015 10:00
21504070303	MTWMW-9	Water	04/06/2015 13:00	04/07/2015 10:00
21504070304	EB-10310	Water	04/06/2015 15:02	04/07/2015 10:00
21504070305	MTWMW-4	Water	04/06/2015 16:57	04/07/2015 10:00
21504070306	MTWMW-10	Water	04/06/2015 16:10	04/07/2015 10:00
21504070307	TRIP BLANK-9	Water	04/06/2015 00:00	04/07/2015 10:00

Summary of Compounds Detected

MTWMW-8

Collect Date 04/06/2015 10:50 **GCAL ID** 21504070301
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	90.9	1.03	50.0	ug/L
127-18-4	Tetrachloroethene	1080	1.93	50.0	ug/L
79-01-6	Trichloroethene	415	1.61	50.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	14.1	0.500	2.00	mg/L
14797-55-8	Nitrate	2.65	0.050	0.200	mg/L
14808-79-8	Sulfate	23.9	0.500	2.00	mg/L

HOAMW-3

Collect Date 04/06/2015 12:57 **GCAL ID** 21504070302
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	9.84J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	42.6	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	207	0.385	10.0	ug/L
79-01-6	Trichloroethene	62.7	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	14.5	0.500	2.00	mg/L
14797-55-8	Nitrate	2.14	0.050	0.200	mg/L
14808-79-8	Sulfate	38.5	0.500	2.00	mg/L

MTWMW-9

Collect Date 04/06/2015 13:00 **GCAL ID** 21504070303
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	1.55J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	28.8	0.207	10.0	ug/L
127-18-4	Tetrachloroethene	311	0.385	10.0	ug/L

Summary of Compounds Detected

MTWMW-9

Collect Date 04/06/2015 13:00 **GCAL ID** 21504070303
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
79-01-6	Trichloroethene	131	0.323	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	11.9	0.500	2.00	mg/L
14797-55-8	Nitrate	3.19	0.050	0.200	mg/L
14808-79-8	Sulfate	30.2	0.500	2.00	mg/L

EB-10310

Collect Date 04/06/2015 15:02 **GCAL ID** 21504070304
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	1.46J	0.193	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.096J	0.050	0.200	mg/L

MTWMW-4

Collect Date 04/06/2015 16:57 **GCAL ID** 21504070305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.326J	0.208	5.00	ug/L
67-66-3	Chloroform	10.5	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	33.4	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	194	0.193	5.00	ug/L
79-01-6	Trichloroethene	51.4	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	13.9	0.500	2.00	mg/L
14797-55-8	Nitrate	2.44	0.050	0.200	mg/L

Summary of Compounds Detected

MTWMW-4

Collect Date 04/06/2015 16:57 **GCAL ID** 21504070305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 9056A (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
14808-79-8	Sulfate	29.1	1.00	2.00	mg/L

MTWMW-10

Collect Date 04/06/2015 16:10 **GCAL ID** 21504070306
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	1.34J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.93J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	55.2	0.193	5.00	ug/L
79-01-6	Trichloroethene	7.98	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.67	0.500	2.00	mg/L
14797-55-8	Nitrate	2.94	0.050	0.200	mg/L
14808-79-8	Sulfate	46.6	1.00	2.00	mg/L

TRIP BLANK-9

Collect Date 04/06/2015 00:00 **GCAL ID** 21504070307
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	0.886J	0.193	5.00	ug/L

Sample Results

MTWMW-8	**Collect Date**	04/06/2015 10:50	**GCAL ID**	21504070301
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/08/2015 13:15	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.23U	1.23	50.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.09U	1.09	50.0	ug/L
79-00-5	1,1,2-Trichloroethane	1.59U	1.59	50.0	ug/L
75-34-3	1,1-Dichloroethane	1.71U	1.71	50.0	ug/L
75-35-4	1,1-Dichloroethene	2.08U	2.08	50.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.05U	1.05	50.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.94U	1.94	50.0	ug/L
106-93-4	1,2-Dibromoethane	1.02U	1.02	50.0	ug/L
95-50-1	1,2-Dichlorobenzene	1.35U	1.35	50.0	ug/L
107-06-2	1,2-Dichloroethane	1.16U	1.16	50.0	ug/L
78-87-5	1,2-Dichloropropane	1.50U	1.50	50.0	ug/L
541-73-1	1,3-Dichlorobenzene	1.38U	1.38	50.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.831U	0.831	50.0	ug/L
78-93-3	2-Butanone	1.42U	1.42	50.0	ug/L
110-75-8	2-Chloroethylvinyl ether	1.46U	1.46	50.0	ug/L
591-78-6	2-Hexanone	1.22U	1.22	50.0	ug/L
108-10-1	4-Methyl-2-pentanone	1.20U	1.20	50.0	ug/L
67-64-1	Acetone	1.93U	1.93	50.0	ug/L
71-43-2	Benzene	1.11U	1.11	50.0	ug/L
75-27-4	Bromodichloromethane	0.834U	0.834	50.0	ug/L
75-25-2	Bromoform	2.15U	2.15	50.0	ug/L
74-83-9	Bromomethane	4.27U	4.27	50.0	ug/L
75-15-0	Carbon disulfide	1.90U	1.90	50.0	ug/L
56-23-5	Carbon tetrachloride	2.48U	2.48	50.0	ug/L
108-90-7	Chlorobenzene	0.828U	0.828	50.0	ug/L
75-00-3	Chloroethane	2.35U	2.35	50.0	ug/L
67-66-3	Chloroform	1.55U	1.55	50.0	ug/L
74-87-3	Chloromethane	1.44U	1.44	50.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**90.9**	**1.03**	**50.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	1.24U	1.24	50.0	ug/L
110-82-7	Cyclohexane	3.37U	3.37	50.0	ug/L
124-48-1	Dibromochloromethane	0.539U	0.539	50.0	ug/L
75-71-8	Dichlorodifluoromethane	1.45U	1.45	50.0	ug/L
100-41-4	Ethylbenzene	1.09U	1.09	50.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.30U	1.30	50.0	ug/L
136777-61-2	m,p-Xylene	1.23U	1.23	100	ug/L
79-20-9	Methyl Acetate	1.59U	1.59	50.0	ug/L
108-87-2	Methylcyclohexane	1.43U	1.43	50.0	ug/L
75-09-2	Methylene chloride	1.49U	1.49	50.0	ug/L
95-47-6	o-Xylene	0.554U	0.554	50.0	ug/L
100-42-5	Styrene	0.894U	0.894	50.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.777U	0.777	50.0	ug/L
127-18-4	**Tetrachloroethene**	**1080**	**1.93**	**50.0**	**ug/L**
108-88-3	Toluene	1.22U	1.22	50.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.769U	0.769	50.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.28U	1.28	50.0	ug/L
79-01-6	**Trichloroethene**	**415**	**1.61**	**50.0**	**ug/L**
75-69-4	Trichlorofluoromethane	1.57U	1.57	50.0	ug/L
76-13-1	Trichlorotrifluoroethane	1.58U	1.58	50.0	ug/L
108-05-4	Vinyl acetate	1.51U	1.51	50.0	ug/L
75-01-4	Vinyl chloride	1.27U	1.27	50.0	ug/L

Sample Results

MTWMW-8	**Collect Date**	04/06/2015 10:50	**GCAL ID**	21504070301
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/08/2015 13:15	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	1.79U	1.79	150	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	475	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	500	518	ug/L	104	77 - 127
2037-26-5	Toluene d8	500	506	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	500	536	ug/L	107	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 00:48	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	22.6	ug/L	56	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 09:39	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.65**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 23:19	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**14.1**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**23.9**	**0.500**	**2.00**	**mg/L**

Sample Results

MTWMW-8

Collect Date	04/06/2015 10:50	**GCAL ID**	21504070301
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 02:02	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

HOAMW-3

Collect Date	04/06/2015 12:57	**GCAL ID**	21504070302
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/08/2015 13:38	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**9.84J**	**0.310**	**10.0**	**ug/L**

Sample Results

HOAMW-3

Collect Date	04/06/2015 12:57	**GCAL ID**	21504070302
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/08/2015 13:38	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**42.6**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**207**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**62.7**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	94.4	ug/L	94	78 - 130
1868-53-7	Dibromofluoromethane	100	105	ug/L	105	77 - 127
2037-26-5	Toluene d8	100	100	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	105	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 00:57	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28.1	ug/L	69	40 - 143

Sample Results

HOAMW-3

Collect Date 04/06/2015 12:57 **GCAL ID** 21504070302
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 09:22	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	2.14	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 23:37	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	14.5	0.500	2.00	mg/L
14808-79-8	Sulfate	38.5	0.500	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 02:29	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MTWMW-9

Collect Date 04/06/2015 13:00 **GCAL ID** 21504070303
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/08/2015 14:00	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.246U	0.246	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.342U	0.342	10.0	ug/L

Sample Results

MTWMW-9	**Collect Date**	04/06/2015 13:00	**GCAL ID**	21504070303
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/08/2015 14:00	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.416U	0.416	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**1.55J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**28.8**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L
75-09-2	Methylene chloride	0.298U	0.298	10.0	ug/L
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**311**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**131**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	Vinyl chloride	0.254U	0.254	10.0	ug/L

Sample Results

MTWMW-9	**Collect Date**	04/06/2015 13:00	**GCAL ID**	21504070303
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/08/2015 14:00	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	95.3	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	100	104	ug/L	104	77 - 127
2037-26-5	Toluene d8	100	102	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	104	ug/L	104	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 01:08	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	25.9	ug/L	64	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 09:57	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**3.19**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/15/2015 23:54	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**11.9**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**30.2**	**0.500**	**2.00**	**mg/L**

Sample Results

MTWMW-9

Collect Date	04/06/2015 13:00	**GCAL ID**	21504070303
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 02:53	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

EB-10310

Collect Date	04/06/2015 15:02	**GCAL ID**	21504070304
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:21	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

