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**Amec Foster Wheeler Environment & Infrastructure, Inc.**

A handwritten signature in blue ink, appearing to read "Gregory J. Wrenn".

Gregory J. Wrenn, P.E.  
Project Manager

# Semi-Annual Progress Report No. 4

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

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

**Date:** December 21, 2015

**Prepared by:** Amec Foster Wheeler Environment & Infrastructure, Inc.  
1075 Big Shanty Road NW, Suite 100, Kennesaw, Georgia 30144

**Project No.:** 6122150015

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amec  
foster  
wheeler

December 21, 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. 4  
Results from September 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 fourth semi-annual groundwater sampling event for the site, which was conducted in September 2015. The previous semi-annual sampling event was conducted in March/April 2015. 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 September 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 fourth semi-annual event was performed during September 2 through 16, 2015. A site-wide potentiometric water level measuring event was also completed on 2 September 2015. Table 1 presents a summary of the wells sampled during the September 2015 event. Table 2 presents a summary of well construction details for wells utilized during the sampling event. Several 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, and 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. The wells sampled 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 unless excessive drawdown occurred.

Two wells (SMFDR-2 and DPMW-3S) exhibited recharge rates which necessitated abandoning low-flow procedures, and implementation of traditional multiple well volume 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-phenanthroline 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 September 16, 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**

A synoptic groundwater level measuring event was performed across the Site. On September 2, 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 September 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 continued overall stable or decreasing trends in VOC concentrations.

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. Of the monitoring wells sampled, most show stable or decreasing trends,

with only one well, RPMW-14, showing a notable increasing trend in PCE and TCE concentrations. Given the overall decreasing trend in VOC concentrations in groundwater, it is likely that the groundwater plume depictions herein over-estimate VOC concentrations in some areas.

### **Surface Water Sampling Results**

The September 2015 surface water samples were collected from stream sample points 9 through 18 (Figure 1). Table 6 summarizes the laboratory analytical data for the September 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             $20.68 \text{ cfs} / 7 = 2.95 \text{ cfs}$

#### **Peachtree Creek Gage – 2006 - 2012**

- Sum of Annual Average Flow – 693.4 cfs
- Number of Records – 7
- Average Annual Flow             $99.06 \text{ cfs} / 7 = 99.06 \text{ cfs}$

#### **Peachtree Creek Gage 1983 – 2012**

- Sum of Annual Average Flow – 3953 cfs
- Number of Records – 30
- Average Annual Flow             $3953 \text{ cfs} / 30 = 131.77 \text{ cfs}$

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:

- $(2.95 / 99.06) * 131.77 = 3.92 \text{ cfs}$

The stream flow in Woodall Creek, as recorded at the Defoors Ferry USGS Gage on 16 September 2015 was 0.51 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 DeFours Ferry for the specific time of surface water sampling (0.51 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 four (4) 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**

As noted in e-mail correspondence to EPD on July 31, 2015, a number of monitoring wells on the Goodstone, Midtown West, and MWest HOA parcels could not be sampled because of construction activities on those properties. Affected wells were GPMW-11, GPMW-18, GPMW-19, GPMW-20, MTWMW-1, MTWMW-2, MTWMW-7, MTWMW-7I, MTWMW-8, MTWMW-9, MTWMW-10, MTWMW-12, and HOAMW-13. Some of the wells are likely destroyed, but some may be buried beneath fill dirt and potentially salvageable. Upon completion of construction activities, an attempt will be made to locate the wells using survey coordinates and a metal detector. Additionally, DPMW-26 could not be located during this event and may also be buried.

### **Summary of Findings**

This event is the fourth and final MNA sampling event conducted 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. As specified in the CAP, an evaluation of the MNA bio-geochemical data collected during the last four semi-annual sampling events has been conducted and is included herein as Appendix D. The data indicate that reductive bio-dechlorination of chlorinated solvents has occurred and conditions are favorable for continued reductive bio-dechlorination.

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 (AWQC) which, in due course, should result in an 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. The updated EPA AWQC for TCE decreased; however, in-stream TCE concentrations are also below the updated standard.

Collectively, the current groundwater and surface water data suggest that MNA has been effective in significantly improving conditions and that groundwater concentrations are in compliance with in-stream water quality criteria and future exceedances are unlikely. In accordance with the path forward outlined in the CAP, confirmation of MNA applicability will be further validated by developing a site-specific groundwater fate and transport model for the Woodall Creek site. Development and validation of the model is intended to confirm continued compliance with in-stream water quality criteria.

## Schedule

An updated Corrective Action Plan Schedule is provided as Figure 11. A report including fate and transport modeling results and recommendations for future groundwater/surface water monitoring is scheduled for submittal to EPD by March 4, 2016. No additional monitoring is currently scheduled pending discussions with EPD.

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

Sincerely,

Amec Foster Wheeler Environment & Infrastructure, Inc.



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



Tanya R. Kinnard, CHMM  
Senior Environmental Professional

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

Enclosures:

### Certification Page

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### Appendices

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

### 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	September 2015 Annual Sampling Event	Remarks
<b>SOUTHERN METAL FINISHING PROPERTY WELLS</b>						
SMFMW-2	10/4/2000	Shallow	29	✓	✓	
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	✓	✓	
<b>DOBBINS PROPERTY WELLS</b>						
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	✓	✓	
DPMW-15	Unknown	Intermediate	86.7	✓	✓	
DPMW-16	Unknown	Bedrock	96.8	✓	✓	
DPMW-25	10/27/2010	Shallow	50	✓	✓	
DPMW-27	10/27/2010	Shallow	50	✓	✓	
<b>RESTAURANT SUPPLY (FORMER JODACO PROPERTY) WELLS</b>						
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	✓	✓	
<b>DALTILE (FORMER REYNOLDS PROPERTY) WELLS</b>						
RPMW-2	Unknown	Shallow	29	✓	X	RPMW-2 did not have sufficient water to purge or sample during the September 2015 sampling event.
RPMW-14	3/24/2010	Shallow	50	✓	✓	
RPMW-15	3/24/2010	Shallow	50	✓	✓	
RPMW-24	6/10/2010	Shallow	50	✓	✓	
<b>GOODSTONE PROPERTY WELLS (1494 &amp; 1510 ELLSWORTH INDUSTRIAL BLVD.)</b>						
GPMW-11	7/30/2009	Shallow	39	✓	X	Well has been destroyed by construction activities on the Goodstone property, no sample could be taken.
GPMW-18	3/26/2010	Shallow	40	✓	X	Well has been destroyed by construction activities on the Goodstone property, no sample could be taken.
GPMW-19	3/26/2010	Shallow	36.5	✓	X	Well has been destroyed by construction activities on the Goodstone property, no sample could be taken.
GPMW-20	6/10/2010	Shallow	40	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.
<b>M-WEST HOA (FORMER ABC SUPPLY PROPERTY) WELLS</b>						
HOAMW-3	7/9/2008	Shallow	40	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.
HOAMW-5	10/31/2008	Shallow	35	✓	✓	
HOAMW-5I	2/19/2014	Intermediate	38	✓	✓	
HOAMW-6	1/8/2009	Shallow	36	✓	✓	
HOAMW-14	2/18/2014	Shallow	41	✓	✓ (alternate)	HOAMW-14 is permanently out of service and requires abandonment. <i>MW-X has been identified as a alternate and was sampled during the September 2015 event.</i>
HOAMW-13	7/29/2009	Shallow	11	✓	X	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. Deleted from monitoring program.
<b>MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY) WELLS</b>						
MTWMW-1	7/9/2008	Shallow	40	✓	X	Well has been destroyed by construction activities on the Midtown West property, no sample could be taken.
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).

**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	September 2015 Annual Sampling Event	Remarks
MTWMW-7	1/8/2009	Shallow	40	✓	X	Well has been destroyed by construction activities on the Midtown West property, no sample could be taken.
MTWMW-71	2/19/2014	Intermediate	30	✓	X	Well has been destroyed by construction activities on the Midtown West property, no sample could be taken.
MTWMW-8	3/19/2009	Shallow	40	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.
MTWMW-9	3/19/2009	Shallow	35.5	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.
MTWMW-10	3/19/2009	Shallow	35.5	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.
MTWMW-12	7/29/2009	Shallow	38.0	✓	X	Well has been buried by construction activities and could not be located during the September 2015 sampling event.

**Notes:**

- ✓ well utilized during indicated event
- X well not utilized during indicated event
- no further sampling recommended at this location

Prepared: MHA 10/5/2015  
 Prepared: TRK 12/11/2015

**Table 2: Monitoring Well Construction and Water Levels  
September 2, 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
<b>SOUTHERN METAL FINISHING PROPERTY WELLS</b>										
SMFMW-1	10/4/2000	899.16	25	Type II	Shallow	10	15	14.40	884.76	Yes
SMFMW-2	10/4/2000	901.25	29	Type II	Shallow	14	15	14.88	886.37	Yes
SMFMW-3	10/4/2000	900.29	26	Type II	Shallow	11	15	13.60	886.69	Yes
SMFMW-4	10/5/2000	899.78	24	Type II	Shallow	9	15	13.50	886.28	Yes
SMFMW-5	10/5/2000	899.63	25	Type II	Shallow	10	15	12.85	886.78	Yes
SMFMW-6	10/19/2000	901.17	24	Type II	Shallow	9	15	14.98	886.19	Yes
SMFMW-7	10/19/2000	906.35	26	Type II	Shallow	11	15	17.46	888.89	Yes
SMFMW-8	10/19/2000	899.85	23.5	Type II	Shallow	8.5	15	11.57	-	No <sup>1</sup>
SMFMW-9	11/10/2000	903.78	27	Type II	Shallow	12	15	15.78	888.00	Yes
SMFMW-10	11/10/2000	903.90	27	Type II	Shallow	12	15	16.20	887.70	Yes
SMFMW-11	11/10/2000	908.47	20	Type II	Shallow	10	10	NM	-	No
SMFMW-12	1/29/2001	894.60	20.5	Type II	Shallow	10	10.5	11.17	883.43	Yes
SMFMW-13	1/29/2001	895.45	28	Type II	Shallow	13	15	17.47	877.98	Yes
SMFMW-14	1/29/2001	894.94	18.5	Type II	Shallow	8	10.5	10.04	884.90	Yes
SMFMW-15	5/4/2001	895.89	18.5	Type II	Shallow	8	10.5	ND	-	No <sup>3</sup>
SMFMW-16	5/4/2001	898.27	18.5	Type II	Shallow	8	10.5	ND	-	No <sup>3</sup>
SMFMW-17	7/19/2004	904.50	30	Type II	Shallow	20	10	16.29	888.21	Yes
SMFMW-18	7/19/2004	911.61	30	Type II	Shallow	20	10	21.24	890.37	Yes
SMFPI-1	3/24/2008	unknown	35	Type II	Shallow	25	10	13.32	-	No
SMFDS-1	5/10/2002	906.19	37	Type III	Intermediate (Top of Bedrock)	28 (34.5)	2.5	17.26	888.93	Yes
SMFDS-2	5/10/2002	894.54	31	Type III	Intermediate (Top of Bedrock)	20 (28.5)	2.5	NM	-	No
SMFDS-3	5/10/2002	900.04	37.5	Type III	Intermediate (Top of Bedrock)	15 (35)	2.5	13.36	886.68	Yes
SMFDR-1	8/3/2002	906.16	49	Type III	Fractured Bedrock	39 (44)	5	17.18	888.98	Yes
SMFDR-2	6/4/2002	894.65	42	Type III	Fractured Bedrock	33 (39.5)	2.5	10.15	884.50	Yes
SMFDR-3	6/4/2002	899.90	53.5	Type III	Fractured Bedrock	39 (51)	2.5	13.70	886.20	Yes
SMFMW-1D	8/3/2004	900.97	96.5	Type III	Fractured Bedrock	53 (65) (88)	Open Hole from 88 to 96.5	16.20	884.77	Yes
<b>MACY'S PROPERTY WELLS</b>										
MPMW-15	Unknown	896.40	18.1	Type II	Shallow	8.1	10	ND	-	No <sup>1</sup>
MPMW-16	Unknown	898.41	18.6	Type II	Shallow	8.6	10	ND	-	No <sup>1</sup>
MPMW-19	5/6/2005	unknown	30	Type II	Shallow	15	15	ND	-	No <sup>1</sup>
<b>DOBBINS PROPERTY WELLS</b>										
DPMW-1	Unknown	895.65	35	Type II	Shallow	25	10	ND	-	No <sup>3</sup>
DPMW-1S	4/6/2004	895.99	25.5	Type II	Shallow	15.5	10	19.32	876.67	Yes
DPMW-2	Unknown	896.14	30	Type II	Shallow	20	10	ND	-	No <sup>3</sup>
DPMW-2S	4/9/2004	895.29	24.3	Type II	Shallow	14.3	10	13.57	881.72	Yes
DPMW-2I	4/13/2004	895.71	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	15.72	879.99	Yes
DPMW-3S	4/6/2004	895.61	30	Type II	Shallow	20	10	25.38	870.23	Yes
DPMW-3I	4/9/2004	895.67	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	25.93	869.74	Yes
DPMW-4S	4/13/2004	895.80	25.2	Type II	Shallow	15.2	10	15.84	879.96	Yes
DPMW-4I	4/16/2004	895.57	50	Type III	Intermediate (Top of Bedrock)	30 (40)	10	16.49	879.08	Yes
DPMW-5S	8/4/2004	unknown	35	Type II	Shallow	25	10	ND	-	No <sup>3</sup>
DPMW-9	Unknown	895.10	50	Type II	Shallow	40	10	ND	-	No <sup>3</sup>
DPMW-10	Unknown	896.14	51.3	Type II	Shallow	41.3	10	39.14	857.00	Yes
DPMW-14	Unknown	895.98	50	Type II	Shallow	40	10	ND	-	No <sup>3</sup>
DPMW-15	Unknown	unknown	86.7	Type II	Intermediate (Top of Bedrock)	76.7	10	39.55		Yes
DPMW-16	Unknown	896.71	96.8	Type III	Fractured Bedrock	Unknown	Open hole from 88 to 96.5	39.97	856.74	Yes
DPMW-25	10/27/2010	895.58	50	Type II	Shallow	30	20	39.32	856.26	Yes
DPMW-26	10/27/2010	897.11	50	Type II	Shallow	30	20	NM	-	No <sup>3</sup>
DPMW-27	10/27/2010	901.30	50	Type II	Shallow	30	20	39.84	861.46	Yes
DPMW-28	10/27/2010	896.25	50	Type II	Shallow	30	20	37.12	859.13	Yes

**Table 2: Monitoring Well Construction and Water Levels  
September 2, 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
<b>RESTAURANT SUPPLY (FORMER JODACO PROPERTY) WELLS</b>										
JPMW-16	3/24/2010	864.63	50	Type II	Shallow	20	30	21.49	843.14	Yes
JPMW-17	3/24/2010	864.52	50	Type II	Shallow	20	30	15.50	849.02	Yes
JPMW-21	6/10/2010	858.70	39	Type II	Shallow	9	30	8.30	850.40	Yes
JPMW-22	6/10/2010	866.76	50	Type II	Shallow	20	30	13.16	853.60	Yes
JPMW-23	6/10/2010	866.71	49	Type II	Shallow	19	30	11.46	855.25	Yes
JPBRW-1	Unknown	864.52	164.5	Type III	Fractured Bedrock	Unknown	Open Hole from 147.5 to 164.5	31.29	833.23	Yes
<b>DALTILE (FORMER REYNOLDS PROPERTY) WELLS</b>										
RPMW-1	Unknown	853.39	20	Unknown	Shallow	Unknown	Unknown	14.05	839.34	Yes
RPMW-2	Unknown	871.62	29	Unknown	Shallow	Unknown	Unknown	26.77	844.85	Yes
RPMW-14	3/24/2010	861.23	50	Type II	Shallow	25	25	26.31	834.92	Yes
RPMW-15	3/24/2010	861.44	50	Type II	Shallow	20	30	21.10	840.34	Yes
RPMW-24	6/10/2010	865.29	50	Type II	Shallow	20	30	17.48	847.81	Yes
<b>GOODSTONE PROPERTY WELLS (1494 &amp; 1510 ELLSWORTH INDUSTRIAL BLVD.)</b>										
GPMW-11	7/30/2009	847.92	39	Type II	Shallow	14	25	NM	-	No <sup>1</sup>
GPMW-18	3/26/2010	846.48	40	Type II	Shallow	10	30	NM	-	No <sup>1</sup>
GPMW-19	3/26/2010	841.86	36.5	Type II	Shallow	11.5	25	NM	-	No <sup>1</sup>
GPMW-20	6/10/2010	848.27	40	Type II	Shallow	10	30	NM	-	No <sup>1</sup>
<b>M-WEST HOA (FORMER ABC SUPPLY PROPERTY) WELLS</b>										
HOAMW-3	7/9/2008	840.98	40	Type II	Shallow	10	30	NM	-	No <sup>3</sup>
HOAMW-5	10/31/2008	841.06	35	Type II	Shallow	10	25	18.23	822.83	Yes
HOAMW-5I	2/19/2014	843.89	38	Type III	Intermediate (Top of Bedrock)	33 (33)	5	21.07	822.82	Yes
HOAMW-6	1/8/2009	841.10	36	Type II	Shallow	11	25	19.17	821.93	Yes
HOAMW-13	7/29/2009	unknown	11	Type II	Shallow	6	5	ND	-	No <sup>3</sup>
HOAMW-14	2/18/2014	857.36	41	Type II	Shallow	26	15	ND	-	No <sup>3</sup>
<b>MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY) WELLS</b>										
MTWMW-1	7/9/2008	841.33	40	Type II	Shallow	10	30	NM	-	No <sup>1</sup>
MTWMW-2	7/9/2008	839.37	39	Type II	Shallow	9	30	NM	-	No <sup>3</sup>
MTWMW-4	10/31/2008	840.01	36	Type II	Shallow	11	25	16.70	823.31	Yes
MTWMW-7	1/8/2009	844.41	40	Type II	Shallow	15	25	NM	-	No <sup>1</sup>
MTWMW-7I	2/19/2014	844.59	30	Type III	Intermediate (Top of Bedrock)	23 (25)	5	NM	-	No <sup>1</sup>
MTWMW-8	3/19/2009	846.95	40	Type II	Shallow	15	25	NM	-	No <sup>3</sup>
MTWMW-9	3/19/2009	848.45	35.5	Type II	Shallow	15.5	20	NM	-	No <sup>3</sup>
MTWMW-10	3/19/2009	849.43	35.5	Type II	Shallow	15.5	20	NM	-	No <sup>3</sup>
MTWMW-12	7/29/2009	845.66	38.0	Type II	Shallow	13.0	25	NM	-	No <sup>3</sup>
<b>GLIDDEN PROPERTY WELLS</b>										
AKZMW-3	Unknown	893.77	35	Type II	Shallow	25	10	NM	-	No <sup>2</sup>
AKZMW-4	Unknown	890.12	27	Type II	Shallow	17	10	11.87	878.25	Yes
AKZMW-5	Unknown	905.05	30	Type II	Shallow	20	10	ND	-	No <sup>3</sup>
AKZMW-6	Unknown	899.36	23	Type II	Shallow	13	10	12.50	886.86	Yes
AKZMW-7	Unknown	897.80	23	Type II	Shallow	13	10	11.23	886.57	Yes
AKZMW-8	Unknown	894.89	23	Type II	Shallow	13	10	8.85	886.04	Yes
AKZMW-17	Unknown	901.46	57.5	Type II	Intermediate (Top of Bedrock)	37.5	20	ND	-	No <sup>3</sup>
AKZMW-18	Unknown	901.44	25.5	Type II	Shallow	10.5	15	ND	-	No <sup>3</sup>
AKZMW-19	Unknown	901.04	25	Type II	Shallow	15	10	ND	-	No <sup>3</sup>
AKZMW-20	Unknown	899.60	24.7	Type II	Shallow	14.7	10	ND	-	No <sup>3</sup>
<b>WOODALL CREEK GAUGES<sup>5</sup></b>										
Staff Gauge 1	-	832.48	-	-	Surface Water	-	-	2.95	835.43	-
Staff Gauge 2	-	823.36	-	-	Surface Water	-	-	3.06	826.42	-
Staff Gauge 3	-	821.21	-	-	Surface Water	-	-	3.17	824.38	-

**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

<sup>1</sup> - Well Destroyed

<sup>2</sup> - Well Obstructed by on-site activities

<sup>3</sup> - Well Not Found

<sup>4</sup> - Insufficient water column

<sup>5</sup> - Depth-to-water measurement is stream depth (ft) at the gauging point at the time of sampling.

Prepared by: MHA 10/18/2015

Checked by: TRK 10/19/2015

**Table 3: Summary of Well Purging  
September 2015**

Well Number	Monitoring Interval	Total Well Depth (ft)	CAP Semi-Annual Sampling Location	Sample Collected	Depth to Water September 2015 (ft)	Total Drawdown (ft)	Purging Remarks
<b>SOUTHERN METAL FINISHING PROPERTY</b>							
SMFMW-2	Shallow	29	✓	✓	15.61	0.04	Low-Flow purging
SMFMW-18	Shallow	30	✓	✓	21.10	0.15	Low-Flow purging
SMFPI-1	Shallow	35	✓	✓	13.86	0.13	Low-Flow purging
SMFDS-1	Intermediate	37	✓	✓	17.17	0.28	Low-Flow purging
SMFDR-2	Bedrock	42	✓	✓	10.15	>0.32	drawdown during purging exceeded low-flow conditions. Purged traditional multiple well volumes before sampling
SMFDR-3	Bedrock	53.5	✓	✓	14.24	0.11	Low-Flow purging
SMFMW-1D	Bedrock	96.5	✓	✓	16.71	0.00	Low-Flow purging
<b>MACY'S PROPERTY</b>							
MPMW-15	Shallow	18.1	x	x	-	-	NS
<b>DOBBINS PROPERTY</b>							
DPMW-2S	Shallow	24.3	✓	✓	13.57	0.12	Low-Flow purging
DPMW-2I	Intermediate	50	✓	✓	15.72	0.28	Low-Flow purging
DPMW-3S	Shallow	30	✓	✓	25.71	0.89	drawdown during purging exceeded low-flow conditions. Purged traditional multiple well volumes before sampling
DPMW-10	Shallow	51.3	✓	✓	39.16	0.15	Low-Flow purging
DPMW-15	Intermediate	86.7	✓	✓	39.65	0.00	Low-Flow purging
DPMW-16	Bedrock	96.80	✓	✓	40.10	0.02	Low-Flow purging
DPMW-25	Shallow	50	✓	✓	39.38	0.09	Low-Flow purging
DPMW-27	Shallow	50	✓	✓	39.85	0.06	Low-Flow purging
<b>RESTAURANT SUPPLY (FORMER JODACO PROPERTY)</b>							
JPMW-16	Shallow	50	✓	✓	21.61	0.26	Low-Flow purging
JPMW-17	Shallow	50	✓	✓	16.10	0.12	Low-Flow purging
JPMW-21	Shallow	39	✓	✓	8.45	0.02	Low-Flow purging
JPMW-22	Shallow	50	✓	✓	13.26	0.09	Low-Flow purging
JPMW-23	Shallow	49	✓	✓	11.60	0.01	Low-Flow purging
JPBRW-1	Bedrock	164.5	✓	✓	31.00	0.28	Low-Flow purging
<b>DALTILE (FORMER REYNOLDS PROPERTY)</b>							
RPMW-2	Shallow	29	✓	x	-	-	NS
RPMW-14	Shallow	50	✓	✓	26.35	0.11	Low-Flow purging
RPMW-15	Shallow	50	✓	✓	21.64	0.16	Low-Flow purging
RPMW-24	Shallow	50	✓	✓	17.48	0.15	Low-Flow purging
<b>GOODSTONE PROPERTY (1494 &amp; 1510 ELLSWORTH INDUSTRIAL BLVD.)</b>							
GPMW-11	Shallow	39	✓	x	-	-	NS
GPMW-18	Shallow	40	✓	x	-	-	NS
GPMW-19	Shallow	36.5	✓	x	-	-	NS
GPMW-20	Shallow	40	✓	x	-	-	NS
<b>M-WEST HOA (FORMER ABC SUPPLY PROPERTY)</b>							
HOAMW-3	Shallow	40	✓	x	-	-	NS
HOAMW-5	Shallow	35	✓	✓	18.24	0.18	Low-Flow purging
HOAMW-5I	Intermediate	38	✓	✓	21.14	0.25	Low-Flow purging
HOAMW-6	Shallow	36	✓	✓	19.25	0.10	Low-Flow purging
MW-X	Shallow	24.5	✓	✓	19.90	0.05	Low-Flow purging
<b>MIDTOWN WEST (FORMER M-WEST LOTS/ABC SUPPLY PROPERTY)</b>							
MTWMW-1	Shallow	40	✓	x	-	-	NS
MTWMW-4	Shallow	35.05	Alternate for MTWMW-2	✓	16.70	0.10	Low-Flow purging
MTWMW-7	Shallow	40	✓	x	-	-	NS
MTWMW-7I	Intermediate	30	✓	x	-	-	NS
MTWMW-8	Shallow	40	✓	x	-	-	NS
MTWMW-9	Shallow	35.5	✓	x	-	-	NS
MTWMW-10	Shallow	35.5	✓	x	-	-	NS
MTWMW-12	Shallow	38.0	✓	x	-	-	NS

**Notes:**

- ✓ well utilized during indicated event
- x well not utilized during indicated event
- NS Not Sampled

Prepared by: MHA 10/18/2015

Checked by: TRK 12/11/2015



Table 4: Summary of Groundwater Analytical Results  
September, 2015

Well Designation	Property Location	Unit	Type 1 RRS	DPMW-10	DPMW-15	DPMW-16	DPMW-25	DPMW-27	DPMW-21	DPMW-2S	DPMW-3S	GPMW-11	GPMW-18	GPMW-19	JP -1 GPMW	GPMW-20	HOAMW-3	HOAMW-5	Dup-1/HOAMW-5	HOAMW-5I	HOAMW-6	MW-X	JPBRW-1	JPMW-16	JPMW-17		
Sample Collection Date				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		
				10-Sep-15	10-Sep-15	10-Sep-15	9-Sep-15	9-Sep-15	9-Sep-15	10-Sep-15	9-Sep-15	1-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	2-Apr-15	6-Apr-15	15-Sep-15	15-Sep-15	15-Sep-15	15-Sep-15	15-Sep-15	11-Sep-15	10-Sep-15	11-Sep-15		
<b>VOCs</b>																											
<b>MNA Parameters</b>																											
Ethane	ug/L	NA		0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	NA	NA	NA	NA	NA	NA	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	<b>0.838 J</b>	0.110 U	0.110 U		
Ethene	ug/L	NA		0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	NA	NA	NA	NA	NA	NA	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	<b>6.31</b>	0.150 U	0.150 U		
Methane	ug/L	NA		0.435 U	<b>25.9</b>	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	NA	NA	NA	NA	NA	NA	0.435 U	0.435 U	0.435 U	0.435 U	<b>0.760 J</b>	<b>9900</b>	0.44 U	0.435 U		
Total Organic Carbon	mg/L	NA		0.30 U	<b>1.2 J</b>	<b>0.76 J</b>	0.30 U	0.30 U	<b>1.2 J</b>	<b>0.76 J</b>	0.30 U	NA	NA	NA	NA	NA	NA	0.30 U	0.30 U	0.30 U	0.30 U	<b>8.9</b>	<b>6.9</b>	<b>1.4 J</b>	<b>0.54 J</b>		
Sulfide	mg/L	NA		NA	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	NA	NA	NA	NA	NA	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		
Chloride	mg/L	NA		<b>6.62</b>	<b>27.3</b>	<b>36.8</b>	<b>8.37</b>	<b>11.4</b>	<b>43.2</b>	<b>8.12</b>	<b>7.57</b>	NA	NA	NA	NA	NA	NA	<b>22.7</b>	<b>20.3</b>	<b>19.4</b>	<b>17.4</b>	<b>10.4</b>	<b>35.4</b>	<b>12.1</b>	<b>9.50</b>		
Nitrate	mg/L	NA		<b>1.97</b>	<b>2.66</b>	<b>2.86</b>	<b>8.37</b>	<b>5.45</b>	<b>7.62</b>	<b>0.169 J</b>	<b>2.30</b>	NA	NA	NA	NA	NA	NA	<b>1.65</b>	<b>1.64</b>	<b>1.46</b>	<b>3.52</b>	0.100 U	0.100 U	<b>3.32</b>	<b>3.28</b>		
Sulfate	mg/L	NA		<b>48.3</b>	<b>25.3</b>	<b>14.4</b>	<b>24.9</b>	<b>19.9</b>	<b>24.5</b>	<b>12.7</b>	<b>87.4</b>	NA	NA	NA	NA	NA	NA	<b>21.4</b>	<b>20.4</b>	<b>19.7</b>	<b>21.7</b>	0.100 U	<b>17.8</b>	<b>28.1</b>	<b>37.3</b>		
Ferrous Iron (mg/L)	mg/L	NA		0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
<b>Groundwater Quality</b>																											
Temperature	°C	NA		20.87	20.35	20.60	21.63	20.26	26.19	22.60	24.72	NA	NA	NA	NA	NA	NA	19.24	19.24	19.47	21.74	20.84	24.41	22.79	24.86		
pH	pH	NA		4.88	5.62	6.32	5.12	5.13	5.43	5.86	4.55	NA	NA	NA	NA	NA	NA	5.80	5.80	5.81	5.69	6.00	12.28	5.39	5.82		
Turbidity	NTU	NA		26.1	9.47	1.61	10.11	9.91	56.5	7.51	6.51	NA	NA	NA	NA	NA	NA	39.7	39.7	0.97	9.75	0.57	5.88	98.0	82.0		
Conductivity	ms/cm	NA		0.168	0.252	0.312	0.192	0.183	0.337	0.205	0.262	NA	NA	NA	NA	NA	NA	0.223	0.223	0.220	0.226	0.272	0.674	0.211	0.229		
ORP	mV	NA		279.7	124.3	156.5	285.6	190.3	-134.4	-127.4	250.1	NA	NA	NA	NA	NA	NA	206.9	206.9	212.1	134.7	-9.3	-264.7	-134.3	218.2		
Dissolved Oxygen (mg/L)	mg/L	NA		1.74	0.80	2.19	2.48	1.40	1.72	2.98	1.51	NA	NA	NA	NA	NA	NA	1.14	1.14	0.74	0.88	0.88	0.51	2.97	4.71		

**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  
 NA - Not applicable  
 NS - Not sampled





Table 4: Summary of Groundwater Analytical Results  
September, 2015

Well Designation	Property Location	Unit	Type 1 RRS	JPMW-21 Restaurant Supply 11-Sep-15	JPMW-22 Restaurant Supply 11-Sep-15	JPMW-23 Restaurant Supply 14-Sep-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 14-Sep-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 11-Sep-15	RPMW-14 Daltile 11-Sep-15	RPMW-15 Daltile 14-Sep-15	RPMW-24 Daltile 14-Sep-15	SMFDS-1 Southern Metal 9-Sep-15	SMFDR-2 Southern Metal 9-Sep-15	SMFDR-3 Southern Metal 9-Sep-15	SMFMW-18 Southern Metal 9-Sep-15	SMFMW-1D Southern Metal 9-Sep-15	SMFMW-2 Southern Metal 9-Sep-15	SMFPI-1 Southern Metal 9-Sep-15		
<b>VOCs</b>																											
<b>MNA Parameters</b>																											
Ethane	ug/L	NA		0.110 U	<b>1.13</b>	0.110 U NA	NA	NA	NA	0.110 U NA	NA	NA	NA	NS	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
Ethane	ug/L	NA		0.150 U	0.150 U	0.150 U NA	NA	NA	NA	0.150 U NA	NA	NA	NA	NS	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U
Methane	ug/L	NA		0.435 U	<b>2.21</b>	<b>43.2</b> NA	NA	NA	NA	0.435 U NA	NA	NA	NA	NS	<b>0.953</b> J	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U	0.435 U
Total Organic Carbon	mg/L	NA		<b>1.1</b> J	<b>0.67</b> J	7.1 NA	NA	NA	NA	<b>0.44</b> J NA	NA	NA	NA	NS	<b>0.75</b> J	0.30 U	0.30 U	0.30 U	2.7	<b>1.4</b> J	<b>1.4</b> J	6.0000 U	0.30 U	<b>0.92</b> J	<b>1.30</b> J		
Sulfide	mg/L	NA		2.00 U	2.00 U	2.00 U NA	NA	NA	NA	2.00 U NA	NA	NA	NA	NS	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		<b>17.8</b>	<b>16.1</b>	<b>6.87</b> NA	NA	NA	NA	<b>15.5</b> NA	NA	NA	NA	NS	<b>22.0</b>	<b>23.9</b>	<b>25.6</b>	<b>5.78</b>	<b>24.7</b>	<b>24.5</b>	<b>34.5</b>	<b>21.4</b>	<b>26.9</b>	<b>36.8</b>			
Nitrate	mg/L	NA		<b>2.62</b>	<b>1.92</b>	<b>0.293</b> NA	NA	NA	NA	<b>2.35</b> NA	NA	NA	NA	NS	<b>4.82</b>	<b>2.37</b>	<b>4.94</b>	<b>5.33</b>	<b>3.33</b>	<b>10.1</b>	<b>12.8</b>	<b>2.49</b>	<b>10.1</b>	<b>17.5</b>			
Sulfate	mg/L	NA		<b>25.4</b>	<b>30.0</b>	<b>8.85</b> NA	NA	NA	NA	<b>27.3</b> NA	NA	NA	NA	NS	<b>32.3</b>	<b>22.2</b>	<b>40.5</b>	<b>86.9</b>	<b>28.9</b>	<b>41.1</b>	<b>605</b>	<b>25.7</b>	<b>33.8</b>	<b>51.4</b>			
Ferrous Iron (mg/L)	mg/L	NA		0.00	0.00	0.00 NA	NA	NA	NA	0.00 NA	NA	NA	NA	NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
<b>Groundwater Quality</b>																											
Temperature	°C	NA		22.51	21.24	22.95 NA	NA	NA	NA	19.00 NA	NA	NA	NA	NS	28.00	23.79	22.06	23.25	19.65	21.67	20.49	19.27	24.02	21.21			
pH	pH	NA		5.46	5.29	5.75 NA	NA	NA	NA	5.85 NA	NA	NA	NA	NS	5.61	5.49	5.79	5.67	6.09	5.70	8.59	5.78	4.45	5.27			
Turbidity	NTU	NA		140	>800	30.1 NA	NA	NA	NA	9.93 NA	NA	NA	NA	NS	72.0	83	43.4	2.4	25.9	0.86	9.41	2.51	58.50	9.7			
Conductivity	ms/cm	NA		0.221	0.218	0.148 NA	NA	NA	NA	0.225 NA	NA	NA	NA	NS	0.330	0.277	0.315	0.425	0.249	0.323	8.313	0.235	0.261	0.441			
ORP	mV	NA		128.8	90.9	-0.5 NA	NA	NA	NA	90.3 NA	NA	NA	NA	NS	216.2	165.8	179.8	125.8	250.1	30.6	161.2	-128.4	249.9	-56.5			
Dissolved Oxygen (mg/L)	mg/L	NA		1.97	0.66	0.44 NA	NA	NA	NA	2.19 NA	NA	NA	NA	NS	2.48	0.71	2.60	0.81	3.21	3.10	2.58	1.32	3.57	3.54			

**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  
NA - Not applicable  
NS - Not sampled

Prepared by MHA 10/12/2015  
Checked by TRK 10/26/2015

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
SMFDS-1	SMFDS-1	9/9/2015		<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
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-2	SMFDR-2	9/9/2015		<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.2J	0.763J
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
SMFDR-3	SMFDR-3	9/9/2015		<0.4	<1	<0.4	<0.4	1.15J	<0.4	<0.4	<0.4	<0.4	<0.4	232	3.09J
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-1D	SMFMW-1D	9/9/2015		1.25J	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.48J	3.8J
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-2	SMFMW-2	9/9/2015		<0.2	<0.5	<0.2	1.99J	1.25J	<0.2	<0.2	2.720	<0.2	<0.2	62.30	10.80
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
SMFMW-18	SMFMW-18	9/9/2015		<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.02J	<0.2
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
SMFPI-1	SMFPI-1	9/9/2015		<0.2	<0.5	<0.2	<0.2	3.03J	0.49	<0.2	15.5	<0.2	NA	4.25J	<0.2

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

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	Groundwater Quality Parameters											
				1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
<b>Glidden Property</b>															
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
<b>Dobbins Property</b>															
MW-1	DPMW-1S	3/14/2014		<0.208	<b>0.876J</b>	<0.111	<b>1.19J</b>	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<b>1.32J</b>	<0.161
MW-2I	DPMW-2I	3/14/2014		<b>2.45J</b>	<0.193	<0.111	<b>0.623J</b>	<b>5.54</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>36.1</b>	<b>8.61</b>
MW-2I	DPMW-2I	9/23/2014		<b>2.14J</b>	<0.193	<0.111	<b>0.694J</b>	<b>5.15</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>49.9</b>	<b>8.14</b>
MW-2I	DPMW-2I	3/17/2015		<0.171	<0.193	<0.111	<0.155	<b>2.89</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>23.3</b>	<b>3.66</b>
MW-2I	DPMW-2I	9/9/2015		<b>1.18J</b>	<0.5	<0.2	<b>0.548J</b>	<b>5.05</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>39.0</b>	<b>6.51</b>
MW-2	DPMW-2S	3/14/2014		<0.208	<b>1.40J</b>	<0.111	<0.155	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<b>20</b>	<b>6</b>
MW-2	DPMW-2S	9/23/2014		<0.208	<0.193	<0.111	<0.155	<b>0.365J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>32.1</b>	<b>9.10</b>
MW-2	DPMW-2S	3/18/2015		<0.208	<0.193	<0.111	<0.155	<b>0.365J</b>	<0.109	<0.130	<b>0.673J</b>	<0.143	<0.055	<b>17.3</b>	<b>4.46</b>
MW-2	DPMW-2S	9/10/2015		<0.2	<0.5	<0.2	<b>1.3J</b>	<b>2.34J</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>17.4</b>	<b>6.01</b>
MW-3	DPMW-3S	3/18/2014		<0.208	<0.193	<0.111	<b>0.775J</b>	<b>1.58J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>33</b>	<b>1.60J</b>
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	<b>4.47</b>	<b>0.398</b>
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	<b>16.40</b>	<b>1.01J</b>
MW-3	DPMW-3S	9/9/2015		<0.2	<0.5	<0.2	<b>0.648J</b>	<b>0.845J</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>36.6</b>	<b>1.35J</b>
MW-4	DPMW-4S	3/14/2014		<0.208	<b>1.18J</b>	<0.111	<b>1.54J</b>	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<b>16</b>	<b>2.04J</b>
MW-10	DPMW-10	3/31/2015		<0.208	<0.193	<0.111	<b>4.41J</b>	<b>1.93J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>54.1</b>	<b>5.09</b>
MW-10	DPMW-10	9/10/2015		<0.2	<0.5	0.200	<b>3.37J</b>	<b>1.69J</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>48.8</b>	<b>4.08J</b>
MW-15	DPMW-15	4/7/2015		<b>2.81J</b>	<0.193	<0.111	<b>1.40J</b>	<b>13.0</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>52.1</b>	<b>21.7</b>
MW-15	DPMW-15	9/10/2015		<b>2.25J</b>	<0.5	<0.2	<b>1.02J</b>	<b>9.63</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>89.7</b>	<b>19.50</b>
MW-16	DPMW-16	3/24/2015		<b>3.74J</b>	<0.193	<0.111	<b>2.07J</b>	<b>33.8</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>264</b>	<b>83.6</b>
MW-16	DPMW-16	9/10/2015		<b>3.21J</b>	<0.5	<0.2	<1	<b>30.7</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>341</b>	<b>84.8</b>
MW-25	DPMW-25	10/28/2010		<5	<5	<5	<b>8.7</b>	<b>8.8</b>	<5	<5	<5	<5	<5	<b>120</b>	<b>13</b>
MW-25	DPMW-25	3/3/2011		<5	<5	<5	<5	<b>16</b>	<5	<5	<5	<5	<5	<b>110</b>	<b>28</b>
MW-25	DPMW-25	3/24/2014		<0.208	<b>3.61J</b>	<0.111	<b>5.69</b>	<b>2.95J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>64</b>	<b>8</b>
MW-25	DPMW-25	3/20/2015		<0.208	<0.193	<0.111	<b>5.91</b>	<b>2.42J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>89.7</b>	<b>8.48</b>
MW-25	DPMW-25	9/9/2015		<0.2	<0.5	<0.2	<b>5.50</b>	<b>2.71J</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>74.1</b>	<b>6.90</b>
MW-26	DPMW-26	10/28/2010		<5	<5	<b>5.3</b>	<5	<b>12</b>	<5	<5	<10	<5	<5	<b>28</b>	<b>5.8</b>
MW-26	DPMW-26	3/3/2011		<5	<5	<b>5.2</b>	<5	<b>14</b>	<5	<5	<10	<5	<5	<b>29</b>	<b>5.7</b>
MW-26	DPMW-26	3/21/2014		<0.208	<0.193	<0.111	<b>0.351J</b>	<b>9</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>38</b>	<b>11.0</b>
MW-27	DPMW-27	10/28/2010		<5	<20	<5	<5	<b>89</b>	<5	<5	<10	<5	<5	<b>250</b>	<b>88</b>
MW-27	DPMW-27	3/3/2011		<5	<20	<5	<5	<b>77</b>	<5	<5	<10	<5	<5	<b>260</b>	<b>85</b>
MW-27	DPMW-27	3/21/2014		<0.208	<b>1.07J</b>	<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	<b>40.4</b>	<0.218	<0.260	<0.247	<0.287	<0.111	<b>258</b>	<b>46.2</b>
MW-27	DPMW-27	3/20/2015		<0.416	<0.387	<0.222	<b>1.32J</b>	<b>26.0</b>	<0.218	<0.260	<0.247	<0.287	<0.111	<b>212</b>	<b>36.9</b>
MW-27	DPMW-27	9/9/2015		<0.2	<0.5	<0.2	<b>1.47J</b>	<b>20.8</b>	<0.2	<0.2	<0.2	<0.2	<0.2	<b>190</b>	<b>33.9</b>
MW-28	DPMW-28	10/28/2010		<5	<20	<5	<5	<5	<5	<5	<10	<5	<5	<b>70</b>	<b>10</b>
MW-28	DPMW-28	3/3/2011	D	<5	<20	<5	<5	<5	<5	<5	<10	<5	<5	<b>51</b>	<b>6</b>
MW-28	DPMW-28	3/3/2011		<5	<20	<5	<5	<5	<5	<5	<10	<5	<5	<b>50</b>	<b>6.6</b>
MW-28	DPMW-28	3/24/2014		<0.208	<b>1.96J</b>	<0.111	<b>10.9</b>	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<b>15</b>	<b>1.41J</b>
<b>Goodstone Property (1494 &amp; 1510 Ellsworth Industrial Blvd.)</b>															
MW-11	GPMW-11	8/3/2009		<5	<50	<5	<b>16</b>	<5	<5	<5	NR	<5	NR	<b>31</b>	<b>5.4</b>
MW-11	GPMW-11	4/1/2010		<5	<50	<5	<b>5.7</b>	<b>5.4</b>	<5	<5	<10	<5	<5	<b>48</b>	<b>18</b>
MW-11	GPMW-11	3/7/2011		<5	<50	<5	<5	<b>27</b>	<5	<5	<10	<5	<5	<b>290</b>	<b>86</b>
MW-11	GPMW-11	3/10/2014		<0.208	<b>0.926J</b>	<0.111	<b>4.18J</b>	<b>0.389J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>18</b>	<b>2.44J</b>
MW-11	GPMW-11	9/19/2014		<0.208	<0.193	<0.111	<b>0.551J</b>	<0.103	<0.109	<0.130	<0.123	<0.143	<0.055	<b>7.94</b>	<b>1.14</b>
MW-11	GPMW-11	4/1/2015		<0.208	<0.193	<0.111	<b>1.07J</b>	<b>1.15J</b>	<0.109	<0.130	<0.123	<0.143	<0.055	<b>29.30</b>	<b>4.83</b>
MW-18	GPMW-18	4/1/2010		<5	<b>71</b>	<5	<5	<b>220</b>	<5	<5	<10	<5	<5	<b>310</b>	<b>160</b>
MW-18	GPMW-18	3/8/2011		<5	<50	<5	<5	<b>250</b>	<5	<5	<10	<5	<5	<b>370</b>	<b>130</b>
MW-18	GPMW-18	3/10/2014		<b>0.734J</b>	<0.387	<0.222	<b>2.31J</b>	<b>106</b>	<0.218	<0.260	<0.247	<0.287	<0.111	<b>261</b>	<b>52</b>
MW-18	GPMW-18	9/22/2014		<b>1.09J</b>	<0.387	<0.222	<b>3.10J</b>	<b>156</b>	<0.218	<0.260	<0.247	<0.287	<0.111	<b>284</b>	<b>69.5</b>
MW-18	GPMW-18	4/2/2015		<0.208	<0.387	<0.222	<b>2.09</b>	<b>88.4</b>	<0.218	<0.260	<0.247	<0.287	<0.111	<b>188</b>	<b>47.8</b>