EB-10310	**Collect Date**	04/06/2015 15:02	**GCAL ID**	21504070304
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:21	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**1.46J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.1	ug/L	96	78 - 130
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.9	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.5	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 02:57	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	31.4	ug/L	78	40 - 143

Sample Results

EB-10310

Collect Date 04/06/2015 15:02 **GCAL ID** 21504070304
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 10:14	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.096J	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/16/2015 18:15	RXJ	556483

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	0.050U	0.050	0.200	mg/L
14808-79-8	Sulfate	0.100U	0.100	0.200	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 03:19	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MTWMW-4

Collect Date 04/06/2015 16:57 **GCAL ID** 21504070305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:41	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

MTWMW-4	**Collect Date**	04/06/2015 16:57	**GCAL ID**	21504070305
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:41	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	**1,1-Dichloroethene**	**0.326J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**10.5**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**33.4**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**194**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**51.4**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

MTWMW-4

Collect Date	04/06/2015 16:57	**GCAL ID**	21504070305
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:41	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	46.9	ug/L	94	78 - 130
1868-53-7	Dibromofluoromethane	50	53	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	50.3	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.4	ug/L	105	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 01:25	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.6	ug/L	73	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 10:32	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.44**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/16/2015 00:29	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**13.9**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**29.1**	**1.00**	**2.00**	**mg/L**

Sample Results

MTWMW-4

Collect Date 04/06/2015 16:57 **GCAL ID** 21504070305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 03:49	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MTWMW-10

Collect Date 04/06/2015 16:10 **GCAL ID** 21504070306
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 15:01	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**1.34J**	**0.155**	**5.00**	**ug/L**

Sample Results

MTWMW-10

Collect Date	04/06/2015 16:10	**GCAL ID**	21504070306
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 15:01	LBH	555838

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.93J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**55.2**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**7.98**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47	ug/L	94	78 - 130
1868-53-7	Dibromofluoromethane	50	52.5	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

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/14/2015 01:30	BMR	556222

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	27.1	ug/L	67	40 - 143

Sample Results

MTWMW-10

Collect Date 04/06/2015 16:10 **GCAL ID** 21504070306
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 10:49	RXJ	555799

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	2.94	0.050	0.200	mg/L

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/16/2015 00:46	RXJ	556331

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.67	0.500	2.00	mg/L
14808-79-8	Sulfate	46.6	1.00	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 04:16	JEM	555770

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 07:30	KGL2	555876

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-9

Collect Date 04/06/2015 00:00 **GCAL ID** 21504070307
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 15:21	JCK	555838

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

TRIP BLANK-9

Collect Date	04/06/2015 00:00	**GCAL ID**	21504070307
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 15:21	JCK	555838

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**0.886J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

TRIP BLANK-9

Collect Date	04/06/2015 00:00	**GCAL ID**	21504070307
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 15:21	JCK	555838

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.4	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	52.6	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.6	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	53.6	ug/L	107	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555838	Client ID	MB555838	LCS555838					LCSD555838				
	GCAL ID	1432261	1432262					1432263				
	Sample Type	MB	LCS					LCSD				
	Prep Date	NA	NA					NA				
	Analysis Date	04/08/2015 11:21	04/08/2015 10:01					04/08/2015 10:21				
	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	57.9	116	76 - 126	50.0	54.5	109	6	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	53.8	108	70 - 122	50.0	55.3	111	3	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	53.1	106	72 - 121	50.0	52.1	104	2	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	57.0	114	74 - 127	50.0	53.8	108	6	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	58.6	117	69 - 129	50.0	53.8	108	9	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	58.9	118	61 - 135	50.0	58.5	117	1	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	56.2	112	57 - 121	50.0	57.5	115	2	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	53.5	107	70 - 124	50.0	53.3	107	0	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	54.4	109	71 - 126	50.0	52.8	106	3	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	54.6	109	71 - 129	50.0	52.8	106	3	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	56.2	112	72 - 128	50.0	53.6	107	5	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	55.8	112	74 - 126	50.0	53.3	107	5	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	54.2	108	72 - 122	50.0	52.3	105	4	30
2-Butanone	78-93-3	0.142U	0.142	50.0	63.3	127	58 - 137	50.0	64.6	129	2	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	66.9	**134***	56 - 124	50.0	63.0	**126***	6	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	52.8	106	50 - 135	50.0	55.7	111	5	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	55.4	111	57 - 132	50.0	57.5	115	4	30
Acetone	67-64-1	0.193U	0.193	50.0	67.1	134	44 - 156	50.0	70.5	141	5	30
Benzene	71-43-2	0.111U	0.111	50.0	58.0	116	70 - 129	50.0	53.9	108	7	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	56.6	113	74 - 125	50.0	53.9	108	5	30
Bromoform	75-25-2	0.215U	0.215	50.0	54.6	109	64 - 122	50.0	53.5	107	2	30
Bromomethane	74-83-9	0.427U	0.427	50.0	51.7	103	47 - 138	50.0	53.0	106	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	56.8	114	69 - 136	50.0	53.1	106	7	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	62.6	125	76 - 128	50.0	57.0	114	9	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	55.0	110	74 - 123	50.0	52.3	105	5	20
Chloroethane	75-00-3	0.235U	0.235	50.0	56.1	112	62 - 141	50.0	52.5	105	7	30
Chloroform	67-66-3	0.155U	0.155	50.0	56.4	113	75 - 122	50.0	52.7	105	7	30
Chloromethane	74-87-3	0.144U	0.144	50.0	54.0	108	59 - 132	50.0	52.5	105	3	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	56.8	114	73 - 130	50.0	53.2	106	7	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	60.2	120	71 - 132	50.0	57.1	114	5	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	54.7	109	69 - 132	50.0	50.0	100	9	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	53.4	107	71 - 123	50.0	52.9	106	1	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	54.6	109	58 - 140	50.0	51.0	102	7	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	57.6	115	74 - 126	50.0	54.0	108	6	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	60.2	120	71 - 125	50.0	56.5	113	6	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	118	118	74 - 126	100	110	110	7	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	58.0	116	57 - 139	50.0	55.6	111	4	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	54.4	109	67 - 138	50.0	49.0	98	10	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	54.2	108	68 - 132	50.0	51.2	102	6	30
o-Xylene	95-47-6	0.055U	0.055	50.0	58.1	116	73 - 130	50.0	55.4	111	5	30
Styrene	100-42-5	0.089U	0.089	50.0	58.8	118	71 - 127	50.0	56.0	112	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	53.5	107	71 - 125	50.0	53.5	107	0	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	55.2	110	68 - 128	50.0	51.9	104	6	30
Toluene	108-88-3	0.122U	0.122	50.0	55.2	110	72 - 120	50.0	52.4	105	5	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	57.3	115	69 - 132	50.0	53.2	106	7	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	58.9	118	71 - 131	50.0	56.9	114	3	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	56.9	114	76 - 129	50.0	52.7	105	8	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	58.8	118	72 - 136	50.0	54.5	109	8	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	60.3	121	72 - 136	50.0	54.3	109	10	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	59.9	120	54 - 147	50.0	57.8	116	4	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	57.9	116	68 - 132	50.0	53.4	107	8	30
Xylene (total)	1330-20-7	0.179U	0.179	150	176	117	74 - 127	150	166	111	6	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	53	106	50	51.5	103	71 - 127	50	51	102	1	NA
4-Bromofluorobenzene	460-00-4	48.5	97	50	48.8	98	78 - 130	50	49	98	0	NA
Dibromofluoromethane	1868-53-7	52	104	50	50.6	101	77 - 127	50	50.1	100	1	NA
Toluene d8	2037-26-5	51.3	103	50	48.8	98	76 - 134	50	49.4	99	1	NA

GC Volatiles Quality Control Summary

Analytical Batch 556222	Client ID	MB556222		LCS556222				LCSD556222				
	GCAL ID	1434096		1434097				1434098				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/13/2015 23:23		04/13/2015 23:31				04/13/2015 23:45				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.88	88	45 - 128	3.28	2.79	85	3	29
Ethene	74-85-1	0.071U	0.071	3.06	2.47	81	45 - 134	3.06	2.39	78	3	25
Methane	74-82-8	0.435U	0.435	17.5	13.7	78	39 - 120	17.5	13.3	76	3	27
Surrogate												
Propene	115-07-1	33.5	83	40.5	25.5	63	40 - 143	40.5	24.3	60	5	NA

General Chemistry Quality Control Summary

Analytical Batch 555876		Client ID	MB555876		LCS555876			
		GCAL ID	1432548		1432549			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	27.5	110	80 - 120

Analytical Batch 555876		Client ID	GPMW-20		1430917MS			
		GCAL ID	21504030801		1432550			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	27.1	108	75 - 125

Analytical Batch 555876		Client ID	MW-X		1430918DUP		
		GCAL ID	21504030802		1432551		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/09/2015 07:30		04/09/2015 07:30		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555799		Client ID	MB555799		LCS555799			
		GCAL ID	1432180		1432181			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/08/2015 09:04		04/08/2015 08:47			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8	0.050U	0.050		2.50	2.35	94	80 - 120

Analytical Batch 555799		Client ID	OT07-MW006		1431864MS				1431864MSD				
		GCAL ID	21504073706		1432511				1432512				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/08/2015 11:24		04/08/2015 11:41				04/08/2015 11:59				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	0.098	0.050		2.50	2.34	90	80 - 120	2.50	2.35	90	0	15

Analytical Batch 556331		Client ID	MB556331		LCS556331			
		GCAL ID	1434509		1434510			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/15/2015 14:37		04/15/2015 14:20			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050		2.50	2.32	93	80 - 120
Sulfate	14808-79-8	0.050U	0.050		2.50	2.55	102	80 - 120

General Chemistry Quality Control Summary

Analytical Batch		Client ID	OXY #1		1432105MS				1432105MSD				
556331		GCAL ID	21504077901		1434511				1434512				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/15/2015 20:25		04/15/2015 22:44				04/15/2015 23:02				
		Matrix	Water		Water				Water				
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8		1.72	1.00	50.0	51.3	99	80 - 120	50.0	51.3	99	0	15

Analytical Batch		Client ID	MB556483		LCS556483			
556483		GCAL ID	1435340		1435341			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/16/2015 17:57		04/16/2015 17:39			
		Matrix	Water		Water			
EPA 9056A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6		0.075	0.050	2.50	2.37	95	80 - 120
Sulfate	14808-79-8		0.100U	0.100	2.50	2.45	98	80 - 120

Analytical Batch		Client ID	MB555770		LCS555770				LCSD555770				
555770		GCAL ID	1432064		1432065				1432616				
		Sample Type	MB		LCS				LCSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/07/2015 18:24		04/07/2015 17:10				04/07/2015 11:36				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		0.30U	0.30	50.0	47.8	96	80 - 120	50.0	48.8	98	2	25

Analytical Batch		Client ID	OT07-MW006		1431864MS				1431864MSD				
555770		GCAL ID	21504073706		1432068				1432069				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/08/2015 07:01		04/08/2015 07:25				04/08/2015 07:53				
		Matrix	Water		Water				Water				
EPA 9060A			Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012		6.9	1.5	250	247	96	75 - 125	250	256	100	4	25

CHAIN OF CUSTODY RECORD

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

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040703
Due Date: 04/16/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta	Contact: Jerry Gaccetta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.Gaccetta@amec.com	E-mail: Jerry.Gaccetta@amec.com

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

GCAL use only:
Custody Seal used ☑ yes ☐ no intact ☑ yes ☐ no
Temperature °C 4.0E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	Chloride/ sulfate	Sulfide	VOCs	TOCs	Methane, Ethane, Ethene	Preservative
							none	none	ZnAc NaOH	HCl	HCl	HCl	←
W	4/6/15	1050		✓	MTWMW-8	10	1	1	1	3	2	2	1
W	4/6/15	1057		✓	HOAMW-3	10	1	1	1	3	2	2	2
W	4/6/15	1300		✓	MTWMW-9	10	1	1	1	3	2	2	3
W	4/6/15	1502			EB-10310	10	1	1	1	3	2	2	4
W	4/6/15	1657		✓	MTWMW-4	10	1	1	1	3	2	2	5
W	4/6/15	1610		✓	MTWMW-10	10	1	1	1	3	2	2	6
W	4/6/15				TRIP Blank-9	3				3			7

Air Bill No: 7732 9361 0630

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:
	4/6/15	1710			
Fed Ex	4-7-15	10:00	Dixie McCune	4-7-15	10:00

Note: 48hr hold time for Nitrate

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

215040703

SAMPLE DELIVERY GROUP 215040703	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/07/15

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)
773293670630		4.0

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 04/10/2015

GCAL Report 215040753

Deliver To	AMEC Env & Infra Inc 1075 Big Shanty Road NW Suite 100 Kennesaw, GA 30144 (770) 421-3419
Attn	Jerry Gaccetta
Project	Woodall Creek

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.

Curtis Ekker
Authorized Signature
GCAL Report 215040753

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040753

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.

No anomalies were found for the analyzed sample(s).

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21504075301	S-18	Water	04/06/2015 11:35	04/07/2015 10:00
21504075302	S-17	Water	04/06/2015 11:45	04/07/2015 10:00
21504075303	S-16	Water	04/06/2015 11:55	04/07/2015 10:00
21504075304	S-15	Water	04/06/2015 12:00	04/07/2015 10:00
21504075305	S-14	Water	04/06/2015 12:10	04/07/2015 10:00
21504075306	S-13	Water	04/06/2015 12:20	04/07/2015 10:00
21504075307	S-12	Water	04/06/2015 12:30	04/07/2015 10:00
21504075308	S-11A	Water	04/06/2015 12:45	04/07/2015 10:00
21504075309	S-11	Water	04/06/2015 12:45	04/07/2015 10:00
21504075310	S-10	Water	04/06/2015 13:00	04/07/2015 10:00
21504075311	S-9	Water	04/06/2015 13:00	04/07/2015 10:00
21504075312	TRIP BLANK-10	Water	04/06/2015 00:00	04/07/2015 10:00

Summary of Compounds Detected

S-18

Collect Date 04/06/2015 11:35 **GCAL ID** 21504075301
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	5.67	0.120	5.00	ug/L
67-64-1	Acetone	13.5	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.98J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	8.67	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.29J	0.161	5.00	ug/L

S-17

Collect Date 04/06/2015 11:45 **GCAL ID** 21504075302
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
78-93-3	2-Butanone	7.33	0.142	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	6.52	0.120	5.00	ug/L
67-64-1	Acetone	15.4	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.94J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	9.12	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.37J	0.161	5.00	ug/L

S-16

Collect Date 04/06/2015 11:55 **GCAL ID** 21504075303
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	6.70	0.120	5.00	ug/L
67-64-1	Acetone	15.5	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.08J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	8.90	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.47J	0.161	5.00	ug/L

S-15

Collect Date 04/06/2015 12:00 **GCAL ID** 21504075304
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	7.40	0.120	5.00	ug/L
67-64-1	Acetone	16.9	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.13J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	8.96	0.193	5.00	ug/L

Summary of Compounds Detected

S-15

Collect Date 04/06/2015 12:00 **GCAL ID** 21504075304
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
79-01-6	Trichloroethene	3.80J	0.161	5.00	ug/L

S-14

Collect Date 04/06/2015 12:10 **GCAL ID** 21504075305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	7.35	0.120	5.00	ug/L
67-64-1	Acetone	16.5	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.84J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	8.61	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.43J	0.161	5.00	ug/L

S-13

Collect Date 04/06/2015 12:20 **GCAL ID** 21504075306
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	7.66	0.120	5.00	ug/L
67-64-1	Acetone	17.2	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.50J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	7.36	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.13J	0.161	5.00	ug/L

S-12

Collect Date 04/06/2015 12:30 **GCAL ID** 21504075307
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
108-10-1	4-Methyl-2-pentanone	8.02	0.120	5.00	ug/L
67-64-1	Acetone	18.0	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.59J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	7.28	0.193	5.00	ug/L
79-01-6	Trichloroethene	2.99J	0.161	5.00	ug/L

Summary of Compounds Detected

S-11A

Collect Date 04/06/2015 12:45 **GCAL ID** 21504075308
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
78-93-3	2-Butanone	8.91	0.142	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	7.98	0.120	5.00	ug/L
67-64-1	Acetone	17.3	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.45J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	6.68	0.193	5.00	ug/L
79-01-6	Trichloroethene	2.96J	0.161	5.00	ug/L

S-11

Collect Date 04/06/2015 12:45 **GCAL ID** 21504075309
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
78-93-3	2-Butanone	8.63	0.142	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	7.62	0.120	5.00	ug/L
67-64-1	Acetone	16.6	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.59J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	7.33	0.193	5.00	ug/L
79-01-6	Trichloroethene	3.13J	0.161	5.00	ug/L

S-10

Collect Date 04/06/2015 13:00 **GCAL ID** 21504075310
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.300J	0.208	5.00	ug/L
78-93-3	2-Butanone	9.71	0.142	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	7.97	0.120	5.00	ug/L
67-64-1	Acetone	17.7	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.19J	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	5.99	0.193	5.00	ug/L
79-01-6	Trichloroethene	2.82J	0.161	5.00	ug/L

S-9

Collect Date 04/06/2015 13:00 **GCAL ID** 21504075311
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
78-93-3	2-Butanone	9.17	0.142	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	7.80	0.120	5.00	ug/L
67-64-1	Acetone	17.1	0.193	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.05J	0.103	5.00	ug/L

Summary of Compounds Detected

S-9				
	Collect Date	04/06/2015 13:00	**GCAL ID**	21504075311
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	6.04	0.193	5.00	ug/L
79-01-6	Trichloroethene	2.67J	0.161	5.00	ug/L

Sample Results

S-18

Collect Date	04/06/2015 11:35	**GCAL ID**	21504075301
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:08	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**5.67**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**13.5**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.98J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**8.67**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.29J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

S-18

Collect Date 04/06/2015 11:35 **GCAL ID** 21504075301
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 10:08	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.4	ug/L	105	78 - 130
1868-53-7	Dibromofluoromethane	50	51.3	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.8	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.8	ug/L	100	71 - 127

S-17

Collect Date 04/06/2015 11:45 **GCAL ID** 21504075302
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:15	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	**2-Butanone**	**7.33**	**0.142**	**5.00**	**ug/L**
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**6.52**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**15.4**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.94J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L

Sample Results

S-17

Collect Date 04/06/2015 11:45 **GCAL ID** 21504075302
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:15	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**9.12**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.37J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.2	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	52.5	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.1	ug/L	100	71 - 127

S-16

Collect Date 04/06/2015 11:55 **GCAL ID** 21504075303
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:36	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L

Sample Results

S-16

Collect Date	04/06/2015 11:55	**GCAL ID**	21504075303
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:36	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**6.70**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**15.5**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.08J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**8.90**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.47J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	52.3	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.6	ug/L	101	71 - 127

Sample Results

S-15	**Collect Date**	04/06/2015 12:00	**GCAL ID**	21504075304
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:57	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.40**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**16.9**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**2.13J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**8.96**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.80J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

S-15

Collect Date 04/06/2015 12:00 **GCAL ID** 21504075304
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 12:57	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	52	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	52.7	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.2	ug/L	100	71 - 127

S-14

Collect Date 04/06/2015 12:10 **GCAL ID** 21504075305
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 13:18	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.35**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**16.5**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.84J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L

Sample Results

S-14

Collect Date	04/06/2015 12:10	**GCAL ID**	21504075305
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 13:18	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**8.61**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.43J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.4	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.4	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.4	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.9	ug/L	100	71 - 127

S-13

Collect Date	04/06/2015 12:20	**GCAL ID**	21504075306
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 13:40	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L

Sample Results

S-13

Collect Date	04/06/2015 12:20	**GCAL ID**	21504075306
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 13:40	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.66**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**17.2**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.50J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**7.36**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.13J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.2	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	52.8	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50	ug/L	100	71 - 127