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

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	Contaminants											
				1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
MW-19	GPMW-19	4/1/2010		< 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
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
<b>Macy's Property</b>															
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
<b>Restaurant Supply (Former Jodaco Property)</b>															
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
RW-1	JPBRW-1	9/11/2015		<0.2	7.84	0.401J	<0.2	6.19	<0.2	<0.2	<0.2	<0.2	<0.2	6.40	6.57
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
		9/10/2015		<0.4	<1	<0.4	9.4J	23.2	<0.4	<0.4	<0.4	<0.4	<0.4	226	72.0
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-17	JPMW-17	9/11/2015		<0.2	<0.5	<0.2	1.09J	1.3J	<0.2	<0.2	<0.2	<0.2	<0.2	45.1	5.82
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-21	JPMW-21	9/11/2015		<0.2	<0.5	<0.2	6.12	15.2	<0.2	<0.2	<0.2	<0.2	<0.2	93.9	14.0
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-22	JPMW-22	42258		2.16J	<0.5	4.58J	1.73J	15.3	<0.2	<0.2	<0.2	<0.2	<0.2	118	17.6
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
MW-23	JPMW-23	42261		0.354J	<0.5	<0.2	1.32J	17.2	<0.2	<0.2	<0.2	<0.2	<0.2	85.5	17.1
<b>Daltile (Former Reynolds Property)</b>															
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-14	RPMW-14	9/11/2015		<0.2	<0.5	<0.2	<0.2	10.6J	<0.2	<0.2	<0.2	<0.2	<0.2	1320	390

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

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	Groundwater Quality Parameters											
				1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
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
MW-15	RPMW-15	9/14/2015		<1	<2.5	<1	<1	2.14J	<1	<1	<1	<1	<1	440	134
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
MW-24	RPMW-24	9/14/2015		<1	<2.5	<1	<1	21.2J	<1	<1	<1	<1	<1	829	207
<b>Midtown West (Former M-West Lots/ABC Supply)</b>															
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-4	MTWMW-4	9/14/2015		<0.4	<1	<0.4	7.16J	41.3	<0.4	<0.4	<0.4	<0.4	<0.4	254	60.2
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

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

Historical Well Designation	Current Well Designation	Sample Date	Sample Type	Contaminants											
				1,1-Dichloroethene	Acetone	Benzene	Chloroform	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methylcyclohexane	o-Xylene	Tetrachloroethene	Trichloroethene
MTWMW-71	MTWMW-71	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-71	MTWMW-71	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-71	MTWMW-71	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
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	<0.111	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
<b>MWHA - Midtown-West Home Owners Association Property</b>															
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-5	HOAMW-5	9/15/2015		0.255J	<0.5	<0.2	4.21	77.0	<0.2	<0.2	<0.2	<0.2	<0.2	281	81.0
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-5I	HOAMW-5I	9/15/2015		<0.4	<1	<0.4	3.27	62.5	<0.4	<0.4	<0.4	<0.4	<0.4	202	59.4
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-6	HOAMW-6	9/15/2015		<0.2	<0.5	<0.2	2.94J	55.0	<0.2	<0.2	<0.2	<0.2	<0.2	168	53.2
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
MW-X	MW-X	4/2/2015		<0.208	<0.193	<0.111	<0.155	<0.124	<0.109	<0.13	<0.123	<0.143	<0.055	<0.193	<0.151
MW-X	MW-X	9/15/2015		<0.2	<0.5	<0.2	<0.2	3.08J	<0.2	<0.2	<0.2	<0.2	<0.2	1.29J	<0.2

Notes

- Concentrations trending down
- Concentrations increased during period
- No change or new sample data

Sample Type:

- blank = field sample
- D = duplicate sample
- NA = not analyzed
- Results: shown in ug/L
- < - concentration below the indicated detection limit
- J = estimated value

**Table 6: Summary of Surface Water Quality Data  
September 2015**

Surface Water Location Sample Collection Date	Unit	S9 16-Sep-15	S10 16-Sep-15	S11 16-Sep-15	S12 16-Sep-15	S13 16-Sep-15	S14 16-Sep-15	S15 16-Sep-15	S16 16-Sep-15	S17 16-Sep-15	S18 16-Sep-15
<b>VOCs</b>											
1,1,1-Trichloroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,1,1,2-Tetrachloroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,1,2-Trichloroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,1-Dichloroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,1-Dichloroethene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2,4-Trichlorobenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2-Dibromo-3-chloropropane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2-Dibromoethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2-Dichlorobenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2-Dichloroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,2-Dichloropropane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,3-Dichlorobenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
1,4-Dichlorobenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
2-Butanone	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
2-Chloroethylvinyl ether	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
2-Hexanone	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
4-Methyl-2-pentanone	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Acetone	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Benzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Bromodichloromethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Bromoform	ug/L	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U
Bromomethane	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon disulfide	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Carbon tetrachloride	ug/L	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U
Chlorobenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Chloroethane	ug/L	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U
Chloroform	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Chloromethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Cyclohexane	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dibromochloromethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Dichlorodifluoromethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Ethylbenzene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Isopropylbenzene (Cumene)	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Methyl Acetate	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methylcyclohexane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Methylene chloride	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Styrene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Tetrachloroethene	ug/L	<b>6.58</b>	<b>8.09</b>	<b>8.80</b>	<b>8.71</b>	<b>17.4</b>	<b>10.0</b>	<b>10.5</b>	<b>10.2</b>	<b>9.98</b>	<b>9.72</b>
Toluene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Trichloroethene	ug/L	<b>3.02 J</b>	<b>3.51 J</b>	<b>4.07 J</b>	<b>3.57 J</b>	<b>6.26</b>	<b>4.03 J</b>	<b>3.77 J</b>	<b>4.02 J</b>	<b>3.66 J</b>	<b>3.49 J</b>
Trichlorofluoromethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Trichlorotrifluoroethane	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl acetate	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl chloride	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Xylene (total)	ug/L	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
cis-1,2-Dichloroethene	ug/L	<b>1.33 J</b>	<b>1.82 J</b>	<b>2.08 J</b>	<b>1.85 J</b>	<b>3.32 J</b>	<b>2.58 J</b>	<b>2.53 J</b>	<b>2.55 J</b>	<b>2.32J</b>	<b>2.31 J</b>
cis-1,3-Dichloropropene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
m,p-Xylene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
o-Xylene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
tert-Butyl methyl ether (MTBE)	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
trans-1,2-Dichloroethene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
trans-1,3-Dichloropropene	ug/L	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U

**Notes:**

ug/L - micrograms per liter

U - result below the indicated detection limit

J - estimated concentration; result between method detection limit and reporting limit

Prepared by: MHA 10/18/2015

Checked by: TRK 10/26/2015



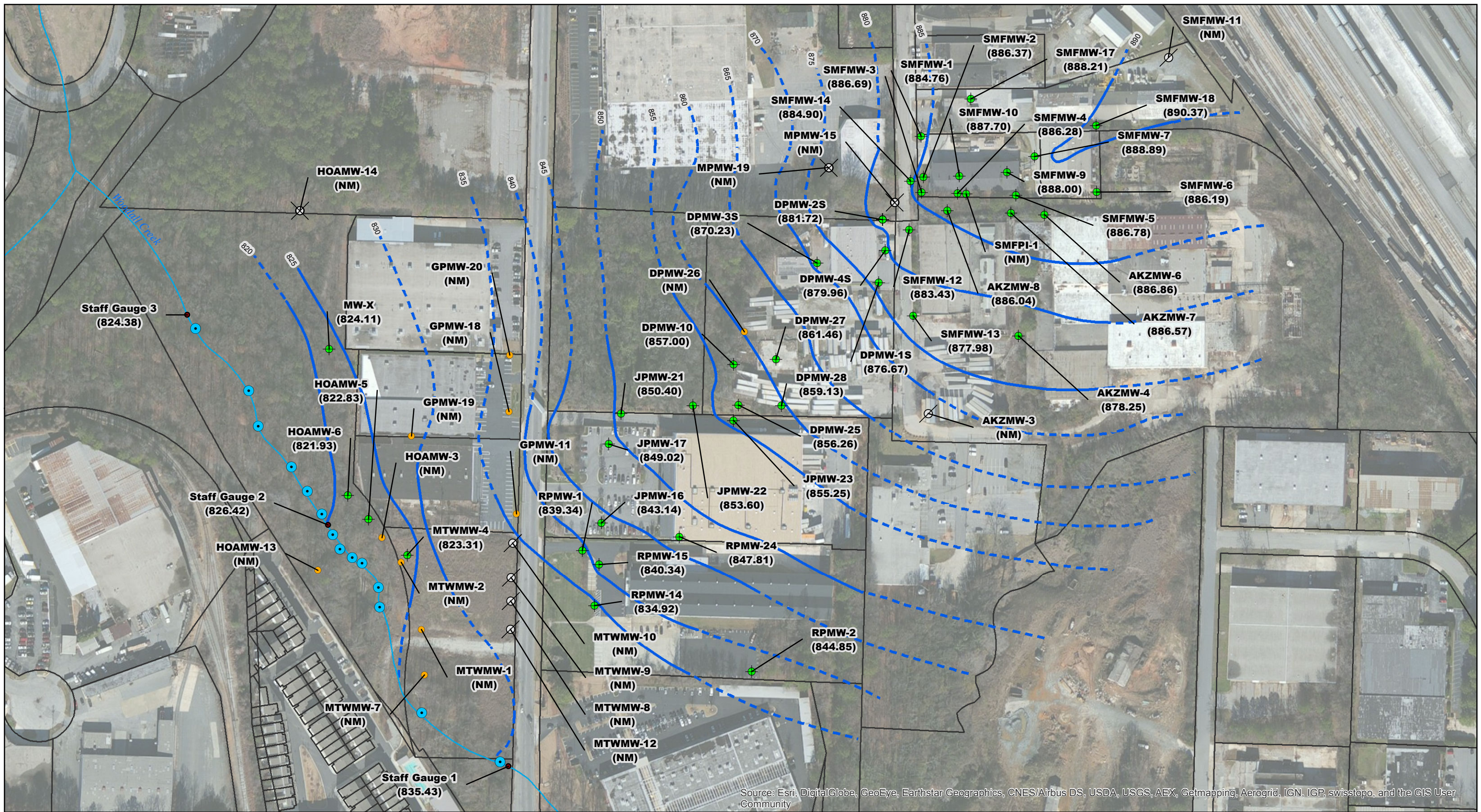
Table 7: Historical Summary of Surface Water Quality Data

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 <sup>(1)</sup>		10/13/2014 <sup>(2)</sup>		4/6/2015 <sup>(3)</sup>		9/16/2015 <sup>(4)</sup>			
																					Raw Result	Normalized for Flow	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	<5	NS	<0.47	<0.193	<0.193	<0.193	NS	NS	NS	NS		
	1,1-DCE	<5	NS	<5	<5	<5	<5	<5	<3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.79	<0.208	<0.208	<0.208	NS	NS	NS	NS		
	cis 1,2-DCE	<5	NS	<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	NS	NS	NS	NS		
	TCE	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<0.38	<0.161	<0.161	<0.161	NS	NS	NS	NS		
Pt. 2	Methylene Chloride	<5	NS	<5	<5	<5	<5	<5	5.3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<2.3	<0.149	<0.149	<0.149	NS	NS	NS	NS		
	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	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	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	NS	NS	NS	
Pt. 3	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	NS	NS	NS	
	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	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	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	NS	NS	NS	
Pt. 4	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	NS	NS	NS	
	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	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	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	NS	NS	NS	
Pt. 5	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	NS	NS	NS	
	Methylene Chloride	<5	NS	<5	<5	<5	<5	<5	5.3	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	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	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	NS	NS	NS	
Pt. 6	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	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	NS	NS	NS	
	Methylene Chloride	<5	NS	<5	<5	<5	<5	<5	6.0	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	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	NS	NS		
Pt. 7	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	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	NS	NS	NS	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	NS	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	NS	NS	NS	
Pt. 8	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	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	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	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	NS	NS	NS	
Pt. 9	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	NS	NS	NS	
	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	NS	<0.47	NS	NS	NS	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	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	NS	NS	NS	
Pt. 10	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	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	NS	NS	NS	
	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	6.58	0.86		
	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	<0.200	<0.200		
Pt. 11	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	1.33	J	0.17	
	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	3.02	J	0.39	
	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Pt. 9.5	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	NS	NS	NS	
	TCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	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	8.09	1.05		
	1,1-DCE	<5	<5	5.5	3.4	<5	<5	<5	<3	<5	<3	<5	<5																	

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 <sup>(1)</sup>		10/13/2014 <sup>(2)</sup>		4/6/2015 <sup>(3)</sup>		9/16/2015 <sup>(4)</sup>			
		Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	Raw Result	Normalized for Flow	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	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	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	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	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	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	8.71	1.13		
	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	<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	1.85	J	0.24	
	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	3.57	J	0.46	
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	NS	NS	NS	8.98	2.98	10.00	1.35	7.36	2.07	17.40		2.26	
	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	<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	3.32	J	0.93	
	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	NS	NS	NS	4.22	1.40	4.19	0.57	3.13	0.88	6.26	J	0.81	
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	10.00		1.30	
	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	<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	2.58	J	0.34	
	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	9.7	8.0	<0.38	4.37	1.45	4.47	0.60	3.43	0.96	4.03	J	0.52		
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	NS	NS	11.1	3.69	11.0	1.49	8.96	2.51	10.50		1.37	
	1,1-DCE	NS	<5	<5	2.8	<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	<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	<5	<5	NS	1.52	0.50	2.75	0.37	2.13	0.60	2.53	J	0.33	
	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	NS	NS	4.36	1.45	4.55	0.62	3.80	1.07	3.77	J	0.49	
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	10.20		1.33	
	1,1-DCE	NS	<5	<5	2.7	<5	<5	NS	<3	NS	NS	<5	NS	<5	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	<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	2.55	J	0.33	
	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	4.02	J	0.52	
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	9.98		1.30	
	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	<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	2.32	J	0.30	
	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	3.66	J	0.48	
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	NS	NS	10.1	3.35	10.2	1.38	8.67	2.43	9.72		1.26	
	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	<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	NS	NS	1.49	0.49	2.61	0.35	1.98	0.56	2.31	J	0.65	
	TCE	NS	NS	NS	NS	NS	NS	13.0	8.1	6.7	11.0	9.8	13.0	NS	NS	NS	NS	NS	NS	NS	4.41	1.46	4.04	0.55	3.29	0.92	3.49	J	0.98	
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	NS	NS	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	NS	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	NS	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	NS	NS	NS	
Pt. PB	PCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.54	2.17	6.75	0.91	NS	NS	NS	NS	NS	
	1,1-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<0.79	<0.208	<0.208	<0.208	<0.208	NS	NS	NS	NS	NS	
	cis 1,2-DCE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	6.3	<5	<0.31	0.925	0.31	1.900	0.26	NS	NS	NS	NS	NS	
	TCE	NS	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	NS	NS	
Pt. RR	PCE	NS	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	NS	NS	
	1,1-DCE	NS	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	NS	NS	NS
	cis 1,2-DCE	NS	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	NS	NS	NS
	TCE	NS	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</					

## FIGURES



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

- Groundwater Monitoring Well
  - ⊗ Well Destroyed
  - ⊗ Obstructed Well
  - Well Not Found / Potentially Destroyed
  - Surface Water Sample Location
  - Potentiometric Surface Elevation
  - Woodall Creek Staff Gauge Location
- (800.25) Groundwater elevation measured in feet above mean sea level.  
(NM) indicates groundwater elevation not measured

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N

0 12.5 25 50 75 100 125 150 Meters

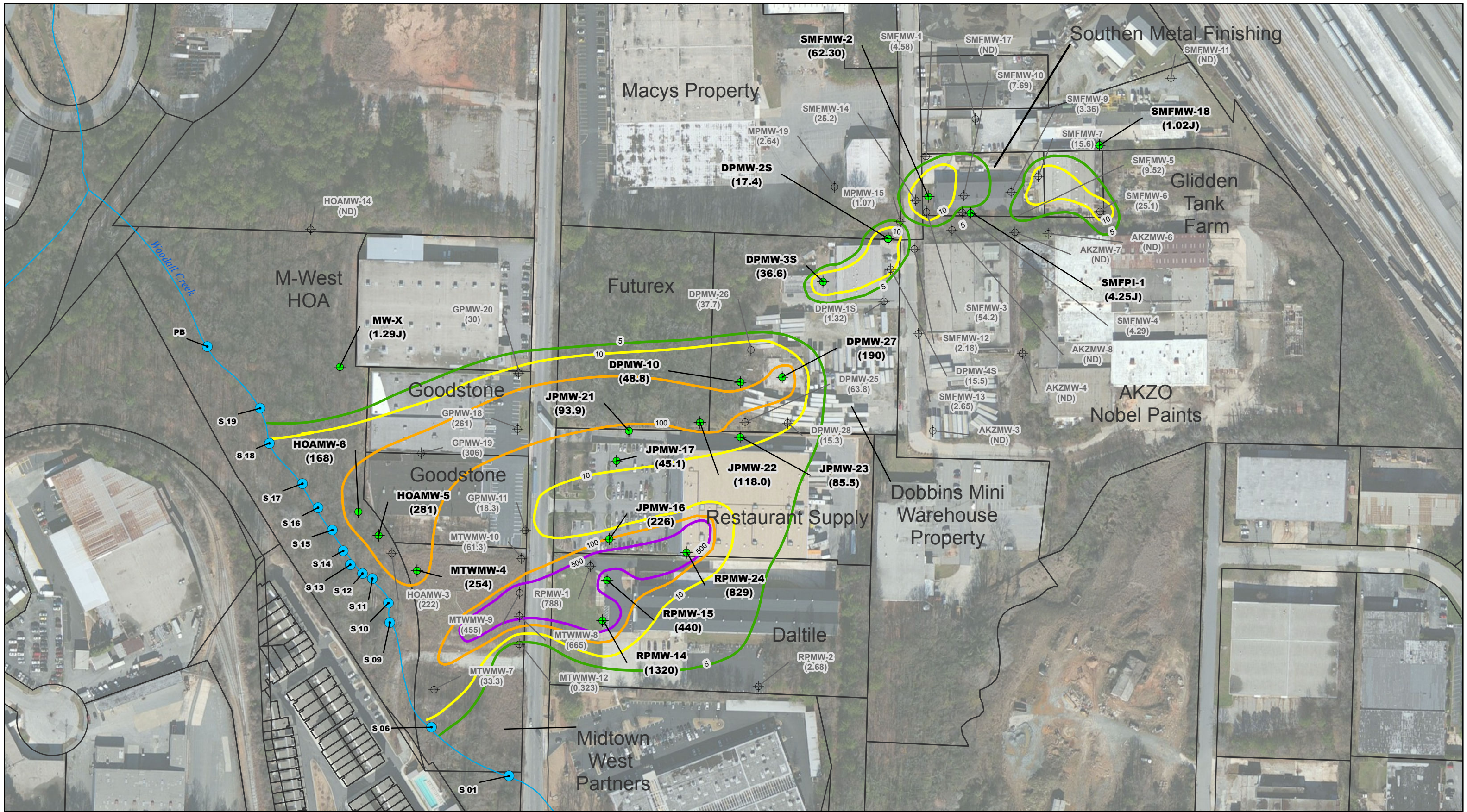
0 100 200 400 600 800 Feet

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

NOTES:  
-Base map imagery obtained through ESRI Online Services  
-Numerous wells were found destroyed due to recent construction activities

C:\Project\Woodall Creek\MNA4\mxd\Fig1\_POT\_102015.mxd  
Date Saved: 12/16/2015

Drawn: TDN    PROJ: 6122130015



Concentration Contour (ug/L)

- 5
- 10
- 100
- 500

\*contour dashed where inferred

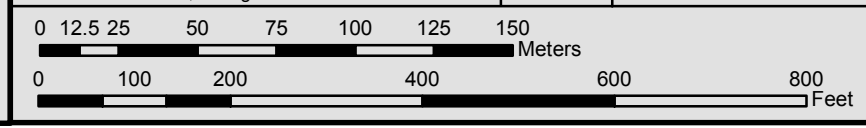
● Surface Water Sample Location

● Shallow Groundwater Monitoring Well  
Semi-Annual Sampling Event - September 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.

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

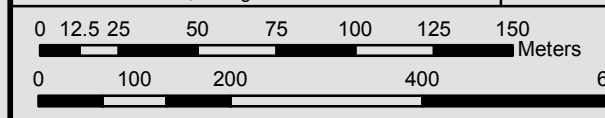
NOTES:  
 -Base map imagery obtained through ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig2\_PCShallow102015.mxd  
 Date Saved: 12/16/2015  
 Drawn: TDN    PROJ: 6122130015



- Intermediate Groundwater Monitoring Well  
Semi-Annual Sampling Event - September 2015  
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration  
"ND" indicates constituent below detection limit.  
"NS" indicates location Not Sampled September 2015
- Well Destroyed
- Obstructed Well
- Well Not Found / Potentially Destroyed

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

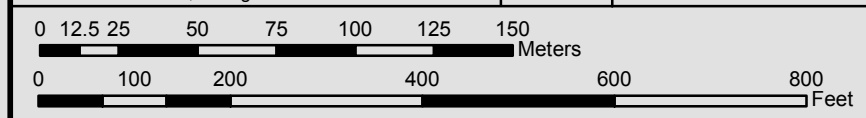
NOTES:  
-Base map imagery obtained through  
ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig3\_PCE\_Int\_102015.mxd  
Date Saved: 11/25/2015  
Drawn: TDN    PROJ: 6122130015



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

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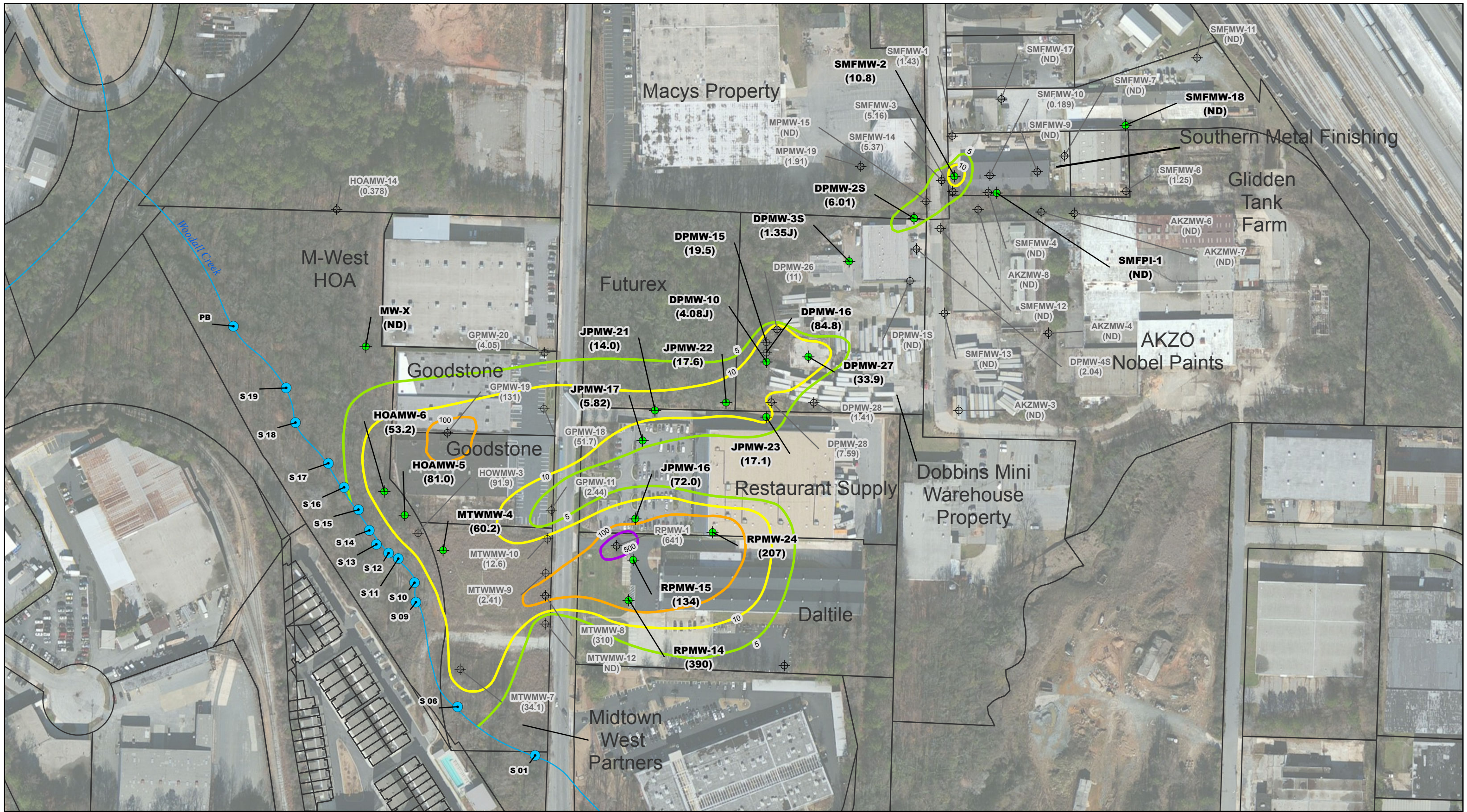


**FIGURE 4**  
**Woodall Creek Site**  
**PCE Concentration Map September 2015**  
**Fractured Bedrock Groundwater Bearing Zone**

NOTES:  
 -Base map imagery obtained through  
 ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig4\_PCE\_BR\_032015.mxd  
 Date Saved: 12/16/2015

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 - September 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 3.

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N

07.515 30 45 60 75 90  
 Meters

0 62.5 125 250 375 500  
 Feet

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

NOTES:  
 -Base map imagery obtained through ESRI Online Services

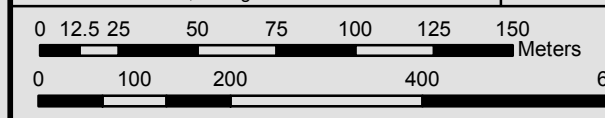
C:\Project\Woodall Creek\MMNA4\mxd\Fig5\_TCE\_Sh1\_102015.mxd  
 Date Saved: 12/11/2015  
 Drawn: TDN    PROJ: 6122130015





- Intermediate Groundwater Monitoring Well  
Semi-Annual Sampling Event - September 2015  
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration  
"ND" indicates constituent below detection limit.  
"NS" indicates location Not Sampled September 2015
- Well Destroyed
- Obstructed Well
- Well Not Found / Potentially Destroyed

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

NOTES:  
-Base map imagery obtained through ESRI Online Services

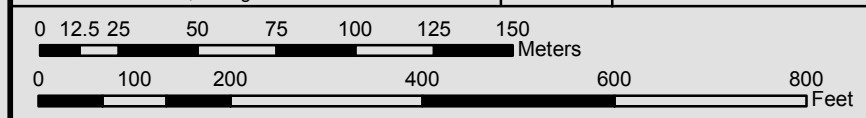
C:\Project\Woodall Creek\MNA4\mxd\Fig6\_TCE\_Int\_102015.mxd  
Date Saved: 12/16/2015

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.

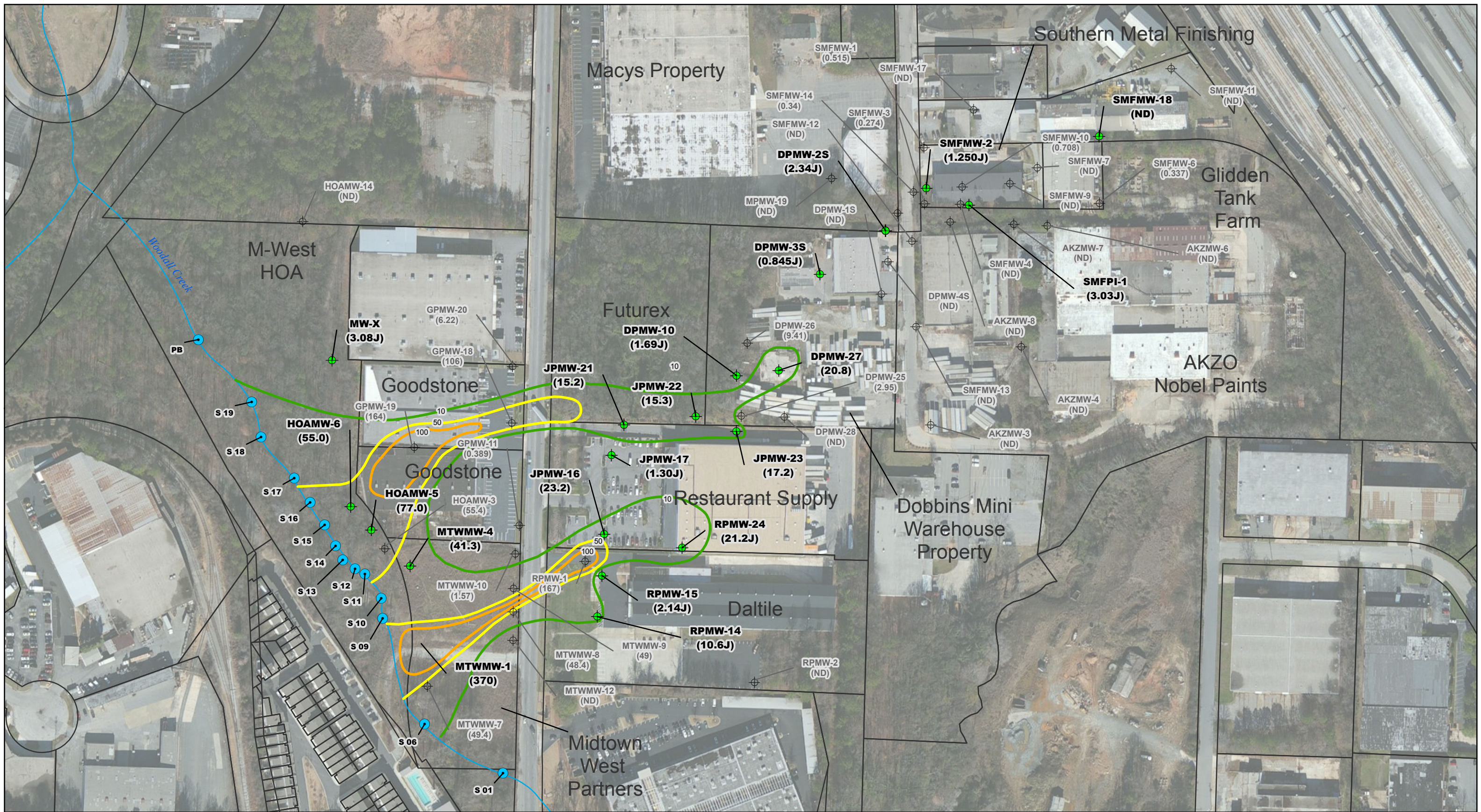
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**FIGURE 7**  
**Woodall Creek Site**  
**TCE Concentration Map September 2015**  
**Fractured Bedrock Groundwater Bearing Zone**

NOTES:  
 -Base map imagery obtained through  
 ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig7\_TCE\_BR\_102015.mxd  
 Date Saved: 12/16/2015  
 Drawn: TDN    PROJ: 6122130015



Concentration Contour (ug/L)

- 5
- 50
- 100
- 500

\*contour dashed where inferred

- Surface Water Sample Location
- + Shallow Groundwater Monitoring Well Semi-Annual Sampling Event - September 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.

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N

0 12.5 25 50 75 100 125 150 Meters

0 100 200 400 600 800 Feet

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

NOTES:  
 -Base map imagery obtained through ESRI Online Services

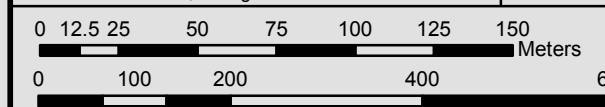
C:\Project\Woodall Creek\MNA4\mxd\Fig8\_DCE\_Sh\_102015.mxd  
 Date Saved: 12/16/2015

Drawn: TDN    PROJ: 6122130015



- Intermediate Groundwater Monitoring Well  
Semi-Annual Sampling Event - September 2015  
(265) - detected concentration in parentheses as micrograms per liter, "J" suffix indicates estimated concentration  
"ND" indicates constituent below detection limit.  
"NS" indicates location Not Sampled September 2015
- Well Destroyed
- Obstructed Well
- Well Not Found / Potentially Destroyed

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

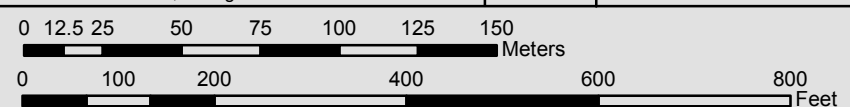
NOTES:  
-Base map imagery obtained through ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig9\_DCE\_Int\_102015.mxd  
Date Saved: 12/16/2015  
Drawn: TDN    PROJ: 6122130015



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

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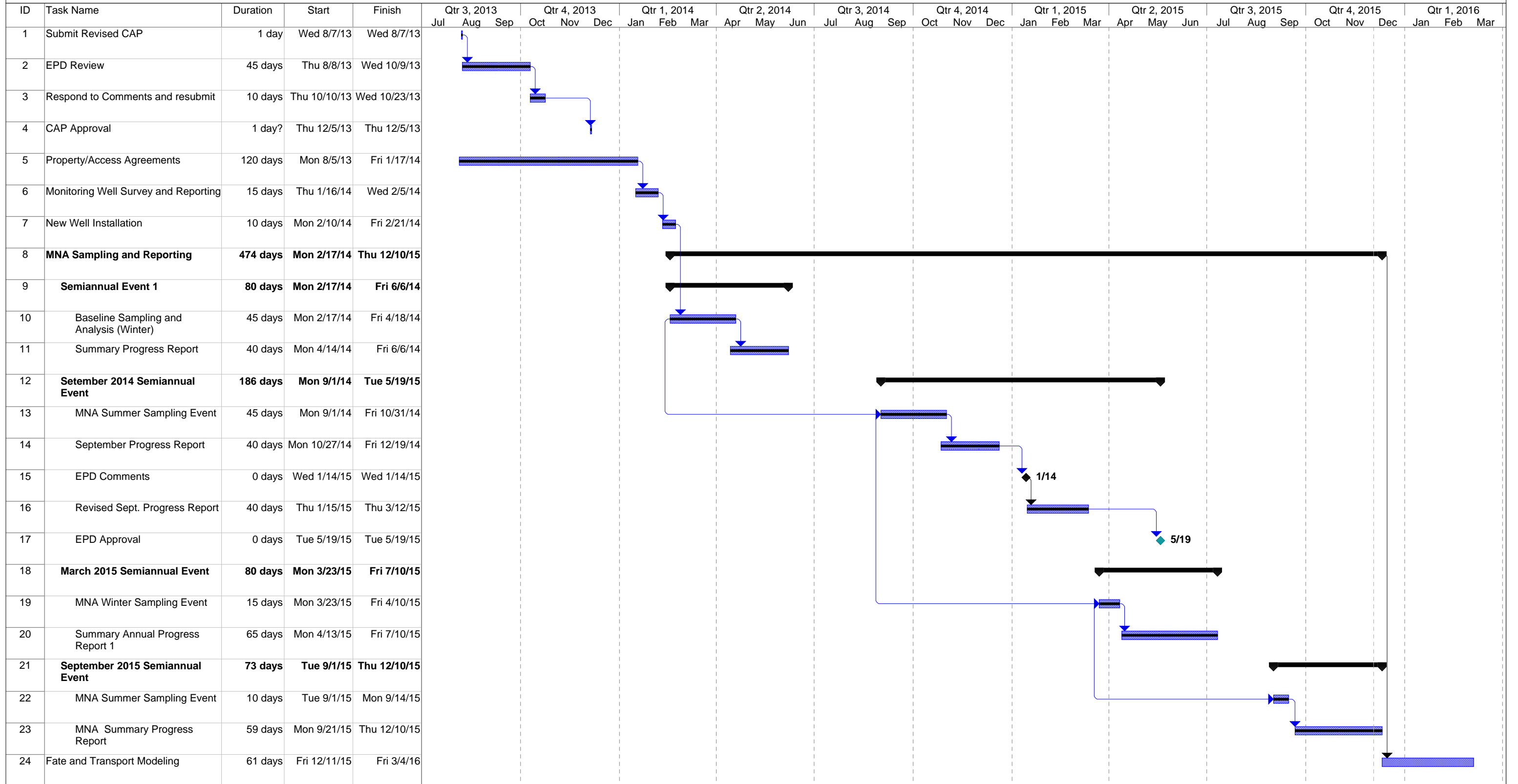
**FIGURE 10**  
**Woodall Creek Site**  
**cis-1,2 DCE Concentration Map September 2015**  
**Fractured Bedrock Groundwater Bearing Zone**

NOTES:  
 -Base map imagery obtained through  
 ESRI Online Services

C:\Project\Woodall Creek\MNA4\mxd\Fig10\_DCE\_BR\_102015.mxd  
 Date Saved: 12/16/2015

Drawn: TDN    PROJ: 6122130015

Figure 11  
CAP Implementation Schedule  
Updated December 2015



Project: Figure 5 schedule 12.2014 Date: Thu 12/3/15	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**

## DEPTH-TO-WATER MEASUREMENTS

Page 1 of 3

Project ID: *Woodall Creek HSI, Semi-Annual Sampling Event*

Date	Time (hhmm)	Property	Well Identifier	Depth to Bottom* (ft TOC)	Depth to Water* (ft TOC)	Instrument	M&TE Identifier	Remarks
9/2/15	0958	<i>Southwest</i>	SMFMW-1	25.50	14.40	<i>solinst</i>	903780	
	1005		SMFMW-2	28.30	14.88			
	1010		SMFMW-8	23.63	11.57			<i>Casing broken measuring point broken</i>
	1015		SMFMW-7	25.87	17.46			<i>MAN hole COVER broken</i>
	1017		SMFDS-1	35.62	17.26			
	1021		SMFDR-1	47.72	17.18			
	1033		SMFMW-5	26.74	12.85			
	1040		SMFPI-1	35.00	13.32			
	1047		SMFDS-3	37.81	13.36			
	1050		SMFDR-3	53.66	13.70			
	1055		SMFMW-4	24.30	13.50			
	1100		SMFMW-10	95.85	16.20			
	1109		SMFMW-3	25.82	13.60			
	1115		SMFMW-9	26.58	15.78			
	1125		SMFMW-6	24.62	14.98			
	1128		SMFMW-18	29.77	21.24			
	1141		SMFMW-14	18.42	10.04			
	1143		SMFDR-2	41.14	10.15			
	1146		SMFMW-12	20.63	11.17			
	1150	<i>Dobbins</i>	DPMW-35	30.30	25.38			

\* All measurements from v-notch at top of casing unless noted to be otherwise.