Sample Results

S-12

Collect Date	04/06/2015 12:30	**GCAL ID**	21504075307
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 14:01	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**8.02**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**18.0**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.59J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**7.28**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**2.99J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

S-12

Collect Date	04/06/2015 12:30	**GCAL ID**	21504075307
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 14:01	LBH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.6	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	51.7	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.8	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.1	ug/L	100	71 - 127

S-11A

Collect Date	04/06/2015 12:45	**GCAL ID**	21504075308
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 15:25	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	**2-Butanone**	**8.91**	**0.142**	**5.00**	**ug/L**
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.98**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**17.3**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.45J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L

Sample Results

S-11A

Collect Date	04/06/2015 12:45	**GCAL ID**	21504075308
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 15:25	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**6.68**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**2.96J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.8	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	51.4	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	53.3	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.9	ug/L	100	71 - 127

S-11

Collect Date	04/06/2015 12:45	**GCAL ID**	21504075309
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 15:47	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L

Sample Results

S-11	**Collect Date**	04/06/2015 12:45	**GCAL ID**	21504075309
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 15:47	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	**2-Butanone**	**8.63**	**0.142**	**5.00**	**ug/L**
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.62**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**16.6**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.59J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**7.33**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**3.13J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52	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	50.1	ug/L	100	71 - 127

Sample Results

S-10	**Collect Date**	04/06/2015 13:00	**GCAL ID**	21504075310
	Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:08	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	**1,1-Dichloroethene**	**0.300J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	**2-Butanone**	**9.71**	**0.142**	**5.00**	**ug/L**
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.97**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**17.7**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.19J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**5.99**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**2.82J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

S-10

Collect Date 04/06/2015 13:00 **GCAL ID** 21504075310
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:08	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.8	ug/L	106	77 - 127
2037-26-5	Toluene d8	50	52.6	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.8	ug/L	102	71 - 127

S-9

Collect Date 04/06/2015 13:00 **GCAL ID** 21504075311
Receive Date 04/07/2015 10:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:29	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	**2-Butanone**	**9.17**	**0.142**	**5.00**	**ug/L**
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	**4-Methyl-2-pentanone**	**7.80**	**0.120**	**5.00**	**ug/L**
67-64-1	**Acetone**	**17.1**	**0.193**	**5.00**	**ug/L**
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**1.05J**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L

Sample Results

S-9

Collect Date	04/06/2015 13:00	**GCAL ID**	21504075311
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:29	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**6.04**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**2.67J**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.8	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	50	51.7	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.1	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.7	ug/L	99	71 - 127

TRIP BLANK-10

Collect Date	04/06/2015 00:00	**GCAL ID**	21504075312
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:50	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L

Sample Results

TRIP BLANK-10

Collect Date	04/06/2015 00:00	**GCAL ID**	21504075312
Receive Date	04/07/2015 10:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/09/2015 16:50	CLH	555920

CAS#	Parameter	Result	MDL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	Tetrachloroethene	0.193U	0.193	5.00	ug/L
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	53.2	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	50.5	ug/L	101	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 555920	Client ID	MB555920	LCS555920	LCSD555920
	GCAL ID	1432694	1432695	1432696
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/09/2015 09:47	04/09/2015 08:22	04/09/2015 08:43
	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	51.1	102	76 - 126	50.0	50.6	101	1	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	47.8	96	70 - 122	50.0	48.7	97	2	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	53.6	107	72 - 121	50.0	53.0	106	1	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	49.0	98	74 - 127	50.0	47.8	96	2	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	42.0	84	69 - 129	50.0	41.1	82	2	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	60.4	121	61 - 135	50.0	61.1	122	1	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	52.0	104	57 - 121	50.0	51.6	103	1	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	56.1	112	70 - 124	50.0	56.5	113	1	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	53.6	107	71 - 126	50.0	54.0	108	1	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	51.4	103	71 - 129	50.0	50.5	101	2	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	51.0	102	72 - 128	50.0	49.6	99	3	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	53.2	106	74 - 126	50.0	53.4	107	0	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	50.9	102	72 - 122	50.0	50.8	102	0	30
2-Butanone	78-93-3	0.142U	0.142	50.0	53.7	107	58 - 137	50.0	51.6	103	4	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	44.1	88	56 - 124	50.0	42.8	86	3	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	57.2	114	50 - 135	50.0	56.1	112	2	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	56.3	113	57 - 132	50.0	55.1	110	2	30
Acetone	67-64-1	0.193U	0.193	50.0	45.5	91	44 - 156	50.0	43.7	87	4	30
Benzene	71-43-2	0.111U	0.111	50.0	51.6	103	70 - 129	50.0	50.8	102	2	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	52.2	104	74 - 125	50.0	51.3	103	2	30
Bromoform	75-25-2	0.215U	0.215	50.0	57.5	115	64 - 122	50.0	57.8	116	1	30
Bromomethane	74-83-9	0.427U	0.427	50.0	45.7	91	47 - 138	50.0	46.6	93	2	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	41.6	83	69 - 136	50.0	41.2	82	1	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	50.4	101	76 - 128	50.0	49.9	100	1	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	51.9	104	74 - 123	50.0	51.7	103	0	20
Chloroethane	75-00-3	0.235U	0.235	50.0	44.4	89	62 - 141	50.0	43.1	86	3	30
Chloroform	67-66-3	0.155U	0.155	50.0	51.2	102	75 - 122	50.0	50.2	100	2	30
Chloromethane	74-87-3	0.144U	0.144	50.0	47.6	95	59 - 132	50.0	47.8	96	0	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	51.5	103	73 - 130	50.0	50.4	101	2	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	48.8	98	71 - 132	50.0	48.3	97	1	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	49.1	98	69 - 132	50.0	49.3	99	0	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	55.9	112	71 - 123	50.0	56.1	112	0	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	44.7	89	58 - 140	50.0	45.1	90	1	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	52.5	105	74 - 126	50.0	52.3	105	0	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	50.8	102	71 - 125	50.0	50.5	101	1	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	102	102	74 - 126	100	101	101	1	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	48.0	96	57 - 139	50.0	54.0	108	12	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	50.4	101	67 - 138	50.0	50.5	101	0	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	42.2	84	68 - 132	50.0	40.6	81	4	30
o-Xylene	95-47-6	0.055U	0.055	50.0	52.4	105	73 - 130	50.0	52.0	104	1	30
Styrene	100-42-5	0.089U	0.089	50.0	52.7	105	71 - 127	50.0	52.5	105	0	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	35.9	72	71 - 125	50.0	35.4	71	1	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	51.3	103	68 - 128	50.0	51.8	104	1	30
Toluene	108-88-3	0.122U	0.122	50.0	50.4	101	72 - 120	50.0	50.3	101	0	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	44.2	88	69 - 132	50.0	43.3	87	2	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	49.4	99	71 - 131	50.0	48.6	97	2	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	52.7	105	76 - 129	50.0	52.1	104	1	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	43.9	88	72 - 136	50.0	43.5	87	1	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	41.3	83	72 - 136	50.0	40.3	81	2	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	44.2	88	54 - 147	50.0	43.5	87	2	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	40.5	81	68 - 132	50.0	40.5	81	0	30
Xylene (total)	1330-20-7	0.179U	0.179	150	154	103	74 - 127	150	153	102	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	50.4	101	50	49.4	99	71 - 127	50	49	98	1	NA
4-Bromofluorobenzene	460-00-4	51.8	104	50	54.9	110	78 - 130	50	54.8	110	0	NA
Dibromofluoromethane	1868-53-7	51.6	103	50	51.6	103	77 - 127	50	51	102	1	NA
Toluene d8	2037-26-5	53.5	107	50	49	98	76 - 134	50	49.1	98	0	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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040753
Due Date: 04/16/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: 1075 Big Shanty RD NW Suite 100
Contact: Jerry Gaccetta	Contact: Jerry Gaccetta
Phone: 770-421-3400	Phone: 770-421-3400
E-mail: Jerry.Gaccetta@amec.com	E-mail: Jerry.Gaccetta@amec.com

P.O. Number:

Project Name/Number:

Sampled By: J. Gaccetta / A. Smits, Amec Foster Wheeler

Analytical Requests & Method: VOCs by 8260

GCAL use only:
Custody Seal used ☑ yes ☐ no
intact ☑ yes ☐ no
Temperature °C 4.2E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	VOCs by 8260	Preservative	
W	6 Apr 15	1135		✓	~~SW-1~~ AB Emails S-18	3	✓	HCl, cool 4°c	1
W	6 Apr 15	1145		✓	S-17	3	✓	HCl, cool 4°c	2
W	6 Apr 15	11:55		✓	S-16	3	✓	HCl, cool 4°c	3
W	6 Apr 15	1200		✓	S-15	3	✓	HCl, cool 4°c	4
W	6 Apr 15	1210		✓	S-14	3	✓	HCl, cool 4°c	5
W	6 Apr 15	1220		✓	S-13	3	✓	HCl, cool to 4°c	6
W	6 Apr 15	1230		✓	S-12	3	✓	HCl, cool 4°c	7
W	6 Apr 15	1245		✓	S-11A	3	✓	HCl, cool 4°c	8
W	6 Apr 15	1245		✓	S-11	3	✓	HCl, cool 4°c	9
W	6 Apr 15	1300		✓	S-10	3	✓	HCl, cool 4°c	10
W	6 Apr 15	1300		✓	S-9	3	✓	HCl, cool 4°c	11
W	4/6/15				Trip Blank-10	3	✓	HCl, cool 4°c	12

Air Bill No: 7732 9367 0191

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:
	4/6/15	1410			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
FedEx	4-7-15	10:00	Debi McCune	4-7-15	10:00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: * Sample month is April AMW 4/8/15

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

215040753

SAMPLE DELIVERY GROUP 215040753	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** Saucier, Charlotte M.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/07/15

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)
7732 9367 0191		4.2

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

Page 1 of 1

GCAL
ANALYTICAL LABORATORIES, LLC

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 04/17/2015

GCAL Report 215040811

Deliver To	AMEC E&I 396 Plasters Ave NE Atlanta, GA 30324 770-547-4409
Attn	Daniel Morris

Project Woodall Creek G122130015

PJLA Testing DoD ELAP

ISO 17025

NELAP ACCREDITED TNI LABORATORY

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

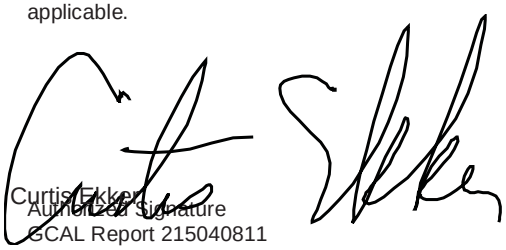
J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable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



Curtis Ekker
Authorized Signature
GCAL Report 215040811

Case Narrative

Client: AMEC Environment & Infrastructure, Inc. **Report:** 215040811

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 21504081103 (MTWMW-7I) 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 556038, the LCS/LCSD RPD is above the control limit for 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene and 1,2-Dibromo-3-Chloropropane.

VOLATILES GAS CHROMATOGRAPHY

In the EPA RSK-175 analysis, samples 21504081101 (MTWMW-7), 21504081102 (DPMW-15) and 21504081103 (MTWMW-7I) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

CONVENTIONALS

In the EPA 9056A analysis, samples 21504081103 (MTWMW-7I), 21504081102 (DPMW-15), 21504081104 (HOAMW-6) and 21504081101 (MTWMW-7) 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
21504081101	MTWMW-7	Water	04/07/2015 10:50	04/08/2015 11:00
21504081102	DPMW-15	Water	04/07/2015 12:52	04/08/2015 11:00
21504081103	MTWMW-7I	Water	04/07/2015 14:00	04/08/2015 11:00
21504081104	HOAMW-6	Water	04/07/2015 15:47	04/08/2015 11:00
21504081105	TRIP BLANK-11	Water	04/07/2015 00:00	04/08/2015 11:00

Summary of Compounds Detected

MTWMW-7

Collect Date 04/07/2015 10:50 **GCAL ID** 21504081101
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-34-3	1,1-Dichloroethane	2.99J	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	10.0	0.208	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	87.2	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	96.1	0.193	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.873J	0.077	5.00	ug/L
79-01-6	Trichloroethene	76.9	0.161	5.00	ug/L
75-01-4	Vinyl chloride	22.6	0.127	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	4.67	0.087	1.00	ug/L
74-85-1	Ethene	0.868J	0.071	1.00	ug/L
74-82-8	Methane	2940	43.5	200	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.74	0.500	2.00	mg/L
14808-79-8	Sulfate	10.7	0.500	2.00	mg/L

DPMW-15

Collect Date 04/07/2015 12:52 **GCAL ID** 21504081102
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
75-34-3	1,1-Dichloroethane	0.723J	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	2.81J	0.208	5.00	ug/L
67-66-3	Chloroform	1.40J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	13.0	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	52.1	0.193	5.00	ug/L
108-88-3	Toluene	2.08J	0.122	5.00	ug/L
79-01-6	Trichloroethene	21.7	0.161	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.169J	0.087	1.00	ug/L

Summary of Compounds Detected

DPMW-15

Collect Date 04/07/2015 12:52 **GCAL ID** 21504081102
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA RSK-175 (Continued)

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	Methane	750	13.1	60.0	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	23.7	1.00	4.00	mg/L
14797-55-8	Nitrate	2.23	0.050	0.200	mg/L
14808-79-8	Sulfate	20.6	1.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	1.0J	0.30	2.0	mg/L

MTWMW-7I

Collect Date 04/07/2015 14:00 **GCAL ID** 21504081103
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.31J	0.246	10.0	ug/L
75-34-3	1,1-Dichloroethane	2.40J	0.342	10.0	ug/L
75-35-4	1,1-Dichloroethene	18.5	0.416	10.0	ug/L
67-66-3	Chloroform	1.02J	0.310	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	40.8	0.207	10.0	ug/L
75-09-2	Methylene chloride	2.96J	0.298	10.0	ug/L
127-18-4	Tetrachloroethene	305	0.385	10.0	ug/L
79-01-6	Trichloroethene	193	0.323	10.0	ug/L
75-01-4	Vinyl chloride	8.96J	0.254	10.0	ug/L

EPA RSK-175

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	1.39	0.087	1.00	ug/L
74-85-1	Ethene	0.322J	0.071	1.00	ug/L
74-82-8	Methane	734	13.1	60.0	ug/L

Summary of Compounds Detected

MTWMW-7I

Collect Date 04/07/2015 14:00 **GCAL ID** 21504081103
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	9.46	0.500	2.00	mg/L
14797-55-8	Nitrate	0.244	0.050	0.200	mg/L
14808-79-8	Sulfate	24.8	0.500	2.00	mg/L

HOAMW-6

Collect Date 04/07/2015 15:47 **GCAL ID** 21504081104
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
67-66-3	Chloroform	3.16J	0.155	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	60.3	0.103	5.00	ug/L
127-18-4	Tetrachloroethene	150	0.193	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.803J	0.077	5.00	ug/L
79-01-6	Trichloroethene	54.4	0.161	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	Chloride	17.8	1.00	4.00	mg/L
14797-55-8	Nitrate	2.52	0.050	0.200	mg/L
14808-79-8	Sulfate	20.5	1.00	4.00	mg/L

TRIP BLANK-11

Collect Date 04/07/2015 00:00 **GCAL ID** 21504081105
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

CAS#	Parameter	Result	MDL	LOQ	Units
127-18-4	Tetrachloroethene	1.14J	0.193	5.00	ug/L

Sample Results

MTWMW-7	**Collect Date**	04/07/2015 10:50	**GCAL ID**	21504081101
	Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 12:16	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**2.99J**	**0.171**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**10.0**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**87.2**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**96.1**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**0.873J**	**0.077**	**5.00**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**76.9**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	**Vinyl chloride**	**22.6**	**0.127**	**5.00**	**ug/L**

Sample Results

MTWMW-7	**Collect Date**	04/07/2015 10:50	**GCAL ID**	21504081101
	Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 12:16	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	47.3	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	50	51.9	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	ug/L	102	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/15/2015 21:45	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	**Ethane**	**4.67**	**0.087**	**1.00**	**ug/L**
74-85-1	**Ethene**	**0.868J**	**0.071**	**1.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26.2	ug/L	65	40 - 143

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	04/15/2015 21:51	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	**Methane**	**2940**	**43.5**	**200**	**ug/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:42	RXJ	555862

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	Nitrate	0.050U	0.050	0.200	mg/L

Sample Results

MTWMW-7

Collect Date	04/07/2015 10:50	**GCAL ID**	21504081101
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/10/2015 05:10	RXJ	555950

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**9.74**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**10.7**	**0.500**	**2.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 09:15	JEM	556015

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/13/2015 14:30	KGL2	556187

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

DPMW-15

Collect Date	04/07/2015 12:52	**GCAL ID**	21504081102
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 12:37	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	**1,1-Dichloroethane**	**0.723J**	**0.171**	**5.00**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**2.81J**	**0.208**	**5.00**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L

Sample Results

DPMW-15

Collect Date 04/07/2015 12:52 **GCAL ID** 21504081102
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 12:37	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**1.40J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**13.0**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**52.1**	**0.193**	**5.00**	**ug/L**
108-88-3	**Toluene**	**2.08J**	**0.122**	**5.00**	**ug/L**
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**21.7**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.3	ug/L	97	78 - 130
1868-53-7	Dibromofluoromethane	50	52.6	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.5	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.9	ug/L	104	71 - 127

Sample Results

DPMW-15

Collect Date	04/07/2015 12:52	**GCAL ID**	21504081102
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/15/2015 21:58	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	**Ethane**	**0.169J**	**0.087**	**1.00**	**ug/L**
74-85-1	Ethene	0.071U	0.071	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	26	ug/L	64	40 - 143

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	30	04/15/2015 22:04	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	**Methane**	**750**	**13.1**	**60.0**	**ug/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 13:50	RXJ	555862

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.23**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	04/10/2015 03:24	RXJ	555950

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**23.7**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**20.6**	**1.00**	**4.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 10:29	JEM	556015

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	**Total Organic Carbon**	**1.0J**	**0.30**	**2.0**	**mg/L**

Sample Results

DPMW-15

Collect Date 04/07/2015 12:52 **GCAL ID** 21504081102
Receive Date 04/08/2015 11:00 **Matrix** Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/13/2015 14:30	KGL2	556187

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

MTWMW-7I

Collect Date 04/07/2015 14:00 **GCAL ID** 21504081103
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/10/2015 16:58	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	**1,1,1-Trichloroethane**	**2.31J**	**0.246**	**10.0**	**ug/L**
79-34-5	1,1,2,2-Tetrachloroethane	0.218U	0.218	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.318U	0.318	10.0	ug/L
75-34-3	**1,1-Dichloroethane**	**2.40J**	**0.342**	**10.0**	**ug/L**
75-35-4	**1,1-Dichloroethene**	**18.5**	**0.416**	**10.0**	**ug/L**
120-82-1	1,2,4-Trichlorobenzene	0.210U	0.210	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.388U	0.388	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.205U	0.205	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.270U	0.270	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.232U	0.232	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.301U	0.301	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.275U	0.275	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.166U	0.166	10.0	ug/L
78-93-3	2-Butanone	0.284U	0.284	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	0.291U	0.291	10.0	ug/L
591-78-6	2-Hexanone	0.245U	0.245	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.240U	0.240	10.0	ug/L
67-64-1	Acetone	0.387U	0.387	10.0	ug/L
71-43-2	Benzene	0.222U	0.222	10.0	ug/L
75-27-4	Bromodichloromethane	0.167U	0.167	10.0	ug/L
75-25-2	Bromoform	0.430U	0.430	10.0	ug/L
74-83-9	Bromomethane	0.854U	0.854	10.0	ug/L
75-15-0	Carbon disulfide	0.380U	0.380	10.0	ug/L
56-23-5	Carbon tetrachloride	0.496U	0.496	10.0	ug/L
108-90-7	Chlorobenzene	0.166U	0.166	10.0	ug/L
75-00-3	Chloroethane	0.470U	0.470	10.0	ug/L
67-66-3	**Chloroform**	**1.02J**	**0.310**	**10.0**	**ug/L**
74-87-3	Chloromethane	0.287U	0.287	10.0	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**40.8**	**0.207**	**10.0**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.248U	0.248	10.0	ug/L
110-82-7	Cyclohexane	0.674U	0.674	10.0	ug/L
124-48-1	Dibromochloromethane	0.108U	0.108	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.290U	0.290	10.0	ug/L
100-41-4	Ethylbenzene	0.218U	0.218	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.260U	0.260	10.0	ug/L
136777-61-2	m,p-Xylene	0.247U	0.247	20.0	ug/L
79-20-9	Methyl Acetate	0.319U	0.319	10.0	ug/L
108-87-2	Methylcyclohexane	0.287U	0.287	10.0	ug/L