Strike-out, initial/date all corrections on this form

Recorded By: \_\_\_\_\_  
(Signature & Date)

QA Check By: \_\_\_\_\_  
(Signature & Date)



# DEPTH-TO-WATER MEASUREMENTS

Project ID: *Woodall Creek HSI, Semi-Annual Sampling Event*

Date	Time (hhmm)	Property	Well Identifier	Depth to Bottom* (ft TOC)	Depth to Water* (ft TOC)	Instrument	M&TE Identifier	Remarks
4/2/15	1153	Dobbins	DPMW-3T	54.35	25.93		903780	needs new well cap
	1158		DPMW-2T	50.20	15.72			
	1200		DPMW-2S	25.05	13.57			
	1210		DPMW-4S	25.32	15.84			
	1215		DPMW-4T	50.30	16.49			
	1225		DPMW-1S	25.65	19.32			
	1230		DPMW-2T	54.25	39.84			
	1235		DPMW-1S	85.55	39.55			broken well, no protective vault A pipe well cap
	1237		DPMW-16	96.83	39.97			6 in well
	1242		DPMW-10	51.20	39.14			
	1245		DPMW-2S	50.28	39.32			
	1247		DPMW-28	50.51	37.12			
			DPMW-26	<del>50.51</del>	NM			could not locate well
	1310	Southern Motel	SMFMW-13	29.56	17.47			
	1430	Restaurant	JPMW-21	36.91	9.30			
	1433		JPMW-22	48.32	13.16			
	1437		JPMW-23	46.58	11.46			
	1440		JPMW-16	49.85	21.49			
	1445		JPBRW-1	165.10	31.29			4 in steel well
	1447		JPMW-17	49.96	15.50			

\* All measurements from v-notch at top of casing unless noted to be otherwise.

Strike-out, initial/date all corrections on this form

Recorded By: \_\_\_\_\_  
(Signature & Date)

QA Check By: \_\_\_\_\_  
(Signature & Date)

# DEPTH-TO-WATER MEASUREMENTS

Page 3 of 3

Project ID: Woodall Creek HSI, Semi-Annual Sampling Event

Date	Time (hhmm)	Property	Well Identifier	Depth to Bottom* (ft TOC)	Depth to Water* (ft TOC)	Instrument	M&TE Identifier	Remarks
9/2/15	1450	Dalhio	RPMW-2	<del>27.56</del>	26.77			
	1452		RPMW-14		26.31			no lock
	1456		RPMW-15		26.10			
	1458		RPMW-1		14.05			needs cap
	1500		RPMW-24		17.48			
	1515	M-west	HOAMW-5I	40.30	21.07			
	1519		HOAMW-5	37.40	14.23			
	1530		MW-X	24.45	19.72			
	1600		HOAMW-6	34.48	19.17			
	1615	Nobis Point	AKZMW-3		NM			could not measure under tractor + trailer tire
	1620		AKZMW-4		11.87			
	1625		AKZMW-6		12.50			
	1628		AKZMW-8		8.85			
	1631		AKZMW-7		11.23			
	1644	Southern Marsh	SMFMW-17		16.29			
		Southern Marsh	SMFMW-11		NM			could not locate well buried under brush + pun
	1700		Staff gauge 1		2.95			
	1712		Staff gauge 2		3.06			
	1725		Staff gauge 3		3.17			
	1605		MTWMW-4	35.05	16.70			

\* All measurements from v-notch at top of casing unless noted to be otherwise.

Strike-out, initial/date all corrections on this form

Recorded By: \_\_\_\_\_  
(Signature & Date)

QA Check By: \_\_\_\_\_  
(Signature & Date)

# PURGE LOG

Project: Woodall Creeek HSI, Semi-Annual Sampling Event

Well Identifier: SMF PI-1

Initial Depth to Water\*: 13.86 (ft)

Property: SOUTHERN METAL FINISHING

Casing volume: NA (GAL)  
LOW FLOW

Page 1 of 1

Equipment: Bladder Pump  
(IDs for w/ meter, wq meter, pump, controller)

Remarks:

TD = 35.00'

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC) <u>DO</u>	pH (Standard Units)	Specific Conduct. (M <sub>s</sub> /cm)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (ML/min)	Incremental Volume Removed ( )	TOTAL Volume Removed ( )	Casing Volume Removed	Comments (include controller settings)
9-8-15		31.80	13.86	-	-	-	-	-	0.0	0.0	0.0	0.0	ORP Measurement upon introduction of pump.
										0.0	0.0	0.0	Recovery period
	1210		13.86							0.0	0.0	0.0	Recovery period
	1220		13.99	0.13	5.37	0.480	20.38	38.1	100	0.25	0.0	0.0	Start pump**
	1230			0.13   3.77	5.35	0.466	20.28	32.7	100	0.25	0.25	0.0	Initial water quality readings*** ORP 146.7
	1240			3.65	5.34	0.453	20.38	24.2	100	0.25	0.5		87.6
	1250			3.49	5.31	0.443	20.97	13.4	100	0.25	0.75		36.9
	1300			3.62	5.28	0.443	21.13	12.0	100	0.25	1.0		-21.4
	1310			3.58	5.28	0.442	21.15	11.2	100	0.25	1.25		-40.2
	1320			3.53	5.28	0.442	21.19	10.5	100	0.25	1.50		-46.2
	1330			3.52	5.27	0.442	21.23	11.60	100	0.25	1.75		-51.8
	1340			3.54	5.27	0.441	21.21	9.67	100	0.25	2.0		-53.2
	1350									0.25	2.25		-56.9
													collect sample

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.

RECORDED BY: EVER GUILLEN / [Signature] 9-8-15

(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:	<u>SMFPI-1</u>
SAMPLE LOCATION:	<u>SOUTHERN METAL FINISHING</u>
SAMPLING POINT:	<u>31.80'</u>
SAMPLE MEDIA:	<u>WATER</u>
SAMPLE TYPE:	<u>GRAB</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9-8-15  
 TIME COLLECTED (hh:mm): 1350  
 DEPTH      TO 31.80 FT

COMMENTS:

---



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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>3.59</u>		
ORP	<u>-56.5</u>		
Ferrous Iron	<u>0</u>		
<u>SP. COND</u>	<u>0.441</u>		
<u>Temp =</u>	<u>21.21</u>		
<u>TURB</u>	<u>9.67</u>		

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	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
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creeek HSI, Semi-Annual Sampling Event

Well Identifier: SME MW-2

Initial Depth to Water\*: 15.61 (ft)

Property: SME

Casing volume: 2.14 (gal)

Page 1 of 1

Equipment: QEP MP-10, Bladder Pump, Y51556, Lamotte 220we, Salinsh Water Level Meter  
(IDs for w/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. (ms/cm)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (ml/min)	Incremental Volume Removed ( )	TOTAL Volume Removed ( )	Casing Volume Removed	Comments (include controller settings)
08/09/15	1133	22.5	15.50	- 11									
	1145		15.55	- 04					0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
										0.0	0.0	0.0	Recovery period
	1150		15.62	0.01						0.0	0.0	0.0	Recovery period
HS	1155		15.70	0.09	4.41	0.261	22.03	60	50	0.0	0.0	0.0	Start pump** 10psi, 1/4 = 1/10
	1205		15.72	0.11	4.37	0.255	22.22	115	50	0.0	0.0	0.0	Initial water quality readings***
	1215		15.68	0.07	4.44	0.252	22.10	90.7	50	750 ml	750ml		
	1225		15.65	0.04	4.47	0.260	23.68	87.6	50	500ml	1.25L		
	1235		15.65	0.01	4.52	0.254	25.77	92.1	50	500ml	1.75L		
	1245		15.65	0.04	4.50	0.275	25.02	88.4	50	500ml	2.25L		
	1255		15.45	0.04	4.49	0.265	25.61	61.6	50	500ml	2.75L		
	1305		15.65	0.04	4.50	0.265	26.70	46.9	50	500ml	3.25L		
	1315		15.65	0.04	4.51	0.273	26.34	56.9	50	500ml	3.75L		
	1325		15.65	0.04	4.49	0.268	24.61	57.6	50	500ml	4.25L		
	1335		15.05	0.04	4.45	0.261	24.02	58.5	50	500ml	4.75L		
													Collected sample Fe <sup>2+</sup> =0.0, DO=1.21 ORP=217.8

Additional Comments:

## Notes:

\* Record Initial DTW prior to introduction of pump

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: K Day 9/8/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: Woodal Creek

SAMPLE ID NUMBER: <u>SME/MW-2</u>
SAMPLE LOCATION: <u>SME/MW-2</u>
SAMPLING POINT: <u>SME/MW-2</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE:
LOGBOOK NUMBER: <u>DM</u>

DATE COLLECTED (mm/dd/yy): 09/08/15  
 TIME COLLECTED (hh:mm): 1332  
 DEPTH \_\_\_\_\_ TO \_\_\_\_\_ FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S YN
Dissolved Oxygen	<u>3.57</u>		
ORP	<u>249.9</u>		
Ferrous Iron			
Temp °C	<u>24.19</u>		
Sp Cond. µS/cm	<u>0.260</u>		
DO µM/C pH	<u>4.49</u>		
ORP			

ALIQOT 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	X
1	Plastic 500 ml	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: <u>R. Day</u>	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY: <u>Amec EW</u>	<u>9/8, 1570</u>	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: SMFDS-1

Initial Depth to Water\*: 17.17 (ft)

Casing volume: 3.23 ( )

Page 1 of 1

Equipment: YSI (R149449) Bladder Pump (R5521) WL (C903780)

Remarks: 34.40'  
TD = 34.40' - screen 2.5' TPA on final purging

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)
9/8/15	1218	33'	16.71						0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
	1225		17.15							0.0	0.0	0.0	Recovery period
										0.0	0.0	0.0	Recovery period
9/8/15	1228		17.30	.15						0.0	0.0	0.0	Start pump** 100ml/min
9/8/15	1230		17.45	.28	5.47	0.371	23.54	1.67	100ml/min	0.0	0.0	0.0	Initial water quality readings***
9/8/15	1240		17.45	.26	5.55	0.382	23.27	3.25	100ml/min	.25	.50		
	1250		17.45	.28	5.70	0.428	23.34	4.09	100ml/min	.25	.75		
	1300		17.45	.28	5.68	0.427	23.59	2.40	100ml/min	.25	1.00		
	1310		17.45	.26	5.67	0.425	23.25	2.38	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 9/8/15  
(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: <u>SMFDS-1</u>
SAMPLE LOCATION: <u>southern metals</u>
SAMPLING POINT: <u>Bladder Pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>Grn b</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/8/15  
 TIME COLLECTED (hh:mm): 13/2  
 DEPTH \_\_\_\_\_ TO 33 FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.81</u>	<u>mg/L</u>	
ORP	<u>125.8</u>		
Ferrous Iron	<u>0</u>		

ALIQOT 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:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	



# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

3" WELL

Property: SOUTHERN METAL FINISHING

Well Identifier: SMF MW-10

Initial Depth to Water\*: 16.71 (ft)

Casing volume: 30.78 ( )  
LOW FLOW

Page 1 of 1

Equipment: Bladder Pump  
(IDs for w/ meter, wq meter, pump, controller)

Remarks:

TD = 9.650

Teflon thick tubing

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 (ML/MIN)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	Casing Volume Removed	Comments (include controller settings)
				DO	-	-	-	-	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**
9-9-15	1235	92.0'	16.71	5.73	6.24	0.242	19.55	3.74	200	0.25	0.25	0.0	Initial ORP water quality readings*** -124.3
	1240			2.90	5.98	0.235	19.34	4.72		0.25	0.5		-124.2
	1245			2.35	5.92	0.235	19.27	3.39			0.75		-124.8
	1250			1.88	5.86	0.234	19.24	3.02			1.0		-122.6
	1255			1.78	5.83	0.234	19.26	2.82			1.25		-129.3
	1300			1.32	5.78	0.235	19.27	2.51			1.5		-128.4
	1305			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

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 /  9-9-15  
 (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:	<u>SM FMW-1D</u>
SAMPLE LOCATION:	<u>Southern Metals</u>
SAMPLING POINT:	<u>Bladder pump discharge</u>
SAMPLE MEDIA:	<u>Water</u>
SAMPLE TYPE:	<u>Grab</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9/4/15  
 TIME COLLECTED (hh:mm): 1305  
 DEPTH      TO 92' FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>1.32</u>		
ORP	<u>-128.4</u>		
Ferrous Iron	<u>0</u>		

ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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: SOUTHERN METAL FINISHING

Well Identifier: SMF DR-3

Initial Depth to Water\*: 14.24 (ft)

Casing volume: NA ( )

Page 1 of 1

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

Remarks:

T03 S3.50

TPAton lined tubing

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 ( )	TOTAL Volume Removed (Gal)	Casing Volume Removed	Comments (include controller settings)
<u>9-9-15</u>		<u>52'</u>		<u>DO</u>	-	-	-	-	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**
	<u>1000</u>		<u>14.35</u>	<u>4.20</u>	<u>5.76</u>	<u>0.327</u>	<u>19.60</u>	<u>2.68</u>	<u>100</u>	<u>0.25</u>	<u>0.25</u>	0.0	Initial water quality readings***
	<u>1010</u>			<u>3.41</u>	<u>5.75</u>	<u>0.324</u>	<u>19.60</u>	<u>3.13</u>		<u>0.25</u>	<u>0.5</u>		<u>ORP</u> <u>79.7</u>
	<u>1020</u>			<u>3.14</u>	<u>5.67</u>	<u>0.324</u>	<u>19.81</u>	<u>2.75</u>			<u>0.75</u>		<u>147.7</u>
	<u>1030</u>			<u>3.16</u>	<u>5.70</u>	<u>0.323</u>	<u>20.29</u>	<u>2.91</u>			<u>1.0</u>		<u>80.6</u>
	<u>1040</u>			<u>3.11</u>	<u>5.68</u>	<u>0.323</u>	<u>21.11</u>	<u>1.56</u>			<u>1.25</u>		<u>37.1</u>
	<u>1050</u>			<u>3.09</u>	<u>5.68</u>	<u>0.323</u>	<u>21.25</u>	<u>1.33</u>			<u>1.50</u>		<u>32.9</u>
	<u>1100</u>			<u>3.10</u>	<u>5.70</u>	<u>0.323</u>	<u>21.67</u>	<u>0.86</u>			<u>1.75</u>		<u>30.6</u>
	<u>1110</u>		<u>Collect</u>		<u>Sample</u>								

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 G 9/9/15  
(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: <u>SMFDR-3</u>
SAMPLE LOCATION: <u>Southern Metals</u>
SAMPLING POINT: <u>Bladder Pump Discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/9/15  
 TIME COLLECTED (hh:mm): 1:10  
 DEPTH \_\_\_\_\_ TO 52 FT

COMMENTS:

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**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>3.10</u>		
ORP	<u>30.6</u>		
Ferrous Iron	<u>0</u>		

**ALIQOT DETAILS**

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

\*\* "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:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

**PURGE LOG**

Project: Woodall Creeek HSI, Semi-Annual Sampling Event

Property: Southern MetalsWell Identifier: SMFMW-18Initial Depth to Water\*: 21.10 (ft)Casing volume: NA ( )  
*low flow*Page 1 of 1Equipment: YSI (R149449) Wilmotte (18081) WL (903780)  
*Bladder Pump (R5527)*

## Remarks:

TD = 30.00'Pump intake = 25'  
Screen = 20-30'  
TRAFON  
lined  
tubing

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)
9/9/15	1020	25'	21.05		-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
					-	-	-	-		0.0	0.0	0.0	Recovery period
9/9/15	1029		21.10		-	-	-	-		0.0	0.0	0.0	Recovery period
9/9/15	1030		21.20	.10	-	-	-	-		0.0	0.0	0.0	Start pump**
9/9/15	1035		21.25	.15	8.62	8.601	20.73	17.0	200ml/min	.25	.25	0.0	Initial water quality readings***
9/9/15	1045		21.25	.15	8.60	8.480	20.43	11.7	200ml/min	.50	.75		water yellowish tint
9/9/15	1055		21.25	.15	8.59	8.318	20.45	18.0	200ml/min	.50	1.25gal		water clearing, some yellow tint
9/9/15	1105		21.25	.15	8.59	8.315	20.52	10.1	200ml/min	.50	1.75gal		
9/9/15	1115		21.25	.15	8.59	8.313	20.49	9.41	200ml/min	.50	2.25gal		

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 9/9/15

(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: <u>Sm FMW-18</u>
SAMPLE LOCATION: <u>Southern Metals</u>
SAMPLING POINT: <u>Bladder Pump discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/9/15  
 TIME COLLECTED (hh:mm): 10:17  
 DEPTH \_\_\_\_\_ TO 25' FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>2.58</u>	<u>mg/L</u>	
ORP	<u>161.2</u>		
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: SMEFW SMEDR-2

Initial Depth to Water\*: 10.15 (ft)

Property: SME (Huber Street)

Casing volume: 4.9 (gal) (18L)

Page 1 of 2

Equipment: VSI 556, GEP Bladder Pump & Controller, LaMotte 2020w, Solinst  
(IDs for w/ meter, wq meter, pump, controller) Water level meter

Remarks:

Pump @ 25 psi, R/b = 13/2

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (ML/min)	Incremental Volume Removed (_____)	TOTAL Volume Removed (_____)	Casing Volume Removed	Comments (include controller settings)
9/9/15	0942	40.00	9.21						0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
	0949		9.51							0.0	0.0	0.0	Recovery period
	0959		9.07							0.0	0.0	0.0	Recovery period
1034	<del>1010</del>		10.10							0.0	0.0	0.0	Start pump** 25psi / 1/4 R/D
	1044		10.35	0.2	5.82	0.274	21.72	103	25	0.0	0.0	0.0	Initial water quality readings***
	1054		11.04	0.89	5.89	0.254	22.21	133	25	500mL	500mL		
	1104		11.07	0.92	5.94	0.255	22.90	164.50	25	250mL	750mL		
	1114		11.09	0.94	5.95	0.257	23.31	153.1	25	250mL	1L	0.05	
	1124		11.13	0.98	5.95	0.257	23.05	144.9	25	250mL	1.25L	0.089	
	1134		11.46	1.31	5.85	0.248	22.07	117.0	25	250mL	1.5L	0.08	Increased pump rate
	1155		11.99	1.84	6.09	0.238	19.71	57.0	225	2250mL	3.75L	0.21	
	1205		16.00	5.85	6.47	0.235	19.46	45.4	225	2250mL	6L	0.33	
	1215		18.05	7.90	6.42	0.235	19.34	48.8	225	2.25L	8.25L	0.46	
	1235		21.35	11.20	6.29	0.235	19.22	26.7	225	4.8L	12.75L	0.71	
	1255		26.20	16.05	6.44	0.238	19.14	40.2	225	4.5L	16.25L	0.90	
	1315		32.10	21.95	6.41	0.240	19.23	56.7	225	4.5L	20.75L	1.15	
	1335		36.15	26.00	6.31	0.241	19.20	37.5	225	4.5L	24.25L	1.35	
	1405		38.9	28.75	6.04	0.242	19.09	24.0	225	6.75L	31L	1.72	

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:

(Print name, Signature, Date)

9/9/15

QA CHECKED BY:

(Print name, Signature, Date)

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Property: SME

Well Identifier: SMEPR-2

Initial Depth to Water\*: 10.15 (ft)

Casing volume: \_\_\_\_\_ ( )

Page 2 of 2

Equipment: (IDs for wi 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)				
										0.0	0.0	0.0	0.0	Measurement upon introduction of pump.			
										0.0	0.0	0.0	0.0	Recovery period			
										0.0	0.0	0.0	0.0	Recovery period			
										0.0	0.0	0.0	0.0	Start pump**			
										0.0	0.0	0.0	0.0	Initial water quality readings***			
	14:26	Compressor Died. Swapped out at 14:26.															
	1430	39.70			6.09	0.249	19.65	25.9	2.25	5.625 <del>2.25</del>	36.625 <del>5.625</del>	3 <del>26.625</del>	3 Collected sample Fe <sup>2+</sup> = 0.0 DO = 3.21 ORP = 250.1				

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: \_\_\_\_\_  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)



# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Property: DOBBSINS

Well Identifier: DP MW-2I

Initial Depth to Water\*: 15.72 (ft)

Casing volume: \_\_\_\_\_ ( )

Page 1 of \_\_\_\_\_

Equipment: Bladder Pump  
(IDs for w/ meter, wq meter, pump, controller)

Remarks: Teflon lined tubing  
TD = 50.03  
pump intake 47.0'

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)
				<u>DD</u>	-	-	-	-	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**
<u>9/9/15</u>	<u>1510</u>	<u>47.0</u>	<u>16.00</u>	<u>3.18</u>	<u>5.99</u>	<u>0.339</u>	<u>20.55</u>	<u>777</u>	<u>100</u>	<u>0.25</u>	<u>0.25</u>	<u>0.0</u>	<u>Initial water quality readings***</u>
	<u>1520</u>			<u>2.61</u>	<u>5.78</u>	<u>0.339</u>	<u>21.35</u>	<u>142</u>			<u>0.5</u>		<u>-133.9</u>
	<u>1530</u>			<u>2.77</u>	<u>5.60</u>	<u>0.338</u>	<u>23.44</u>	<u>100</u>			<u>0.75</u>		<u>-129.6</u>
	<u>1540</u>			<u>2.48</u>	<u>5.55</u>	<u>0.340</u>	<u>25.74</u>	<u>72</u>			<u>1.0</u>		<u>-119.5</u>
	<u>1550</u>			<u>2.17</u>	<u>5.47</u>	<u>0.337</u>	<u>26.50</u>	<u>61</u>			<u>1.25</u>		<u>-137.3</u>
	<u>1600</u>			<u>2.01</u>	<u>5.43</u>	<u>0.336</u>	<u>27.45</u>	<u>99.2</u>			<u>1.5</u>		<u>-130.5</u>
	<u>1610</u>			<u>1.86</u>	<u>5.43</u>	<u>0.337</u>	<u>27.59</u>	<u>52.1</u>			<u>1.75</u>		<u>-133.9</u>
	<u>1620</u>			<u>1.78</u>	<u>5.43</u>	<u>0.337</u>	<u>27.61</u>	<u>40.3</u>			<u>2.0</u>		<u>-135.2</u>
	<u>1630</u>			<u>1.76</u>	<u>5.44</u>	<u>0.338</u>	<u>26.02</u>	<u>62.4</u>			<u>2.25</u>		<u>-135.9</u>
	<u>1640</u>			<u>1.72</u>	<u>5.43</u>	<u>0.337</u>	<u>26.19</u>	<u>56.5</u>			<u>2.5</u>		<u>-134.4</u>
	<u>1650</u>												<u>Collect SAMPLE</u>

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 G. 9/9/15  
(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: <u>DP MW-2I</u>
SAMPLE LOCATION: <u>DOBBS</u>
SAMPLING POINT: <u>Bladder Pump discharge</u>
SAMPLE MEDIA: <u>WATER</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9-9-15

TIME COLLECTED (hh:mm): \_\_\_\_\_

DEPTH — TO 47.0' FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen			
ORP			
Ferrous Iron	<u>0</u>		

ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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: Dobbins Property

Well Identifier: OPMW-25

Initial Depth to Water\*: 39.38 (ft)

Casing volume: NA ( )  
*Low Flow*

Page 1 of 1

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

Remarks:

TD = 50.30' TEFLON lined tubing

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 (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
9/9/15		45.00'	39.33		-	-	-	-	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
	1605		39.38	0.00	-	-	-	-		0.0	0.0	0.0	Start pump**
	1620		39.44	0.06	5.13	0.195	22.17	78.4	50	.25 gal	.25 gal	0.0	Initial water quality readings***
	1630		39.46	0.08	5.11	0.188	21.34	119	100	.25 gal	.50 gal		
	1640		39.47	0.09	5.11	0.189	21.51	71.5	100	.25 gal	.75 gal		
	1650		39.47	0.09	5.11	0.190	21.64	31.8	100	.25 gal	1.00 gal		
	1700		39.47	0.09	5.11	0.190	21.66	21.8	100	.25	1.25		
	1710		39.47	0.09	5.12	0.192	21.63	70.11	100	.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 9/9/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: Woodall creek / Dobbin's

SAMPLE ID NUMBER: <u>APMW-25</u>
SAMPLE LOCATION: <u>Dobbin's</u>
SAMPLING POINT: <u>bladder pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/9/15  
 TIME COLLECTED (hh:mm): 1712  
 DEPTH \_\_\_\_\_ TO 45' FT

COMMENTS:

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\_\_\_\_\_

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\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>2.48</u>	<u>mg/l</u>	
ORP	<u>285.6</u>		
Ferrous Iron	<u>0</u>	<u>mg/l</u>	

**ALIQOT DETAILS**

NO. CONTAINERS & VOLUME	CONTAINER TYPE	ANALYSIS	PRESERVATIVES (TYPE/VOL)	LABORATORY	COLLECTION CODE **
1	Plastic 250 ml	Nitrate	none	GCAL	
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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: DPMW-27

Initial Depth to Water\*: 39.85 (ft)

Casing volume: NA ( )

Property: Dobbs

Page 1 of 1

Equipment: YSI 556 CR149449 LaMotte (18091) water level (903780)  
Bladder pump (R5527)

Remarks:

T0=54.2'

T-Palon 1/2" Tubing

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)
9/9/15	1520	44'	39.80		-	-	-	-	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
9/9/15	1525		39.85		-	-	-	-		0.0	0.0	0.0	Start pump**
9/9/15	1530		39.91	.06	5.28	0.200	24.46	7800	100ml/min	.25	.25	0.0	Initial water quality readings***
9/9/15	1540		39.91	.06	5.20	0.198	21.99	680	100ml/min	.25	.50		
9/9/15	1550		39.91	.06	5.14	0.189	22.01	120	100ml/min	.25	.75		
9/9/15	1600		39.91	.06	5.14	0.189	22.03	131	100ml/min	.25	1.00		
9/9/15	1610		39.91	.06	5.14	0.188	22.05	122	100ml/min	.25	1.25		
9/9/15	1620		39.91	.06	5.14	0.187	22.07	138	100ml/min	.25	1.50		
9/9/15	1630		39.91	.06	5.15	0.186	21.13	74.5	100ml/min	.25	1.75		
9/9/15	1640		39.91	.06	5.14	0.185	20.26	15.7	100ml/min	.25	2.00		
9/9/15	1650		39.91	.06	5.13	0.183	20.26	9.91	100ml/min	.25	2.25		

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 Andrus 9/9/15  
(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

SAMPLE ID NUMBER:	<u>DPMW-27</u>
SAMPLE LOCATION:	<u>Dobbins</u>
SAMPLING POINT:	<u>Bladder pump discharge</u>
SAMPLE MEDIA:	<u>Water</u>
SAMPLE TYPE:	<u>Grab</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9/9/15  
 TIME COLLECTED (hh:mm): 1652  
 DEPTH — TO 44 FT

COMMENTS:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>1.40</u>	<u>mg/L</u>	
ORP	<u>190.3</u>	<u>mg/L</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

**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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: DPMW-35

Initial Depth to Water\*: 25.71 (ft)

Property: Dobbins

Casing volume:  $0.715 \times 3 = 2.159 \text{ gal}$   
 $30.10 - 25.71 = 4.39 \text{ ft} \times 1.43 \text{ gal/ft} = 6.28 \text{ gal}$   
 Page 1 of 1

Equipment: YSI 556 (R14944) Lamotte (19091) water/anal (903-180)  
Bladder pump (RS527)

Remarks:  
TD = 30.10  
excessive draw down at end of sample rate, will purge 3 well volumes before sample

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)
9/9/15	1300		25.60		-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
					-	-	-	-		0.0	0.0	0.0	Recovery period
9/9/15	1310		25.80		-	-	-	-		0.0	0.0	0.0	Recovery period
9/9/15	1310		25.85	.15	-	-	-	-		0.0	0.0	0.0	Start pump**
9/9/15	1310		25.85	<del>0.15</del>	5.64	0.397	26.31	58.7	100 ml/min	.25	.25	0.0	Initial water quality readings***
	1320	28.00'	26.00		5.18	0.328	25.99	82.3	100 ml/min	.25	.50		lowered pump to take accurate drawdown
	1330		26.25	0.54	4.50	0.273	26.00	31.8	100 ml/min	.25	.75		
	1340		26.67	0.96	4.42	0.276	26.88	39.5	100 ml/min	.25	1.00		
	1350		26.60	0.89	4.60	0.261	27.36	70.7	100 ml/min	.25	1.25		
	1400		26.60	0.89	4.60	0.250	25.37	59.4	100 ml/min	.25	1.50		
	1410		26.60	0.89	4.51	0.259	25.49	30.1	100 ml/min	.25	1.75		
	1420		26.60	0.89	4.58	0.260	24.68	27.3	100 ml/min	.25	2.00		
	1430		26.60	0.89	4.55	0.262	24.72	6.51	100 ml/min	.25	2.25		

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 9/9/15  
 (Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
 (Print name, Signature, Date)

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

PROJECT/SITE: Woodall Creek / Robbins

SAMPLE ID NUMBER: <u>DPMW-35</u>
SAMPLE LOCATION: <u>Robbins</u>
SAMPLING POINT: <u>Bladder pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/7/15  
 TIME COLLECTED (hh:mm): 1433  
 DEPTH      TO 28 FT

COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>1.51</u>	<u>mg/L</u>	
ORP	<u>250.1</u>	<u>ORP</u>	
Ferrous Iron	<u>0.0</u>	<u>mg/L</u>	

**ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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-16

Initial Depth to Water\*: 21.61 (ft)

Casing volume: 4.76 (GAL)  
Low flow

Page 1 of 1

Equipment: BLADDER PUMP #18733-CARLOTTE #29484-YSI #16634-SALINITY #909021  
(IDs for w/meter, wq meter, pump, controller)

Remarks:

TD = 49.90

TEFLON lined tubing

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)
					-	-	-	-	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
				<u>20</u>	-	-	-	-		0.0	0.0	0.0	Start pump**
<u>9-10-15</u>	<u>1250</u>	<u>17.5</u>	<u>21.87</u>	<u>8.23</u>	<u>6.05</u>	<u>0.257</u>	<u>25.12</u>	<u>153</u>	<u>200</u>	<u>0.25</u>	<u>0.25</u>	<u>0.0</u>	<u>Initial water quality readings***</u> <u>-143.8</u>
	<u>1255</u>			<u>4.08</u>	<u>5.97</u>	<u>0.260</u>	<u>23.87</u>	<u>95.6</u>		<u>0.25</u>	<u>0.5</u>		<u>-153.4</u>
	<u>1300</u>			<u>3.57</u>	<u>5.89</u>	<u>0.259</u>	<u>23.45</u>	<u>63.4</u>			<u>0.75</u>		<u>-158.5</u>
	<u>1305</u>			<u>3.36</u>	<u>5.75</u>	<u>0.251</u>	<u>23.58</u>	<u>84.5</u>			<u>1.0</u>		<u>-137.1</u>
	<u>1310</u>			<u>3.37</u>	<u>5.68</u>	<u>0.244</u>	<u>24.35</u>	<u>56</u>			<u>1.25</u>		<u>-132.6</u>
	<u>1315</u>			<u>3.30</u>	<u>5.59</u>	<u>0.237</u>	<u>24.66</u>	<u>122</u>			<u>1.5</u>		<u>-131.4</u>
	<u>1320</u>			<u>3.37</u>	<u>5.58</u>	<u>0.235</u>	<u>24.56</u>	<u>112</u>			<u>1.75</u>		<u>-133.3</u>
	<u>1325</u>			<u>3.30</u>	<u>5.52</u>	<u>0.226</u>	<u>23.39</u>	<u>87</u>			<u>2.0</u>		<u>-136.5</u>
	<u>1330</u>			<u>3.30</u>	<u>5.51</u>	<u>0.226</u>	<u>23.27</u>	<u>69</u>			<u>2.25</u>		<u>-135.8</u>
	<u>1335</u>			<u>3.12</u>	<u>5.39</u>	<u>0.212</u>	<u>22.90</u>	<u>51</u>			<u>2.5</u>		<u>-134.3</u>
	<u>1340</u>			<u>3.02</u>	<u>5.38</u>	<u>0.211</u>	<u>22.88</u>	<u>68</u>			<u>2.75</u>		<u>-135.0</u>
	<u>1345</u>			<u>2.98</u>	<u>5.38</u>	<u>0.211</u>	<u>22.83</u>	<u>79</u>			<u>3.0</u>		<u>-135.7</u>
	<u>1350</u>			<u>2.97</u>	<u>5.39</u>	<u>0.211</u>	<u>22.79</u>	<u>98</u>			<u>3.25</u>		<u>-134.3</u>
	<u>1355</u>												<u>Collect Sample</u>

Additional Comments: Need To Develop -

## 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] 9-10-15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: WOODALL CREEK / RESTAURANT

SAMPLE ID NUMBER:	<u>JPMW-16</u>
SAMPLE LOCATION:	<u>RESTAURANT</u>
SAMPLING POINT:	<u>PUMP DISCHARGE</u>
SAMPLE MEDIA:	<u>Water</u>
SAMPLE TYPE:	<u>GRAB</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9-10-15  
 TIME COLLECTED (hh:mm): 1355  
 DEPTH — TO 17.5 FT

COMMENTS:

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**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>2.97</u>		
ORP	<u>-134.3</u>		
Ferrous Iron	<u>0.0</u>		
<u>TEMP</u>	<u>22.79</u>		
<u>SC</u>	<u>0.211</u>		
<u>PH</u>	<u>5.39</u>		
<u>TURB</u>	<u>98</u>		

**ALIQOT DETAILS**

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

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

TRIP BLANK ID: TRIP-3

RELINQUISHED BY: <u>[Signature]</u>	DATE / TIME <u>9-10-15</u>	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: Dobbing

Well Identifier: DPMW-15

Initial Depth to Water\*: 39.65 (ft)

Casing volume: NA ( )

Page 1 of 1

Equipment: Bladder Pump R5527 LumaPro 18091 V6I 556 CR149449 NL (903780)  
(IDs for wl meter, wq meter, pump, controller)

Remarks: TD = 85.55'  
Low Flow

Teflon lined tubing

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)
9/10/15	1100	80'	39.63		-	-	-	-	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
9/10/15	1102	80'	39.65		-	-	-	-		0.0	0.0	0.0	Start pump**
9/10/15	1112	80'	39.65	0	6.70	0.084	21.10	28.8	100ml/min	.25	.25	0.0	Initial water quality readings***
9/10/15	1122	80'	39.65	0	5.53	0.237	20.39	21.9	100ml/min	.25	.50		
9/10/15	1132	80'	39.65	0	5.59	0.249	20.37	17.6	100 ml/min	.25	.75		
9/10/15	1142	80'	39.65	0	5.60	0.250	20.31	9.55	100ml/min	.25	1.00		
9/10/15	1152	80'	39.65	0	5.62	0.252	20.35	9.47	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  
(Print name, Signature, Date)

9/10/15

QA CHECKED BY:

(Print name, Signature, Date)

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

PROJECT/SITE: Woodall Creek / Robbins

SAMPLE ID NUMBER: <u>DP MW-15</u>
SAMPLE LOCATION: <u>Robbins</u>
SAMPLING POINT: <u>bladder pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 7/10/15

TIME COLLECTED (hh:mm): 1154

DEPTH — TO 80 FT

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.90</u>	<u>mg/L</u>	
ORP	<u>124.3</u>	<u>ORP</u>	
Ferrous Iron	<u>0.5</u>	<u>mg/L</u>	

COMMENTS:


ALIQOT 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	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

Well Identifier: DPMU-16

6in well  
Initial Depth to Water\*: 40.10 (ft)

Property: Dobbins Property

Casing volume: N/A ( )

Page 1 of 1

Equipment: Bladder Pump (RS527) YSI 556 (RT49449) Lamotte (19081)  
(IDs for wI meter, wq meter, pump, controller) water (wq) (903780)

Remarks: TD = 96.59  
Low Flow  
Tp Alon lined Tubing

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)
9/10/15	1300	93.50	40.10		-	-	-	-	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
9/10/15	1305		40.10		-	-	-	-		0.0	0.0	0.0	Start pump**
9/10/15	1305		40.12	.02	6.36	0.298	22.81	8.56	100ml/min	.25	.25	0.0	Initial water quality readings***
9/10/15	1325		40.12	.02	6.36	0.312	21.31	3.75	100ml/min	.25	.50		
9/10/15	1335		40.12	.02	6.34	0.312	21.01	1.85	100ml/min	.25	.75		
9/10/15	1345		40.12	.02	6.32	0.312	20.60	1.61	100ml/min	.25	1.00		

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 9/10/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: Woodhall Creek / Dobbin's

SAMPLE ID NUMBER: <u>APMw-16</u>
SAMPLE LOCATION: <u>Dobbin's</u>
SAMPLING POINT: <u>Bladder pump discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/10/15  
 TIME COLLECTED (hh:mm): 1349  
 DEPTH — TO 93.50 FT

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>2.19</u>	<u>mg/L</u>	
ORP	<u>156.5</u>	<u>ORP</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

COMMENTS:

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ALIQOT 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	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: Dobbins

Well Identifier: DPMW-25

Initial Depth to Water\*: 13.57 (ft)

Casing volume: NA ( )  
*Low flow*

Page 1 of 1

Equipment: Bladder pump  
(IDs for wI meter, wq meter, pump, controller)

Remarks: TD=24.3'  
Teflon lined Tubing

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)
					-	-	-	-	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**
9/10/15	1005	20'	13.69	.12	5.70	0.228	22.71	83.0	200	0.25	0.25	0.0	Initial water quality readings***
	1010			.12	5.73	0.205	22.67	109.0			0.50		
	1015			.12	5.76	0.199	22.74	74.1			0.75		
	1020			.12	5.82	0.196	22.77	63.2			1.0		
	1025			.12	5.83	0.193	22.74	52.8			1.25		
	1030			.12	5.83	0.192	22.73	44.6			1.50		
	1035			.12	5.84	0.193	22.70	40.9			1.75		
	1040			.12	5.86	0.204	22.78	29.6			2.00		
	1045			.12	5.86	0.205	22.70	18.6			2.25		
	1050			.12	5.86	0.206	22.67	14.3			2.50		
	1055			.12	5.86	0.205	22.62	11.8			2.75		
	1100			.12	5.86	0.205	22.60	7.57			3.00		
	1105												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 G. 9/10/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: Woodall Creek / Dobbin's

SAMPLE ID NUMBER:	<u>DPMW-25</u>
SAMPLE LOCATION:	<u>Dobbin's</u>
SAMPLING POINT:	<u>Bladder Pump discharge</u>
SAMPLE MEDIA:	<u>water</u>
SAMPLE TYPE:	<u>Grab</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9/10/15  
 TIME COLLECTED (hh:mm): 1105  
 DEPTH \_\_\_\_\_ TO 20 FT

COMMENTS:

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**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>2.98</u>		
ORP	<u>-127.4</u>		
Ferrous Iron	<u>0</u>		

**ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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: Debbins Property

Well Identifier: DPMW-10

Initial Depth to Water\*: 39.16 (ft)

Casing volume: \_\_\_\_\_ ( )

Page 1 of 1

Equipment: <u>QED Bladder Pump, MP10 Controller, LaMott 2020, PSI 550</u> <i>(IDs for wI meter, wq meter, pump, controller)</i>											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)
09/16/15	1015	45.00	39.04						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
	1018	<del>45.00</del> 39.17	MP-10	Failure,						0.0	0.0	0.0	Start pump**
	1040	<del>39.17</del>	39.17	—	—	—	—	—	—	0.0	0.0	0.0	Start Pump water quality readings
	1052		39.30	0.14	4.90	0.172	21.17	10.94	50	1000ML	1000ML		20psi, P <sub>10</sub> = 1/4
	1102		39.31	0.15	4.87	0.170	20.92	7.04	50	600ML	1200ML		
	1112		39.31	0.15	4.87	0.168	20.39	10.24	50	600ML	1.8L		
	1122		39.31	0.15	4.87	0.169	20.73	19.7	50	600ML	2.4L		
	1132		39.31	0.15	4.87	0.168	20.69	19.1	50	600ML	3.0L		
	1142		39.31	0.15	4.88	0.168	20.74	17.0	50	600ML	3.6L		
	1205		39.31	0.15	4.88	0.165	21.07	19.8	50	600ML	4.2L		
	1215		39.31	0.15	4.89	0.169	21.16	26.1	50	600ML	4.8L		
	1225		39.31	0.15	4.89	0.168	21.05	21.6	50	600ML	5.4L		
	1235		39.31	0.15	4.89	0.168	21.07	15.0	50	600ML	4.0L		
✓	1245	✓	39.31	0.15	4.88	0.168	20.87	26.1	50	600	6.6L		Collected Sample Fe <sup>2+</sup> = 0.0, DO = 1.74 ORP = 277.7

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: Daniel Morris, 9/16/15  
(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: <u>DPMW-10</u>
SAMPLE LOCATION: <u>DPMW-10</u>
SAMPLING POINT: <u>DPMW-10</u>
SAMPLE MEDIA: <u>Groundwater</u>
SAMPLE TYPE:
LOGBOOK NUMBER: <u>DM</u>

DATE COLLECTED (mm/dd/yy): 9/10/15  
 TIME COLLECTED (hh:mm): 1245  
 DEPTH \_\_\_\_\_ TO \_\_\_\_\_ FT

COMMENTS:

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**FIELD PARAMETERS**

FIELD	READING	UNITS	R&S Y/N
Dissolved Oxygen	<u>1.74</u>		
ORP	<u>279.7</u>		
Ferrous Iron	<u>0.0</u>		

**ALIQOT DETAILS**

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

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

TRIP BLANK ID: \_\_\_\_\_

RELINQUISHED BY: <u>[Signature]</u>	DATE / TIME <u>9/10</u>	RELINQUISHED BY:	DATE / TIME
COMPANY: <u>AMECFW</u>	<u>1600</u>	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	



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

PROJECT/SITE: WOODALL CREEK

9-11-15

SAMPLE ID NUMBER:	RPMW-2
SAMPLE LOCATION:	DAL T I L E
SAMPLING POINT:	Pump DISCHARGE
SAMPLE MEDIA:	Water
SAMPLE TYPE:	Grab
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): Not Sampled

TIME COLLECTED (hh:mm): \_\_\_\_\_

DEPTH \_\_\_\_\_ TO 29.56 FT

FIELD PARAMETERS

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

COMMENTS:

Not enough water for sampling

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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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: JPMW-22

Initial Depth to Water\*: 13.26 (ft)

Casing volume: NA ( )

Property: RESTAURANT PROPERTY

Page 1 of 1

Equipment: <u>YSI 556 (R149449) Water level (903780)</u> <u>Bladder Pump (R6527)</u>													Remarks: <u>low flow</u> <u>TD=48.40</u> <u>TPA on 1 inch tubing</u>	
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)	
9/11/15	1320	35'	13.26						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	
9/11/15	1325	35'	13.30							0.0	0.0	0.0	Start pump**	
9/11/15	1335	35'	13.35	0.09	5.50	0.114	27.60	57.4	100ml/min	+25	0.0	0.0	Initial water quality readings***	
9/11/15	1345	35'	13.35	0.09	5.24	0.224	23.60	68.9	100ml/min	+25	-50			
9/11/15	1355	35'	13.35	0.09	5.26	0.223	21.94	155.	100ml/min	+25	.75			
9/11/15	1405	35'	13.35	0.09	5.24	0.221	22.44	7800	100ml/min	+25	1.00			
9/11/15	1415	35'	13.35	0.09	5.25	0.218	21.93	7800	100ml/min	.25	1.25			
9/11/15	1425	35'	13.35	0.09	5.29	0.218	21.24	7800	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.