Sample Results

MTWMW-7I	**Collect Date**	04/07/2015 14:00	**GCAL ID**	21504081103
	Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	04/10/2015 16:58	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
75-09-2	**Methylene chloride**	**2.96J**	**0.298**	**10.0**	**ug/L**
95-47-6	o-Xylene	0.111U	0.111	10.0	ug/L
100-42-5	Styrene	0.179U	0.179	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.155U	0.155	10.0	ug/L
127-18-4	**Tetrachloroethene**	**305**	**0.385**	**10.0**	**ug/L**
108-88-3	Toluene	0.244U	0.244	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.154U	0.154	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.255U	0.255	10.0	ug/L
79-01-6	**Trichloroethene**	**193**	**0.323**	**10.0**	**ug/L**
75-69-4	Trichlorofluoromethane	0.314U	0.314	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.316U	0.316	10.0	ug/L
108-05-4	Vinyl acetate	0.302U	0.302	10.0	ug/L
75-01-4	**Vinyl chloride**	**8.96J**	**0.254**	**10.0**	**ug/L**
1330-20-7	Xylene (total)	0.358U	0.358	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	95.2	ug/L	95	78 - 130
1868-53-7	Dibromofluoromethane	100	105	ug/L	105	77 - 127
2037-26-5	Toluene d8	100	99.1	ug/L	99	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	104	ug/L	104	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/15/2015 22:10	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	**Ethane**	**1.39**	**0.087**	**1.00**	**ug/L**
74-85-1	**Ethene**	**0.322J**	**0.071**	**1.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	27.7	ug/L	68	40 - 143

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	30	04/15/2015 22:15	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-82-8	**Methane**	**734**	**13.1**	**60.0**	**ug/L**

Sample Results

MTWMW-7I

Collect Date 04/07/2015 14:00 **GCAL ID** 21504081103
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:07	RXJ	555862

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**0.244**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/10/2015 03:06	RXJ	555950

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**9.46**	**0.500**	**2.00**	**mg/L**
14808-79-8	**Sulfate**	**24.8**	**0.500**	**2.00**	**mg/L**

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 10:53	JEM	556015

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/13/2015 14:30	KGL2	556187

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

HOAMW-6

Collect Date 04/07/2015 15:47 **GCAL ID** 21504081104
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 16:38	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L

Sample Results

HOAMW-6

Collect Date	04/07/2015 15:47	**GCAL ID**	21504081104
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 16:38	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	**Chloroform**	**3.16J**	**0.155**	**5.00**	**ug/L**
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	**cis-1,2-Dichloroethene**	**60.3**	**0.103**	**5.00**	**ug/L**
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**150**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	**trans-1,2-Dichloroethene**	**0.803J**	**0.077**	**5.00**	**ug/L**
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	**Trichloroethene**	**54.4**	**0.161**	**5.00**	**ug/L**
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L

Sample Results

HOAMW-6

Collect Date	04/07/2015 15:47	**GCAL ID**	21504081104
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 16:38	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.6	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	52.2	ug/L	104	71 - 127

EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/15/2015 22:22	BMR	556395

CAS#	Parameter	Result	MDL	LOQ	Units
74-84-0	Ethane	0.087U	0.087	1.00	ug/L
74-85-1	Ethene	0.071U	0.071	1.00	ug/L
74-82-8	Methane	0.435U	0.435	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	28	ug/L	69	40 - 143

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/08/2015 14:25	RXJ	555862

CAS#	Parameter	Result	MDL	LOQ	Units
14797-55-8	**Nitrate**	**2.52**	**0.050**	**0.200**	**mg/L**

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	04/10/2015 03:41	RXJ	555950

CAS#	Parameter	Result	MDL	LOQ	Units
16887-00-6	**Chloride**	**17.8**	**1.00**	**4.00**	**mg/L**
14808-79-8	**Sulfate**	**20.5**	**1.00**	**4.00**	**mg/L**

Sample Results

HOAMW-6

Collect Date 04/07/2015 15:47 **GCAL ID** 21504081104
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 11:23	JEM	556015

CAS#	Parameter	Result	MDL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/13/2015 14:30	KGL2	556187

CAS#	Parameter	Result	MDL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

TRIP BLANK-11

Collect Date 04/07/2015 00:00 **GCAL ID** 21504081105
Receive Date 04/08/2015 11:00 **Matrix** Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 13:37	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.123U	0.123	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.109U	0.109	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.159U	0.159	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.171U	0.171	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.208U	0.208	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.105U	0.105	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.194U	0.194	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.102U	0.102	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.135U	0.135	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.116U	0.116	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.150U	0.150	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.138U	0.138	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.083U	0.083	5.00	ug/L
78-93-3	2-Butanone	0.142U	0.142	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	0.146U	0.146	5.00	ug/L
591-78-6	2-Hexanone	0.122U	0.122	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.120U	0.120	5.00	ug/L
67-64-1	Acetone	0.193U	0.193	5.00	ug/L
71-43-2	Benzene	0.111U	0.111	5.00	ug/L
75-27-4	Bromodichloromethane	0.083U	0.083	5.00	ug/L
75-25-2	Bromoform	0.215U	0.215	5.00	ug/L
74-83-9	Bromomethane	0.427U	0.427	5.00	ug/L
75-15-0	Carbon disulfide	0.190U	0.190	5.00	ug/L
56-23-5	Carbon tetrachloride	0.248U	0.248	5.00	ug/L
108-90-7	Chlorobenzene	0.083U	0.083	5.00	ug/L
75-00-3	Chloroethane	0.235U	0.235	5.00	ug/L
67-66-3	Chloroform	0.155U	0.155	5.00	ug/L

Sample Results

TRIP BLANK-11

Collect Date	04/07/2015 00:00	**GCAL ID**	21504081105
Receive Date	04/08/2015 11:00	**Matrix**	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/10/2015 13:37	BMC2	556038

CAS#	Parameter	Result	MDL	LOQ	Units
74-87-3	Chloromethane	0.144U	0.144	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.103U	0.103	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.124U	0.124	5.00	ug/L
110-82-7	Cyclohexane	0.337U	0.337	5.00	ug/L
124-48-1	Dibromochloromethane	0.054U	0.054	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.145U	0.145	5.00	ug/L
100-41-4	Ethylbenzene	0.109U	0.109	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.130U	0.130	5.00	ug/L
136777-61-2	m,p-Xylene	0.123U	0.123	10.0	ug/L
79-20-9	Methyl Acetate	0.159U	0.159	5.00	ug/L
108-87-2	Methylcyclohexane	0.143U	0.143	5.00	ug/L
75-09-2	Methylene chloride	0.149U	0.149	5.00	ug/L
95-47-6	o-Xylene	0.055U	0.055	5.00	ug/L
100-42-5	Styrene	0.089U	0.089	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078U	0.078	5.00	ug/L
127-18-4	**Tetrachloroethene**	**1.14J**	**0.193**	**5.00**	**ug/L**
108-88-3	Toluene	0.122U	0.122	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.077U	0.077	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.128U	0.128	5.00	ug/L
79-01-6	Trichloroethene	0.161U	0.161	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.157U	0.157	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.158U	0.158	5.00	ug/L
108-05-4	Vinyl acetate	0.151U	0.151	5.00	ug/L
75-01-4	Vinyl chloride	0.127U	0.127	5.00	ug/L
1330-20-7	Xylene (total)	0.179U	0.179	15.0	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	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	51.8	ug/L	104	71 - 127

GC/MS Volatiles Quality Control Summary

Analytical Batch 556038	Client ID	MB556038	LCS556038	LCSD556038
	GCAL ID	1433261	1433262	1433263
	Sample Type	MB	LCS	LCSD
	Prep Date	NA	NA	NA
	Analysis Date	04/10/2015 11:53	04/10/2015 10:30	04/10/2015 10:50
	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	49.6	99	76 - 126	50.0	52.4	105	5	30
1,1,2,2-Tetrachloroethane	79-34-5	0.109U	0.109	50.0	38.1	76	70 - 122	50.0	52.4	105	**32***	30
1,1,2-Trichloroethane	79-00-5	0.159U	0.159	50.0	43.3	87	72 - 121	50.0	49.7	99	14	30
1,1-Dichloroethane	75-34-3	0.171U	0.171	50.0	48.9	98	74 - 127	50.0	52.4	105	7	30
1,1-Dichloroethene	75-35-4	0.208U	0.208	50.0	49.2	98	69 - 129	50.0	50.6	101	3	20
1,2,4-Trichlorobenzene	120-82-1	0.105U	0.105	50.0	41.3	83	61 - 135	50.0	59.5	119	**36***	30
1,2-Dibromo-3-chloropropane	96-12-8	0.194U	0.194	50.0	37.6	75	57 - 121	50.0	56.9	114	**41***	30
1,2-Dibromoethane	106-93-4	0.102U	0.102	50.0	43.8	88	70 - 124	50.0	51.2	102	16	30
1,2-Dichlorobenzene	95-50-1	0.135U	0.135	50.0	38.5	77	71 - 126	50.0	51.9	104	30	30
1,2-Dichloroethane	107-06-2	0.116U	0.116	50.0	45.6	91	71 - 129	50.0	51.3	103	12	30
1,2-Dichloropropane	78-87-5	0.150U	0.150	50.0	47.9	96	72 - 128	50.0	52.1	104	8	30
1,3-Dichlorobenzene	541-73-1	0.138U	0.138	50.0	40.0	80	74 - 126	50.0	51.9	104	26	30
1,4-Dichlorobenzene	106-46-7	0.083U	0.083	50.0	39.0	78	72 - 122	50.0	51.0	102	27	30
2-Butanone	78-93-3	0.142U	0.142	50.0	51.7	103	58 - 137	50.0	61.3	123	17	30
2-Chloroethylvinyl ether	110-75-8	0.146U	0.146	50.0	54.8	110	56 - 124	50.0	56.9	114	4	30
2-Hexanone	591-78-6	0.122U	0.122	50.0	43.2	86	50 - 135	50.0	52.2	104	19	30
4-Methyl-2-pentanone	108-10-1	0.120U	0.120	50.0	43.2	86	57 - 132	50.0	53.7	107	22	30
Acetone	67-64-1	0.193U	0.193	50.0	56.7	113	44 - 156	50.0	68.3	137	19	30
Benzene	71-43-2	0.111U	0.111	50.0	49.2	98	70 - 129	50.0	52.4	105	6	20
Bromodichloromethane	75-27-4	0.083U	0.083	50.0	48.3	97	74 - 125	50.0	53.0	106	9	30
Bromoform	75-25-2	0.215U	0.215	50.0	44.4	89	64 - 122	50.0	52.1	104	16	30
Bromomethane	74-83-9	0.427U	0.427	50.0	37.2	74	47 - 138	50.0	42.4	85	13	30
Carbon disulfide	75-15-0	0.190U	0.190	50.0	51.5	103	69 - 136	50.0	52.1	104	1	30
Carbon tetrachloride	56-23-5	0.248U	0.248	50.0	57.5	115	76 - 128	50.0	58.9	118	2	30
Chlorobenzene	108-90-7	0.083U	0.083	50.0	45.7	91	74 - 123	50.0	50.1	100	9	20
Chloroethane	75-00-3	0.235U	0.235	50.0	54.3	109	62 - 141	50.0	51.7	103	5	30
Chloroform	67-66-3	0.155U	0.155	50.0	47.7	95	75 - 122	50.0	51.9	104	8	30
Chloromethane	74-87-3	0.144U	0.144	50.0	47.6	95	59 - 132	50.0	44.5	89	7	30
cis-1,2-Dichloroethene	156-59-2	0.103U	0.103	50.0	48.0	96	73 - 130	50.0	51.7	103	7	30
cis-1,3-Dichloropropene	10061-01-5	0.124U	0.124	50.0	51.3	103	71 - 132	50.0	56.0	112	9	30
Cyclohexane	110-82-7	0.337U	0.337	50.0	45.2	90	69 - 132	50.0	45.6	91	1	30
Dibromochloromethane	124-48-1	0.054U	0.054	50.0	44.8	90	71 - 123	50.0	50.9	102	13	30
Dichlorodifluoromethane	75-71-8	0.145U	0.145	50.0	44.6	89	58 - 140	50.0	45.4	91	2	30
Ethylbenzene	100-41-4	0.109U	0.109	50.0	48.5	97	74 - 126	50.0	51.8	104	7	30
Isopropylbenzene (Cumene)	98-82-8	0.130U	0.130	50.0	50.6	101	71 - 125	50.0	54.3	109	7	30
m,p-Xylene	136777-61-2	0.123U	0.123	100	98.6	99	74 - 126	100	106	106	7	30
Methyl Acetate	79-20-9	0.159U	0.159	50.0	47.2	94	57 - 139	50.0	51.1	102	8	30
Methylcyclohexane	108-87-2	0.143U	0.143	50.0	45.3	91	67 - 138	50.0	45.0	90	1	30
Methylene chloride	75-09-2	0.149U	0.149	50.0	46.2	92	68 - 132	50.0	49.7	99	7	30
o-Xylene	95-47-6	0.055U	0.055	50.0	48.5	97	73 - 130	50.0	53.2	106	9	30
Styrene	100-42-5	0.089U	0.089	50.0	49.4	99	71 - 127	50.0	54.1	108	9	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.078U	0.078	50.0	45.7	91	71 - 125	50.0	51.3	103	12	30
Tetrachloroethene	127-18-4	0.193U	0.193	50.0	46.8	94	68 - 128	50.0	49.1	98	5	30
Toluene	108-88-3	0.122U	0.122	50.0	46.3	93	72 - 120	50.0	50.1	100	8	20
trans-1,2-Dichloroethene	156-60-5	0.077U	0.077	50.0	49.5	99	69 - 132	50.0	51.7	103	4	30
trans-1,3-Dichloropropene	10061-02-6	0.128U	0.128	50.0	50.8	102	71 - 131	50.0	55.2	110	8	30
Trichloroethene	79-01-6	0.161U	0.161	50.0	48.3	97	76 - 129	50.0	51.5	103	6	20
Trichlorofluoromethane	75-69-4	0.157U	0.157	50.0	48.6	97	72 - 136	50.0	50.0	100	3	30
Trichlorotrifluoroethane	76-13-1	0.158U	0.158	50.0	48.6	97	72 - 136	50.0	48.9	98	1	30
Vinyl acetate	108-05-4	0.151U	0.151	50.0	47.2	94	54 - 147	50.0	52.4	105	10	30
Vinyl chloride	75-01-4	0.127U	0.127	50.0	49.8	100	68 - 132	50.0	52.0	104	4	30
Xylene (total)	1330-20-7	0.179U	0.179	150	147	98	74 - 127	150	160	107	8	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	52.4	105	50	47.6	95	71 - 127	50	50.6	101	6	NA
4-Bromofluorobenzene	460-00-4	49.2	98	50	51.9	104	78 - 130	50	49.4	99	5	NA
Dibromofluoromethane	1868-53-7	52.3	105	50	45.5	91	77 - 127	50	50.5	101	10	NA
Toluene d8	2037-26-5	51.1	102	50	47.4	95	76 - 134	50	48.8	98	3	NA

GC Volatiles Quality Control Summary

Analytical Batch 556395	Client ID	MB556395		LCS556395				LCSD556395				
	GCAL ID	1434898		1434899				1434930				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/15/2015 20:48		04/15/2015 20:54				04/15/2015 21:02				
	Matrix	Water		Water				Water				
EPA RSK-175		Units Result	ug/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.087U	0.087	3.28	2.80	85	45 - 128	3.28	2.78	85	1	29
Ethene	74-85-1	0.071U	0.071	3.06	2.61	85	45 - 134	3.06	2.56	84	2	25
Methane	74-82-8	0.435U	0.435	17.5	13.7	78	39 - 120	17.5	13.6	78	1	27
Surrogate												
Propene	115-07-1	34	84	40.5	27.7	68	40 - 143	40.5	26.8	66	3	NA

General Chemistry Quality Control Summary

Analytical Batch 556187		Client ID	MB556187		LCS556187			
		GCAL ID	1433949		1433950			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/13/2015 14:30		04/13/2015 14:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00		25.0	28.5	114	80 - 120

Analytical Batch 556187		Client ID	JM04-MW37R-040715		1432362MS			
		GCAL ID	21504080902		1433951			
		Sample Type	SAMPLE		MS			
		Prep Date	NA		NA			
		Analysis Date	04/13/2015 14:30		04/13/2015 14:30			
		Matrix	Water		Water			
SM 4500-S2 F-2011		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00		25.0	24.7	99	75 - 125

Analytical Batch 556187		Client ID	JM04-MW52R-040715		1432364DUP		
		GCAL ID	21504080904		1433952		
		Sample Type	SAMPLE		DUP		
		Prep Date	NA		NA		
		Analysis Date	04/13/2015 14:30		04/13/2015 14:30		
		Matrix	Water		Water		
SM 4500-S2 F-2011		Units Result	mg/L MDL		Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00		0.000	0	25

Analytical Batch 555862		Client ID	MB555862		LCS555862			
		GCAL ID	1432404		1432405			
		Sample Type	MB		LCS			
		Prep Date	NA		NA			
		Analysis Date	04/08/2015 13:32		04/08/2015 13:15			
		Matrix	Water		Water			
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R
Nitrate	14797-55-8	0.050U	0.050		2.50	2.37	95	80 - 120

Analytical Batch 555862		Client ID	JM04-MW52R-040715		1432364MS				1432364MSD				
		GCAL ID	21504080904		1432408				1432409				
		Sample Type	SAMPLE		MS				MSD				
		Prep Date	NA		NA				NA				
		Analysis Date	04/08/2015 15:34		04/08/2015 19:21				04/08/2015 19:38				
		Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL		Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	0.000	0.050		2.50	2.32	93	80 - 120	2.50	2.34	94	1	15

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 9056A		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
Sulfate	14808-79-8	0.050U	0.050		2.50	2.40	96	80 - 120

General Chemistry Quality Control Summary

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 9056A		Units Result	mg/L 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
Sulfate	14808-79-8	1770	250	12500	13700	95	80 - 120	12500	13700	95	0	15

Analytical Batch 555950	Client ID	HOAMW-6		1432385MS				1432385MSD				
	GCAL ID	21504081104		1432865				1432866				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/10/2015 03:41		04/10/2015 04:34				04/10/2015 04:52				
	Matrix	Water		Water				Water				
EPA 9056A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	17.8	1.00	50.0	66.6	98	80 - 120	50.0	66.6	98	0	15
Sulfate	14808-79-8	20.5	1.00	50.0	68.8	97	80 - 120	50.0	68.5	96	0	15

Analytical Batch 556015	Client ID	MB556015		LCS556015				LCSD556015				
	GCAL ID	1433188		1433189				1433579				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/10/2015 08:12		04/10/2015 07:21				04/10/2015 13:07				
	Matrix	Water		Water				Water				
EPA 9060A		Units Result	mg/L MDL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.30U	0.30	50.0	47.2	94	80 - 120	50.0	48.8	98	3	25

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: 4829 - AMEC Environment & Infrastructure, Inc.
SDG: 215040811
Due Date: 04/17/15

Report to:	**Bill to:**
Client: AMEC	Client: AMEC
Address: 1075 Big Shanty RD NW Suite 100	Address: Same as adjacent
Contact: Jerry Gaccotta	Contact:
Phone: 770-421-3400	Phone:
E-mail: Jerry.gaccotta@amec.com	E-mail:

P.O. Number:

Project Name/Number: Woodall Creek 612213 0015

Sampled By: Mark A. & Evor G.