RECORDED BY: Mark Andrews 9/11/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

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

PROJECT/SITE: Woodall Creek/Restaurant

SAMPLE ID NUMBER: <u>JPMW-22</u>
SAMPLE LOCATION: <u>Restaurant Property</u>
SAMPLING POINT: <u>Bladder Point Discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/11/15  
 TIME COLLECTED (hh:mm): 1427  
 DEPTH      TO 35' FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.66</u>	<u>mg/L</u>	
ORP	<u>90.9</u>	<u>ORP</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

ALIQOT 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	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-21

Initial Depth to Water\* 8.45 (ft)

Casing volume: NA ( )

Page 1 of 1

Equipment: Bladder pump (R5527) Y&B556 (R149449) Lammeter (18081)  
(IDs for w/ meter, wq meter, pump, controller)

Remarks: Low flow TD 36.47 T&A on lined tubing

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)
9/11/15	1010	24'							0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
9/11/15	1017	24'	8.45							0.0	0.0	0.0	Recovery period
9/11/15	1018	24'	8.45	0						0.0	0.0	0.0	Recovery period
9/11/15	1028	24'	8.47	0.02	5.45	0.231	22.29	7800	100ml/min	-25.00	25.00	0.0	Start pump**
9/11/15	1038	24'	8.47	0.02	5.44	0.226	22.20	7800	100ml/min	.25	.50		Initial water quality readings***
9/11/15	1048	24'	8.47	0.02	5.44	0.225	22.21	150 NTU	100ml/min	.25	.75		
9/11/15	1058	24'	8.47	0.02	5.44	0.224	22.20	133 NTU	100ml/min	.25	1.00		
9/11/15	1108	24'	8.47	0.02	5.43	0.223	22.37	115 NTU	100ml/min	.25	1.25		
9/11/15	1118	24'	8.47	0.02	5.44	0.221	22.37	132	100ml/min	.25	1.50		
9/11/15	1128	24'	8.47	0.02	5.46	0.221	22.57	140	100ml/min	.25	1.75		

Additional Comments: Well needs development, yr-1 fine grain suspended sediment

## 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 9/11/15  
(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: <u>TPM-21</u>
SAMPLE LOCATION: <u>R. P. Stewart</u>
SAMPLING POINT: <u>Dredger Pump Discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/11/15  
 TIME COLLECTED (hh:mm): 11:30  
 DEPTH      TO 24 FT

COMMENTS: well needs development

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**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>1.97</u>		
ORP	<u>128.9</u>		
Ferrous Iron	<u>0</u>		

**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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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

4" steel well -

Property: RESTAURANT SUPPLY

Well Identifier: JPBRW-1

Initial Depth to Water\*: 31.00' (ft)

Casing volume: 92.10 (GAL)

Page 1 of 1

Equipment: BLADDER Pump # 18733 - LA MOTTE # 29484 - YSI # 16634 - SOHNST # 904021  
(IDs for w/meter, wq meter, pump, controller)

Remarks:

TD = 164.90'

Telex lined Tubing

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)	Turbidity (NTU)	Withdrawal Rate (ML/min)	Incremental Volume Removed (GAL)	TOTAL Volume Removed (GAL)	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
				DO	-	-	-	-		0.0	0.0	0.0	Start pump**
9-11-15	1000	140.0	31.28	2.39	12.15	0.585	22.87	29.2	100	0.25	0.25	0.0	Initial water quality readings***
	1010			2.123	12.18	0.587	23.03	18.5		0.25	0.5		-259.6
	1020			1.03	12.18	0.594	23.19	15.2			0.75		-258.6
	1030			0.82	12.21	0.619	23.39	13.1			1.0		-266.8
	1040			0.65	12.26	0.654	23.71	10.10			1.25		-280.6
	1050			0.58	12.27	0.665	23.96	8.18			1.5		-266.6
	1100			0.53	12.28	0.672	24.20	6.89			1.75		-264.3
	1110			0.51	12.28	0.674	24.41	5.88			2.0		-264.7
	1120												Collect Sample

Additional Comments: set pump & begin purging on 9-10-15 - stopped purge due to heavy rain & severe thunder storm - (pumped 0.25 gal)  
Re set @ well on 9-11-15 - purged & sampled

## Notes:

\* Record Initial DTW prior to introduction of pump

\*\* upon sufficient re-equilibration of water column

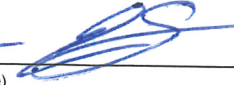
\*\*\* upon filling of flow-cell

( ) 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 -  9-11-15

(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: <u>JPBRW-1</u>
SAMPLE LOCATION: <u>Restaurant</u>
SAMPLING POINT: <u>Pump Discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>GRAB</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9-11-15  
 TIME COLLECTED (hh:mm): 1120  
 DEPTH \_\_\_\_\_ TO 190.0' FT

**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>0.51</u>		
ORP	<u>-269.7</u>		
Ferrous Iron	<u>0.0</u>		
<u>Temp</u>	<u>24.41</u>		
<u>SPEC. COND.</u>	<u>0.679</u>		
<u>PH</u>	<u>12.28</u>		
<u>TURB</u>	<u>5.88</u>		

COMMENTS:

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**ALIQOT DETAILS**

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

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

TRIP BLANK ID: ~~TRIP~~ TRIP-4

RELINQUISHED BY: <u>[Signature]</u>	DATE / TIME <u>9-11-15</u>	RELINQUISHED BY:	DATE / TIME
COMPANY: <u>AMEC FW</u>		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

**PURGE LOG**

Project: Woodall Creeek HSI, Semi-Annual Sampling Event

Property: Restaurant Property

Well Identifier: JPMW-17

Initial Depth to Water\* 16.10 (ft)

Casing volume: 5.42 gal (20.5L)

Page 1 of 1

Equipment: QED Bladder Pump w/ MP-16, Lamotte 2020, YSI 556, Solinst  
 (IDs for w/ 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)
9/11/15	0835	<del>40.00</del> 16.15	16.00						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
	0840		16.10							0.0	0.0	0.0	Start pump** 20psi, P/O = 2/3
	0850		16.20	0.10	5.86	0.278	22.90	34.8 100	34.8 100/100	0.0	0.0	0.0	Initial water quality readings***
	0900		16.22	0.12	5.83	0.221	22.19	69.2	100	2000ML	2L		
	0910		16.22	0.12	5.83	0.219	22.68	99.6	100	1000ML	3L		
	0920		16.22	0.12	5.83	0.219	22.20	86	100	1000ML	4L		
	0930		16.22	0.12	5.82	0.219	22.32	100	100	1000ML	5L		
	0940		16.22	0.12	5.82	0.220	22.77	78	100	1000ML	6L		
	0950		16.22	0.12	5.82	0.222	23.34	109	100	1000ML	7L		
	1000		16.22	0.12	5.82	0.223	23.37	88	100	1000ML	8L		
	1010		16.22	0.12	5.82	0.225	23.98	101	100	1000ML	9L		
	1020		16.22	0.12	5.81	0.225	23.75	96	100	1000ML	10L		
	1030		16.22	0.12	5.81	0.224	23.90	131	100	1000ML	11L		
	1040		16.22	0.12	5.81	0.225	24.14	44	100	1000ML	12L		
	1050		16.22	0.12	5.81	0.226	24.36	49	100	1000ML	13L		
✓	1100	✓	16.22	0.12	5.82	0.229	24.86	82	100	1000ML	14L		Collected Sample

Additional Comments: Fe<sup>2+</sup> = 0.0, DO = 4.71, ORP = 218.2

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 Marie Dela 9/11/15  
 (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: <u>JPMW-17</u>
SAMPLE LOCATION: <u>JPMW-17</u>
SAMPLING POINT: <u>JPMW-17</u>
SAMPLE MEDIA: <u>CAW</u>
SAMPLE TYPE:
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/14/15  
 TIME COLLECTED (hh:mm): 1100  
 DEPTH \_\_\_\_\_ TO \_\_\_\_\_ FT

COMMENTS:

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	HES Y/N
Dissolved Oxygen	<u>4.71</u>		
ORP	<u>218.2</u>		
Ferrous Iron	<u>0.0</u>		

**ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY: <i>[Signature]</i>	DATE / TIME <u>9/14/15</u> <u>1100</u>	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: Reynolds Property

Well Identifier: RPMW-14

Initial Depth to Water\*: 26.35 (ft)

Casing volume: 3.78 (gal) (14.3L)

Page 1 of 1

Equipment: QED Bladder Pump w/ MP-10, Lamotte 2020, YSI 556, Solinst Water Level Meter  
(IDs for w/ meter, wq meter, pump, controller)

Remarks: Pump @ 20psi, R/D = 13/2

Date (dd-mm-yy)	Time (hhmm)	Depth to Intake (ft TOC)	Depth to Water (ft TOC)	Drawdown (ft TOC)	pH (Standard Units)	Specific Conduct. (_____)	Temperature (C)	Turbidity (NTU)	Withdrawal Rate (_____)	Incremental Volume Removed (_____)	TOTAL Volume Removed (_____)	Casing Volume Removed	Comments (include controller settings)
9/11/15		38.00	26.30						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
	1253		26.34							0.0	0.0	0.0	Start pump**
	1246		26.45	0.10	5.84	0.308	24.56	64.4	50	0.0	0.0	0.0	Initial water quality readings***
	1250		26.46	0.11	5.81	0.320	26.13	87.5	50	850ml	850ml		
	1300		26.46	0.11	5.84	0.327	27.20	82.5	50	500	1350ml		
	1310		26.46	0.11	5.83	0.329	27.27	94.9	50	500	1.85L		
	1320		26.46	0.11	5.82	0.329	28.10	94.7	50	500	2.35L		
	1330		26.46	0.11	5.84	0.325	26.46	36	50	500	2.85L		
	1340		26.46	0.11	5.83	0.326	26.74	39	50	500	3.35L		
	1350		26.46	0.11	5.76	0.327	26.98	44	50	500	3.85L		
	1400		26.46	0.11	5.60	0.322	26.30	64	50	500	4.35L		
	1410		26.46	0.11	5.49	0.319	26.02	74	50	500	4.85L		
	1420		26.46	0.11	5.80	0.324	26.95	60	50	500	5.35		
	1430		26.46	0.11	5.68	0.331	28.06	136	50	500	5.85		
	1440		26.46	0.11	5.81	0.334	28.46	78	50	500	6.35		
✓	1450	✓	26.46	0.11	5.61	0.330	28.00	72	50	500	6.85		Collected Sample.

Additional Comments: Fe<sup>2+</sup> = 0.0, DO = 2.48, ORP = 216.2

## 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, Day 9/11/15  
(Print name, Signature, Date)

QA CHECKED BY:

(Print name, Signature, Date)

# PURGE LOG

Project: Woodall Creeek HSI, Semi-Annual Sampling Event

Well Identifier: MTW MW-4

Initial Depth to Water\*: 16.70 (ft)

Property: Mid Town

Page 1 of 1

Equipment: YSI 556 (R149449) Lamotte (19091) WL (903710) peristaltic pump (soda straw method) Low Flow T0 = 35.05  
 (IDs for wI meter, wq meter, pump, controller) TRADE Used Tubing

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)
9/14/15	1400	23'	16.66						0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
9/14/15	1410	23'	16.70							0.0	0.0	0.0	Recovery period
9/14/15	1415		16.70							0.0	0.0	0.0	Recovery period
9/14/15	1425		16.80	.10	5.78	0.228	19.44	54	100 ml/min	.25	.25	0.0	Start pump**
9/14/15	1435		16.80	.10	5.79	0.228	19.47	80	100 ml/min	.25	.50	0.0	Initial water quality readings***
9/14/15	1445		16.80	.10	5.85	0.227	19.07	115	100 ml/min	.25	.75		
9/14/15	1455		16.80	.10	5.86	0.226	18.13	118	100 ml/min	.25	1.00		
9/14/15	1505		16.80	.10	5.86	0.226	19.13	119	100 ml/min	.25	1.25		
9/14/15	1515		16.80	.10	5.85	0.225	19.07	73.0	100 ml/min	.25	1.50		
9/14/15	1525		16.80	.10	5.85	0.224	19.06	54.9	100 ml/min	.25	1.75		
9/14/15	1535		16.80	.10	5.84	0.224	18.96	26.5	100 ml/min	.25	2.00		
9/14/15	1545		16.80	.10	5.85	0.225	18.88	20.7	100 ml/min	.25	2.25		
9/14/15	1555		16.80	.10	5.86	0.225	18.88	14.5	100 ml/min	.25	2.50		
9/14/15	1605		16.80	.10	5.85	0.225	19.00	9.93	100 ml/min	.25	2.75		

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  
 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 9/14/15  
 (Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
 (Print name, Signature, Date)

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

PROJECT/SITE: Woodall Creek / midtown

SAMPLE ID NUMBER: <u>MT61MW-4</u>
SAMPLE LOCATION: <u>midtown</u>
SAMPLING POINT: <u>Bladder pump</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/14/15  
 TIME COLLECTED (hh:mm): 1607  
 DEPTH \_\_\_\_\_ TO 23 FT

COMMENTS:

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**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S YN
Dissolved Oxygen	<u>2.17</u>	<u>mg/L</u>	
ORP	<u>90.3</u>	<u>ORP</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

**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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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

Well Identifier: JPMW-23

Initial Depth to Water\*: 11.60 (ft)

Casing volume: NA ( )

Property: Restaurant Property

Page 1 of 1

Equipment: Bladder pump CR5521) YSI 554 (R149449) Water 10ml Remarks: low flow  
(IDs for wq meter, wq meter, pump, controller)

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)
9/14/15	1120	<del>11.64</del> <sup>36.0</sup>	11.64						0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
9/14/15	1125	<del>11.60</del> <sup>36.0</sup>	11.60							0.0	0.0	0.0	Recovery period
9/14/15	1130	36'	11.61							0.0	0.0	0.0	Recovery period
9/14/15	1140		11.61		5.72	0.148	23.28	124	100ml/min	0.0	0.0	0.0	Start pump**
9/14/15	1150		11.61		5.64	0.163	22.94	53.1	100ml/min	0.25	0.25	0.0	Initial water quality readings***
9/14/15	1200		11.61		5.69	0.157	22.76	40.5	100ml/min	0.25	0.50		
9/14/15	1210		11.61		5.71	0.153	22.77	37.9	100ml/min	0.25	0.75		
9/14/15	1220		11.61		5.73	0.149	22.76	35.0	100ml/min	0.25	1.00		
9/14/15	1230		11.61		5.74	0.150	22.80	29.4	100ml/min	0.25	1.25		
9/14/15	1240		11.61		5.75	0.148	22.95	30.1	100ml/min	0.25	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 9/14/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)



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

PROJECT/SITE: Woodgill Creek

SAMPLE ID NUMBER: <u>JPMW-23</u>
SAMPLE LOCATION: <u>R. Restaurant</u>
SAMPLING POINT: <u>Bladder Pump Discharge</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/14/15  
 TIME COLLECTED (hh:mm): 12:42  
 DEPTH      TO 3.6 FT

COMMENTS:

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\_\_\_\_\_

\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.44</u>		
ORP	<u>-0.5</u>		
Ferrous Iron	<u>0</u>		

**ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: RPMW-24

Initial Depth to Water\*: 17.48 (ft)

Casing volume: 5.2 (gal)

Property: Daltile / Reynolds

Page 1 of 1

Equipment: Controller: 1780 : CPM 5 @ 1.3 discharge  
 (IDs for wl meter, wq meter, pump, controller) YSI: 031405 Bladder: 18733 w/l meter: 904021

Remarks:

Teflon lined tubing

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)
140915	1442	35	17.5	-0.02	-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
140915	1445	35	17.5		-	-	-	-		0.0	0.0	0.0	Recovery period
140915	1450	35	17.5		-	-	-	-		0.0	0.0	0.0	Recovery period
140915	1455	35	17.5	-0.02	-	-	-	-		0.0	0.0	0.0	Start pump**
140915	1500	35	17.6	.1701	5.90	0.323	25.77	120	140	0.0	0.0	0.0	Initial water quality readings***
140915	1510	35	17.61	.1102	5.80	0.315	22.37	800	140				
140915	1520	35	17.63	.1303	5.80	0.314	22.29	1028	140				flow cell cleared
140915	1530	35	17.63	.13	5.80	0.313	22.16	1294	140				flow cell cleared
140915	1536	35	17.63	.13	5.80	0.312	22.01	1264	140				
140915	1540	35	17.63	.13	5.81	0.312	22.18	1076	140				
140915	1550	35	17.63	.13	5.81	0.312	22.23	800.3	140				
140915	1606	35	17.63	.13	5.80	0.312	22.27	4620	140				
140915	1610	35	17.63	.13	5.81	0.312	22.30	102.4	140				
140915	1620	35	17.63	.13	5.80	0.316	22.24	48.2	140				
140915	1630	35	17.63	.13	5.80	0.316	22.21	46.3	140				
140915	1640	35	17.63	.13	5.80	0.316	22.16	42.6	140				
140915	1650	35	17.63	.13	5.79	0.315	22.14	41.2	140				
140915	1700	35	17.63	.13	5.79	0.315	22.06	43.4	140				

Additional Comments: 140915 1710 .35 17.63 .13 5.79 0.314 21.95 43.1 140  
Sample collected 1710

## 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: Tela Norikas 9-14-15  
 (Print name, Signature, Date)

Sela Norikas

QA CHECKED BY: \_\_\_\_\_  
 (Print name, Signature, Date)

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

PROJECT/SITE: Woodall / Southern Metals

SAMPLE ID NUMBER: <u>RPMW-24</u>
SAMPLE LOCATION: <u>Daltile / Reynolds</u>
SAMPLING POINT:
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 09/14/15  
 TIME COLLECTED (hh:mm): 1710  
 DEPTH \_\_\_\_\_ TO 35 FT

COMMENTS: Well in need of redevelopment

**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>2.60</u>	<u>mg/L</u>	
ORP	<u>179.8</u>		
Ferrous Iron	<u>0.0</u>		

**ALIQOT 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	X
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

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

TRIP BLANK ID: \_\_\_\_\_

RELINQUISHED BY: <u>Sela Norubas</u>	DATE / TIME <u>9/14/15</u>	RELINQUISHED BY:	DATE / TIME
COMPANY:	<u>1700</u>	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Well Identifier: ~~AA~~ RPMW-15

Initial Depth to Water\*: ~~21.45~~ 21.64 (ft)

Casing volume: 4.5 (gal)

Property: Reynolds/Daltile

Page 1 of 1

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

w/L meter: 904021  
Tetter Head Tubing

Remarks: Controller # 1780 : CPM 6 @ 1.0 discharge  
VSI: 031405 / Bladder: 18733

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 ( )	TOTAL Volume Removed ( )	Casing Volume Removed	Comments (include controller settings)
14-09-15	1125	35	21.62	+0.02	-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
14-09-15	<del>1050</del>	35	21.63	0	-	-	-	-		0.0	0.0	0.0	Recovery period
14-09-15	1130	35	21.63	0	-	-	-	-		0.0	0.0	0.0	Recovery period
14-09-15	1135	35	21.64	0	-	-	-	-		0.0	0.0	0.0	Start pump**
14-09-15	1135	35	21.64	0	-	-	-	-		0.0	0.0	0.0	Initial water quality readings***
14-09-15	1140	35	21.68	-0.04	5.80	0.291	22.94	76	160				
14-09-15	1150	35	21.72	-0.08	5.57	0.273	22.71	77	150				
14-09-15	1200	35	21.80	-0.16	5.47	0.279	23.77	144	120				
14-09-15	1210	35	21.80	-0.16	5.44	0.279	23.76	180	120				
14-09-15	1220	35	21.80	-0.16	5.46	0.278	23.71	122	120				
14-09-15	1230	35	21.80	-0.16	5.47	0.278	23.75	96	120				
14-09-15	1240	35	21.80	-0.16	5.47	0.277	23.77	96	120				
14-09-15	1250	35	21.80	-0.16	5.48	0.277	23.75	88	120				
14-09-15	1300	35	21.80	-0.16	5.49	0.277	23.76	84	120				
14-09-15	1310	35	21.80	-0.16	5.56	0.276	23.77	85	120				
14-09-15	1320	35	21.80	-0.16	5.49	0.277	23.79	83	120				Sample collected
		35											
		35											
		35											

## Additional Comments:

Well needs re-development / Silty / could not get turbidity below 80 NTU

## 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: Teta Norikas 9/14/15  
(Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
(Print name, Signature, Date)

Teta Norikas

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

PROJECT/SITE: Southern Metals / Woodall Creek

SAMPLE ID NUMBER: <u>RPMW-15</u>
SAMPLE LOCATION: <u>Daltile</u>
SAMPLING POINT: <u>Bladder-pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 09/14/15  
 TIME COLLECTED (hh:mm): 1320  
 DEPTH \_\_\_\_\_ TO 35 FT

COMMENTS:

\_\_\_\_\_

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\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>0.71</u>	<u>mg/L</u>	
ORP	<u>165.8</u>	<u>ORP</u>	
Ferrous Iron	<u>0.0</u>	<u>mg/L</u>	

**ALIQUOT DETAILS**

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

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

TRIP BLANK ID: \_\_\_\_\_

RELINQUISHED BY: <u>Sela Nowik</u>	DATE / TIME <u>9/14/15</u>	RELINQUISHED BY:	DATE / TIME
COMPANY:	<u>1700</u>	COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

# PURGE LOG

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Property: Mwest Property

Well Identifier: H0AMW-5

Initial Depth to Water\*: 18.24 (ft)

Casing volume: NA ( )

Page 1 of 1

Equipment: <u>Bladder Pump</u> (IDs for wl meter, wq meter, pump, controller)										Remarks: <u>TD = 37.40</u> <u>TPA on lined tubing</u>			
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)	Incremental Volume Removed (L)	TOTAL Volume Removed (L)	Casing Volume Removed	Comments (include controller settings)
09/15/15	1125	26.6	18.28	0.02					0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
09/15/15	1130	26.6	18.26	0.02						0.0	0.0	0.0	Recovery period <u>5 min</u>
	1135	26.6	18.26	0.0						0.0	0.0	0.0	Recovery period <u>10 min</u>
	1140	26.6	18.26	0.0						0.0	0.0	0.0	Start pump**
	1150	26.6	18.49	0.23	5.88	0.222	19.12	>1000	350	0.0	0.0	0.0	Initial water quality readings***
	1200	26.6	18.45	-0.04	5.82	0.222	19.18	589	200	3.5	3.5		
	1210	26.6	18.43	-0.02	5.81	0.222	19.17	123	200	<del>2.0</del>	5.5		
	1220	26.6	18.43	0.0	5.80	0.223	19.22	127	200	2.0	7.5		
	1230	26.6	18.42	-0.01	5.80	0.222	19.28	95.4	200	2.0	9.5		
	1235	26.6	18.42	0.0	5.81	0.222	19.21	66.0	200	<del>2.0</del>	10.5		
	1240	26.6	18.42	0.0	5.80	0.223	19.20	72.9	200	1.0	11.5		
	1245	26.6	18.42	0.0	5.80	0.222	19.24	45.7	200	1.0	12.5		
	1250	26.6	18.42	0.0	5.80	0.222	19.23	54.9	200	1.0	13.5		
	1255	26.6	18.42	0.0	5.80	0.223	19.24	39.7	200	1.0	14.5		

Additional Comments: Water is very turbid, well need to be redeveloped. DWP-1 collected

## 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 Howard Daniel L Howard 9/15/15  
(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: <u>HOAMW-5</u>
SAMPLE LOCATION: <u>M west property</u>
SAMPLING POINT: <u>Bladder Pump discharge</u>
SAMPLE MEDIA: <u>W Ground water</u>
SAMPLE TYPE: <u>Grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/15/15  
 TIME COLLECTED (hh:mm): 042351255  
 DEPTH \_\_\_\_\_ TO 26.6 FT

COMMENTS:

DUP-1 collected  
sample time 1200

FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>1.14</u>	<u>mg/L</u>	
ORP	<u>206.9</u>	<u>mV</u>	
Ferrous Iron	<u>0.0</u>	<u>mg/L</u>	

ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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-Wood

Well Identifier: HOAMW-6

Initial Depth to Water\*: 19.25 (ft)

Casing volume: NA ( )  
*Low flow*

Page 1 of 1

Equipment: <u>Peristaltic Pump</u> <small>(IDs for wI meter, wq meter, pump, controller)</small>										Remarks: <u>TN = 34.48</u> <u>Teflon lined Tubing</u>			
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 (gal)	TOTAL Volume Removed (gal)	Casing Volume Removed	Comments (include controller settings)
9/15/15	1315	29'	19.15						0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
										0.0	0.0	0.0	Recovery period
9/15/15	1322	29'	19.23							0.0	0.0	0.0	Recovery period
9/15/15	1325		14.35	0.12					100ml/min	0.0	0.0	0.0	Start pump**
9/15/15	1335		14.35	0.12	5.73	0.219	21.60	19.8	100ml/min	0.25	0.25	0.0	Initial water quality readings***
9/15/15	1345		14.35	0.12	5.68	0.216	21.47	16.1	100ml/min	0.25	0.50		
9/15/15	1355		14.35	0.12	5.69	0.217	21.55	15.7	100ml/min	0.25	0.75		
9/15/15	1405		14.35	0.12	5.68	0.216	21.57	25.4	100ml/min	0.25	1.00		
9/15/15	1415		14.35	0.12	5.67	0.217	21.46	20.7	100ml/min	0.25	1.25		
9/15/15	1425		14.35	0.12	5.68	0.220	21.68	17.0	100ml/min	0.25	1.50		
9/15/15	1435		14.35	0.12	5.68	0.223	21.45	13.7	100ml/min	0.25	1.75		
9/15/15	1445		14.35	0.12	5.69	0.226	21.74	9.75	100ml/min	0.25	2.00		

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 9/15/15  
 (Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
 (Print name, Signature, Date)



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

PROJECT/SITE: Woodall Creek / Midwest

SAMPLE ID NUMBER: <u>HOAMW-6</u>
SAMPLE LOCATION: <u>M-west</u>
SAMPLING POINT: <u>Bladder pump</u>
SAMPLE MEDIA: <u>Water</u>
SAMPLE TYPE: <u>Grub</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 8/15/15  
 TIME COLLECTED (hh:mm): 1447  
 DEPTH \_\_\_\_\_ TO 29 FT

COMMENTS:

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FIELD PARAMETERS

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.88</u>	<u>mg/L</u>	
ORP	<u>134.7</u>	<u>ORP</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	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: MW-X

Initial Depth to Water\*: 19.90 (ft)

Casing volume: NA ( )  
low flow

Page 1 of 1

Equipment: <u>YSI CR149449 Lamotte (029444) peristaltic pump</u>										Remarks: <u>TD = 24.45 "soda straw method used"</u>			
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)
<u>9/15/15</u>		<u>22.00</u>			-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
					-	-	-	-		0.0	0.0	0.0	Recovery period
	<u>1140</u>	<u>22.00</u>	<u>19.90</u>		-	-	-	-		0.0	0.0	0.0	Recovery period
	<u>1141</u>	<u>22.00</u>	<u>19.95</u>	<u>-0.05</u>	-	-	-	-		0.0	0.0	0.0	Start pump**
	<u>1151</u>				<u>5.71</u>	<u>0.370</u>	<u>20.66</u>	<u>14.5</u>	<u>100ml/min</u>	<u>0.25</u>	<u>0.0</u>	<u>0.0</u>	Initial water quality readings***
	<u>1201</u>				<u>5.95</u>	<u>0.266</u>	<u>20.61</u>	<u>2.83</u>	<u>100ml/min</u>				Water has blue color
	<u>1211</u>				<u>5.99</u>	<u>0.270</u>	<u>20.61</u>	<u>1.96</u>	<u>100ml/min</u>				clearing
	<u>1221</u>				<u>5.99</u>	<u>0.272</u>	<u>20.39</u>	<u>0.90</u>	<u>100ml/min</u>				
	<u>1231</u>				<u>6.00</u>	<u>0.272</u>	<u>20.84</u>	<u>0.57</u>	<u>100ml/min</u>		<u>1.25</u>		

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 9/15/15  
 (Print name, Signature, Date)

QA CHECKED BY: \_\_\_\_\_  
 (Print name, Signature, Date)

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

PROJECT/SITE: M-west / woodall creek

SAMPLE ID NUMBER: <u>MW-X</u>
SAMPLE LOCATION: <u>M-west</u>
SAMPLING POINT: <u>Bladder Pump discharge</u>
SAMPLE MEDIA: <u>water</u>
SAMPLE TYPE: <u>grab</u>
LOGBOOK NUMBER:

DATE COLLECTED (mm/dd/yy): 9/15/15  
 TIME COLLECTED (hh:mm): 12:33  
 DEPTH      TO 22 FT

FIELD PARAMETERS

FIELD	READING	UNITS	H & S Y/N
Dissolved Oxygen	<u>0.88</u>	<u>mg/L</u>	
ORP	<u>-9.3</u>	<u>ORP</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

COMMENTS:

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ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

**PURGE LOG**

Project: Woodall Creek HSI, Semi-Annual Sampling Event

Property: M-horst

Well Identifier: HOA MW-5I

Initial Depth to Water\*: 21.14 (ft)

Casing volume: NA ( )  
*low flow*

Page 1 of 1

Equipment: Bladder Pump  
(IDs for wt meter, wq meter, pump, controller)

Remarks: TD = 40.30  
to Add Inlet Tubing

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 (ml)	Incremental Volume Removed (L)	TOTAL Volume Removed (L)	Casing Volume Removed	Comments (include controller settings)
9/15/15	1415	29.5	21.24	0.10	-	-	-	-	0.0	0.0	0.0	0.0	Measurement upon introduction of pump.
	1420	29.5	21.20	0.04	-	-	-	-		0.0	0.0	0.0	Recovery period 5 min
	1425	29.5	21.20	0.0	-	-	-	-		0.0	0.0	0.0	Recovery period 10 min
	1430	29.5	21.41	0.21	-	-	-	-		0.0	0.0	0.0	Start pump** 1426
	1435	29.5	21.41	0.0	5.83	0.222	19.92	1.84	200	0.0	0.0	0.0	Initial water quality readings***
	1445	29.5	21.39	0.02	5.81	0.220	19.61	1.61	200	2.0	2.0		
	1455	29.5	21.39	0.0	5.81	0.220	19.54	1.42	200	2.0	4.0		
	1505	29.5	21.39	0.0	5.81	0.220	19.50	1.29	200	2.0	6.0		
	1515	29.5	21.39	0.0	5.81	0.220	19.50	1.11	200	2.0	8.0		
✓	1520	29.5	21.39	0.0	5.81	0.220	19.47	0.97	200	1.0	9.0		

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: Daniel Howard / Daniel L Howard 9/15/15  
(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:	<u>HOAMW-5I</u>
SAMPLE LOCATION:	<u>M west property</u>
SAMPLING POINT:	<u>Bladder Pump discharge</u>
SAMPLE MEDIA:	<u>Groundwater</u>
SAMPLE TYPE:	<u>Grab</u>
LOGBOOK NUMBER:	

DATE COLLECTED (mm/dd/yy): 9/15/15  
 TIME COLLECTED (hh:mm): 1520  
 DEPTH \_\_\_\_\_ TO 29.5 FT

COMMENTS:

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FIELD PARAMETERS**

FIELD	READING	UNITS	H&S Y/N
Dissolved Oxygen	<u>0.74</u>	<u>mg/L</u>	
ORP	<u>212.1</u>	<u>mV</u>	
Ferrous Iron	<u>0</u>	<u>mg/L</u>	

**ALIQOT 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: \_\_\_\_\_

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
COMPANY:		COMPANY:	
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
COMPANY:		COMPANY:	

**APPENDIX B**  
**LAB REPORTS – ON CD**



December 17, 2015

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 Innovation Park Drive 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, 2015
Expiration:	June 30, 2016

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,

Randy Whittington, CEO

# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/16/2015

GCAL Report 215090912



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I





## 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

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

### Reporting Flags that may be Utilized in this Report

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



Robyn Miguez/Director Data Del

Authorized Signature  
GCAL Report 215090912

## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215090912

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 567409, the LCS/LCSD RPD is above the control limit for Bromomethane and Dichlorodifluoromethane. All recoveries are acceptable.

### **CONVENTIONALS**

In the EPA 9056A analysis, all samples had to be diluted in order to bracket the concentration of target analytes within the calibration range of the instrument.

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509091201	SMFDS-1	Water	09/08/2015 13:12	09/09/2015 09:34
21509091202	SMFPI-1	Water	09/08/2015 13:50	09/09/2015 09:34
21509091203	SMFMW-2	Water	09/08/2015 13:35	09/09/2015 09:34
21509091204	TRIP BLANK-1	Water	09/08/2015 00:00	09/09/2015 09:34

## Summary of Compounds Detected

<b>SMFDS-1</b>	Collect Date	09/08/2015 13:12	GCAL ID	21509091201
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	5.78	0.200	0.800	mg/L
14797-55-8	Nitrate	5.33	0.400	0.800	mg/L
14808-79-8	Sulfate	86.9	10.0	20.0	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	2.7	0.30	2.0	mg/L

<b>SMFPI-1</b>	Collect Date	09/08/2015 13:50	GCAL ID	21509091202
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	3.03J	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.490J	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	15.5	0.200	10.0	ug/L
127-18-4	Tetrachloroethene	4.25J	0.200	5.00	ug/L
1330-20-7	Xylene (total)	15.5	0.400	15.0	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	36.8	0.500	2.00	mg/L
14797-55-8	Nitrate	17.5	1.00	2.00	mg/L
14808-79-8	Sulfate	51.4	1.00	2.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.3J	0.30	2.0	mg/L

## Summary of Compounds Detected

<b>SMFMW-2</b>	Collect Date	09/08/2015 13:35	GCAL ID	21509091203
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	1.99J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.25J	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	2.72J	0.200	10.0	ug/L
127-18-4	Tetrachloroethene	62.3	0.200	5.00	ug/L
79-01-6	Trichloroethene	10.8	0.200	5.00	ug/L
1330-20-7	Xylene (total)	2.72J	0.400	15.0	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	26.9	0.500	2.00	mg/L
14797-55-8	Nitrate	10.1	1.00	2.00	mg/L
14808-79-8	Sulfate	33.8	1.00	2.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.92J	0.30	2.0	mg/L

<b>TRIP BLANK-1</b>	Collect Date	09/08/2015 00:00	GCAL ID	21509091204
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	1.96J	0.200	5.00	ug/L

## Sample Results

<b>SMFDS-1</b>	Collect Date	09/08/2015 13:12	GCAL ID	21509091201
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 23:28	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>SMFDS-1</b>	Collect Date	09/08/2015 13:12	GCAL ID	21509091201
	Receive Date	09/09/2015 09:34	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 23:28	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.1	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	50	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	49.9	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.2	ug/L	94	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 07:14	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	32.2	ug/L	80	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	4	09/09/2015 17:35	RXJ	567288

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	5.78	0.200	0.800	mg/L
14797-55-8	Nitrate	5.33	0.400	0.800	mg/L

## Sample Results

<b>SMFDS-1</b>	Collect Date	09/08/2015 13:12	GCAL ID	21509091201
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	09/09/2015 21:39	RXJ	567288

CAS#	Parameter	Result	DL	LOQ	Units
14808-79-8	Sulfate	86.9	10.0	20.0	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 11:54	RYC	567434

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	2.7	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	09/09/2015 19:02	RXJ	567310

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>SMFPI-1</b>	Collect Date	09/08/2015 13:50	GCAL ID	21509091202
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 23:50	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L



## Sample Results

<b>SMFPI-1</b>	Collect Date	09/08/2015 13:50	GCAL ID	21509091202
	Receive Date	09/09/2015 09:34	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 23:50	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>3.03J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
<b>100-41-4</b>	<b>Ethylbenzene</b>	<b>0.490J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
<b>136777-61-2</b>	<b>m,p-Xylene</b>	<b>15.5</b>	<b>0.200</b>	<b>10.0</b>	<b>ug/L</b>
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>4.25J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>SMFPI-1</b>	Collect Date	09/08/2015 13:50	GCAL ID	21509091202
	Receive Date	09/09/2015 09:34	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/10/2015 23:50	CLH	567409	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			15.5	0.400	15.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		50	51	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane		50	50.3	ug/L	101	77 - 127
2037-26-5	Toluene d8		50	51.2	ug/L	102	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	09/15/2015 07:28	BMR	567686	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	32.3	ug/L	80	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	10	09/09/2015 19:02	RXJ	567288	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			36.8	0.500	2.00	mg/L
14797-55-8	Nitrate			17.5	1.00	2.00	mg/L
14808-79-8	Sulfate			51.4	1.00	2.00	mg/L

## Sample Results

<b>SMFPI-1</b>	Collect Date	09/08/2015 13:50	GCAL ID	21509091202
	Receive Date	09/09/2015 09:34	Matrix	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 13:16	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>C-012</b>	<b>Total Organic Carbon</b>			<b>1.3J</b>	<b>0.30</b>	<b>2.0</b>	<b>mg/L</b>

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/09/2015 19:02	RXJ	567310	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

<b>SMFMW-2</b>	Collect Date	09/08/2015 13:35	GCAL ID	21509091203
	Receive Date	09/09/2015 09:34	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 00:13	CLH	567409	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
71-55-6	1,1,1-Trichloroethane			0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane			0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane			0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane			0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene			0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene			0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane			0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane			0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene			0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane			0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane			0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene			0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene			0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone			0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether			1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone			0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone			0.200U	0.200	5.00	ug/L
67-64-1	Acetone			0.500U	0.500	5.00	ug/L
71-43-2	Benzene			0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane			0.200U	0.200	5.00	ug/L
75-25-2	Bromoform			0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane			0.500U	0.500	5.00	ug/L

## Sample Results

<b>SMFMW-2</b>	Collect Date	09/08/2015 13:35	GCAL ID	21509091203
	Receive Date	09/09/2015 09:34	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 00:13	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.99J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.25J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
<b>136777-61-2</b>	<b>m,p-Xylene</b>	<b>2.72J</b>	<b>0.200</b>	<b>10.0</b>	<b>ug/L</b>
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>62.3</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>10.8</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
<b>1330-20-7</b>	<b>Xylene (total)</b>	<b>2.72J</b>	<b>0.400</b>	<b>15.0</b>	<b>ug/L</b>

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	49.3	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	50.8	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.6	ug/L	95	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 07:34	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L

## Sample Results

<b>SMFMW-2</b>	Collect Date	09/08/2015 13:35	GCAL ID	21509091203
	Receive Date	09/09/2015 09:34	Matrix	Water

### EPA RSK-175 (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/15/2015 07:34	BMR	567686	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	36.3	ug/L	90	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	10	09/09/2015 19:19	RXJ	567288	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			26.9	0.500	2.00	mg/L
14797-55-8	Nitrate			10.1	1.00	2.00	mg/L
14808-79-8	Sulfate			33.8	1.00	2.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 13:41	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
C-012	Total Organic Carbon			0.92J	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	09/09/2015 19:02	RXJ	567310	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>TRIP BLANK-1</b>	Collect Date	09/08/2015 00:00	GCAL ID	21509091204
	Receive Date	09/09/2015 09:34	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 00:36	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>1.96J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-1</b>	Collect Date	09/08/2015 00:00	GCAL ID	21509091204
	Receive Date	09/09/2015 09:34	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 00:36	CLH	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	50.1	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	50.6	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.5	ug/L	99	71 - 127

## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB567409	LCS567409			LCSD567409					
567409		GCAL ID	1485484	1485485			1485486					
		Sample Type	MB	LCS			LCSD					
		Prep Date	NA	NA			NA					
		Analysis Date	09/10/2015 17:43	09/10/2015 14:55			09/10/2015 16:17					
		Matrix	Water	Water			Water					
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	50.6	101	76 - 126	50.0	50.4	101	0	30
1,1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	47.4	95	70 - 122	50.0	49.7	99	5	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	51.9	104	72 - 121	50.0	53.2	106	2	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	45.4	91	74 - 127	50.0	44.9	90	1	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	52.5	105	69 - 129	50.0	53.3	107	2	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	52.6	105	61 - 135	50.0	56.5	113	7	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	50.1	100	57 - 121	50.0	50.3	101	0	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	52.1	104	70 - 124	50.0	54.0	108	4	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	50.5	101	71 - 126	50.0	53.8	108	6	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	51.4	103	71 - 129	50.0	51.2	102	0	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	50.8	102	72 - 128	50.0	51.3	103	1	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	50.8	102	74 - 126	50.0	54.5	109	7	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	48.5	97	72 - 122	50.0	52.2	104	7	30
2-Butanone	78-93-3	0.200U	0.200	50.0	52.4	105	58 - 137	50.0	45.8	92	13	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	55.3	111	56 - 124	50.0	55.9	112	1	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	53.9	108	50 - 135	50.0	50.4	101	7	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	50.9	102	57 - 132	50.0	50.6	101	1	30
Acetone	67-64-1	0.500U	0.500	50.0	55.2	110	44 - 156	50.0	46.0	92	18	30
Benzene	71-43-2	0.200U	0.200	50.0	49.0	98	70 - 129	50.0	49.6	99	1	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	53.9	108	74 - 125	50.0	54.7	109	1	30
Bromoform	75-25-2	0.250U	0.250	50.0	51.7	103	64 - 122	50.0	53.7	107	4	30
Bromomethane	74-83-9	0.500U	0.500	50.0	44.1	88	47 - 138	50.0	63.5	127	36*	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	49.7	99	69 - 136	50.0	53.2	106	7	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	52.4	105	76 - 128	50.0	52.6	105	0	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	51.2	102	74 - 123	50.0	53.1	106	4	20
Chloroethane	75-00-3	0.250U	0.250	50.0	52.1	104	62 - 141	50.0	52.5	105	1	30
Chloroform	67-66-3	0.200U	0.200	50.0	51.0	102	75 - 122	50.0	50.4	101	1	30
Chloromethane	74-87-3	0.200U	0.200	50.0	37.4	75	59 - 132	50.0	47.2	94	23	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	50.1	100	73 - 130	50.0	51.3	103	2	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	53.6	107	71 - 132	50.0	54.6	109	2	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	50.8	102	69 - 132	50.0	51.7	103	2	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	51.6	103	71 - 123	50.0	53.4	107	3	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	33.3	67	58 - 140	50.0	49.1	98	38*	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	50.9	102	74 - 126	50.0	53.0	106	4	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	54.2	108	71 - 125	50.0	57.1	114	5	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	101	101	74 - 126	100	105	105	4	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	47.4	95	57 - 139	50.0	49.0	98	3	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	51.3	103	67 - 138	50.0	52.9	106	3	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	51.4	103	68 - 132	50.0	53.5	107	4	30
o-Xylene	95-47-6	0.200U	0.200	50.0	51.0	102	73 - 130	50.0	54.4	109	6	30
Styrene	100-42-5	0.200U	0.200	50.0	53.3	107	71 - 127	50.0	56.5	113	6	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	51.8	104	71 - 125	50.0	53.3	107	3	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	52.3	105	68 - 128	50.0	54.6	109	4	30
Toluene	108-88-3	0.200U	0.200	50.0	51.6	103	72 - 120	50.0	52.9	106	2	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	50.3	101	69 - 132	50.0	52.5	105	4	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	48.3	97	71 - 131	50.0	50.4	101	4	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	50.2	100	76 - 129	50.0	50.4	101	0	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	51.2	102	72 - 136	50.0	53.6	107	5	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	52.4	105	72 - 136	50.0	54.0	108	3	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	57.5	115	54 - 147	50.0	58.6	117	2	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	42.7	85	68 - 132	50.0	48.0	96	12	30
Xylene (total)	1330-20-7	0.400U	0.400	150	152	101	74 - 127	150	160	107	5	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	46.6	93	50	48.8	98	71 - 127	50	50.3	101	3	NA
4-Bromofluorobenzene	460-00-4	49.7	99	50	52.6	105	78 - 130	50	52.3	105	1	NA
Dibromofluoromethane	1868-53-7	49.9	100	50	50.9	102	77 - 127	50	50.5	101	1	NA
Toluene d8	2037-26-5	49.6	99	50	51.1	102	76 - 134	50	51.4	103	1	NA



## GC Volatiles QC Summary

Analytical Batch 567686		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567686 1486933 MB NA 09/15/2015 06:45 Water	LCS567686 1486934 LCS NA 09/15/2015 06:51 Water				LCSD567686 1486935 LCSD NA 09/15/2015 07:04 Water					
EPA RSK-175			Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.110U	0.110	3.28	3.72	113	45 - 128	3.28	3.65	111	2	29	
Ethene	74-85-1	0.150U	0.150	3.06	3.39	111	45 - 134	3.06	3.31	108	2	25	
Methane	74-82-8	0.435U	0.435	17.5	18.5	106	39 - 120	17.5	18.1	103	2	27	
<b>Surrogate</b>													
Propene	115-07-1	30.7	76	40.5	31	77	40 - 143	40.5	30.2	75	3	NA	

## General Chemistry QC Summary

<b>Analytical Batch</b> 567310	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567310 1485078 MB NA 09/09/2015 19:02 Water	LCS567310 1485079 LCS NA 09/09/2015 19:02 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	24.9	99	80 - 120

<b>Analytical Batch</b> 567310	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	JM04-MW53R-090315 21509041401 SAMPLE NA 09/09/2015 19:02 Water	1484063DUP 1485080 DUP NA 09/09/2015 19:02 Water			
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

<b>Analytical Batch</b> 567310	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDS-1 21509091201 SAMPLE NA 09/09/2015 19:02 Water	1484952MS 1485081 MS NA 09/09/2015 19:02 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	23.0	92	75 - 125

<b>Analytical Batch</b> 567288	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567288 1484996 MB NA 09/09/2015 16:43 Water	LCS567288 1484997 LCS NA 09/09/2015 16:25 Water				
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.056	0.050	2.50	2.35	94	80 - 120
Nitrate	14797-55-8	0.100U	0.100	2.50	2.37	95	80 - 120
Sulfate	14808-79-8	0.100U	0.100	2.50	2.47	99	80 - 120

<b>Analytical Batch</b> 567288	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDS-1 21509091201 SAMPLE NA 09/09/2015 17:35 Water	1484952MS 1485073 MS NA 09/09/2015 17:52 Water	1484952MSD 1485074 MSD NA 09/09/2015 18:10 Water								
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	5.78	0.200	10.0	15.3	95	80 - 120	10.0	15.3	95	0	15
Nitrate	14797-55-8	5.33	0.400	10.0	15.1	98	80 - 120	10.0	15.2	98	0	15

## General Chemistry QC Summary

<b>Analytical Batch</b> 567288		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDS-1 21509091201 SAMPLE NA 09/09/2015 21:39 Water	1484952MS 1485073 MS NA 09/09/2015 21:56 Water	1484952MSD 1485074 MSD NA 09/09/2015 22:13 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	86.9	10.0	250	341	102	80 - 120	250	341	101	0	15

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567434 1485553 MB NA 09/11/2015 11:21 Water	LCS567434 1485554 LCS NA 09/11/2015 10:20 Water			
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.54	0.30	50.0	46.5	93	80 - 120

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDS-1 21509091201 SAMPLE NA 09/11/2015 11:54 Water	1484952MS 1485556 MS NA 09/11/2015 12:22 Water	1484952MSD 1485557 MSD NA 09/11/2015 12:46 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	2.7	0.30	50.0	56.0	107	75 - 125	50.0	53.0	101	6	25

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	101 21509101102 SAMPLE NA 09/11/2015 19:49 Water	1485292MS 1485558 MS NA 09/11/2015 20:29 Water	1485292MSD 1485559 MSD NA 09/11/2015 20:47 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	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	50.9	98	75 - 125	50.0	50.1	97	1	25



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# CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc

SDG: 215090912



### Report to:

Client: AMEC Foster Wheeler  
 Address: 1075 Big Shoot RD, Nal  
Suite 100 Kenner, LA 70144  
 Contact: Greg Wrean  
 Phone: 770-421-3400  
 E-mail: \_\_\_\_\_

### Bill to:

Client: Same as adjacent  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

P.O. Number \_\_\_\_\_

Project Name/Number  
Woodmill Creek

Sampled By:

Mark A. Ever 6, and Daniel M.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers	None	None	None	Analytical Requests & Method	GCAL use only:
W	9/8/15	1312		✓	SM FDS-1	10	1	1	1	Chloride + sulfate Nitrate None	Custody Seal used <input checked="" type="checkbox"/> yes <input type="checkbox"/> no intact <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Temperature °C <u>3.2</u> <input type="checkbox"/> Dissolved Analysis Requested <input type="checkbox"/> Field filtered <input type="checkbox"/> Lab filtered
W	9/8/15	1350		✓	SM FPI-1	10	1	1	1	None	Preservative 1
W	9/8/15	1335		✓	SM EMW-2	10	1	1	1	None	2
W	9/8/15				TRIP Blank-1	3	1	1	1	None	3
											4

Air Bill No: 7744 2121 1849

Turn Around Time (Business Days):  24h\*  48h\*  1 week\*  Standard (Per Contract/Quote)

Relinquished by: (Signature) <u>[Signature]</u>	Date: <u>9/8/15</u> Time: <u>1800</u>	Received by: (Signature) <u>[Signature]</u>	Date: _____ Time: _____
Relinquished by: (Signature) <u>[Signature]</u>	Date: <u>9/9/15</u> Time: <u>0934</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>9-9-15</u> Time: <u>0934</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date: _____ Time: _____	Received by: (Signature) <u>[Signature]</u>	Date: _____ Time: _____

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

\*Requires prior approval, rush charges may apply.

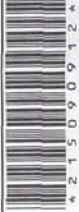
We cannot accept verbal changes. Please email written changes to your PM.

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

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT



# SAMPLE RECEIVING CHECKLIST



215090912

SAMPLE DELIVERY GROUP 215090912		CHECKLIST	
Client PM RCH2 4829 - AMEC Environment & Infrastructure, Inc.	Transport Method FEDEX	Were all samples received using proper thermal preservation?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
Profile Number 249065	Received By Lofton, Katie E.	When used, were all custody seals intact?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/09/15	Were all samples received in proper containers?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Were all samples received using proper chemical preservation?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Was preservative added to any container at the lab?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NA <input type="checkbox"/>
		Were all containers received in good condition?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Were all VOA vials received with no head space?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Do all sample labels match the Chain of Custody?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Did the Chain of Custody list the sampling technician?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
		Was the COC maintained i.e. all signatures, dates and time of receipt included?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>
<b>COOLERS</b>		<b>LAB PRESERVATIONS</b>	
Airbill 7744 2121 1849	Thermometer ID: E24	None	None
	Temp(°C) 3.2		
<b>NOTES</b>			

# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/17/2015

GCAL Report 215091010



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I



## 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

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

### Reporting Flags that may be Utilized in this Report

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



Robyn Migues/Director Data Del

Authorized Signature  
GCAL Report 215091010

## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091010

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 21509101006 (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.

In the EPA 8260B analysis for analytical batch 567409, the LCS/LCSD RPD is above the control limit for Bromomethane and Dichlorodifluoromethane. All recoveries are acceptable.

### **CONVENTIONALS**

In the EPA 9056A analysis, all 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 21509101001 (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 detection limits.



## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509101001	SMFMW-18	Water	09/09/2015 11:17	09/10/2015 09:42
21509101002	DPMW-3S	Water	09/09/2015 14:33	09/10/2015 09:42
21509101003	SMFDR-2	Water	09/09/2015 14:30	09/10/2015 09:42
21509101004	DPMW-27	Water	09/09/2015 16:52	09/10/2015 09:42
21509101005	DPMW-25	Water	09/09/2015 17:12	09/10/2015 09:42
21509101006	SMFDR-3	Water	09/09/2015 11:10	09/10/2015 09:42
21509101007	SMFMW-10	Water	09/09/2015 13:05	09/10/2015 09:42
21509101008	DPMW-2I	Water	09/09/2015 16:50	09/10/2015 09:42
21509101009	TRIP BLANK-2	Water	09/09/2015 00:00	09/10/2015 09:42

## Summary of Compounds Detected

<b>SMFMW-18</b>	Collect Date	09/09/2015 11:17	GCAL ID	21509101001
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
127-18-4	Tetrachloroethene	1.02J	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	34.5	1.00	4.00	mg/L
14797-55-8	Nitrate	12.8	1.00	2.00	mg/L
14808-79-8	Sulfate	605	10.0	20.0	mg/L

<b>DPMW-3S</b>	Collect Date	09/09/2015 14:33	GCAL ID	21509101002
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	0.648J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.845J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	36.6	0.200	5.00	ug/L
79-01-6	Trichloroethene	1.35J	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	7.57	0.250	1.00	mg/L
14797-55-8	Nitrate	2.30	0.100	0.200	mg/L
14808-79-8	Sulfate	87.4	2.00	4.00	mg/L

<b>SMFDR-2</b>	Collect Date	09/09/2015 14:30	GCAL ID	21509101003
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
127-18-4	Tetrachloroethene	2.20J	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.763J	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>SMFDR-2</b>	Collect Date	09/09/2015 14:30	GCAL ID	21509101003
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	24.7	0.500	2.00	mg/L
14797-55-8	Nitrate	3.33	0.100	0.200	mg/L
14808-79-8	Sulfate	28.9	1.00	2.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.4J	0.30	2.0	mg/L

<b>DPMW-27</b>	Collect Date	09/09/2015 16:52	GCAL ID	21509101004
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	1.47J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	20.8	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	190	0.200	5.00	ug/L
79-01-6	Trichloroethene	33.9	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	11.4	0.200	0.800	mg/L
14797-55-8	Nitrate	5.45	0.400	0.800	mg/L
14808-79-8	Sulfate	19.9	0.400	0.800	mg/L

<b>DPMW-25</b>	Collect Date	09/09/2015 17:12	GCAL ID	21509101005
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	5.50	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.71J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	74.1	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>DPMW-25</b>	Collect Date	09/09/2015 17:12	GCAL ID	21509101005
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
79-01-6	Trichloroethene	6.90	0.200	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	8.37	0.250	1.00	mg/L
14797-55-8	Nitrate	8.37	0.500	1.00	mg/L
14808-79-8	Sulfate	24.9	0.500	1.00	mg/L

<b>SMFDR-3</b>	Collect Date	09/09/2015 11:10	GCAL ID	21509101006
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.15J	0.400	10.0	ug/L
127-18-4	Tetrachloroethene	232	0.400	10.0	ug/L
79-01-6	Trichloroethene	3.09J	0.400	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	24.5	0.250	1.00	mg/L
14797-55-8	Nitrate	10.1	0.500	1.00	mg/L
14808-79-8	Sulfate	41.1	0.500	1.00	mg/L

EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.4J	0.30	2.0	mg/L

## Summary of Compounds Detected

<b>SMFMW-10</b>	Collect Date	09/09/2015 13:05	GCAL ID	21509101007
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
75-35-4	1,1-Dichloroethene	1.25J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	2.48J	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.80J	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	21.4	0.500	2.00	mg/L
14797-55-8	Nitrate	2.49	0.100	0.200	mg/L
14808-79-8	Sulfate	25.7	1.00	2.00	mg/L

<b>DPMW-2I</b>	Collect Date	09/09/2015 16:50	GCAL ID	21509101008
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
75-35-4	1,1-Dichloroethene	1.18J	0.200	5.00	ug/L
75-15-0	Carbon disulfide	0.535J	0.200	5.00	ug/L
67-66-3	Chloroform	0.548J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	5.05	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	39.0	0.200	5.00	ug/L
79-01-6	Trichloroethene	6.51	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	43.2	1.00	4.00	mg/L
14797-55-8	Nitrate	7.62	0.500	1.00	mg/L
14808-79-8	Sulfate	24.5	0.500	1.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.2J	0.30	2.0	mg/L

## Summary of Compounds Detected

<b>TRIP BLANK-2</b>	<b>Collect Date</b>	09/09/2015 00:00	<b>GCAL ID</b>	21509101009
	<b>Receive Date</b>	09/10/2015 09:42	<b>Matrix</b>	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	1.71J	0.200	5.00	ug/L

## Sample Results

<b>SMFMW-18</b>	Collect Date	09/09/2015 11:17	GCAL ID	21509101001
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 13:40	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>1.02J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>SMFMW-18</b>	Collect Date	09/09/2015 11:17	GCAL ID	21509101001
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 13:40	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	51	ug/L	102	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	09/15/2015 07:44	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	31.9	ug/L	79	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/10/2015 14:22	RXJ	567377

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>12.8</b>	<b>1.00</b>	<b>2.00</b>	<b>mg/L</b>



## Sample Results

<b>SMFMW-18</b>	Collect Date	09/09/2015 11:17	GCAL ID	21509101001
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	20	09/14/2015 22:19	RXJ	567631	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			34.5	1.00	4.00	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	100	09/15/2015 22:49	RXJ	567728	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14808-79-8	Sulfate			605	10.0	20.0	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	20	09/12/2015 00:03	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
C-012	Total Organic Carbon			ND	6.0	40.0	mg/L

### SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 13:26	WRR	567630	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>DPMW-3S</b>	Collect Date	09/09/2015 14:33	GCAL ID	21509101002
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 18:51	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>0.648J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>0.845J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>36.6</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>1.35J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-3S</b>	Collect Date	09/09/2015 14:33	GCAL ID	21509101002
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 18:51	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	49.7	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	51.2	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.5	ug/L	97	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 07:50	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	42.3	ug/L	104	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 14:39	RXJ	567377

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>2.30</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>DPMW-3S</b>	Collect Date	09/09/2015 14:33	GCAL ID	21509101002
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/14/2015 23:11	RXJ	567631

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	7.57	0.250	1.00	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	09/14/2015 23:28	RXJ	567631

CAS#	Parameter	Result	DL	LOQ	Units
14808-79-8	Sulfate	87.4	2.00	4.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 14:42	RYC	567434

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	ND	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

## Sample Results

<b>SMFDR-2</b>	Collect Date	09/09/2015 14:30	GCAL ID	21509101003
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:13	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>2.20J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>0.763J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>SMFDR-2</b>	Collect Date	09/09/2015 14:30	GCAL ID	21509101003
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:13	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	50	49.6	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	49.9	ug/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.5	ug/L	93	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 08:00	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 14:57	RXJ	567377

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>3.33</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>SMFDR-2</b>	Collect Date	09/09/2015 14:30	GCAL ID	21509101003
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/14/2015 22:53	RXJ	567631

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	24.7	0.500	2.00	mg/L
14808-79-8	Sulfate	28.9	1.00	2.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 15:07	RYC	567434

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.4J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-27</b>	Collect Date	09/09/2015 16:52	GCAL ID	21509101004
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:36	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-27</b>	Collect Date	09/09/2015 16:52	GCAL ID	21509101004
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:36	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.47J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>20.8</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>190</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>33.9</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L



## Sample Results

<b>DPMW-27</b>	Collect Date	09/09/2015 16:52	GCAL ID	21509101004
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:36	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	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	49.7	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48	ug/L	96	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 08:08	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	43.5	ug/L	107	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	4	09/10/2015 18:25	RXJ	567377

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	11.4	0.200	0.800	mg/L
14797-55-8	Nitrate	5.45	0.400	0.800	mg/L
14808-79-8	Sulfate	19.9	0.400	0.800	mg/L

## Sample Results

<b>DPMW-27</b>	Collect Date	09/09/2015 16:52	GCAL ID	21509101004
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 15:31	RYC	567434

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	ND	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-25</b>	Collect Date	09/09/2015 17:12	GCAL ID	21509101005
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:59	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L

## Sample Results

<b>DPMW-25</b>	Collect Date	09/09/2015 17:12	GCAL ID	21509101005
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 19:59	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>5.50</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.71J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>74.1</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>6.90</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.7	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane	50	49.7	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	50.7	ug/L	101	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	09/15/2015 08:14	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L

## Sample Results

<b>DPMW-25</b>	Collect Date	09/09/2015 17:12	GCAL ID	21509101005
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA RSK-175 (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/15/2015 08:14	BMR	567686	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	33	ug/L	81	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	5	09/10/2015 18:42	RXJ	567377	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			8.37	0.250	1.00	mg/L
14797-55-8	Nitrate			8.37	0.500	1.00	mg/L
14808-79-8	Sulfate			24.9	0.500	1.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 17:52	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
C-012	Total Organic Carbon			ND	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	09/14/2015 13:26	WRR	567630	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>SMFDR-3</b>	Collect Date	09/09/2015 11:10	GCAL ID	21509101006
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/10/2015 20:24	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.400U	0.400	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.400U	0.400	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.400U	0.400	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.400U	0.400	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.400U	0.400	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.400U	0.400	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.400U	0.400	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.400U	0.400	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.400U	0.400	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.400U	0.400	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.400U	0.400	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.400U	0.400	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.400U	0.400	10.0	ug/L
78-93-3	2-Butanone	0.400U	0.400	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	2.00U	2.00	10.0	ug/L
591-78-6	2-Hexanone	1.00U	1.00	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.400U	0.400	10.0	ug/L
67-64-1	Acetone	1.00U	1.00	10.0	ug/L
71-43-2	Benzene	0.400U	0.400	10.0	ug/L
75-27-4	Bromodichloromethane	0.400U	0.400	10.0	ug/L
75-25-2	Bromoform	0.500U	0.500	10.0	ug/L
74-83-9	Bromomethane	1.00U	1.00	10.0	ug/L
75-15-0	Carbon disulfide	0.400U	0.400	10.0	ug/L
56-23-5	Carbon tetrachloride	0.500U	0.500	10.0	ug/L
108-90-7	Chlorobenzene	0.400U	0.400	10.0	ug/L
75-00-3	Chloroethane	0.500U	0.500	10.0	ug/L
67-66-3	Chloroform	0.400U	0.400	10.0	ug/L
74-87-3	Chloromethane	0.400U	0.400	10.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.15J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
110-82-7	Cyclohexane	1.00U	1.00	10.0	ug/L
124-48-1	Dibromochloromethane	0.400U	0.400	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.400U	0.400	10.0	ug/L
100-41-4	Ethylbenzene	0.400U	0.400	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.400U	0.400	10.0	ug/L
136777-61-2	m,p-Xylene	0.400U	0.400	20.0	ug/L
79-20-9	Methyl Acetate	2.00U	2.00	10.0	ug/L
108-87-2	Methylcyclohexane	0.400U	0.400	10.0	ug/L
75-09-2	Methylene chloride	0.400U	0.400	10.0	ug/L
95-47-6	o-Xylene	0.400U	0.400	10.0	ug/L
100-42-5	Styrene	0.400U	0.400	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.400U	0.400	10.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>232</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
108-88-3	Toluene	0.400U	0.400	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.400U	0.400	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.09J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.400U	0.400	10.0	ug/L

## Sample Results

<b>SMFDR-3</b>	Collect Date	09/09/2015 11:10	GCAL ID	21509101006
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/10/2015 20:24	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.400U	0.400	10.0	ug/L
108-05-4	Vinyl acetate	0.400U	0.400	10.0	ug/L
75-01-4	Vinyl chloride	0.400U	0.400	10.0	ug/L
1330-20-7	Xylene (total)	0.800U	0.800	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	99	ug/L	99	78 - 130
1868-53-7	Dibromofluoromethane	100	99	ug/L	99	77 - 127
2037-26-5	Toluene d8	100	103	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	95.3	ug/L	95	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 08:31	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	31.3	ug/L	77	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/10/2015 19:00	RXJ	567377

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	24.5	0.250	1.00	mg/L
14797-55-8	Nitrate	10.1	0.500	1.00	mg/L
14808-79-8	Sulfate	41.1	0.500	1.00	mg/L

## Sample Results

<b>SMFDR-3</b>	Collect Date	09/09/2015 11:10	GCAL ID	21509101006
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 18:17	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>C-012</b>	<b>Total Organic Carbon</b>			<b>1.4J</b>	<b>0.30</b>	<b>2.0</b>	<b>mg/L</b>

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 13:26	WRR	567630	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

<b>SMFMW-10</b>	Collect Date	09/09/2015 13:05	GCAL ID	21509101007
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/10/2015 20:47	CJR	567409	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
71-55-6	1,1,1-Trichloroethane			0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane			0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane			0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane			0.200U	0.200	5.00	ug/L
<b>75-35-4</b>	<b>1,1-Dichloroethene</b>			<b>1.25J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
120-82-1	1,2,4-Trichlorobenzene			0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane			0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane			0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene			0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane			0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane			0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene			0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene			0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone			0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether			1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone			0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone			0.200U	0.200	5.00	ug/L
67-64-1	Acetone			0.500U	0.500	5.00	ug/L
71-43-2	Benzene			0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane			0.200U	0.200	5.00	ug/L
75-25-2	Bromoform			0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane			0.500U	0.500	5.00	ug/L

## Sample Results

<b>SMFMW-10</b>	Collect Date	09/09/2015 13:05	GCAL ID	21509101007
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 20:47	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>2.48J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.80J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	50.4	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.5	ug/L	97	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 08:38	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L



## Sample Results

<b>SMFMW-10</b>	Collect Date	09/09/2015 13:05	GCAL ID	21509101007
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA RSK-175 (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/15/2015 08:38	BMR	567686	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	40.5	ug/L	100	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/10/2015 16:06	RXJ	567377	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			2.49	0.100	0.200	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	10	09/14/2015 22:01	RXJ	567631	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			21.4	0.500	2.00	mg/L
14808-79-8	Sulfate			25.7	1.00	2.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 18:41	RYC	567434	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
C-012	Total Organic Carbon			0.30U	0.30	2.0	mg/L

## Sample Results

<b>SMFMW-10</b>	Collect Date	09/09/2015 13:05	GCAL ID	21509101007
	Receive Date	09/10/2015 09:42	Matrix	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-2I</b>	Collect Date	09/09/2015 16:50	GCAL ID	21509101008
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 21:09	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
<b>75-35-4</b>	<b>1,1-Dichloroethene</b>	<b>1.18J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
<b>75-15-0</b>	<b>Carbon disulfide</b>	<b>0.535J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>0.548J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>5.05</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-2I</b>	Collect Date	09/09/2015 16:50	GCAL ID	21509101008
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 21:09	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>39.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>6.51</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.1	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	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	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	09/15/2015 08:46	BMR	567686

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	30.1	ug/L	74	40 - 143

## Sample Results

<b>DPMW-2I</b>	Collect Date	09/09/2015 16:50	GCAL ID	21509101008
	Receive Date	09/10/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	5	09/10/2015 19:17	RXJ	567377	
CAS#	Parameter			Result	DL	LOQ	Units
14797-55-8	Nitrate			7.62	0.500	1.00	mg/L
14808-79-8	Sulfate			24.5	0.500	1.00	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	20	09/14/2015 21:44	RXJ	567631	
CAS#	Parameter			Result	DL	LOQ	Units
16887-00-6	Chloride			43.2	1.00	4.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 19:06	RYC	567434	
CAS#	Parameter			Result	DL	LOQ	Units
C-012	Total Organic Carbon			1.2J	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	09/14/2015 13:26	WRR	567630	
CAS#	Parameter			Result	DL	LOQ	Units
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>TRIP BLANK-2</b>	Collect Date	09/09/2015 00:00	GCAL ID	21509101009
	Receive Date	09/10/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 18:28	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>1.71J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-2</b>	Collect Date	09/09/2015 00:00	GCAL ID	21509101009
	Receive Date	09/10/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/10/2015 18:28	CJR	567409

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	49	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	50.6	ug/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L	98	71 - 127

## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	LCS567409				LCSD567409					
567409		MB567409	1485484				1485486					
		GCAL ID	LCS				LCSD					
		Sample Type	NA				NA					
		Prep Date	09/10/2015 17:43				09/10/2015 16:17					
		Analysis Date	Water				Water					
		Matrix	Water				Water					
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	50.6	101	76 - 126	50.0	50.4	101	0	30
1,1,1,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	47.4	95	70 - 122	50.0	49.7	99	5	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	51.9	104	72 - 121	50.0	53.2	106	2	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	45.4	91	74 - 127	50.0	44.9	90	1	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	52.5	105	69 - 129	50.0	53.3	107	2	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	52.6	105	61 - 135	50.0	56.5	113	7	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	50.1	100	57 - 121	50.0	50.3	101	0	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	52.1	104	70 - 124	50.0	54.0	108	4	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	50.5	101	71 - 126	50.0	53.8	108	6	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	51.4	103	71 - 129	50.0	51.2	102	0	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	50.8	102	72 - 128	50.0	51.3	103	1	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	50.8	102	74 - 126	50.0	54.5	109	7	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	48.5	97	72 - 122	50.0	52.2	104	7	30
2-Butanone	78-93-3	0.200U	0.200	50.0	52.4	105	58 - 137	50.0	45.8	92	13	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	55.3	111	56 - 124	50.0	55.9	112	1	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	53.9	108	50 - 135	50.0	50.4	101	7	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	50.9	102	57 - 132	50.0	50.6	101	1	30
Acetone	67-64-1	0.500U	0.500	50.0	55.2	110	44 - 156	50.0	46.0	92	18	30
Benzene	71-43-2	0.200U	0.200	50.0	49.0	98	70 - 129	50.0	49.6	99	1	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	53.9	108	74 - 125	50.0	54.7	109	1	30
Bromoform	75-25-2	0.250U	0.250	50.0	51.7	103	64 - 122	50.0	53.7	107	4	30
Bromomethane	74-83-9	0.500U	0.500	50.0	44.1	88	47 - 138	50.0	63.5	127	36*	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	49.7	99	69 - 136	50.0	53.2	106	7	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	52.4	105	76 - 128	50.0	52.6	105	0	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	51.2	102	74 - 123	50.0	53.1	106	4	20
Chloroethane	75-00-3	0.250U	0.250	50.0	52.1	104	62 - 141	50.0	52.5	105	1	30
Chloroform	67-66-3	0.200U	0.200	50.0	51.0	102	75 - 122	50.0	50.4	101	1	30
Chloromethane	74-87-3	0.200U	0.200	50.0	37.4	75	59 - 132	50.0	47.2	94	23	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	50.1	100	73 - 130	50.0	51.3	103	2	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	53.6	107	71 - 132	50.0	54.6	109	2	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	50.8	102	69 - 132	50.0	51.7	103	2	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	51.6	103	71 - 123	50.0	53.4	107	3	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	33.3	67	58 - 140	50.0	49.1	98	38*	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	50.9	102	74 - 126	50.0	53.0	106	4	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	54.2	108	71 - 125	50.0	57.1	114	5	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	101	101	74 - 126	100	105	105	4	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	47.4	95	57 - 139	50.0	49.0	98	3	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	51.3	103	67 - 138	50.0	52.9	106	3	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	51.4	103	68 - 132	50.0	53.5	107	4	30
o-Xylene	95-47-6	0.200U	0.200	50.0	51.0	102	73 - 130	50.0	54.4	109	6	30
Styrene	100-42-5	0.200U	0.200	50.0	53.3	107	71 - 127	50.0	56.5	113	6	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	51.8	104	71 - 125	50.0	53.3	107	3	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	52.3	105	68 - 128	50.0	54.6	109	4	30
Toluene	108-88-3	0.200U	0.200	50.0	51.6	103	72 - 120	50.0	52.9	106	2	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	50.3	101	69 - 132	50.0	52.5	105	4	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	48.3	97	71 - 131	50.0	50.4	101	4	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	50.2	100	76 - 129	50.0	50.4	101	0	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	51.2	102	72 - 136	50.0	53.6	107	5	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	52.4	105	72 - 136	50.0	54.0	108	3	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	57.5	115	54 - 147	50.0	58.6	117	2	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	42.7	85	68 - 132	50.0	48.0	96	12	30
Xylene (total)	1330-20-7	0.400U	0.400	150	152	101	74 - 127	150	160	107	5	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	46.6	93	50	48.8	98	71 - 127	50	50.3	101	3	NA
4-Bromofluorobenzene	460-00-4	49.7	99	50	52.6	105	78 - 130	50	52.3	105	1	NA
Dibromofluoromethane	1868-53-7	49.9	100	50	50.9	102	77 - 127	50	50.5	101	1	NA
Toluene d8	2037-26-5	49.6	99	50	51.1	102	76 - 134	50	51.4	103	1	NA

## GC/MS Volatiles QC Summary

Analytical Batch 567620		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567620 1486232 MB NA 09/14/2015 11:37 Water	LCS567620 1486233 LCS NA 09/14/2015 10:18 Water	LCSD567620 1486234 LCSD NA 09/14/2015 10:38 Water							
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	53.8	108	76 - 126	50.0	52.1	104	3	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	42.2	84	70 - 122	50.0	43.7	87	3	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	51.5	103	72 - 121	50.0	51.5	103	0	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	50.8	102	74 - 127	50.0	49.5	99	3	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	54.4	109	69 - 129	50.0	51.9	104	5	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	51.4	103	61 - 135	50.0	50.5	101	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	48.5	97	57 - 121	50.0	52.9	106	9	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	52.7	105	70 - 124	50.0	53.4	107	1	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	50.1	100	71 - 126	50.0	50.5	101	1	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	49.0	98	71 - 129	50.0	47.8	96	2	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	49.0	98	72 - 128	50.0	46.9	94	4	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	50.3	101	74 - 126	50.0	50.0	100	1	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	50.5	101	72 - 122	50.0	49.9	100	1	30
2-Butanone	78-93-3	0.200U	0.200	50.0	45.4	91	58 - 137	50.0	48.1	96	6	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	46.7	93	56 - 124	50.0	46.8	94	0	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	48.6	97	50 - 135	50.0	51.2	102	5	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	47.1	94	57 - 132	50.0	49.5	99	5	30
Acetone	67-64-1	0.500U	0.500	50.0	45.8	92	44 - 156	50.0	46.9	94	2	30
Benzene	71-43-2	0.200U	0.200	50.0	49.4	99	70 - 129	50.0	47.6	95	4	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	50.7	101	74 - 125	50.0	49.7	99	2	30
Bromoform	75-25-2	0.250U	0.250	50.0	52.3	105	64 - 122	50.0	53.7	107	3	30
Bromomethane	74-83-9	0.500U	0.500	50.0	52.2	104	47 - 138	50.0	52.1	104	0	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	52.7	105	69 - 136	50.0	51.3	103	3	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	53.2	106	76 - 128	50.0	51.0	102	4	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	51.4	103	74 - 123	50.0	50.1	100	3	20
Chloroethane	75-00-3	0.250U	0.250	50.0	50.9	102	62 - 141	50.0	48.7	97	4	30
Chloroform	67-66-3	0.200U	0.200	50.0	48.7	97	75 - 122	50.0	47.7	95	2	30
Chloromethane	74-87-3	0.200U	0.200	50.0	51.1	102	59 - 132	50.0	48.0	96	6	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	49.2	98	73 - 130	50.0	47.3	95	4	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	52.7	105	71 - 132	50.0	52.1	104	1	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	56.0	112	69 - 132	50.0	53.0	106	6	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	53.3	107	71 - 123	50.0	53.3	107	0	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	53.5	107	58 - 140	50.0	50.8	102	5	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	52.5	105	74 - 126	50.0	50.8	102	3	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	55.7	111	71 - 125	50.0	54.8	110	2	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	107	107	74 - 126	100	104	104	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	42.3	85	57 - 139	50.0	44.7	89	6	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	57.0	114	67 - 138	50.0	53.3	107	7	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	48.2	96	68 - 132	50.0	46.2	92	4	30
o-Xylene	95-47-6	0.200U	0.200	50.0	55.0	110	73 - 130	50.0	54.9	110	0	30
Styrene	100-42-5	0.200U	0.200	50.0	57.0	114	71 - 127	50.0	56.0	112	2	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	51.4	103	71 - 125	50.0	51.2	102	0	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	57.7	115	68 - 128	50.0	55.0	110	5	30
Toluene	108-88-3	0.200U	0.200	50.0	53.2	106	72 - 120	50.0	51.7	103	3	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	51.8	104	69 - 132	50.0	49.4	99	5	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	53.0	106	71 - 131	50.0	52.2	104	2	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	54.8	110	76 - 129	50.0	52.5	105	4	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	53.3	107	72 - 136	50.0	51.4	103	4	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	55.1	110	72 - 136	50.0	52.1	104	6	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	52.1	104	54 - 147	50.0	49.7	99	5	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	48.0	96	68 - 132	50.0	46.1	92	4	30
Xylene (total)	1330-20-7	0.400U	0.400	150	162	108	74 - 127	150	158	105	3	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	48.6	97	50	46.7	93	71 - 127	50	47	94	1	NA
4-Bromofluorobenzene	460-00-4	52.1	104	50	54.8	110	78 - 130	50	55.3	111	1	NA
Dibromofluoromethane	1868-53-7	50.7	101	50	50.5	101	77 - 127	50	50	100	1	NA
Toluene d8	2037-26-5	51.6	103	50	50.3	101	76 - 134	50	49.7	99	1	NA



## GC Volatiles QC Summary

Analytical Batch 567686		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567686 1486933 MB NA 09/15/2015 06:45 Water	LCS567686 1486934 LCS NA 09/15/2015 06:51 Water				LCSD567686 1486935 LCSD NA 09/15/2015 07:04 Water				
EPA RSK-175		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.110U	0.110	3.28	3.72	113	45 - 128	3.28	3.65	111	2	29
Ethene	74-85-1	0.150U	0.150	3.06	3.39	111	45 - 134	3.06	3.31	108	2	25
Methane	74-82-8	0.435U	0.435	17.5	18.5	106	39 - 120	17.5	18.1	103	2	27
<b>Surrogate</b>												
Propene	115-07-1	30.7	76	40.5	31	77	40 - 143	40.5	30.2	75	3	NA

## General Chemistry QC Summary

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567630 1486260 MB NA 09/14/2015 13:26 Water	LCS567630 1486261 LCS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	24.1	96	80 - 120

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDR-2 21509101003 SAMPLE NA 09/14/2015 13:26 Water	1485278MS 1486262 MS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	22.4	90	75 - 125

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-10 21509101007 SAMPLE NA 09/14/2015 13:26 Water	1485282DUP 1486263 DUP NA 09/14/2015 13:26 Water			
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

<b>Analytical Batch</b> 567377	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567377 1485322 MB NA 09/10/2015 14:04 Water	LCS567377 1485323 LCS NA 09/10/2015 13:47 Water				
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.37	95	80 - 120
Nitrate	14797-55-8	0.100U	0.100	2.50	2.39	96	80 - 120
Sulfate	14808-79-8	0.100U	0.100	2.50	2.45	98	80 - 120

<b>Analytical Batch</b> 567377	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-18 21509101001 SAMPLE NA 09/10/2015 14:22 Water	1485276MS 1485325 MS NA 09/10/2015 16:41 Water	1485276MSD 1485326 MSD NA 09/10/2015 16:58 Water								
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	12.8	1.00	25.0	37.2	98	80 - 120	25.0	37.2	98	0	15

## General Chemistry QC Summary

<b>Analytical Batch</b> 567631		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567631 1486264 MB NA 09/14/2015 13:01 Water	LCS567631 1486265 LCS NA 09/14/2015 12:44 Water	LCSD567631 1487039 LCSD NA 09/14/2015 15:56 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	0.050U	0.050	2.50	2.29	91	80 - 120	2.50	2.32	93	2	15
Sulfate	14808-79-8	0.100U	0.100	2.50	2.41	96	80 - 120	2.50	2.43	97	1	15

<b>Analytical Batch</b> 567631		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	PZ-42 21509105202 SAMPLE NA 09/14/2015 18:15 Water	PZ-42 MS 21509105203 MS NA 09/14/2015 18:32 Water	PZ-42 MSD 21509105204 MSD NA 09/14/2015 18:50 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	27.7	1.00	25.0	52.1	97	80 - 120	25.0	52.3	99	1	15

<b>Analytical Batch</b> 567728		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567728 1487164 MB NA 09/15/2015 16:26 Water	LCS567728 1487165 LCS NA 09/15/2015 16:09 Water	LCSD567728 1487683 LCSD NA 09/15/2015 19:20 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	0.100U	0.100	2.50	2.42	97	80 - 120	2.50	2.46	98	2	15

<b>Analytical Batch</b> 567728		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-18 21509101001 SAMPLE NA 09/15/2015 22:49 Water	1485276MS 1485325 MS NA 09/15/2015 23:06 Water	1485276MSD 1485326 MSD NA 09/15/2015 23:24 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8	605	10.0	250	861	102	80 - 120	250	856	100	1	15

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567434 1485553 MB NA 09/11/2015 11:21 Water	LCS567434 1485554 LCS NA 09/11/2015 10:20 Water			
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.54J	0.30	50.0	46.5	93	80 - 120

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDS-1 21509091201 SAMPLE NA 09/11/2015 11:54 Water	1484952MS 1485556 MS NA 09/11/2015 12:22 Water	1484952MSD 1485557 MSD NA 09/11/2015 12:46 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	2.7	0.30	50.0	56.0	107	75 - 125	50.0	53.0	101	6	25

## General Chemistry QC Summary

<b>Analytical Batch</b> 567434		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	101 21509101102 SAMPLE NA 09/11/2015 19:49 Water	1485292MS 1485558 MS NA 09/11/2015 20:29 Water				1485292MSD 1485559 MSD NA 09/11/2015 20:47 Water					
<b>EPA 9060A</b>			Units Result	mg/L DL	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	50.9	98	75 - 125	50.0	50.1	97	1	25



7979 Innovation Park Dr., Baton Rouge, LA 70820-7402  
 Phone: 225.789.4900 • Fax: 225.767.5717 • www.gcal.com

# CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.

SDG: 215091010



**Report to:**  
 Client: AMEC Foster Wheeler  
 Address: 1075 Big Sandy Rd  
 NW Suite 100 Kenner, LA 70144  
 Contact: GFG WJDA  
 Phone: 770-421-3400  
 E-mail:

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

Project Name/Number  
 Woodall Creek  
 Sampled By: Mark A. Ever, onl bantel M

**Analytical Requests & Method**  
 Nitrate  
 Chloride/Sulfate  
 Sulfide  
 VOCs  
 TOC  
 Methane, Ethane, Ethene

**GCAL use only:**  
 Custody Seal used  yes  no  
 intact  yes  no  
 Temperature °C 2.9 EL6  
 Dissolved Analysis Requested  
 Field filtered  
 Lab filtered

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers	Preservative
W	7-9-15	1117		✓	SMFHW-18	10	1
W	7-9-15	1433		✓	OPMW-3s	10	1
W	7-9-15	1430		✓	SMFAR-2	10	1
W	7-9-15	1652		✓	OPMW-2.7	10	1
W	7-9-15	1712		✓	OPMW-2.5	10	1
W	7-9-15	1110		✓	SMFDR-3	10	1
W	7-9-15	1305		✓	SMFHW-1D	10	1
W	7-9-15	1650		✓	OPMW-2.I	10	1
W	7-9-15			✓	TCVP Blank-2	3	3

Air Bill No: 7744 2121 1507

Turn Around Time (Business Days):  24h  48h  1 week  Standard (Per Contract/Quote)

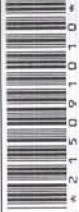
Received by (Signature): [Signature] Date: 9/9/15 Time: 1845  
 Received by (Signature): [Signature] Date: 9/10/15 Time: 940  
 Received by (Signature): [Signature] Date: 9/10/15 Time: 940

**Matrix:** W = water, S = solid, L = liquid, T = tissue  
 \*Requires prior approval, rush charges may apply.  
 By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.  
 We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT



# SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091010		CHECKLIST	YES	NO	NA
Client 4829 - AMEC Environment & Infrastructure, Inc.	PM RCH2 Transport Method FEDEX	Were all samples received using proper thermal preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		When used, were all custody seals intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Were all samples received in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profile Number 249065	Received By Saucier, Charlotte M.	Were all samples received using proper chemical preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Was preservative added to any container at the lab?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Were all containers received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/10/15	Were all VOA vials received with no head space?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Do all sample labels match the Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Did the Chain of Custody list the sampling technician?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Was the COC maintained i.e. all signatures, dates and time of receipt included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>COOLERS</b>		<b>DISCREPANCIES</b>	<b>LAB PRESERVATIONS</b>		
Airbill 7744 2121 1507	Thermometer ID: E26 Temp(°C) 2.9	None	None		
<b>NOTES</b>					

# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/18/2015

GCAL Report 215091110



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I



## 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

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

### Reporting Flags that may be Utilized in this Report

<b>J or I</b>	Indicates the result is between the MDL and LOQ
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank
<b>Q</b>	Indicates a non-compliant QC Result (See Q Flag Application Report)
<b>*</b>	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 M. Merino/Ming Data Del

Authorized Signature  
GCAL Report 215091110



## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091110

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 21509111001 (JPMW-16) and 21509111005 (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 reporting limits.

### **CONVENTIONALS**

In the EPA 9056A analysis, all samples had to be diluted in order to bracket the concentration within the calibration range of the instrument.

### **MISCELLANEOUS**

For Sample 21509111003 (DPMW-10), a date, time of collection or sample ID discrepancy between a container label and the chain of custody was noted at receipt.

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509111001	JPMW-16	Water	09/10/2015 13:55	09/11/2015 09:50
21509111002	DPMW-25	Water	09/10/2015 11:05	09/11/2015 09:50
21509111003	DPMW-10	Water	09/10/2015 12:45	09/11/2015 09:50
21509111004	DPMW-15	Water	09/10/2015 11:54	09/11/2015 09:50
21509111005	DPMW-16	Water	09/10/2015 13:48	09/11/2015 09:50
21509111006	TRIP BLANK-3	Water	09/10/2015 00:01	09/11/2015 09:50

## Summary of Compounds Detected

<b>JPMW-16</b>	Collect Date	09/10/2015 13:55	GCAL ID	21509111001
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	9.40J	0.400	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	23.2	0.400	10.0	ug/L
127-18-4	Tetrachloroethene	226	0.400	10.0	ug/L
79-01-6	Trichloroethene	72.0	0.400	10.0	ug/L

### EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	12.1	1.00	4.00	mg/L
14797-55-8	Nitrate	3.32	0.100	0.200	mg/L
14808-79-8	Sulfate	28.1	2.00	4.00	mg/L

### EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.4J	0.30	2.0	mg/L

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	1.30J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	2.34J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	17.4	0.200	5.00	ug/L
79-01-6	Trichloroethene	6.01	0.200	5.00	ug/L

### EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	8.12	0.500	2.00	mg/L
14797-55-8	Nitrate	0.169J	0.100	0.200	mg/L

## Summary of Compounds Detected

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 9056A (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
14808-79-8	Sulfate	12.7	1.00	2.00	mg/L

EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.76J	0.30	2.0	mg/L

<b>DPMW-10</b>	Collect Date	09/10/2015 12:45	GCAL ID	21509111003
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	3.37J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.69J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	48.8	0.200	5.00	ug/L
79-01-6	Trichloroethene	4.08J	0.200	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	6.62	0.500	2.00	mg/L
14797-55-8	Nitrate	1.97	0.100	0.200	mg/L
14808-79-8	Sulfate	48.3	1.00	2.00	mg/L

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
75-34-3	1,1-Dichloroethane	0.549J	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	2.25J	0.200	5.00	ug/L
67-66-3	Chloroform	1.02J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	9.63	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	89.7	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
79-01-6	Trichloroethene	19.5	0.200	5.00	ug/L

EPA RSK-175

CAS#	Parameter	Result	DL	LOQ	Units
74-82-8	Methane	25.9	0.435	2.00	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	27.3	1.00	4.00	mg/L
14797-55-8	Nitrate	2.66	0.100	0.200	mg/L
14808-79-8	Sulfate	25.3	2.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.2J	0.30	2.0	mg/L

<b>DPMW-16</b>	Collect Date	09/10/2015 13:48	GCAL ID	21509111005
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
75-35-4	1,1-Dichloroethene	3.21J	1.00	25.0	ug/L
156-59-2	cis-1,2-Dichloroethene	30.7	1.00	25.0	ug/L
127-18-4	Tetrachloroethene	341	1.00	25.0	ug/L
79-01-6	Trichloroethene	84.8	1.00	25.0	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	36.8	1.00	4.00	mg/L
14797-55-8	Nitrate	2.86	0.100	0.200	mg/L

## Summary of Compounds Detected

<b>DPMW-16</b>	Collect Date	09/10/2015 13:48	GCAL ID	21509111005
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 9056A (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
14808-79-8	Sulfate	14.4	2.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.76J	0.30	2.0	mg/L

<b>TRIP BLANK-3</b>	Collect Date	09/10/2015 00:01	GCAL ID	21509111006
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
127-18-4	Tetrachloroethene	0.710J	0.200	5.00	ug/L
108-88-3	Toluene	1.92J	0.200	5.00	ug/L

## Sample Results

<b>JPMW-16</b>	Collect Date	09/10/2015 13:55	GCAL ID	21509111001
	Receive Date	09/11/2015 09:50	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/13/2015 14:10	BMC2	567554

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.400U	0.400	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.400U	0.400	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.400U	0.400	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.400U	0.400	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.400U	0.400	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.400U	0.400	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.400U	0.400	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.400U	0.400	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.400U	0.400	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.400U	0.400	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.400U	0.400	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.400U	0.400	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.400U	0.400	10.0	ug/L
78-93-3	2-Butanone	0.400U	0.400	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	2.00U	2.00	10.0	ug/L
591-78-6	2-Hexanone	1.00U	1.00	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.400U	0.400	10.0	ug/L
67-64-1	Acetone	1.00U	1.00	10.0	ug/L
71-43-2	Benzene	0.400U	0.400	10.0	ug/L
75-27-4	Bromodichloromethane	0.400U	0.400	10.0	ug/L
75-25-2	Bromoform	0.500U	0.500	10.0	ug/L
74-83-9	Bromomethane	1.00U	1.00	10.0	ug/L
75-15-0	Carbon disulfide	0.400U	0.400	10.0	ug/L
56-23-5	Carbon tetrachloride	0.500U	0.500	10.0	ug/L
108-90-7	Chlorobenzene	0.400U	0.400	10.0	ug/L
75-00-3	Chloroethane	0.500U	0.500	10.0	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>9.40J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.400U	0.400	10.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>23.2</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
110-82-7	Cyclohexane	1.00U	1.00	10.0	ug/L
124-48-1	Dibromochloromethane	0.400U	0.400	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.400U	0.400	10.0	ug/L
100-41-4	Ethylbenzene	0.400U	0.400	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.400U	0.400	10.0	ug/L
136777-61-2	m,p-Xylene	0.400U	0.400	20.0	ug/L
79-20-9	Methyl Acetate	2.00U	2.00	10.0	ug/L
108-87-2	Methylcyclohexane	0.400U	0.400	10.0	ug/L
75-09-2	Methylene chloride	0.400U	0.400	10.0	ug/L
95-47-6	o-Xylene	0.400U	0.400	10.0	ug/L
100-42-5	Styrene	0.400U	0.400	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.400U	0.400	10.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>226</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
108-88-3	Toluene	0.400U	0.400	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.400U	0.400	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>72.0</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.400U	0.400	10.0	ug/L

## Sample Results

<b>JPMW-16</b>	Collect Date	09/10/2015 13:55	GCAL ID	21509111001
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/13/2015 14:10	BMC2	567554

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.400U	0.400	10.0	ug/L
108-05-4	Vinyl acetate	0.400U	0.400	10.0	ug/L
75-01-4	Vinyl chloride	0.400U	0.400	10.0	ug/L
1330-20-7	Xylene (total)	0.800U	0.800	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	102	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	100	102	ug/L	102	77 - 127
2037-26-5	Toluene d8	100	104	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	101	ug/L	101	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 08:08	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	25.6	ug/L	63	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 16:47	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>3.32</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>



## Sample Results

<b>JPMW-16</b>	Collect Date	09/10/2015 13:55	GCAL ID	21509111001
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	09/11/2015 19:42	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	12.1	1.00	4.00	mg/L
14808-79-8	Sulfate	28.1	2.00	4.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 18:58	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.4J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 17:50	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 17:50	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.30J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.34J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>17.4</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>6.01</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 17:50	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	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	49.3	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	53.6	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.9	ug/L	92	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 08:23	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	31.8	ug/L	79	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 15:38	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>0.169J</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>DPMW-25</b>	Collect Date	09/10/2015 11:05	GCAL ID	21509111002
	Receive Date	09/11/2015 09:50	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/11/2015 17:57	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	8.12	0.500	2.00	mg/L
14808-79-8	Sulfate	12.7	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 19:23	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.76J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-10</b>	Collect Date	09/10/2015 12:45	GCAL ID	21509111003
	Receive Date	09/11/2015 09:50	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 18:09	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-10</b>	Collect Date	09/10/2015 12:45	GCAL ID	21509111003
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 18:09	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>3.37J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.69J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>48.8</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>4.08J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DPMW-10</b>	Collect Date	09/10/2015 12:45	GCAL ID	21509111003
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 18:09	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	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	49.7	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	52.4	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.6	ug/L	91	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 08:28	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	35.2	ug/L	87	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 16:13	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>1.97</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>DPMW-10</b>	Collect Date	09/10/2015 12:45	GCAL ID	21509111003
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/11/2015 19:07	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	6.62	0.500	2.00	mg/L
14808-79-8	Sulfate	48.3	1.00	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 19:48	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.30U	0.30	2.0	mg/L

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 18:28	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,1,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.549J	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	2.25J	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L

## Sample Results

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 18:28	BMC2	567525

CAS#	Parameter	Result	DL	LOQ	Units
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.02J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>9.63</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>89.7</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>19.5</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.9	ug/L	98	78 - 130
1868-53-7	Dibromofluoromethane	50	48.8	ug/L	98	77 - 127
2037-26-5	Toluene d8	50	52.6	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.9	ug/L	92	71 - 127



## Sample Results

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 08:34	BMR	567888	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
<b>74-82-8</b>	<b>Methane</b>			<b>25.9</b>	<b>0.435</b>	<b>2.00</b>	<b>ug/L</b>
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	25.5	ug/L	63	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/11/2015 15:55	RYC	567452	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>14797-55-8</b>	<b>Nitrate</b>			<b>2.66</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	20	09/11/2015 18:15	RYC	567452	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>16887-00-6</b>	<b>Chloride</b>			<b>27.3</b>	<b>1.00</b>	<b>4.00</b>	<b>mg/L</b>
<b>14808-79-8</b>	<b>Sulfate</b>			<b>25.3</b>	<b>2.00</b>	<b>4.00</b>	<b>mg/L</b>

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 21:50	JEM	567611	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>C-012</b>	<b>Total Organic Carbon</b>			<b>1.2J</b>	<b>0.30</b>	<b>2.0</b>	<b>mg/L</b>

## Sample Results

<b>DPMW-15</b>	Collect Date	09/10/2015 11:54	GCAL ID	21509111004
	Receive Date	09/11/2015 09:50	Matrix	Water

SM 4500-S2 F-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DPMW-16</b>	Collect Date	09/10/2015 13:48	GCAL ID	21509111005
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 17:50	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00U	1.00	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00U	1.00	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	1.00U	1.00	25.0	ug/L
75-34-3	1,1-Dichloroethane	1.00U	1.00	25.0	ug/L
<b>75-35-4</b>	<b>1,1-Dichloroethene</b>	<b>3.21J</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
120-82-1	1,2,4-Trichlorobenzene	1.00U	1.00	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00U	1.00	25.0	ug/L
106-93-4	1,2-Dibromoethane	1.00U	1.00	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	1.00U	1.00	25.0	ug/L
107-06-2	1,2-Dichloroethane	1.00U	1.00	25.0	ug/L
78-87-5	1,2-Dichloropropane	1.00U	1.00	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	1.00U	1.00	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	1.00U	1.00	25.0	ug/L
78-93-3	2-Butanone	1.00U	1.00	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	5.00U	5.00	25.0	ug/L
591-78-6	2-Hexanone	2.50U	2.50	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	1.00U	1.00	25.0	ug/L
67-64-1	Acetone	2.50U	2.50	25.0	ug/L
71-43-2	Benzene	1.00U	1.00	25.0	ug/L
75-27-4	Bromodichloromethane	1.00U	1.00	25.0	ug/L
75-25-2	Bromoform	1.25U	1.25	25.0	ug/L
74-83-9	Bromomethane	2.50U	2.50	25.0	ug/L
75-15-0	Carbon disulfide	1.00U	1.00	25.0	ug/L
56-23-5	Carbon tetrachloride	1.25U	1.25	25.0	ug/L
108-90-7	Chlorobenzene	1.00U	1.00	25.0	ug/L
75-00-3	Chloroethane	1.25U	1.25	25.0	ug/L
67-66-3	Chloroform	1.00U	1.00	25.0	ug/L
74-87-3	Chloromethane	1.00U	1.00	25.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>30.7</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
110-82-7	Cyclohexane	2.50U	2.50	25.0	ug/L
124-48-1	Dibromochloromethane	1.00U	1.00	25.0	ug/L
75-71-8	Dichlorodifluoromethane	1.00U	1.00	25.0	ug/L

## Sample Results

<b>DPMW-16</b>	Collect Date	09/10/2015 13:48	GCAL ID	21509111005
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 17:50	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
100-41-4	Ethylbenzene	1.00U	1.00	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00U	1.00	25.0	ug/L
136777-61-2	m,p-Xylene	1.00U	1.00	50.0	ug/L
79-20-9	Methyl Acetate	5.00U	5.00	25.0	ug/L
108-87-2	Methylcyclohexane	1.00U	1.00	25.0	ug/L
75-09-2	Methylene chloride	1.00U	1.00	25.0	ug/L
95-47-6	o-Xylene	1.00U	1.00	25.0	ug/L
100-42-5	Styrene	1.00U	1.00	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00U	1.00	25.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>341</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
108-88-3	Toluene	1.00U	1.00	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00U	1.00	25.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>84.8</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	1.00U	1.00	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	1.00U	1.00	25.0	ug/L
108-05-4	Vinyl acetate	1.00U	1.00	25.0	ug/L
75-01-4	Vinyl chloride	1.00U	1.00	25.0	ug/L
1330-20-7	Xylene (total)	2.00U	2.00	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	281	ug/L	112	78 - 130
1868-53-7	Dibromofluoromethane	250	252	ug/L	101	77 - 127
2037-26-5	Toluene d8	250	267	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	233	ug/L	93	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 08:39	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	32	ug/L	79	40 - 143

## Sample Results

<b>DPMW-16</b>	Collect Date	09/10/2015 13:48	GCAL ID	21509111005
	Receive Date	09/11/2015 09:50	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/11/2015 16:30	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
14797-55-8	Nitrate	2.86	0.100	0.200	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	09/11/2015 19:24	RYC	567452

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	36.8	1.00	4.00	mg/L
14808-79-8	Sulfate	14.4	2.00	4.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 22:20	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.76J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

## Sample Results

<b>TRIP BLANK-3</b>	Collect Date	09/10/2015 00:01	GCAL ID	21509111006
	Receive Date	09/11/2015 09:50	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 18:09	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>0.710J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
<b>108-88-3</b>	<b>Toluene</b>	<b>1.92J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-3</b>	Collect Date	09/10/2015 00:01	GCAL ID	21509111006
	Receive Date	09/11/2015 09:50	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 18:09	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53.9	ug/L	108	78 - 130
1868-53-7	Dibromofluoromethane	50	49.4	ug/L	99	77 - 127
2037-26-5	Toluene d8	50	52.7	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	44.1	ug/L	88	71 - 127

## GC/MS Volatiles QC Summary

Analytical Batch 567525		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567525 1485989 MB NA 09/12/2015 13:12 Water	LCS567525 1485990 LCS NA 09/12/2015 11:55 Water	LCSD567525 1485991 LCSD NA 09/12/2015 12:14 Water							
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	52.5	105	76 - 126	50.0	47.4	95	10	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	47.5	95	70 - 122	50.0	47.5	95	0	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	55.7	111	72 - 121	50.0	52.1	104	7	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	52.9	106	74 - 127	50.0	48.4	97	9	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	57.1	114	69 - 129	50.0	50.2	100	13	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	53.8	108	61 - 135	50.0	51.4	103	5	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	53.7	107	57 - 121	50.0	56.9	114	6	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	56.8	114	70 - 124	50.0	54.8	110	4	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	53.6	107	71 - 126	50.0	51.4	103	4	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	46.0	92	71 - 129	50.0	44.6	89	3	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	52.0	104	72 - 128	50.0	48.8	98	6	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	53.6	107	74 - 126	50.0	49.9	100	7	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	52.6	105	72 - 122	50.0	49.9	100	5	30
2-Butanone	78-93-3	0.200U	0.200	50.0	50.8	102	58 - 137	50.0	52.2	104	3	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	49.9	100	56 - 124	50.0	49.6	99	1	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	57.2	114	50 - 135	50.0	59.1	118	3	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	54.6	109	57 - 132	50.0	54.2	108	1	30
Acetone	67-64-1	0.500U	0.500	50.0	48.6	97	44 - 156	50.0	50.5	101	4	30
Benzene	71-43-2	0.200U	0.200	50.0	52.1	104	70 - 129	50.0	47.8	96	9	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	50.2	100	74 - 125	50.0	48.5	97	3	30
Bromoform	75-25-2	0.250U	0.250	50.0	52.4	105	64 - 122	50.0	53.9	108	3	30
Bromomethane	74-83-9	0.500U	0.500	50.0	59.5	119	47 - 138	50.0	50.7	101	16	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	56.0	112	69 - 136	50.0	49.6	99	12	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	50.4	101	76 - 128	50.0	45.3	91	11	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	54.3	109	74 - 123	50.0	50.3	101	8	20
Chloroethane	75-00-3	0.250U	0.250	50.0	52.6	105	62 - 141	50.0	45.8	92	14	30
Chloroform	67-66-3	0.200U	0.200	50.0	48.4	97	75 - 122	50.0	45.1	90	7	30
Chloromethane	74-87-3	0.200U	0.200	50.0	52.9	106	59 - 132	50.0	47.2	94	11	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	50.5	101	73 - 130	50.0	46.8	94	8	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	54.9	110	71 - 132	50.0	52.3	105	5	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	58.4	117	69 - 132	50.0	51.9	104	12	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	55.9	112	71 - 123	50.0	53.4	107	5	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	50.4	101	58 - 140	50.0	43.9	88	14	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	55.5	111	74 - 126	50.0	50.8	102	9	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	58.6	117	71 - 125	50.0	53.8	108	9	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	112	112	74 - 126	100	103	103	8	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	49.2	98	57 - 139	50.0	46.5	93	6	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	57.9	116	67 - 138	50.0	50.7	101	13	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	49.5	99	68 - 132	50.0	46.3	93	7	30
o-Xylene	95-47-6	0.200U	0.200	50.0	59.2	118	73 - 130	50.0	55.0	110	7	30
Styrene	100-42-5	0.200U	0.200	50.0	59.6	119	71 - 127	50.0	56.5	113	5	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	52.2	104	71 - 125	50.0	50.8	102	3	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	62.8	126	68 - 128	50.0	53.8	108	15	30
Toluene	108-88-3	0.200U	0.200	50.0	57.8	116	72 - 120	50.0	51.6	103	11	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	53.5	107	69 - 132	50.0	48.7	97	9	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	53.3	107	71 - 131	50.0	52.1	104	2	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	56.5	113	76 - 129	50.0	51.6	103	9	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	51.1	102	72 - 136	50.0	44.5	89	14	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	54.9	110	72 - 136	50.0	48.0	96	13	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	55.3	111	54 - 147	50.0	52.3	105	6	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	52.3	105	68 - 132	50.0	45.2	90	15	30
Xylene (total)	1330-20-7	0.400U	0.400	150	172	115	74 - 127	150	158	105	8	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	45.1	90	50	45.3	91	71 - 127	50	44.8	90	1	NA
4-Bromofluorobenzene	460-00-4	51.3	103	50	54.3	109	78 - 130	50	54.7	109	1	NA
Dibromofluoromethane	1868-53-7	48.7	97	50	48.7	97	77 - 127	50	48.9	98	0	NA
Toluene d8	2037-26-5	52.6	105	50	51.4	103	76 - 134	50	50.4	101	2	NA

## GC/MS Volatiles QC Summary

Analytical Batch 567554		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567554 1486044 MB NA 09/13/2015 12:50 Water	LCS567554 1486045 LCS NA 09/13/2015 11:21 Water	LCSD567554 1486046 LCSD NA 09/13/2015 11:40 Water							
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	54.6	109	76 - 126	50.0	51.7	103	5	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	43.2	86	70 - 122	50.0	45.6	91	5	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	49.3	99	72 - 121	50.0	52.2	104	6	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	51.9	104	74 - 127	50.0	50.3	101	3	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	56.1	112	69 - 129	50.0	51.5	103	9	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	50.1	100	61 - 135	50.0	50.9	102	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	48.2	96	57 - 121	50.0	50.9	102	5	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	50.9	102	70 - 124	50.0	53.4	107	5	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	51.1	102	71 - 126	50.0	51.0	102	0	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	49.0	98	71 - 129	50.0	49.4	99	1	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	48.8	98	72 - 128	50.0	49.0	98	0	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	51.4	103	74 - 126	50.0	50.1	100	3	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	50.9	102	72 - 122	50.0	49.8	100	2	30
2-Butanone	78-93-3	0.200U	0.200	50.0	46.0	92	58 - 137	50.0	49.6	99	8	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	40.6	81	56 - 124	50.0	43.3	87	6	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	48.1	96	50 - 135	50.0	54.0	108	12	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	45.5	91	57 - 132	50.0	50.7	101	11	30
Acetone	67-64-1	0.500U	0.500	50.0	45.8	92	44 - 156	50.0	51.4	103	12	30
Benzene	71-43-2	0.200U	0.200	50.0	50.2	100	70 - 129	50.0	48.5	97	3	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	51.2	102	74 - 125	50.0	51.0	102	0	30
Bromoform	75-25-2	0.250U	0.250	50.0	50.9	102	64 - 122	50.0	54.3	109	6	30
Bromomethane	74-83-9	0.500U	0.500	50.0	55.5	111	47 - 138	50.0	53.0	106	5	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	54.7	109	69 - 136	50.0	51.0	102	7	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	53.4	107	76 - 128	50.0	49.8	100	7	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	51.4	103	74 - 123	50.0	51.1	102	1	20
Chloroethane	75-00-3	0.250U	0.250	50.0	53.5	107	62 - 141	50.0	50.4	101	6	30
Chloroform	67-66-3	0.200U	0.200	50.0	49.4	99	75 - 122	50.0	48.6	97	2	30
Chloromethane	74-87-3	0.200U	0.200	50.0	53.5	107	59 - 132	50.0	51.8	104	3	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	49.6	99	73 - 130	50.0	48.6	97	2	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	52.7	105	71 - 132	50.0	53.9	108	2	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	56.0	112	69 - 132	50.0	51.5	103	8	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	51.1	102	71 - 123	50.0	53.6	107	5	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	54.6	109	58 - 140	50.0	49.5	99	10	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	53.1	106	74 - 126	50.0	51.2	102	4	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	56.4	113	71 - 125	50.0	54.0	108	4	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	107	107	74 - 126	100	104	104	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	42.4	85	57 - 139	50.0	46.7	93	10	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	55.4	111	67 - 138	50.0	51.3	103	8	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	48.6	97	68 - 132	50.0	47.9	96	1	30
o-Xylene	95-47-6	0.200U	0.200	50.0	55.8	112	73 - 130	50.0	55.2	110	1	30
Styrene	100-42-5	0.200U	0.200	50.0	56.8	114	71 - 127	50.0	56.2	112	1	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	50.9	102	71 - 125	50.0	53.3	107	5	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	56.1	112	68 - 128	50.0	54.4	109	3	30
Toluene	108-88-3	0.200U	0.200	50.0	52.9	106	72 - 120	50.0	51.6	103	2	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	53.2	106	69 - 132	50.0	50.8	102	5	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	52.7	105	71 - 131	50.0	54.7	109	4	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	55.3	111	76 - 129	50.0	53.3	107	4	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	54.1	108	72 - 136	50.0	50.1	100	8	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	53.5	107	72 - 136	50.0	49.8	100	7	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	49.5	99	54 - 147	50.0	49.2	98	1	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	50.8	102	68 - 132	50.0	46.0	92	10	30
Xylene (total)	1330-20-7	0.400U	0.400	150	163	109	74 - 127	150	159	106	2	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	47.8	96	50	47.2	94	71 - 127	50	47.8	96	1	NA
4-Bromofluorobenzene	460-00-4	50.1	100	50	52.7	105	78 - 130	50	54.6	109	4	NA
Dibromofluoromethane	1868-53-7	50	100	50	49.6	99	77 - 127	50	50.2	100	1	NA
Toluene d8	2037-26-5	51.8	104	50	49	98	76 - 134	50	49.5	99	1	NA



## GC/MS Volatiles QC Summary

Analytical Batch 567731		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567731 1487174 MB NA 09/15/2015 12:31 Water	LCS567731 1487175 LCS NA 09/15/2015 11:13 Water	LCSD567731 1487176 LCSD NA 09/15/2015 11:32 Water							
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	53.5	107	76 - 126	50.0	54.8	110	2	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	44.7	89	70 - 122	50.0	48.0	96	7	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	54.1	108	72 - 121	50.0	58.2	116	7	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	50.4	101	74 - 127	50.0	51.5	103	2	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	56.7	113	69 - 129	50.0	53.2	106	6	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	52.8	106	61 - 135	50.0	53.8	108	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	52.0	104	57 - 121	50.0	57.8	116	11	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	54.5	109	70 - 124	50.0	58.6	117	7	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	52.8	106	71 - 126	50.0	53.4	107	1	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	47.7	95	71 - 129	50.0	49.0	98	3	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	48.7	97	72 - 128	50.0	49.9	100	2	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	52.0	104	74 - 126	50.0	52.6	105	1	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	51.9	104	72 - 122	50.0	53.3	107	3	30
2-Butanone	78-93-3	0.200U	0.200	50.0	46.9	94	58 - 137	50.0	52.6	105	11	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	47.2	94	56 - 124	50.0	49.4	99	5	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	49.8	100	50 - 135	50.0	56.6	113	13	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	48.1	96	57 - 132	50.0	54.5	109	12	30
Acetone	67-64-1	0.500U	0.500	50.0	45.0	90	44 - 156	50.0	50.2	100	11	30
Benzene	71-43-2	0.200U	0.200	50.0	49.7	99	70 - 129	50.0	51.1	102	3	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	51.4	103	74 - 125	50.0	53.4	107	4	30
Bromoform	75-25-2	0.250U	0.250	50.0	54.8	110	64 - 122	50.0	58.4	117	6	30
Bromomethane	74-83-9	0.500U	0.500	50.0	57.0	114	47 - 138	50.0	56.7	113	1	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	53.7	107	69 - 136	50.0	53.4	107	1	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	53.3	107	76 - 128	50.0	54.3	109	2	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	52.8	106	74 - 123	50.0	54.6	109	3	20
Chloroethane	75-00-3	0.250U	0.250	50.0	52.8	106	62 - 141	50.0	51.8	104	2	30
Chloroform	67-66-3	0.200U	0.200	50.0	49.1	98	75 - 122	50.0	49.8	100	1	30
Chloromethane	74-87-3	0.200U	0.200	50.0	49.7	99	59 - 132	50.0	48.8	98	2	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	48.5	97	73 - 130	50.0	49.6	99	2	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	54.1	108	71 - 132	50.0	54.5	109	1	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	55.7	111	69 - 132	50.0	55.6	111	0	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	55.3	111	71 - 123	50.0	59.3	119	7	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	53.2	106	58 - 140	50.0	52.2	104	2	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	53.6	107	74 - 126	50.0	56.3	113	5	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	56.7	113	71 - 125	50.0	59.1	118	4	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	108	108	74 - 126	100	113	113	5	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	45.6	91	57 - 139	50.0	49.1	98	7	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	57.9	116	67 - 138	50.0	57.9	116	0	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	47.2	94	68 - 132	50.0	47.1	94	0	30
o-Xylene	95-47-6	0.200U	0.200	50.0	56.3	113	73 - 130	50.0	59.7	119	6	30
Styrene	100-42-5	0.200U	0.200	50.0	58.4	117	71 - 127	50.0	60.9	122	4	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	52.2	104	71 - 125	50.0	54.4	109	4	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	61.1	122	68 - 128	50.0	61.5	123	1	30
Toluene	108-88-3	0.200U	0.200	50.0	54.8	110	72 - 120	50.0	56.7	113	3	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	51.6	103	69 - 132	50.0	52.1	104	1	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	53.8	108	71 - 131	50.0	55.2	110	3	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	56.8	114	76 - 129	50.0	58.5	117	3	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	54.3	109	72 - 136	50.0	54.2	108	0	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	55.3	111	72 - 136	50.0	54.6	109	1	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	48.6	97	54 - 147	50.0	49.6	99	2	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	48.7	97	68 - 132	50.0	48.7	97	0	30
Xylene (total)	1330-20-7	0.400U	0.400	150	164	109	74 - 127	150	173	115	5	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	46	92	50	46.2	92	71 - 127	50	46.5	93	1	NA
4-Bromofluorobenzene	460-00-4	52.2	104	50	55.8	112	78 - 130	50	56.7	113	2	NA
Dibromofluoromethane	1868-53-7	50.6	101	50	50.6	101	77 - 127	50	51.2	102	1	NA
Toluene d8	2037-26-5	52.9	106	50	51	102	76 - 134	50	51.4	103	1	NA

## GC Volatiles QC Summary

<b>Analytical Batch</b> 567888		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567888 1488384 MB NA 09/17/2015 07:27 Water	LCS567888 1488385 LCS NA 09/17/2015 07:46 Water				LCSD567888 1488386 LCSD NA 09/17/2015 07:51 Water					
<b>EPA RSK-175</b>			Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.110U	0.110	3.28	2.95	90	45 - 128	3.28	2.99	91	1	29	
Ethene	74-85-1	0.150U	0.150	3.06	2.66	87	45 - 134	3.06	2.69	88	1	25	
Methane	74-82-8	0.435U	0.435	17.5	14.9	85	39 - 120	17.5	15.1	86	1	27	
<b>Surrogate</b>													
Propene	115-07-1	28.7	71	40.5	27	67	40 - 143	40.5	26.8	66	1	NA	

## General Chemistry QC Summary

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567630 1486260 MB NA 09/14/2015 13:26 Water	LCS567630 1486261 LCS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	24.1	96	80 - 120

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDR-2 21509101003 SAMPLE NA 09/14/2015 13:26 Water	1485278MS 1486262 MS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	22.4	90	75 - 125

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-10 21509101007 SAMPLE NA 09/14/2015 13:26 Water	1485282DUP 1486263 DUP NA 09/14/2015 13:26 Water			
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

<b>Analytical Batch</b> 567452	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567452 1485722 MB NA 09/11/2015 15:20 Water	LCS567452 1485723 LCS NA 09/11/2015 15:03 Water				
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.066J	0.050	2.50	2.28	91	80 - 120
Nitrate	14797-55-8	0.100U	0.100	2.50	2.32	93	80 - 120
Sulfate	14808-79-8	0.100U	0.100	2.50	2.39	96	80 - 120

<b>Analytical Batch</b> 567452	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW16S 21509110401 SAMPLE NA 09/11/2015 17:05 Water	1485575MS 1485724 MS NA 09/11/2015 17:22 Water	1485575MSD 1485725 MSD NA 09/11/2015 17:40 Water								
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	0.000	0.100	2.50	2.40	96	80 - 120	2.50	2.38	95	1	15
Sulfate	14808-79-8	2.79	0.100	2.50	5.24	98	80 - 120	2.50	5.30	101	1	15

## General Chemistry QC Summary

<b>Analytical Batch</b> 567611		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567611 1486212 MB NA 09/14/2015 17:08 Water	LCS567611 1486213 LCS NA 09/14/2015 16:08 Water					
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R		
Total Organic Carbon	C-012	0.94J	0.30	50.0	48.7	97	80 - 120		

<b>Analytical Batch</b> 567611		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW16S 21509110401 SAMPLE NA 09/14/2015 17:42 Water	1485575MS 1486214 MS NA 09/14/2015 18:08 Water	1485575MSD 1486215 MSD NA 09/14/2015 18:32 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	14.9	1.5	250	256	97	75 - 125	250	258	97	1	25

<b>Analytical Batch</b> 567611		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	RPMW-14 21509120304 SAMPLE NA 09/15/2015 00:37 Water	1485909MS 1486216 MS NA 09/15/2015 01:02 Water	1485909MSD 1486217 MSD NA 09/15/2015 01:30 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.75	0.30	50.0	51.8	102	75 - 125	50.0	53.9	106	4	25



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

# CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.

SDG: 215091110



**Report to:**  
 Client: AMEC Foster Wheeler  
 Address: 1075 Old Shattuck Rd  
 Suite 100 Kenner, LA 70144  
 Contact: Greg Wilson  
 Phone: 770-421-3400  
 E-mail:

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

P.O. Number:   
 Project Name/Number: Woodall Creek  
 Sampled By: Ever G. Mackley, Daniel M.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers	var Nitrates	var Nitrite/Sulfate	var Sulfide	Hel VOCs	Hel nPPhane, Ethane, Ethene	Hel TOC
W	9/10/15	1355		✓	OPMW-16	10	1	1	3	2	2	2
W	9/10/15	1105		✓	OPMW-25	10	1	1	3	2	2	2
W	9/10/15	1245		✓	OPMW-10	10	1	1	3	2	2	2
W	9/10/15	1154		✓	OPMW-15	10	1	1	3	2	2	2
W	9/10/15	1344		✓	OPMW-16	10	1	1	3	2	2	2
W	9/10/15			✓	TRIP Blmk-3	3			3			

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

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

**Received by (Signature):** *John m* Date: 9/10/15 Time: 1700  
**Received by (Signature):** *John m* Date: 9/10/15 Time: 0950  
**Received by (Signature):** *John m* Date: 9/11/15 Time: 0950  
**Received by (Signature):** *John m* Date: 9/11/15 Time: 0950

**Preservative:** -1, -2, -3\*, -4, -5, -6

**GICAL use only:**  
 Custody Seal used  yes  no  
 intact  yes  no  
 Temperature °C 3.5  
 Dissolved Analysis Requested  
 Field filtered  
 Lab filtered

**Note:** \* Sample container for Sulfide leaked in transit, not enough remaining for analysis. RCH 09/11/15

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

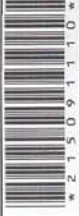
We cannot accept verbal changes. Please email written changes to your PM.

\*Requires prior approval, rush charges may apply.