GCAL use only:
Custody Seal used ☐ yes ☐ no intact ☐ yes ☐ no
Temperature °C 3.1 & E24

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	Nitrate	Chloride/Sulfate	Sulfide	VOCs	TOCs	Methane, Ethane, Ethene	Preservative
W	4/7/15	1050		✓	MTWMW-7	10	1	1	1	3	2	2	1
W	4/7/15	1252		✓	DPMW-15	10	1	1	1	3	2	2	2
W	4/7/15	1400		✓	MTWMW-7I	10	1	1	1	3	2	2	3
W	4/7/15	1541		✓	HOAMW-6	10	1	1	1	3	2	2	4
W	4/7/15				Trip Blank-11	3				3			5

Air Bill No: 7732 9316 9717

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:
	4/7/15	1814			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Fed Ex	4-8-15	11:00	Brad McCune	4-8-15	11:00
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note: 48 hr hold time Nitrate

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

215040811

SAMPLE DELIVERY GROUP 215040811	
Client 4829 - AMEC Environment & Infrastructure, Inc.	**Transport Method** FEDEX
Profile Number 249065	**Received By** McCune, Dodie N.
Line Item(s) 1 - Water TCL VOCs	**Receive Date(s)** 04/08/15

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)
773293669717		3.6

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.4

APPENDIX C
DEFOORS FERRY GAGE DATA
06 APRIL 2015

```
# ---------------------------------- WARNING ----------------------------------------
# The data you have obtained from this automated U.S. Geological Survey database
# have not received Director's approval and as such are provisional and subject to
# revision.  The data are released on the condition that neither the USGS nor the
# United States Government may be held liable for any damages resulting from its use.
# Additional info: http://help.waterdata.usgs.gov/policies/provisional-data-statement
#
# File-format description:  http://help.waterdata.usgs.gov/faq/about-tab-delimited-output
# Automated-retrieval info: http://help.waterdata.usgs.gov/faq/automated-retrievals
#
# Contact:   gs-w_support_nwisweb@usgs.gov
# retrieved: 2015-06-25 10:04:49 EDT       (sdww01)
#
# Data for the following 1 site(s) are contained in this file
#    USGS 02336313 WOODALL CREEK AT DEFOORS FERRY RD, AT ATLANTA, GA
# -----------------------------------------------------------------------------------
#
# Data provided for site 02336313
#    DD parameter   Description
#    01   00060     Discharge, cubic feet per second
#
# Data-value qualification codes included in this output:
#     P  Provisional data subject to revision.
#
agency_cd       site_no datetime        tz_cd   01_00060        01_00060_cd
5s      15s     20d     6s      14n     10s
USGS    02336313        2015-04-06 00:00        EDT     1.0     P
USGS    02336313        2015-04-06 00:15        EDT     1.0     P
USGS    02336313        2015-04-06 00:30        EDT     1.0     P
USGS    02336313        2015-04-06 00:45        EDT     1.0     P
USGS    02336313        2015-04-06 01:00        EDT     1.0     P
USGS    02336313        2015-04-06 01:15        EDT     1.0     P
USGS    02336313        2015-04-06 01:30        EDT     1.0     P
USGS    02336313        2015-04-06 01:45        EDT     1.0     P
USGS    02336313        2015-04-06 02:00        EDT     1.0     P
USGS    02336313        2015-04-06 02:15        EDT     1.0     P
USGS    02336313        2015-04-06 02:30        EDT     0.95    P
USGS    02336313        2015-04-06 02:45        EDT     1.0     P
USGS    02336313        2015-04-06 03:00        EDT     1.0     P
USGS    02336313        2015-04-06 03:15        EDT     1.0     P
USGS    02336313        2015-04-06 03:30        EDT     1.0     P
USGS    02336313        2015-04-06 03:45        EDT     1.0     P
USGS    02336313        2015-04-06 04:00        EDT     1.0     P
USGS    02336313        2015-04-06 04:15        EDT     1.0     P
USGS    02336313        2015-04-06 04:30        EDT     1.0     P
USGS    02336313        2015-04-06 04:45        EDT     1.0     P
USGS    02336313        2015-04-06 05:00        EDT     1.0     P
USGS    02336313        2015-04-06 05:15        EDT     1.0     P
USGS    02336313        2015-04-06 05:30        EDT     1.0     P
USGS    02336313        2015-04-06 05:45        EDT     1.0     P
USGS    02336313        2015-04-06 06:00        EDT     1.0     P
USGS    02336313        2015-04-06 06:15        EDT     1.0     P
USGS    02336313        2015-04-06 06:30        EDT     1.0     P
USGS    02336313        2015-04-06 06:45        EDT     1.0     P
USGS    02336313        2015-04-06 07:00        EDT     1.0     P
USGS    02336313        2015-04-06 07:15        EDT     1.0     P
USGS    02336313        2015-04-06 07:30        EDT     0.95    P
USGS    02336313        2015-04-06 07:45        EDT     1.0     P
USGS    02336313        2015-04-06 08:00        EDT     1.0     P
USGS    02336313        2015-04-06 08:15        EDT     1.0     P
USGS    02336313        2015-04-06 08:30        EDT     1.0     P
USGS    02336313        2015-04-06 08:45        EDT     1.0     P
USGS    02336313        2015-04-06 09:00        EDT     1.0     P
USGS    02336313        2015-04-06 09:15        EDT     1.0     P
USGS    02336313        2015-04-06 09:30        EDT     1.0     P
```

USGS	02336313	2015-04-06 09:45	EDT	1.1	P
USGS	02336313	2015-04-06 10:00	EDT	1.2	P
USGS	02336313	2015-04-06 10:15	EDT	1.3	P
USGS	02336313	2015-04-06 10:30	EDT	1.3	P
USGS	02336313	2015-04-06 10:45	EDT	1.3	P
USGS	02336313	2015-04-06 11:00	EDT	1.2	P
USGS	02336313	2015-04-06 11:15	EDT	1.2	P
USGS	02336313	2015-04-06 11:30	EDT	1.1	P
USGS	02336313	2015-04-06 11:45	EDT	1.1	P
USGS	02336313	2015-04-06 12:00	EDT	1.1	P
USGS	02336313	2015-04-06 12:15	EDT	1.1	P
USGS	02336313	2015-04-06 12:30	EDT	1.1	P
USGS	02336313	2015-04-06 12:45	EDT	1.1	P
USGS	02336313	2015-04-06 13:00	EDT	1.0	P
USGS	02336313	2015-04-06 13:15	EDT	1.1	P
USGS	02336313	2015-04-06 13:30	EDT	1.0	P
USGS	02336313	2015-04-06 13:45	EDT	1.1	P
USGS	02336313	2015-04-06 14:00	EDT	1.1	P
USGS	02336313	2015-04-06 14:15	EDT	1.1	P
USGS	02336313	2015-04-06 14:30	EDT	1.1	P
USGS	02336313	2015-04-06 14:45	EDT	1.1	P
USGS	02336313	2015-04-06 15:00	EDT	1.0	P
USGS	02336313	2015-04-06 15:15	EDT	1.0	P
USGS	02336313	2015-04-06 15:30	EDT	1.0	P
USGS	02336313	2015-04-06 15:45	EDT	1.0	P
USGS	02336313	2015-04-06 16:00	EDT	1.0	P
USGS	02336313	2015-04-06 16:15	EDT	1.1	P
USGS	02336313	2015-04-06 16:30	EDT	1.0	P
USGS	02336313	2015-04-06 16:45	EDT	1.0	P
USGS	02336313	2015-04-06 17:00	EDT	1.0	P
USGS	02336313	2015-04-06 17:15	EDT	1.0	P
USGS	02336313	2015-04-06 17:30	EDT	1.0	P
USGS	02336313	2015-04-06 17:45	EDT	1.0	P
USGS	02336313	2015-04-06 18:00	EDT	1.0	P
USGS	02336313	2015-04-06 18:15	EDT	1.0	P
USGS	02336313	2015-04-06 18:30	EDT	1.0	P
USGS	02336313	2015-04-06 18:45	EDT	1.0	P
USGS	02336313	2015-04-06 19:00	EDT	1.0	P
USGS	02336313	2015-04-06 19:15	EDT	1.0	P
USGS	02336313	2015-04-06 19:30	EDT	0.95	P
USGS	02336313	2015-04-06 19:45	EDT	1.0	P
USGS	02336313	2015-04-06 20:00	EDT	1.1	P
USGS	02336313	2015-04-06 20:15	EDT	1.0	P
USGS	02336313	2015-04-06 20:30	EDT	1.1	P
USGS	02336313	2015-04-06 20:45	EDT	1.3	P
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USGS	02336313	2015-04-06 21:15	EDT	4.0	P
USGS	02336313	2015-04-06 21:30	EDT	26	P
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USGS	02336313	2015-04-06 22:45	EDT	322	P
USGS	02336313	2015-04-06 23:00	EDT	202	P
USGS	02336313	2015-04-06 23:15	EDT	138	P
USGS	02336313	2015-04-06 23:30	EDT	92	P
USGS	02336313	2015-04-06 23:45	EDT	85	P