WHITE: CLIENT FINAL REPORT - CAMARY: CLIENT



## SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091110		CHECKLIST		
Client	Transport Method	YES	NO	NA
PM RCH2 4829 - AMEC Environment & Infrastructure, Inc.	FEDEX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profile Number 249065	Received By Lofton, Katie E.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/11/15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper thermal preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When used, were all custody seals intact?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received in proper containers?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper chemical preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was preservative added to any container at the lab?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all containers received in good condition?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all VOA vials received with no head space?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do all sample labels match the Chain of Custody?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the Chain of Custody list the sampling technician?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the COC maintained i.e. all signatures, dates and time of receipt included?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COOLERS	LAB PRESERVATIONS				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Airbill</td> <td style="width: 50%;">Thermometer ID: E26</td> </tr> <tr> <td>7744 2121 1481</td> <td>Temp(°C) 3.5</td> </tr> </table>	Airbill	Thermometer ID: E26	7744 2121 1481	Temp(°C) 3.5	<p>None</p>
Airbill	Thermometer ID: E26				
7744 2121 1481	Temp(°C) 3.5				
<b>DISCREPANCIES</b> 21509111003 - DPMW-10: Sample Discrepancy					

<b>NOTES</b>	Sulfide container received open
--------------	---------------------------------

# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/18/2015

GCAL Report 215091203



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I



## 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

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

### Reporting Flags that may be Utilized in this Report

<b>J or I</b>	Indicates the result is between the MDL and LOQ
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank
<b>Q</b>	Indicates a non-compliant QC Result (See Q Flag Application Report)
<b>*</b>	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 Melrine/Mng Data Del

Authorized Signature  
GCAL Report 215091203



## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091203

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 21509120304 (RPMW-14) 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 21509120303 (JPMW-17), 21509120305 (JPBRW-1), 21509120301 (JPMW-21), 21509120302 (JPMW-22) and 21509120304 (RPMW-14) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509120301	JPMW-21	Water	09/11/2015 11:30	09/12/2015 09:43
21509120302	JPMW-22	Water	09/11/2015 14:27	09/12/2015 09:43
21509120303	JPMW-17	Water	09/11/2015 11:00	09/12/2015 09:43
21509120304	RPMW-14	Water	09/11/2015 14:50	09/12/2015 09:43
21509120305	JPBRW-1	Water	09/11/2015 11:20	09/12/2015 09:43
21509120306	TRIP BLANK-4	Water	09/11/2015 00:01	09/12/2015 09:43
21509120307	EB-1	Water	09/11/2015 12:30	09/12/2015 09:43

## Summary of Compounds Detected

<b>JPMW-21</b>	Collect Date	09/11/2015 11:30	GCAL ID	21509120301
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
75-27-4	Bromodichloromethane	0.725J	0.200	5.00	ug/L
67-66-3	Chloroform	6.12	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	15.2	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	93.9	0.200	5.00	ug/L
79-01-6	Trichloroethene	14.0	0.200	5.00	ug/L

### EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	17.8	0.500	2.00	mg/L
14797-55-8	Nitrate	2.62	0.100	0.200	mg/L
14808-79-8	Sulfate	25.4	1.00	2.00	mg/L

### EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.1J	0.30	2.0	mg/L

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
75-34-3	1,1-Dichloroethane	0.754J	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	2.16J	0.200	5.00	ug/L
71-43-2	Benzene	4.58J	0.200	5.00	ug/L
67-66-3	Chloroform	1.73J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	15.3	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	118	0.200	5.00	ug/L
79-01-6	Trichloroethene	17.6	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA RSK-175

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	1.13	0.110	1.00	ug/L
74-82-8	Methane	2.21	0.435	2.00	ug/L

### EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	16.1	0.500	2.00	mg/L
14797-55-8	Nitrate	1.92	0.100	0.200	mg/L
14808-79-8	Sulfate	30.0	1.00	2.00	mg/L

### EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.67J	0.30	2.0	mg/L

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	1.09J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	1.30J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	45.1	0.200	5.00	ug/L
79-01-6	Trichloroethene	5.82	0.200	5.00	ug/L

### EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	9.50	0.500	2.00	mg/L
14797-55-8	Nitrate	3.28	0.100	0.200	mg/L
14808-79-8	Sulfate	37.3	1.00	2.00	mg/L

## Summary of Compounds Detected

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.54J	0.30	2.0	mg/L

<b>RPMW-14</b>	Collect Date	09/11/2015 14:50	GCAL ID	21509120304
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	10.6J	2.00	50.0	ug/L
127-18-4	Tetrachloroethene	1320	2.00	50.0	ug/L
79-01-6	Trichloroethene	390	2.00	50.0	ug/L

**EPA RSK-175**

CAS#	Parameter	Result	DL	LOQ	Units
74-82-8	Methane	0.953J	0.435	2.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	22.0	0.500	2.00	mg/L
14797-55-8	Nitrate	4.82	0.500	1.00	mg/L
14808-79-8	Sulfate	32.3	1.00	2.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.75J	0.30	2.0	mg/L

## Summary of Compounds Detected

<b>JPBRW-1</b>	Collect Date	09/11/2015 11:20	GCAL ID	21509120305
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
78-93-3	2-Butanone	1.32J	0.200	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	1.41J	0.200	5.00	ug/L
67-64-1	Acetone	7.84	0.500	5.00	ug/L
71-43-2	Benzene	0.401J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	6.19	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	6.40	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.868J	0.200	5.00	ug/L
79-01-6	Trichloroethene	6.57	0.200	5.00	ug/L

**EPA RSK-175**

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.838J	0.110	1.00	ug/L
74-85-1	Ethene	6.31	0.150	1.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	35.4	0.500	2.00	mg/L
14808-79-8	Sulfate	17.8	1.00	2.00	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	6.9	0.30	2.0	mg/L

<b>TRIP BLANK-4</b>	Collect Date	09/11/2015 00:01	GCAL ID	21509120306
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	2.18J	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>EB-1</b>	Collect Date	09/11/2015 12:30	GCAL ID	21509120307
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	0.748J	0.200	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	0.064J	0.050	0.200	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.2J	0.30	2.0	mg/L

## Sample Results

<b>JPMW-21</b>	Collect Date	09/11/2015 11:30	GCAL ID	21509120301
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:19	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
<b>75-27-4</b>	<b>Bromodichloromethane</b>	<b>0.725J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>6.12</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>15.2</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>93.9</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>14.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L



## Sample Results

<b>JPMW-21</b>	Collect Date	09/11/2015 11:30	GCAL ID	21509120301
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:19	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.1	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	51.2	ug/L	102	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	09/17/2015 08:42	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	33.3	ug/L	82	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 21:07	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>2.62</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>JPMW-21</b>	Collect Date	09/11/2015 11:30	GCAL ID	21509120301
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/13/2015 13:45	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	17.8	0.500	2.00	mg/L
14808-79-8	Sulfate	25.4	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 22:44	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.1J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:39	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.754J	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	2.16J	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:39	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
<b>71-43-2</b>	<b>Benzene</b>	<b>4.58J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.73J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>15.3</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>118</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>17.6</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 14:39	JCK	567620	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			0.400U	0.400	15.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		50	50.6	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane		50	50.9	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	48.2	ug/L	96	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 08:51	BMR	567888	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			1.13	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			2.21	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	40.5	ug/L	100	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/12/2015 21:42	DMT	567544	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			1.92	0.100	0.200	mg/L

## Sample Results

<b>JPMW-22</b>	Collect Date	09/11/2015 14:27	GCAL ID	21509120302
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	10	09/13/2015 14:03	DMT	567544	
CAS#	Parameter			Result	DL	LOQ	Units
16887-00-6	Chloride			16.1	0.500	2.00	mg/L
14808-79-8	Sulfate			30.0	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 23:11	JEM	567611	
CAS#	Parameter			Result	DL	LOQ	Units
C-012	Total Organic Carbon			0.67J	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	09/14/2015 13:26	WRR	567630	
CAS#	Parameter			Result	DL	LOQ	Units
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 14:59	JCK	567620	
CAS#	Parameter			Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane			0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane			0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane			0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane			0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene			0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene			0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane			0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane			0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene			0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane			0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:59	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.09J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.30J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>45.1</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>5.82</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 14:59	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.2	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	51.3	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.2	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.5	ug/L	97	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 08:59	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	26.4	ug/L	65	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/12/2015 20:32	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>3.28</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>JPMW-17</b>	Collect Date	09/11/2015 11:00	GCAL ID	21509120303
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/13/2015 13:10	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	9.50	0.500	2.00	mg/L
14808-79-8	Sulfate	37.3	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 23:41	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.54J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>RPMW-14</b>	Collect Date	09/11/2015 14:50	GCAL ID	21509120304
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/14/2015 16:19	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	2.00U	2.00	50.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.00U	2.00	50.0	ug/L
79-00-5	1,1,2-Trichloroethane	2.00U	2.00	50.0	ug/L
75-34-3	1,1-Dichloroethane	2.00U	2.00	50.0	ug/L
75-35-4	1,1-Dichloroethene	2.00U	2.00	50.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	2.00U	2.00	50.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	2.00U	2.00	50.0	ug/L
106-93-4	1,2-Dibromoethane	2.00U	2.00	50.0	ug/L
95-50-1	1,2-Dichlorobenzene	2.00U	2.00	50.0	ug/L
107-06-2	1,2-Dichloroethane	2.00U	2.00	50.0	ug/L



## Sample Results

<b>RPMW-14</b>	Collect Date	09/11/2015 14:50	GCAL ID	21509120304
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/14/2015 16:19	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	2.00U	2.00	50.0	ug/L
541-73-1	1,3-Dichlorobenzene	2.00U	2.00	50.0	ug/L
106-46-7	1,4-Dichlorobenzene	2.00U	2.00	50.0	ug/L
78-93-3	2-Butanone	2.00U	2.00	50.0	ug/L
110-75-8	2-Chloroethylvinyl ether	10.0U	10.0	50.0	ug/L
591-78-6	2-Hexanone	5.00U	5.00	50.0	ug/L
108-10-1	4-Methyl-2-pentanone	2.00U	2.00	50.0	ug/L
67-64-1	Acetone	5.00U	5.00	50.0	ug/L
71-43-2	Benzene	2.00U	2.00	50.0	ug/L
75-27-4	Bromodichloromethane	2.00U	2.00	50.0	ug/L
75-25-2	Bromoform	2.50U	2.50	50.0	ug/L
74-83-9	Bromomethane	5.00U	5.00	50.0	ug/L
75-15-0	Carbon disulfide	2.00U	2.00	50.0	ug/L
56-23-5	Carbon tetrachloride	2.50U	2.50	50.0	ug/L
108-90-7	Chlorobenzene	2.00U	2.00	50.0	ug/L
75-00-3	Chloroethane	2.50U	2.50	50.0	ug/L
67-66-3	Chloroform	2.00U	2.00	50.0	ug/L
74-87-3	Chloromethane	2.00U	2.00	50.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>10.6J</b>	<b>2.00</b>	<b>50.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	2.00U	2.00	50.0	ug/L
110-82-7	Cyclohexane	5.00U	5.00	50.0	ug/L
124-48-1	Dibromochloromethane	2.00U	2.00	50.0	ug/L
75-71-8	Dichlorodifluoromethane	2.00U	2.00	50.0	ug/L
100-41-4	Ethylbenzene	2.00U	2.00	50.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	2.00U	2.00	50.0	ug/L
136777-61-2	m,p-Xylene	2.00U	2.00	100	ug/L
79-20-9	Methyl Acetate	10.0U	10.0	50.0	ug/L
108-87-2	Methylcyclohexane	2.00U	2.00	50.0	ug/L
75-09-2	Methylene chloride	2.00U	2.00	50.0	ug/L
95-47-6	o-Xylene	2.00U	2.00	50.0	ug/L
100-42-5	Styrene	2.00U	2.00	50.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	2.00U	2.00	50.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>1320</b>	<b>2.00</b>	<b>50.0</b>	<b>ug/L</b>
108-88-3	Toluene	2.00U	2.00	50.0	ug/L
156-60-5	trans-1,2-Dichloroethene	2.00U	2.00	50.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	2.00U	2.00	50.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>390</b>	<b>2.00</b>	<b>50.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	2.00U	2.00	50.0	ug/L
76-13-1	Trichlorotrifluoroethane	2.00U	2.00	50.0	ug/L
108-05-4	Vinyl acetate	2.00U	2.00	50.0	ug/L
75-01-4	Vinyl chloride	2.00U	2.00	50.0	ug/L

## Sample Results

<b>RPMW-14</b>	Collect Date	09/11/2015 14:50	GCAL ID	21509120304
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/14/2015 16:19	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	4.00U	4.00	150	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	509	ug/L	102	78 - 130
1868-53-7	Dibromofluoromethane	500	515	ug/L	103	77 - 127
2037-26-5	Toluene d8	500	523	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	500	489	ug/L	98	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 09:08	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
<b>74-82-8</b>	<b>Methane</b>	<b>0.953J</b>	<b>0.435</b>	<b>2.00</b>	<b>ug/L</b>

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	29.5	ug/L	73	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/13/2015 11:26	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>4.82</b>	<b>0.500</b>	<b>1.00</b>	<b>mg/L</b>

## Sample Results

<b>RPMW-14</b>	Collect Date	09/11/2015 14:50	GCAL ID	21509120304
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/13/2015 12:18	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	22.0	0.500	2.00	mg/L
14808-79-8	Sulfate	32.3	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 00:37	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.75J	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>JPBRW-1</b>	Collect Date	09/11/2015 11:20	GCAL ID	21509120305
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:18	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPBRW-1</b>	Collect Date	09/11/2015 11:20	GCAL ID	21509120305
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:18	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
<b>78-93-3</b>	<b>2-Butanone</b>	<b>1.32J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
<b>108-10-1</b>	<b>4-Methyl-2-pentanone</b>	<b>1.41J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
<b>67-64-1</b>	<b>Acetone</b>	<b>7.84</b>	<b>0.500</b>	<b>5.00</b>	<b>ug/L</b>
<b>71-43-2</b>	<b>Benzene</b>	<b>0.401J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>6.19</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>6.40</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
<b>156-60-5</b>	<b>trans-1,2-Dichloroethene</b>	<b>0.868J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>6.57</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>JPBRW-1</b>	Collect Date	09/11/2015 11:20	GCAL ID	21509120305
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/14/2015 15:18	JCK	567620	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			0.400U	0.400	15.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		50	50.5	ug/L	101	78 - 130
1868-53-7	Dibromofluoromethane		50	51.1	ug/L	102	77 - 127
2037-26-5	Toluene d8		50	53.6	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4		50	47.3	ug/L	95	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 09:13	BMR	567888	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.838J	0.110	1.00	ug/L
74-85-1	Ethene			6.31	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	40.7	ug/L	100	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/12/2015 20:49	DMT	567544	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			0.100U	0.100	0.200	mg/L

## Sample Results

<b>JPBRW-1</b>	Collect Date	09/11/2015 11:20	GCAL ID	21509120305
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/13/2015 13:28	DMT	567544

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	35.4	0.500	2.00	mg/L
14808-79-8	Sulfate	17.8	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 04:05	JEM	567611

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	6.9	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	09/14/2015 13:26	WRR	567630

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>TRIP BLANK-4</b>	Collect Date	09/11/2015 00:01	GCAL ID	21509120306
	Receive Date	09/12/2015 09:43	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:37	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-4</b>	Collect Date	09/11/2015 00:01	GCAL ID	21509120306
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:37	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>2.18J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-4</b>	Collect Date	09/11/2015 00:01	GCAL ID	21509120306
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:37	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.2	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	50.3	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	52.9	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.4	ug/L	93	71 - 127

<b>EB-1</b>	Collect Date	09/11/2015 12:30	GCAL ID	21509120307
	Receive Date	09/12/2015 09:43	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:57	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L



## Sample Results

<b>EB-1</b>	Collect Date	09/11/2015 12:30	GCAL ID	21509120307
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/14/2015 15:57	JCK	567620

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>0.748J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.1	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane	50	49.8	ug/L	100	77 - 127
2037-26-5	Toluene d8	50	51.8	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	47.9	ug/L	96	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 09:25	BMR	567888

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L

## Sample Results

<b>EB-1</b>	Collect Date	09/11/2015 12:30	GCAL ID	21509120307
	Receive Date	09/12/2015 09:43	Matrix	Water

### EPA RSK-175 (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 09:25	BMR	567888	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	34.1	ug/L	84	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/12/2015 21:24	DMT	567544	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			0.064J	0.050	0.200	mg/L
14797-55-8	Nitrate			0.100U	0.100	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	09/15/2015 05:55	JEM	567611	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
C-012	Total Organic Carbon			1.2J	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	09/14/2015 13:26	WRR	567630	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB567620	LCS567620			LCSD567620					
567620		GCAL ID	1486232	1486233			1486234					
		Sample Type	MB	LCS			LCSD					
		Prep Date	NA	NA			NA					
		Analysis Date	09/14/2015 11:37	09/14/2015 10:18			09/14/2015 10:38					
		Matrix	Water	Water			Water					
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	53.8	108	76 - 126	50.0	52.1	104	3	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	42.2	84	70 - 122	50.0	43.7	87	3	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	51.5	103	72 - 121	50.0	51.5	103	0	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	50.8	102	74 - 127	50.0	49.5	99	3	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	54.4	109	69 - 129	50.0	51.9	104	5	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	51.4	103	61 - 135	50.0	50.5	101	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	48.5	97	57 - 121	50.0	52.9	106	9	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	52.7	105	70 - 124	50.0	53.4	107	1	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	50.1	100	71 - 126	50.0	50.5	101	1	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	49.0	98	71 - 129	50.0	47.8	96	2	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	49.0	98	72 - 128	50.0	46.9	94	4	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	50.3	101	74 - 126	50.0	50.0	100	1	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	50.5	101	72 - 122	50.0	49.9	100	1	30
2-Butanone	78-93-3	0.200U	0.200	50.0	45.4	91	58 - 137	50.0	48.1	96	6	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	46.7	93	56 - 124	50.0	46.8	94	0	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	48.6	97	50 - 135	50.0	51.2	102	5	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	47.1	94	57 - 132	50.0	49.5	99	5	30
Acetone	67-64-1	0.500U	0.500	50.0	45.8	92	44 - 156	50.0	46.9	94	2	30
Benzene	71-43-2	0.200U	0.200	50.0	49.4	99	70 - 129	50.0	47.6	95	4	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	50.7	101	74 - 125	50.0	49.7	99	2	30
Bromoform	75-25-2	0.250U	0.250	50.0	52.3	105	64 - 122	50.0	53.7	107	3	30
Bromomethane	74-83-9	0.500U	0.500	50.0	52.2	104	47 - 138	50.0	52.1	104	0	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	52.7	105	69 - 136	50.0	51.3	103	3	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	53.2	106	76 - 128	50.0	51.0	102	4	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	51.4	103	74 - 123	50.0	50.1	100	3	20
Chloroethane	75-00-3	0.250U	0.250	50.0	50.9	102	62 - 141	50.0	48.7	97	4	30
Chloroform	67-66-3	0.200U	0.200	50.0	48.7	97	75 - 122	50.0	47.7	95	2	30
Chloromethane	74-87-3	0.200U	0.200	50.0	51.1	102	59 - 132	50.0	48.0	96	6	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	49.2	98	73 - 130	50.0	47.3	95	4	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	52.7	105	71 - 132	50.0	52.1	104	1	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	56.0	112	69 - 132	50.0	53.0	106	6	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	53.3	107	71 - 123	50.0	53.3	107	0	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	53.5	107	58 - 140	50.0	50.8	102	5	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	52.5	105	74 - 126	50.0	50.8	102	3	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	55.7	111	71 - 125	50.0	54.8	110	2	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	107	107	74 - 126	100	104	104	3	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	42.3	85	57 - 139	50.0	44.7	89	6	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	57.0	114	67 - 138	50.0	53.3	107	7	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	48.2	96	68 - 132	50.0	46.2	92	4	30
o-Xylene	95-47-6	0.200U	0.200	50.0	55.0	110	73 - 130	50.0	54.9	110	0	30
Styrene	100-42-5	0.200U	0.200	50.0	57.0	114	71 - 127	50.0	56.0	112	2	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	51.4	103	71 - 125	50.0	51.2	102	0	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	57.7	115	68 - 128	50.0	55.0	110	5	30
Toluene	108-88-3	0.200U	0.200	50.0	53.2	106	72 - 120	50.0	51.7	103	3	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	51.8	104	69 - 132	50.0	49.4	99	5	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	53.0	106	71 - 131	50.0	52.2	104	2	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	54.8	110	76 - 129	50.0	52.5	105	4	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	53.3	107	72 - 136	50.0	51.4	103	4	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	55.1	110	72 - 136	50.0	52.1	104	6	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	52.1	104	54 - 147	50.0	49.7	99	5	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	48.0	96	68 - 132	50.0	46.1	92	4	30
Xylene (total)	1330-20-7	0.400U	0.400	150	162	108	74 - 127	150	158	105	3	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	48.6	97	50	46.7	93	71 - 127	50	47	94	1	NA
4-Bromofluorobenzene	460-00-4	52.1	104	50	54.8	110	78 - 130	50	55.3	111	1	NA
Dibromofluoromethane	1868-53-7	50.7	101	50	50.5	101	77 - 127	50	50	100	1	NA
Toluene d8	2037-26-5	51.6	103	50	50.3	101	76 - 134	50	49.7	99	1	NA

## GC Volatiles QC Summary

<b>Analytical Batch</b> 567888		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567888 1488384 MB NA 09/17/2015 07:27 Water	LCS567888 1488385 LCS NA 09/17/2015 07:46 Water				LCSD567888 1488386 LCSD NA 09/17/2015 07:51 Water					
<b>EPA RSK-175</b>			Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.110U	0.110	3.28	2.95	90	45 - 128	3.28	2.99	91	1	29	
Ethene	74-85-1	0.150U	0.150	3.06	2.66	87	45 - 134	3.06	2.69	88	1	25	
Methane	74-82-8	0.435U	0.435	17.5	14.9	85	39 - 120	17.5	15.1	86	1	27	
<b>Surrogate</b>													
Propene	115-07-1	28.7	71	40.5	27	67	40 - 143	40.5	26.8	66	1	NA	

## General Chemistry QC Summary

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567630 1486260 MB NA 09/14/2015 13:26 Water	LCS567630 1486261 LCS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	24.1	96	80 - 120

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFDR-2 21509101003 SAMPLE NA 09/14/2015 13:26 Water	1485278MS 1486262 MS NA 09/14/2015 13:26 Water				
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	22.4	90	75 - 125

<b>Analytical Batch</b> 567630	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-10 21509101007 SAMPLE NA 09/14/2015 13:26 Water	1485282DUP 1486263 DUP NA 09/14/2015 13:26 Water			
<b>SM 4500-S2 F-2011</b>		Units Result	mg/L DL	Result	RPD	RPD Limit
Sulfide	18496-25-8	0.000	2.00	0.000	0	25

<b>Analytical Batch</b> 567544	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567544 1486019 MB NA 09/12/2015 20:15 Water	LCS567544 1486020 LCS NA 09/12/2015 19:57 Water				
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.30	92	80 - 120
Nitrate	14797-55-8	0.100U	0.100	2.50	2.31	92	80 - 120
Sulfate	14808-79-8	0.100U	0.100	2.50	2.38	95	80 - 120

<b>Analytical Batch</b> 567544	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	RPMW-14 21509120304 SAMPLE NA 09/13/2015 11:26 Water	1485909MS 1486021 MS NA 09/13/2015 11:43 Water	1485909MSD 1486022 MSD NA 09/13/2015 12:01 Water								
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	4.82	0.500	12.5	16.8	96	80 - 120	12.5	16.8	96	0	15

<b>Analytical Batch</b> 567611	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567611 1486212 MB NA 09/14/2015 17:08 Water	LCS567611 1486213 LCS NA 09/14/2015 16:08 Water				
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.94J	0.30	50.0	48.7	97	80 - 120

## General Chemistry QC Summary

<b>Analytical Batch</b> 567611	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW16S 21509110401 SAMPLE NA 09/14/2015 17:42 Water	1485575MS 1486214 MS NA 09/14/2015 18:08 Water	1485575MSD 1486215 MSD NA 09/14/2015 18:32 Water								
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	14.9	1.5	250	256	97	75 - 125	250	258	97	1	25

<b>Analytical Batch</b> 567611	Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	RPMW-14 21509120304 SAMPLE NA 09/15/2015 00:37 Water	1485909MS 1486216 MS NA 09/15/2015 01:02 Water	1485909MSD 1486217 MSD NA 09/15/2015 01:30 Water								
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	0.75	0.30	50.0	51.8	102	75 - 125	50.0	53.9	106	4	25



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: 215091203



### Report to:

Client: AMEC Foster Wheeler  
 Address: 1075 Bro Shant 1 Rd  
Suite 100 Kenner, LA  
 Contact: Greg Wilson  
 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

Sampled By:

Mark A. Ever, and Daniel M.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Con-tainers	Analytical Requests & Method				Preservative	GCAL use only: Custody Seal used <input checked="" type="checkbox"/> yes <input type="checkbox"/> no intact <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Temperature °C <u>2.5 ELO</u>			
							Methane	Chloride/sulfate	Sulfide	NO3, Ethane, Ethanol, TOL					
W	9/1/15	1130		✓	JPMW-2-1	10	1	1	1	2					
W	9/1/15	1437		✓	JPMW-2-2	10	1	1	1	2					
W	9/1/15	1100		✓	JPMW-17	10	1	1	1	3					
W	9/1/15	1450		✓	RPMW-14	10	1	1	1	4					
W	9/1/15	1120		✓	JPBW-1	10	1	1	1	5					
W	9/1/15				TRIP Blank-4	3				6					
W	9/1/15	1230		✓	EB-1	10	1	1	1	7					

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Air Bill No: 7744 212041710

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

Received by: [Signature] Date: 9/1/15 Time: 1700  
 Received by: [Signature] Date: 9/1/15 Time: 943  
 Received by: [Signature] Date: 9/1/15 Time: 943

Note:

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

\*Requires prior approval, rush charges may apply.

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

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



# SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091203		CHECKLIST		
Client	Transport Method	YES	NO	NA
PM RCH2 4829 - AMEC Environment & Infrastructure, Inc.	FEDEX	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profile Number 249065	Received By Saucier, Charlotte M.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/12/15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper thermal preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When used, were all custody seals intact?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received in proper containers?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper chemical preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was preservative added to any container at the lab?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all containers received in good condition?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all VOA vials received with no head space?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do all sample labels match the Chain of Custody?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the Chain of Custody list the sampling technician?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the COC maintained i.e. all signatures, dates and time of receipt included?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>COOLERS</b>				
Airbill 7744 2126 4176	Thermometer ID: E26 Temp(°C) 2.5			
<b>DISCREPANCIES</b>		None		
<b>LAB PRESERVATIONS</b>		None		
<b>NOTES</b>				



# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/22/2015

GCAL Report 215091509



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I



## 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

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

### Reporting Flags that may be Utilized in this Report


<b>J or I</b>	Indicates the result is between the MDL and LOQ
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank
<b>Q</b>	Indicates a non-compliant QC Result (See Q Flag Application Report)
<b>*</b>	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/Mgr. of Quality

Authorized Signature  
GCAL Report 215091509

## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091509

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 21509150902 (MTWMW-4), 21509150903 (RPMW-15) and 21509150904 (RPMW-24) 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 568186, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS recovery is acceptable.

### **CONVENTIONALS**

In the EPA 9056A analysis, samples 21509150901 (JPMW-23), 21509150903 (RPMW-15), 21509150902 (MTWMW-4) and 21509150904 (RPMW-24) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

In the EPA 9060A analysis, sample 21509150901 (JPMW-23) 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.

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509150901	JPMW-23	Water	09/14/2015 12:42	09/15/2015 09:52
21509150902	MTWMW-4	Water	09/14/2015 16:07	09/15/2015 09:52
21509150903	RPMW-15	Water	09/14/2015 13:20	09/15/2015 09:52
21509150904	RPMW-24	Water	09/14/2015 17:10	09/15/2015 09:52
21509150905	TRIP BLANK-5	Water	09/14/2015 00:01	09/15/2015 09:52

## Summary of Compounds Detected

<b>JPMW-23</b>	Collect Date	09/14/2015 12:42	GCAL ID	21509150901
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.354J	0.200	5.00	ug/L
67-66-3	Chloroform	1.32J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	17.2	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	85.5	0.200	5.00	ug/L
79-01-6	Trichloroethene	17.1	0.200	5.00	ug/L
75-01-4	Vinyl chloride	1.13J	0.200	5.00	ug/L

**EPA RSK-175**

CAS#	Parameter	Result	DL	LOQ	Units
74-82-8	Methane	43.2	0.435	2.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	6.87	0.500	2.00	mg/L
14797-55-8	Nitrate	0.293	0.100	0.200	mg/L
14808-79-8	Sulfate	8.85	0.100	0.200	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	7.1	0.60	4.0	mg/L

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	7.16J	0.400	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	41.3	0.400	10.0	ug/L
127-18-4	Tetrachloroethene	254	0.400	10.0	ug/L

## Summary of Compounds Detected

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
79-01-6	Trichloroethene	60.2	0.400	10.0	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	15.5	1.00	4.00	mg/L
14797-55-8	Nitrate	2.35	0.100	0.200	mg/L
14808-79-8	Sulfate	27.3	2.00	4.00	mg/L

EPA 9060A

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.44J	0.30	2.0	mg/L

<b>RPMW-15</b>	Collect Date	09/14/2015 13:20	GCAL ID	21509150903
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.14J	1.00	25.0	ug/L
127-18-4	Tetrachloroethene	440	1.00	25.0	ug/L
79-01-6	Trichloroethene	134	1.00	25.0	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	23.9	1.00	4.00	mg/L
14797-55-8	Nitrate	2.37	0.100	0.200	mg/L
14808-79-8	Sulfate	22.2	2.00	4.00	mg/L

## Summary of Compounds Detected

<b>RPMW-24</b>	Collect Date	09/14/2015 17:10	GCAL ID	21509150904
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	21.2J	1.00	25.0	ug/L
127-18-4	Tetrachloroethene	829	1.00	25.0	ug/L
79-01-6	Trichloroethene	207	1.00	25.0	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	25.6	2.50	10.0	mg/L
14797-55-8	Nitrate	4.94	0.200	0.400	mg/L
14808-79-8	Sulfate	40.5	5.00	10.0	mg/L

<b>TRIP BLANK-5</b>	Collect Date	09/14/2015 00:01	GCAL ID	21509150905
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	2.14J	0.200	5.00	ug/L

## Sample Results

<b>JPMW-23</b>	Collect Date	09/14/2015 12:42	GCAL ID	21509150901
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 13:40	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
<b>75-35-4</b>	<b>1,1-Dichloroethene</b>	<b>0.354J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>1.32J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>17.2</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>85.5</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>17.1</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L



## Sample Results

<b>JPMW-23</b>	Collect Date	09/14/2015 12:42	GCAL ID	21509150901
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/15/2015 13:40	CJR	567731	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
76-13-1	Trichlorotrifluoroethane			0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate			0.200U	0.200	5.00	ug/L
<b>75-01-4</b>	<b>Vinyl chloride</b>			<b>1.13J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
1330-20-7	Xylene (total)			0.400U	0.400	15.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		50	50	ug/L	100	78 - 130
1868-53-7	Dibromofluoromethane		50	50.9	ug/L	102	77 - 127
2037-26-5	Toluene d8		50	52	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4		50	46.4	ug/L	93	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/21/2015 06:57	BMR	568186	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
<b>74-82-8</b>	<b>Methane</b>			<b>43.2</b>	<b>0.435</b>	<b>2.00</b>	<b>ug/L</b>
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
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	09/15/2015 18:10	RXJ	567728	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>14797-55-8</b>	<b>Nitrate</b>			<b>0.293</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>
<b>14808-79-8</b>	<b>Sulfate</b>			<b>8.85</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>JPMW-23</b>	Collect Date	09/14/2015 12:42	GCAL ID	21509150901
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/15/2015 21:39	RXJ	567728

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	6.87	0.500	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/15/2015 16:28	JEM	567733

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	7.1	0.60	4.0	mg/L

**SM 4500-S2 F-2011**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/15/2015 18:37	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.400U	0.400	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.400U	0.400	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.400U	0.400	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.400U	0.400	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.400U	0.400	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.400U	0.400	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.400U	0.400	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.400U	0.400	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.400U	0.400	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.400U	0.400	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.400U	0.400	10.0	ug/L

## Sample Results

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/15/2015 18:37	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.400U	0.400	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.400U	0.400	10.0	ug/L
78-93-3	2-Butanone	0.400U	0.400	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	2.00U	2.00	10.0	ug/L
591-78-6	2-Hexanone	1.00U	1.00	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.400U	0.400	10.0	ug/L
67-64-1	Acetone	1.00U	1.00	10.0	ug/L
71-43-2	Benzene	0.400U	0.400	10.0	ug/L
75-27-4	Bromodichloromethane	0.400U	0.400	10.0	ug/L
75-25-2	Bromoform	0.500U	0.500	10.0	ug/L
74-83-9	Bromomethane	1.00U	1.00	10.0	ug/L
75-15-0	Carbon disulfide	0.400U	0.400	10.0	ug/L
56-23-5	Carbon tetrachloride	0.500U	0.500	10.0	ug/L
108-90-7	Chlorobenzene	0.400U	0.400	10.0	ug/L
75-00-3	Chloroethane	0.500U	0.500	10.0	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>7.16J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.400U	0.400	10.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>41.3</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
110-82-7	Cyclohexane	1.00U	1.00	10.0	ug/L
124-48-1	Dibromochloromethane	0.400U	0.400	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.400U	0.400	10.0	ug/L
100-41-4	Ethylbenzene	0.400U	0.400	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.400U	0.400	10.0	ug/L
136777-61-2	m,p-Xylene	0.400U	0.400	20.0	ug/L
79-20-9	Methyl Acetate	2.00U	2.00	10.0	ug/L
108-87-2	Methylcyclohexane	0.400U	0.400	10.0	ug/L
75-09-2	Methylene chloride	0.400U	0.400	10.0	ug/L
95-47-6	o-Xylene	0.400U	0.400	10.0	ug/L
100-42-5	Styrene	0.400U	0.400	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.400U	0.400	10.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>254</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
108-88-3	Toluene	0.400U	0.400	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.400U	0.400	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>60.2</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.400U	0.400	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.400U	0.400	10.0	ug/L
108-05-4	Vinyl acetate	0.400U	0.400	10.0	ug/L
75-01-4	Vinyl chloride	0.400U	0.400	10.0	ug/L

## Sample Results

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	2	09/15/2015 18:37	CJR	567731	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			0.800U	0.800	30.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		100	112	ug/L	112	78 - 130
1868-53-7	Dibromofluoromethane		100	99.8	ug/L	100	77 - 127
2037-26-5	Toluene d8		100	106	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4		100	92.8	ug/L	93	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/21/2015 07:03	BMR	568186	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	29.7	ug/L	73	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/15/2015 18:45	RXJ	567728	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			2.35	0.100	0.200	mg/L

## Sample Results

<b>MTWMW-4</b>	Collect Date	09/14/2015 16:07	GCAL ID	21509150902
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	09/15/2015 22:14	RXJ	567728

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	15.5	1.00	4.00	mg/L
14808-79-8	Sulfate	27.3	2.00	4.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 16:53	JEM	567733

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	0.44J	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>RPMW-15</b>	Collect Date	09/14/2015 13:20	GCAL ID	21509150903
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 18:59	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00U	1.00	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00U	1.00	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	1.00U	1.00	25.0	ug/L
75-34-3	1,1-Dichloroethane	1.00U	1.00	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.00U	1.00	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00U	1.00	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00U	1.00	25.0	ug/L
106-93-4	1,2-Dibromoethane	1.00U	1.00	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	1.00U	1.00	25.0	ug/L
107-06-2	1,2-Dichloroethane	1.00U	1.00	25.0	ug/L

## Sample Results

<b>RPMW-15</b>	Collect Date	09/14/2015 13:20	GCAL ID	21509150903
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 18:59	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	1.00U	1.00	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	1.00U	1.00	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	1.00U	1.00	25.0	ug/L
78-93-3	2-Butanone	1.00U	1.00	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	5.00U	5.00	25.0	ug/L
591-78-6	2-Hexanone	2.50U	2.50	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	1.00U	1.00	25.0	ug/L
67-64-1	Acetone	2.50U	2.50	25.0	ug/L
71-43-2	Benzene	1.00U	1.00	25.0	ug/L
75-27-4	Bromodichloromethane	1.00U	1.00	25.0	ug/L
75-25-2	Bromoform	1.25U	1.25	25.0	ug/L
74-83-9	Bromomethane	2.50U	2.50	25.0	ug/L
75-15-0	Carbon disulfide	1.00U	1.00	25.0	ug/L
56-23-5	Carbon tetrachloride	1.25U	1.25	25.0	ug/L
108-90-7	Chlorobenzene	1.00U	1.00	25.0	ug/L
75-00-3	Chloroethane	1.25U	1.25	25.0	ug/L
67-66-3	Chloroform	1.00U	1.00	25.0	ug/L
74-87-3	Chloromethane	1.00U	1.00	25.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.14J</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
110-82-7	Cyclohexane	2.50U	2.50	25.0	ug/L
124-48-1	Dibromochloromethane	1.00U	1.00	25.0	ug/L
75-71-8	Dichlorodifluoromethane	1.00U	1.00	25.0	ug/L
100-41-4	Ethylbenzene	1.00U	1.00	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00U	1.00	25.0	ug/L
136777-61-2	m,p-Xylene	1.00U	1.00	50.0	ug/L
79-20-9	Methyl Acetate	5.00U	5.00	25.0	ug/L
108-87-2	Methylcyclohexane	1.00U	1.00	25.0	ug/L
75-09-2	Methylene chloride	1.00U	1.00	25.0	ug/L
95-47-6	o-Xylene	1.00U	1.00	25.0	ug/L
100-42-5	Styrene	1.00U	1.00	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00U	1.00	25.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>440</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
108-88-3	Toluene	1.00U	1.00	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00U	1.00	25.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>134</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	1.00U	1.00	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	1.00U	1.00	25.0	ug/L
108-05-4	Vinyl acetate	1.00U	1.00	25.0	ug/L
75-01-4	Vinyl chloride	1.00U	1.00	25.0	ug/L

## Sample Results

<b>RPMW-15</b>	Collect Date	09/14/2015 13:20	GCAL ID	21509150903
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 18:59	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	2.00U	2.00	75.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	250	276	ug/L	110	78 - 130
1868-53-7	Dibromofluoromethane	250	247	ug/L	99	77 - 127
2037-26-5	Toluene d8	250	264	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	250	230	ug/L	92	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/21/2015 07:13	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	30.1	ug/L	74	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 18:28	RXJ	567728

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>2.37</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>RPMW-15</b>	Collect Date	09/14/2015 13:20	GCAL ID	21509150903
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	20	09/15/2015 21:57	RXJ	567728

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	23.9	1.00	4.00	mg/L
14808-79-8	Sulfate	22.2	2.00	4.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 17:17	JEM	567733

CAS#	Parameter	Result	DL	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>RPMW-24</b>	Collect Date	09/14/2015 17:10	GCAL ID	21509150904
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 19:21	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	1.00U	1.00	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1.00U	1.00	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	1.00U	1.00	25.0	ug/L
75-34-3	1,1-Dichloroethane	1.00U	1.00	25.0	ug/L
75-35-4	1,1-Dichloroethene	1.00U	1.00	25.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	1.00U	1.00	25.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	1.00U	1.00	25.0	ug/L
106-93-4	1,2-Dibromoethane	1.00U	1.00	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	1.00U	1.00	25.0	ug/L
107-06-2	1,2-Dichloroethane	1.00U	1.00	25.0	ug/L



## Sample Results

<b>RPMW-24</b>	Collect Date	09/14/2015 17:10	GCAL ID	21509150904
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	09/15/2015 19:21	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	1.00U	1.00	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	1.00U	1.00	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	1.00U	1.00	25.0	ug/L
78-93-3	2-Butanone	1.00U	1.00	25.0	ug/L
110-75-8	2-Chloroethylvinyl ether	5.00U	5.00	25.0	ug/L
591-78-6	2-Hexanone	2.50U	2.50	25.0	ug/L
108-10-1	4-Methyl-2-pentanone	1.00U	1.00	25.0	ug/L
67-64-1	Acetone	2.50U	2.50	25.0	ug/L
71-43-2	Benzene	1.00U	1.00	25.0	ug/L
75-27-4	Bromodichloromethane	1.00U	1.00	25.0	ug/L
75-25-2	Bromoform	1.25U	1.25	25.0	ug/L
74-83-9	Bromomethane	2.50U	2.50	25.0	ug/L
75-15-0	Carbon disulfide	1.00U	1.00	25.0	ug/L
56-23-5	Carbon tetrachloride	1.25U	1.25	25.0	ug/L
108-90-7	Chlorobenzene	1.00U	1.00	25.0	ug/L
75-00-3	Chloroethane	1.25U	1.25	25.0	ug/L
67-66-3	Chloroform	1.00U	1.00	25.0	ug/L
74-87-3	Chloromethane	1.00U	1.00	25.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>21.2J</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
110-82-7	Cyclohexane	2.50U	2.50	25.0	ug/L
124-48-1	Dibromochloromethane	1.00U	1.00	25.0	ug/L
75-71-8	Dichlorodifluoromethane	1.00U	1.00	25.0	ug/L
100-41-4	Ethylbenzene	1.00U	1.00	25.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	1.00U	1.00	25.0	ug/L
136777-61-2	m,p-Xylene	1.00U	1.00	50.0	ug/L
79-20-9	Methyl Acetate	5.00U	5.00	25.0	ug/L
108-87-2	Methylcyclohexane	1.00U	1.00	25.0	ug/L
75-09-2	Methylene chloride	1.00U	1.00	25.0	ug/L
95-47-6	o-Xylene	1.00U	1.00	25.0	ug/L
100-42-5	Styrene	1.00U	1.00	25.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	1.00U	1.00	25.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>829</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
108-88-3	Toluene	1.00U	1.00	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	1.00U	1.00	25.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	1.00U	1.00	25.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>207</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	1.00U	1.00	25.0	ug/L
76-13-1	Trichlorotrifluoroethane	1.00U	1.00	25.0	ug/L
108-05-4	Vinyl acetate	1.00U	1.00	25.0	ug/L
75-01-4	Vinyl chloride	1.00U	1.00	25.0	ug/L

## Sample Results

<b>RPMW-24</b>	Collect Date	09/14/2015 17:10	GCAL ID	21509150904
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	5	09/15/2015 19:21	CJR	567731	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			2.00U	2.00	75.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		250	274	ug/L	110	78 - 130
1868-53-7	Dibromofluoromethane		250	244	ug/L	98	77 - 127
2037-26-5	Toluene d8		250	267	ug/L	107	76 - 134
17060-07-0	1,2-Dichloroethane-d4		250	229	ug/L	92	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/21/2015 07:29	BMR	568186	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	38.8	ug/L	96	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	2	09/16/2015 09:50	RXJ	567728	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>14797-55-8</b>	<b>Nitrate</b>			<b>4.94</b>	<b>0.200</b>	<b>0.400</b>	<b>mg/L</b>

## Sample Results

<b>RPMW-24</b>	Collect Date	09/14/2015 17:10	GCAL ID	21509150904
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	50	09/15/2015 22:32	RXJ	567728

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	25.6	2.50	10.0	mg/L
14808-79-8	Sulfate	40.5	5.00	10.0	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 17:43	JEM	567733

CAS#	Parameter	Result	DL	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>TRIP BLANK-5</b>	Collect Date	09/14/2015 00:01	GCAL ID	21509150905
	Receive Date	09/15/2015 09:52	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 13:21	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-5</b>	Collect Date	09/14/2015 00:01	GCAL ID	21509150905
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 13:21	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>2.14J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-5</b>	Collect Date	09/14/2015 00:01	GCAL ID	21509150905
	Receive Date	09/15/2015 09:52	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/15/2015 13:21	CJR	567731

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.2	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	50	50.3	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	52.3	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.6	ug/L	93	71 - 127

## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB567731		LCS567731			LCSD567731				
567731		GCAL ID	1487174		1487175			1487176				
		Sample Type	MB		LCS			LCSD				
		Prep Date	NA		NA			NA				
		Analysis Date	09/15/2015 12:31		09/15/2015 11:13			09/15/2015 11:32				
		Matrix	Water		Water			Water				
EPA 8260B		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	53.5	107	76 - 126	50.0	54.8	110	2	30
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	44.7	89	70 - 122	50.0	48.0	96	7	30
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	54.1	108	72 - 121	50.0	58.2	116	7	30
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	50.4	101	74 - 127	50.0	51.5	103	2	30
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	56.7	113	69 - 129	50.0	53.2	106	6	20
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	52.8	106	61 - 135	50.0	53.8	108	2	30
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	52.0	104	57 - 121	50.0	57.8	116	11	30
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	54.5	109	70 - 124	50.0	58.6	117	7	30
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	52.8	106	71 - 126	50.0	53.4	107	1	30
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	47.7	95	71 - 129	50.0	49.0	98	3	30
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	48.7	97	72 - 128	50.0	49.9	100	2	30
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	52.0	104	74 - 126	50.0	52.6	105	1	30
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	51.9	104	72 - 122	50.0	53.3	107	3	30
2-Butanone	78-93-3	0.200U	0.200	50.0	46.9	94	58 - 137	50.0	52.6	105	11	30
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	47.2	94	56 - 124	50.0	49.4	99	5	30
2-Hexanone	591-78-6	0.500U	0.500	50.0	49.8	100	50 - 135	50.0	56.6	113	13	30
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	48.1	96	57 - 132	50.0	54.5	109	12	30
Acetone	67-64-1	0.500U	0.500	50.0	45.0	90	44 - 156	50.0	50.2	100	11	30
Benzene	71-43-2	0.200U	0.200	50.0	49.7	99	70 - 129	50.0	51.1	102	3	20
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	51.4	103	74 - 125	50.0	53.4	107	4	30
Bromoform	75-25-2	0.250U	0.250	50.0	54.8	110	64 - 122	50.0	58.4	117	6	30
Bromomethane	74-83-9	0.500U	0.500	50.0	57.0	114	47 - 138	50.0	56.7	113	1	30
Carbon disulfide	75-15-0	0.200U	0.200	50.0	53.7	107	69 - 136	50.0	53.4	107	1	30
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	53.3	107	76 - 128	50.0	54.3	109	2	30
Chlorobenzene	108-90-7	0.200U	0.200	50.0	52.8	106	74 - 123	50.0	54.6	109	3	20
Chloroethane	75-00-3	0.250U	0.250	50.0	52.8	106	62 - 141	50.0	51.8	104	2	30
Chloroform	67-66-3	0.200U	0.200	50.0	49.1	98	75 - 122	50.0	49.8	100	1	30
Chloromethane	74-87-3	0.200U	0.200	50.0	49.7	99	59 - 132	50.0	48.8	98	2	30
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	48.5	97	73 - 130	50.0	49.6	99	2	30
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	54.1	108	71 - 132	50.0	54.5	109	1	30
Cyclohexane	110-82-7	0.500U	0.500	50.0	55.7	111	69 - 132	50.0	55.6	111	0	30
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	55.3	111	71 - 123	50.0	59.3	119	7	30
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	53.2	106	58 - 140	50.0	52.2	104	2	30
Ethylbenzene	100-41-4	0.200U	0.200	50.0	53.6	107	74 - 126	50.0	56.3	113	5	30
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	56.7	113	71 - 125	50.0	59.1	118	4	30
m,p-Xylene	136777-61-2	0.200U	0.200	100	108	108	74 - 126	100	113	113	5	30
Methyl Acetate	79-20-9	1.00U	1.00	50.0	45.6	91	57 - 139	50.0	49.1	98	7	30
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	57.9	116	67 - 138	50.0	57.9	116	0	30
Methylene chloride	75-09-2	0.200U	0.200	50.0	47.2	94	68 - 132	50.0	47.1	94	0	30
o-Xylene	95-47-6	0.200U	0.200	50.0	56.3	113	73 - 130	50.0	59.7	119	6	30
Styrene	100-42-5	0.200U	0.200	50.0	58.4	117	71 - 127	50.0	60.9	122	4	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	52.2	104	71 - 125	50.0	54.4	109	4	30
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	61.1	122	68 - 128	50.0	61.5	123	1	30
Toluene	108-88-3	0.200U	0.200	50.0	54.8	110	72 - 120	50.0	56.7	113	3	20
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	51.6	103	69 - 132	50.0	52.1	104	1	30
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	53.8	108	71 - 131	50.0	55.2	110	3	30
Trichloroethene	79-01-6	0.200U	0.200	50.0	56.8	114	76 - 129	50.0	58.5	117	3	20
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	54.3	109	72 - 136	50.0	54.2	108	0	30
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	55.3	111	72 - 136	50.0	54.6	109	1	30
Vinyl acetate	108-05-4	0.200U	0.200	50.0	48.6	97	54 - 147	50.0	49.6	99	2	30
Vinyl chloride	75-01-4	0.200U	0.200	50.0	48.7	97	68 - 132	50.0	48.7	97	0	30
Xylene (total)	1330-20-7	0.400U	0.400	150	164	109	74 - 127	150	173	115	5	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	46	92	50	46.2	92	71 - 127	50	46.5	93	1	NA
4-Bromofluorobenzene	460-00-4	52.2	104	50	55.8	112	78 - 130	50	56.7	113	2	NA
Dibromofluoromethane	1868-53-7	50.6	101	50	50.6	101	77 - 127	50	51.2	102	1	NA
Toluene d8	2037-26-5	52.9	106	50	51	102	76 - 134	50	51.4	103	1	NA

## GC Volatiles QC Summary

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB568186 1489720 MB NA 09/21/2015 05:52 Water	LCS568186 1489721 LCS NA 09/21/2015 06:09 Water			
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R
Ethane	74-84-0	0.110U	0.110	3.28	2.51	77	45 - 128
Ethene	74-85-1	0.150U	0.150	3.06	2.26	74	45 - 134
Methane	74-82-8	0.435U	0.435	17.5	12.6	72	39 - 120
<b>Surrogate</b> Propene	115-07-1	28.5	70	40.5	28.1	69	40 - 143

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	Sentinel 6 21509105103 SAMPLE NA 09/21/2015 07:51 Water	Sentinel 6 MS 21509105104 MS NA 09/21/2015 08:07 Water	Sentinel 6 MSD 21509105105 MSD NA 09/21/2015 08:11 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.110	3.28	2.97	91	45 - 128	3.28	2.84	87	4	29
Ethene	74-85-1	0.00	0.150	3.06	2.77	91	45 - 134	3.06	2.64	86	5	25
Methane	74-82-8	22.5	0.435	17.5	42.3	113	39 - 120	17.5	41.2	107	3	27
<b>Surrogate</b> Propene	115-07-1	34.6	85	40.5	30.7	76	40 - 143	40.5	29.3	72	5	NA

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	PZ-42 21509105202 SAMPLE NA 09/21/2015 08:24 Water	PZ-42 MS 21509105203 MS NA 09/21/2015 08:34 Water	PZ-42 MSD 21509105204 MSD NA 09/21/2015 08:43 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.110	3.28	3.27	100	45 - 128	3.28	3.09	94	6	29
Ethene	74-85-1	0.00	0.150	3.06	3.00	98	45 - 134	3.06	2.95	96	2	25
<b>Surrogate</b> Propene	115-07-1	32.1	79	40.5	31.9	79	40 - 143	40.5	31	77	3	NA

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	PZ-42 21509105202 SAMPLE NA 09/21/2015 09:01 Water	PZ-42 MS 21509105203 MS NA 09/21/2015 09:06 Water	PZ-42 MSD 21509105204 MSD NA 09/21/2015 09:18 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Methane	74-82-8	162	4.35	17.5	160	-11*	39 - 120	17.5	164	11*	2	27

## General Chemistry QC Summary

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567926 1488631 MB NA 09/18/2015 07:45 Water	LCS567926 1488632 LCS NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		2.00U	2.00	25.0	27.7	111	80 - 120

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	JPMW-23 21509150901 SAMPLE NA 09/18/2015 07:45 Water	1487041MS 1488633 MS NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8		0.000	2.00	25.0	27.9	112	75 - 125

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MTWMW-4 21509150902 SAMPLE NA 09/18/2015 07:45 Water	1487051DUP 1488634 DUP NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Result	RPD	RPD Limit	
Sulfide	18496-25-8		0.000	2.00	0.000	0	25	

<b>Analytical Batch</b> 567728		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567728 1487164 MB NA 09/15/2015 16:26 Water	LCS567728 1487165 LCS NA 09/15/2015 16:09 Water	LCSD567728 1487683 LCSD NA 09/15/2015 19:20 Water								
<b>EPA 9056A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6		0.050U	0.050	2.50	2.24	90	80 - 120	2.50	2.42	97	8	15
Nitrate	14797-55-8		0.100U	0.100	2.50	2.30	92	80 - 120	2.50	2.34	94	2	15
Sulfate	14808-79-8		0.100U	0.100	2.50	2.42	97	80 - 120	2.50	2.46	98	2	15

<b>Analytical Batch</b> 567728		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SMFMW-18 21509101001 SAMPLE NA 09/15/2015 22:49 Water	1485276MS 1485325 MS NA 09/15/2015 23:06 Water	1485276MSD 1485326 MSD NA 09/15/2015 23:24 Water								
<b>EPA 9056A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Sulfate	14808-79-8		605	10.0	250	861	102	80 - 120	250	856	100	1	15

<b>Analytical Batch</b> 567733		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567733 1487189 MB NA 09/15/2015 13:46 Water	LCS567733 1487190 LCS NA 09/15/2015 12:40 Water				
<b>EPA 9060A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012		0.40J	0.30	50.0	48.5	97	80 - 120



## General Chemistry QC Summary

<b>Analytical Batch</b> 567733		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW14S 21509120403 SAMPLE NA 09/15/2015 14:46 Water	1485912MS 1487191 MS NA 09/15/2015 15:12 Water	1485912MSD 1487192 MSD NA 09/15/2015 15:37 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	4.6	1.5	250	260	102	75 - 125	250	269	106	4	25

<b>Analytical Batch</b> 567733		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW15S 21509151603 SAMPLE NA 09/16/2015 09:50 Water	1487083MS 1487193 MS NA 09/16/2015 10:16 Water	1487083MSD 1487194 MSD NA 09/16/2015 10:40 Water							
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Total Organic Carbon	C-012	25.7	3.0	500	528	100	75 - 125	500	541	103	2	25



7379 Innovation Park Dr., Baton Rouge, LA 70820-7402  
 Phone: 225.789.4900 • Fax: 225.767.5717 • www.gical.com

# CHAIN OF CUSTODY RECORD

Client ID: 4829 - AMEC Environment & Infrastructure, Inc.



SDG: 215091509

### Report to:

Client: AMEC Foster Wheeler  
 Address: 1015 Big Spout RD  
Suite 100 Leesville, LA  
 Contact: Greg Weiss  
 Phone: 770-421-3400  
 E-mail: \_\_\_\_\_

### Bill to:

Client: Same as above  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

P.O. Number \_\_\_\_\_

Project Name/Number  
Woodall creek

Sampled By:  
Te/ N J Mart A.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers	Analytical Requests & Method	GCAL use only:
W	9/14/15	1242		✓	JPMW-23	10	NO Nitrate NO Chloride/sulfate NO Ammonia NO VOCs NO Methoxy Ethoxy Ethene NO TOC	Custody Seal used <input checked="" type="checkbox"/> yes <input type="checkbox"/> no intact <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Temperature °C <u>47.50</u> <input type="checkbox"/> Dissolved Analysis Requested <input type="checkbox"/> Field filtered <input type="checkbox"/> Lab filtered Preservative _____
W	9/14/15	1607		✓	BTW/DW-4	10		
W	9/14/15	1320		✓	APMW-15	10		
W	9/14/15	1710		✓	RPMW-24	10		
W	9/14/15				TRIP Blank-5	3		

Air Bill No: 7544 2121 1367

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

Relinquished by (Signature) <u>[Signature]</u>	Date: <u>9/14/15</u>	Time: <u>0130</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>9-15-15</u>	Time: <u>0952</u>
Relinquished by (Signature) <u>[Signature]</u>	Date: <u>9/15/15</u>	Time: <u>0952</u>	Received by (Signature) <u>[Signature]</u>	Date: _____	Time: _____
Relinquished by (Signature) <u>[Signature]</u>	Date: _____	Time: _____	Received by (Signature) <u>[Signature]</u>	Date: _____	Time: _____

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

\*Requires prior approval, rush charges may apply.

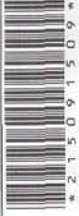
We cannot accept verbal changes. Please email written changes to your PM.

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

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT



## SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091509		CHECKLIST	
Client	Transport Method	YES	NO
PM RCH2 4829 - AMEC Environment & Infrastructure, Inc.	FEDEX	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Profile Number 249065	Received By Lofton, Katie E.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/15/15	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper thermal preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
When used, were all custody seals intact?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all samples received in proper containers?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all samples received using proper chemical preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Was preservative added to any container at the lab?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were all containers received in good condition?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were all VOA vials received with no head space?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Do all sample labels match the Chain of Custody?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Did the Chain of Custody list the sampling technician?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Was the COC maintained i.e. all signatures, dates and time of receipt included?		<input checked="" type="checkbox"/>	<input type="checkbox"/>

COOLERS	LAB PRESERVATIONS				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Airbill</td> <td style="width: 50%;">Thermometer ID: E26</td> </tr> <tr> <td>7744 2121 1367</td> <td>Temp(°C) 4.7</td> </tr> </table>	Airbill	Thermometer ID: E26	7744 2121 1367	Temp(°C) 4.7	None
Airbill	Thermometer ID: E26				
7744 2121 1367	Temp(°C) 4.7				
<p style="text-align: center;"><b>DISCREPANCIES</b></p> <p style="text-align: center;">None</p>					

<b>NOTES</b>	
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# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/22/2015

GCAL Report 215091613



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I



## 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

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

### Reporting Flags that may be Utilized in this Report

<b>J or I</b>	Indicates the result is between the MDL and LOQ
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank
<b>Q</b>	Indicates a non-compliant QC Result (See Q Flag Application Report)
<b>*</b>	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 Williams, Quality Director

Authorized Signature  
GCAL Report 215091613

## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091613

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 21509161302 (HOAMW-5I), 21509161303 (DUP-1) and 21509161306 (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.

### **VOLATILES GAS CHROMATOGRAPHY**

In the EPA RSK-175 analysis, sample 21509161304 (MW-X) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

In the EPA RSK-175 analysis for analytical batch 568186, the MS/MSD recoveries and RPDs are not applicable because the spike was diluted out of the samples. The LCS recovery is acceptable.

### **CONVENTIONALS**

In the EPA 9056A analysis, samples 21509161306 (HOAMW-5), 21509161303 (DUP-1), 21509161305 (HOAMW-6), 21509161302 (HOAMW-5I) and 21509161304 (MW-X) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509161301	EB-2	Water	09/15/2015 09:30	09/16/2015 09:42
21509161302	HOAMW-5I	Water	09/15/2015 15:20	09/16/2015 09:42
21509161303	DUP-1	Water	09/15/2015 12:00	09/16/2015 09:42
21509161304	MW-X	Water	09/15/2015 12:33	09/16/2015 09:42
21509161305	HOAMW-6	Water	09/15/2015 14:47	09/16/2015 09:42
21509161306	HOAMW-5	Water	09/15/2015 12:55	09/16/2015 09:42
21509161307	TRIP BLANK-6	Water	09/15/2015 00:01	09/16/2015 09:42

## Summary of Compounds Detected

<b>EB-2</b>	Collect Date	09/15/2015 09:30	GCAL ID	21509161301
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-64-1	Acetone	6.36	0.500	5.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	0.092J	0.050	0.200	mg/L

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.1J	0.30	2.0	mg/L

<b>HOAMW-5I</b>	Collect Date	09/15/2015 15:20	GCAL ID	21509161302
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	3.27J	0.400	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	62.5	0.400	10.0	ug/L
127-18-4	Tetrachloroethene	202	0.400	10.0	ug/L
79-01-6	Trichloroethene	59.4	0.400	10.0	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	19.4	0.500	2.00	mg/L
14797-55-8	Nitrate	1.46	0.100	0.200	mg/L
14808-79-8	Sulfate	19.7	1.00	2.00	mg/L



## Summary of Compounds Detected

<b>DUP-1</b>	Collect Date	09/15/2015 12:00	GCAL ID	21509161303
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	3.71J	0.400	10.0	ug/L
156-59-2	cis-1,2-Dichloroethene	68.9	0.400	10.0	ug/L
127-18-4	Tetrachloroethene	237	0.400	10.0	ug/L
79-01-6	Trichloroethene	67.6	0.400	10.0	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	20.3	0.500	2.00	mg/L
14797-55-8	Nitrate	1.64	0.100	0.200	mg/L
14808-79-8	Sulfate	20.4	1.00	2.00	mg/L

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	3.08J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	1.29J	0.200	5.00	ug/L

**EPA RSK-175**

CAS#	Parameter	Result	DL	LOQ	Units
74-82-8	Methane	9900	131	600	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	10.4	0.250	1.00	mg/L

## Summary of Compounds Detected

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 9060A**

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	8.9	0.30	2.0	mg/L

<b>HOAMW-6</b>	Collect Date	09/15/2015 14:47	GCAL ID	21509161305
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
67-66-3	Chloroform	2.94J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	55.0	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.219J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	168	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.422J	0.200	5.00	ug/L
79-01-6	Trichloroethene	53.2	0.200	5.00	ug/L

**EPA RSK-175**

CAS#	Parameter	Result	DL	LOQ	Units
74-82-8	Methane	0.760J	0.435	2.00	ug/L

**EPA 9056A**

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	17.4	0.500	2.00	mg/L
14797-55-8	Nitrate	3.52	0.100	0.200	mg/L
14808-79-8	Sulfate	21.7	1.00	2.00	mg/L

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

CAS#	Parameter	Result	DL	LOQ	Units
75-35-4	1,1-Dichloroethene	0.255J	0.200	5.00	ug/L
67-66-3	Chloroform	4.21J	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	77.0	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	281	1.00	25.0	ug/L

## Summary of Compounds Detected

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

CAS#	Parameter	Result	DL	LOQ	Units
156-60-5	trans-1,2-Dichloroethene	0.880J	0.200	5.00	ug/L
79-01-6	Trichloroethene	81.0	0.200	5.00	ug/L

EPA 9056A

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	22.7	1.00	4.00	mg/L
14797-55-8	Nitrate	1.65	0.100	0.200	mg/L
14808-79-8	Sulfate	21.4	2.00	4.00	mg/L

<b>TRIP BLANK-6</b>	Collect Date	09/15/2015 00:01	GCAL ID	21509161307
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
127-18-4	Tetrachloroethene	1.50J	0.200	5.00	ug/L
108-88-3	Toluene	1.69J	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.253J	0.200	5.00	ug/L

## Sample Results

<b>EB-2</b>	Collect Date	09/15/2015 09:30	GCAL ID	21509161301
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 13:14	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
<b>67-64-1</b>	<b>Acetone</b>	<b>6.36</b>	<b>0.500</b>	<b>5.00</b>	<b>ug/L</b>
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>EB-2</b>	Collect Date	09/15/2015 09:30	GCAL ID	21509161301
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 13:14	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53.5	ug/L	107	78 - 130
1868-53-7	Dibromofluoromethane	50	51	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	51.9	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.3	ug/L	99	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/21/2015 09:30	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	09/16/2015 17:02	SMR	567840

CAS#	Parameter	Result	DL	LOQ	Units
14797-55-8	Nitrate	0.100U	0.100	0.200	mg/L
14808-79-8	Sulfate	0.100U	0.100	0.200	mg/L

## Sample Results

<b>EB-2</b>	Collect Date	09/15/2015 09:30	GCAL ID	21509161301
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:00	RXJ	568175

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	0.092J	0.050	0.200	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 13:03	JEM	567895

CAS#	Parameter	Result	DL	LOQ	Units
C-012	Total Organic Carbon	1.1J	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>HOAMW-5I</b>	Collect Date	09/15/2015 15:20	GCAL ID	21509161302
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/18/2015 15:33	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.400U	0.400	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.400U	0.400	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.400U	0.400	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.400U	0.400	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.400U	0.400	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.400U	0.400	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.400U	0.400	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.400U	0.400	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.400U	0.400	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.400U	0.400	10.0	ug/L
78-87-5	1,2-Dichloropropane	0.400U	0.400	10.0	ug/L

## Sample Results

<b>HOAMW-5I</b>	Collect Date	09/15/2015 15:20	GCAL ID	21509161302
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/18/2015 15:33	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
541-73-1	1,3-Dichlorobenzene	0.400U	0.400	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.400U	0.400	10.0	ug/L
78-93-3	2-Butanone	0.400U	0.400	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	2.00U	2.00	10.0	ug/L
591-78-6	2-Hexanone	1.00U	1.00	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.400U	0.400	10.0	ug/L
67-64-1	Acetone	1.00U	1.00	10.0	ug/L
71-43-2	Benzene	0.400U	0.400	10.0	ug/L
75-27-4	Bromodichloromethane	0.400U	0.400	10.0	ug/L
75-25-2	Bromoform	0.500U	0.500	10.0	ug/L
74-83-9	Bromomethane	1.00U	1.00	10.0	ug/L
75-15-0	Carbon disulfide	0.400U	0.400	10.0	ug/L
56-23-5	Carbon tetrachloride	0.500U	0.500	10.0	ug/L
108-90-7	Chlorobenzene	0.400U	0.400	10.0	ug/L
75-00-3	Chloroethane	0.500U	0.500	10.0	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>3.27J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.400U	0.400	10.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>62.5</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
110-82-7	Cyclohexane	1.00U	1.00	10.0	ug/L
124-48-1	Dibromochloromethane	0.400U	0.400	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.400U	0.400	10.0	ug/L
100-41-4	Ethylbenzene	0.400U	0.400	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.400U	0.400	10.0	ug/L
136777-61-2	m,p-Xylene	0.400U	0.400	20.0	ug/L
79-20-9	Methyl Acetate	2.00U	2.00	10.0	ug/L
108-87-2	Methylcyclohexane	0.400U	0.400	10.0	ug/L
75-09-2	Methylene chloride	0.400U	0.400	10.0	ug/L
95-47-6	o-Xylene	0.400U	0.400	10.0	ug/L
100-42-5	Styrene	0.400U	0.400	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.400U	0.400	10.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>202</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
108-88-3	Toluene	0.400U	0.400	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.400U	0.400	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>59.4</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.400U	0.400	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.400U	0.400	10.0	ug/L
108-05-4	Vinyl acetate	0.400U	0.400	10.0	ug/L
75-01-4	Vinyl chloride	0.400U	0.400	10.0	ug/L

## Sample Results

<b>HOAMW-5I</b>	Collect Date	09/15/2015 15:20	GCAL ID	21509161302
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	2	09/18/2015 15:33	JCK	568009	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			0.800U	0.800	30.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		100	103	ug/L	103	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	100	ug/L	100	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/21/2015 09:46	BMR	568186	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	30.4	ug/L	75	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/16/2015 21:58	SMR	567840	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			1.46	0.100	0.200	mg/L



## Sample Results

<b>HOAMW-5I</b>	Collect Date	09/15/2015 15:20	GCAL ID	21509161302
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 9056A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/21/2015 15:07	SMR	568181

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	19.4	0.500	2.00	mg/L
14808-79-8	Sulfate	19.7	1.00	2.00	mg/L

**EPA 9060A**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 13:40	JEM	567895

CAS#	Parameter	Result	DL	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>DUP-1</b>	Collect Date	09/15/2015 12:00	GCAL ID	21509161303
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/18/2015 15:58	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.400U	0.400	10.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.400U	0.400	10.0	ug/L
79-00-5	1,1,2-Trichloroethane	0.400U	0.400	10.0	ug/L
75-34-3	1,1-Dichloroethane	0.400U	0.400	10.0	ug/L
75-35-4	1,1-Dichloroethene	0.400U	0.400	10.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.400U	0.400	10.0	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.400U	0.400	10.0	ug/L
106-93-4	1,2-Dibromoethane	0.400U	0.400	10.0	ug/L
95-50-1	1,2-Dichlorobenzene	0.400U	0.400	10.0	ug/L
107-06-2	1,2-Dichloroethane	0.400U	0.400	10.0	ug/L

## Sample Results

<b>DUP-1</b>	Collect Date	09/15/2015 12:00	GCAL ID	21509161303
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/18/2015 15:58	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.400U	0.400	10.0	ug/L
541-73-1	1,3-Dichlorobenzene	0.400U	0.400	10.0	ug/L
106-46-7	1,4-Dichlorobenzene	0.400U	0.400	10.0	ug/L
78-93-3	2-Butanone	0.400U	0.400	10.0	ug/L
110-75-8	2-Chloroethylvinyl ether	2.00U	2.00	10.0	ug/L
591-78-6	2-Hexanone	1.00U	1.00	10.0	ug/L
108-10-1	4-Methyl-2-pentanone	0.400U	0.400	10.0	ug/L
67-64-1	Acetone	1.00U	1.00	10.0	ug/L
71-43-2	Benzene	0.400U	0.400	10.0	ug/L
75-27-4	Bromodichloromethane	0.400U	0.400	10.0	ug/L
75-25-2	Bromoform	0.500U	0.500	10.0	ug/L
74-83-9	Bromomethane	1.00U	1.00	10.0	ug/L
75-15-0	Carbon disulfide	0.400U	0.400	10.0	ug/L
56-23-5	Carbon tetrachloride	0.500U	0.500	10.0	ug/L
108-90-7	Chlorobenzene	0.400U	0.400	10.0	ug/L
75-00-3	Chloroethane	0.500U	0.500	10.0	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>3.71J</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.400U	0.400	10.0	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>68.9</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
110-82-7	Cyclohexane	1.00U	1.00	10.0	ug/L
124-48-1	Dibromochloromethane	0.400U	0.400	10.0	ug/L
75-71-8	Dichlorodifluoromethane	0.400U	0.400	10.0	ug/L
100-41-4	Ethylbenzene	0.400U	0.400	10.0	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.400U	0.400	10.0	ug/L
136777-61-2	m,p-Xylene	0.400U	0.400	20.0	ug/L
79-20-9	Methyl Acetate	2.00U	2.00	10.0	ug/L
108-87-2	Methylcyclohexane	0.400U	0.400	10.0	ug/L
75-09-2	Methylene chloride	0.400U	0.400	10.0	ug/L
95-47-6	o-Xylene	0.400U	0.400	10.0	ug/L
100-42-5	Styrene	0.400U	0.400	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.400U	0.400	10.0	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>237</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
108-88-3	Toluene	0.400U	0.400	10.0	ug/L
156-60-5	trans-1,2-Dichloroethene	0.400U	0.400	10.0	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.400U	0.400	10.0	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>67.6</b>	<b>0.400</b>	<b>10.0</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.400U	0.400	10.0	ug/L
76-13-1	Trichlorotrifluoroethane	0.400U	0.400	10.0	ug/L
108-05-4	Vinyl acetate	0.400U	0.400	10.0	ug/L
75-01-4	Vinyl chloride	0.400U	0.400	10.0	ug/L

## Sample Results

<b>DUP-1</b>	Collect Date	09/15/2015 12:00	GCAL ID	21509161303
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	2	09/18/2015 15:58	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.800U	0.800	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	100	104	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane	100	104	ug/L	104	77 - 127
2037-26-5	Toluene d8	100	103	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	100	96.3	ug/L	96	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/21/2015 09:51	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	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	26.3	ug/L	65	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/16/2015 17:54	SMR	567840

CAS#	Parameter	Result	DL	LOQ	Units
14797-55-8	Nitrate	1.64	0.100	0.200	mg/L

## Sample Results

<b>DUP-1</b>	Collect Date	09/15/2015 12:00	GCAL ID	21509161303
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/20/2015 18:42	RXJ	568175

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	20.3	0.500	2.00	mg/L
14808-79-8	Sulfate	20.4	1.00	2.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 14:05	JEM	567895

CAS#	Parameter	Result	DL	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 14:22	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 14:22	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>3.08J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>1.29J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 14:22	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.3	ug/L	103	78 - 130
1868-53-7	Dibromofluoromethane	50	50.6	ug/L	101	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	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	09/21/2015 09:57	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	18.1	ug/L	45	40 - 143

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	300	09/21/2015 10:03	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
<b>74-82-8</b>	<b>Methane</b>	<b>9900</b>	<b>131</b>	<b>600</b>	<b>ug/L</b>

## Sample Results

<b>MW-X</b>	Collect Date	09/15/2015 12:33	GCAL ID	21509161304
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/16/2015 18:29	SMR	567840	
CAS#	Parameter			Result	DL	LOQ	Units
14797-55-8	Nitrate			0.100U	0.100	0.200	mg/L
14808-79-8	Sulfate			0.100U	0.100	0.200	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	5	09/22/2015 00:13	SMR	568181	
CAS#	Parameter			Result	DL	LOQ	Units
16887-00-6	Chloride			10.4	0.250	1.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 16:07	JEM	567895	
CAS#	Parameter			Result	DL	LOQ	Units
C-012	Total Organic Carbon			8.9	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	09/18/2015 07:45	SLE	567926	
CAS#	Parameter			Result	DL	LOQ	Units
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>HOAMW-6</b>	Collect Date	09/15/2015 14:47	GCAL ID	21509161305
	Receive Date	09/16/2015 09:42	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 14:45	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>2.94J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>55.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
<b>1634-04-4</b>	<b>tert-Butyl methyl ether (MTBE)</b>	<b>0.219J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>168</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
<b>156-60-5</b>	<b>trans-1,2-Dichloroethene</b>	<b>0.422J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>53.2</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L



## Sample Results

<b>HOAMW-6</b>	Collect Date	09/15/2015 14:47	GCAL ID	21509161305
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 14:45	LBH	568009

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	51	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	48.8	ug/L	98	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/21/2015 10:09	BMR	568186

CAS#	Parameter	Result	DL	LOQ	Units
74-84-0	Ethane	0.110U	0.110	1.00	ug/L
74-85-1	Ethene	0.150U	0.150	1.00	ug/L
<b>74-82-8</b>	<b>Methane</b>	<b>0.760J</b>	<b>0.435</b>	<b>2.00</b>	<b>ug/L</b>

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.50	27.9	ug/L	69	40 - 143

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/16/2015 21:23	SMR	567840

CAS#	Parameter	Result	DL	LOQ	Units
<b>14797-55-8</b>	<b>Nitrate</b>	<b>3.52</b>	<b>0.100</b>	<b>0.200</b>	<b>mg/L</b>

## Sample Results

<b>HOAMW-6</b>	Collect Date	09/15/2015 14:47	GCAL ID	21509161305
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	09/21/2015 14:49	SMR	568181

CAS#	Parameter	Result	DL	LOQ	Units
16887-00-6	Chloride	17.4	0.500	2.00	mg/L
14808-79-8	Sulfate	21.7	1.00	2.00	mg/L

EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/17/2015 16:39	JEM	567895

CAS#	Parameter	Result	DL	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	09/18/2015 07:45	SLE	567926

CAS#	Parameter	Result	DL	LOQ	Units
18496-25-8	Sulfide	2.00U	2.00	2.00	mg/L

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 16:21	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.255J	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 16:21	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
<b>67-66-3</b>	<b>Chloroform</b>	<b>4.21J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>77.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
<b>156-60-5</b>	<b>trans-1,2-Dichloroethene</b>	<b>0.880J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>81.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L

## Sample Results

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/18/2015 16:21	JCK	568009	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
1330-20-7	Xylene (total)			0.400U	0.400	15.0	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		50	52.2	ug/L	104	78 - 130
1868-53-7	Dibromofluoromethane		50	52.2	ug/L	104	77 - 127
2037-26-5	Toluene d8		50	51.9	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4		50	49.6	ug/L	99	71 - 127

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	5	09/20/2015 16:36	CJR	568179	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
<b>127-18-4</b>	<b>Tetrachloroethene</b>			<b>281</b>	<b>1.00</b>	<b>25.0</b>	<b>ug/L</b>
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
460-00-4	4-Bromofluorobenzene		250	292	ug/L	117	78 - 130
1868-53-7	Dibromofluoromethane		250	252	ug/L	101	77 - 127
2037-26-5	Toluene d8		250	258	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4		250	228	ug/L	91	71 - 127

### EPA RSK-175

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/21/2015 10:16	BMR	568186	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
74-84-0	Ethane			0.110U	0.110	1.00	ug/L
74-85-1	Ethene			0.150U	0.150	1.00	ug/L
74-82-8	Methane			0.435U	0.435	2.00	ug/L
<b>CAS#</b>	<b>Surrogate</b>		<b>Conc. Spiked</b>	<b>Conc. Rec</b>	<b>Units</b>	<b>% Recovery</b>	<b>Rec Limits</b>
115-07-1	Propene		40.50	40.5	ug/L	100	40 - 143

## Sample Results

<b>HOAMW-5</b>	Collect Date	09/15/2015 12:55	GCAL ID	21509161306
	Receive Date	09/16/2015 09:42	Matrix	Water

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/16/2015 19:04	SMR	567840	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
14797-55-8	Nitrate			1.65	0.100	0.200	mg/L

### EPA 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	20	09/20/2015 16:56	RXJ	568175	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
16887-00-6	Chloride			22.7	1.00	4.00	mg/L
14808-79-8	Sulfate			21.4	2.00	4.00	mg/L

### EPA 9060A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch	
NA	NA	NA	1	09/17/2015 17:04	JEM	567895	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
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	09/18/2015 07:45	SLE	567926	
<b>CAS#</b>	<b>Parameter</b>			<b>Result</b>	<b>DL</b>	<b>LOQ</b>	<b>Units</b>
18496-25-8	Sulfide			2.00U	2.00	2.00	mg/L

## Sample Results

<b>TRIP BLANK-6</b>	Collect Date	09/15/2015 00:01	GCAL ID	21509161307
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 16:44	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>1.50J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
<b>108-88-3</b>	<b>Toluene</b>	<b>1.69J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>0.253J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-6</b>	Collect Date	09/15/2015 00:01	GCAL ID	21509161307
	Receive Date	09/16/2015 09:42	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/18/2015 16:44	JCK	568009

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	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	51.4	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	51.2	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	49.2	ug/L	98	71 - 127

## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB568009	LCS568009			LCSD568009						
568009		GCAL ID	1489066	1489067			1489068						
		Sample Type	MB	LCS			LCSD						
		Prep Date	NA	NA			NA						
		Analysis Date	09/18/2015 11:21	09/18/2015 09:27			09/18/2015 09:50						
		Matrix	Water	Water			Water						
EPA 8260B			Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	50.4	101	76 - 126	50.0	50.4	101	0	30	
1,1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	43.9	88	70 - 122	50.0	44.8	90	2	30	
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	49.5	99	72 - 121	50.0	49.5	99	0	30	
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	43.2	86	74 - 127	50.0	42.8	86	1	30	
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	54.1	108	69 - 129	50.0	53.8	108	1	20	
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	55.6	111	61 - 135	50.0	54.3	109	2	30	
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	47.5	95	57 - 121	50.0	49.8	100	5	30	
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	50.5	101	70 - 124	50.0	51.3	103	2	30	
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	49.7	99	71 - 126	50.0	49.0	98	1	30	
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	50.0	100	71 - 129	50.0	50.7	101	1	30	
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	47.5	95	72 - 128	50.0	48.4	97	2	30	
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	51.1	102	74 - 126	50.0	49.0	98	4	30	
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	47.2	94	72 - 122	50.0	47.0	94	0	30	
2-Butanone	78-93-3	0.200U	0.200	50.0	45.4	91	58 - 137	50.0	47.7	95	5	30	
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	50.3	101	56 - 124	50.0	52.6	105	4	30	
2-Hexanone	591-78-6	0.500U	0.500	50.0	47.6	95	50 - 135	50.0	50.2	100	5	30	
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	45.7	91	57 - 132	50.0	46.7	93	2	30	
Acetone	67-64-1	0.500U	0.500	50.0	61.2	122	44 - 156	50.0	67.0	134	9	30	
Benzene	71-43-2	0.200U	0.200	50.0	47.0	94	70 - 129	50.0	47.5	95	1	20	
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	52.0	104	74 - 125	50.0	52.6	105	1	30	
Bromoform	75-25-2	0.250U	0.250	50.0	51.5	103	64 - 122	50.0	52.9	106	3	30	
Bromomethane	74-83-9	0.500U	0.500	50.0	61.9	124	47 - 138	50.0	65.1	130	5	30	
Carbon disulfide	75-15-0	0.200U	0.200	50.0	52.7	105	69 - 136	50.0	52.4	105	1	30	
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	52.7	105	76 - 128	50.0	53.7	107	2	30	
Chlorobenzene	108-90-7	0.200U	0.200	50.0	49.7	99	74 - 123	50.0	49.7	99	0	20	
Chloroethane	75-00-3	0.250U	0.250	50.0	55.6	111	62 - 141	50.0	51.4	103	8	30	
Chloroform	67-66-3	0.200U	0.200	50.0	50.4	101	75 - 122	50.0	49.9	100	1	30	
Chloromethane	74-87-3	0.200U	0.200	50.0	47.8	96	59 - 132	50.0	49.1	98	3	30	
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	47.9	96	73 - 130	50.0	48.4	97	1	30	
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	50.7	101	71 - 132	50.0	51.4	103	1	30	
Cyclohexane	110-82-7	0.500U	0.500	50.0	50.3	101	69 - 132	50.0	49.4	99	2	30	
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	50.1	100	71 - 123	50.0	50.4	101	1	30	
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	55.3	111	58 - 140	50.0	53.7	107	3	30	
Ethylbenzene	100-41-4	0.200U	0.200	50.0	49.5	99	74 - 126	50.0	49.6	99	0	30	
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	54.2	108	71 - 125	50.0	54.1	108	0	30	
m,p-Xylene	136777-61-2	0.200U	0.200	100	99.3	99	74 - 126	100	99.9	100	1	30	
Methyl Acetate	79-20-9	1.00U	1.00	50.0	49.1	98	57 - 139	50.0	47.9	96	2	30	
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	54.0	108	67 - 138	50.0	52.3	105	3	30	
Methylene chloride	75-09-2	0.200U	0.200	50.0	49.9	100	68 - 132	50.0	50.0	100	0	30	
o-Xylene	95-47-6	0.200U	0.200	50.0	50.1	100	73 - 130	50.0	50.5	101	1	30	
Styrene	100-42-5	0.200U	0.200	50.0	52.3	105	71 - 127	50.0	52.6	105	1	30	
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	51.4	103	71 - 125	50.0	52.7	105	2	30	
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	53.7	107	68 - 128	50.0	52.1	104	3	30	
Toluene	108-88-3	0.200U	0.200	50.0	49.7	99	72 - 120	50.0	49.2	98	1	20	
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	49.6	99	69 - 132	50.0	49.6	99	0	30	
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	48.3	97	71 - 131	50.0	48.3	97	0	30	
Trichloroethene	79-01-6	0.200U	0.200	50.0	49.1	98	76 - 129	50.0	49.3	99	0	20	
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	55.9	112	72 - 136	50.0	55.8	112	0	30	
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	55.8	112	72 - 136	50.0	53.8	108	4	30	
Vinyl acetate	108-05-4	0.200U	0.200	50.0	44.3	89	54 - 147	50.0	44.7	89	1	30	
Vinyl chloride	75-01-4	0.200U	0.200	50.0	49.7	99	68 - 132	50.0	49.3	99	1	30	
Xylene (total)	1330-20-7	0.400U	0.400	150	149	99	74 - 127	150	150	100	1	30	
<b>Surrogate</b>													
1,2-Dichloroethane-d4	17060-07-0	48.3	97	50	49.6	99	71 - 127	50	51.3	103	3	NA	
4-Bromofluorobenzene	460-00-4	50.9	102	50	53.9	108	78 - 130	50	55.1	110	2	NA	
Dibromofluoromethane	1868-53-7	50.4	101	50	51.9	104	77 - 127	50	52	104	0	NA	
Toluene d8	2037-26-5	50.5	101	50	50.7	101	76 - 134	50	50.8	102	0	NA	



## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB568179	LCS568179				LCSD568179				
568179		GCAL ID	1489697	1489698				1489699				
		Sample Type	MB	LCS				LCSD				
		Prep Date	NA	NA				NA				
		Analysis Date	09/20/2015 16:14	09/20/2015 13:46				09/20/2015 14:50				
		Matrix	Water	Water				Water				
EPA 8260B		Units	ug/L	Spike	Result	%R	Control	Spike	Result	%R	RPD	RPD
		Result	DL	Added			Limits%R	Added				Limit
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	48.9	98	68 - 128	50.0	46.9	94	4	30
<b>Surrogate</b>												
1,2-Dichloroethane-d4	17060-07-0	49.3	99	50	48.3	97	71 - 127	50	49.7	99	3	NA
4-Bromofluorobenzene	460-00-4	48.8	98	50	51	102	78 - 130	50	50.2	100	2	NA
Dibromofluoromethane	1868-53-7	49	98	50	49.7	99	77 - 127	50	50.3	101	1	NA
Toluene d8	2037-26-5	50.7	101	50	50.6	101	76 - 134	50	50.3	101	1	NA

## GC Volatiles QC Summary

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB568186 1489720 MB NA 09/21/2015 05:52 Water	LCS568186 1489721 LCS NA 09/21/2015 06:09 Water			
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R
Ethane	74-84-0	0.110U	0.110	3.28	2.51	77	45 - 128
Ethene	74-85-1	0.150U	0.150	3.06	2.26	74	45 - 134
Methane	74-82-8	0.435U	0.435	17.5	12.6	72	39 - 120
<b>Surrogate</b> Propene	115-07-1	28.5	70	40.5	28.1	69	40 - 143

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	Sentinel 6 21509105103 SAMPLE NA 09/21/2015 07:51 Water	Sentinel 6 MS 21509105104 MS NA 09/21/2015 08:07 Water	Sentinel 6 MSD 21509105105 MSD NA 09/21/2015 08:11 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.110	3.28	2.97	91	45 - 128	3.28	2.84	87	4	29
Ethene	74-85-1	0.00	0.150	3.06	2.77	91	45 - 134	3.06	2.64	86	5	25
Methane	74-82-8	22.5	0.435	17.5	42.3	113	39 - 120	17.5	41.2	107	3	27
<b>Surrogate</b> Propene	115-07-1	34.6	85	40.5	30.7	76	40 - 143	40.5	29.3	72	5	NA

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	PZ-42 21509105202 SAMPLE NA 09/21/2015 08:24 Water	PZ-42 MS 21509105203 MS NA 09/21/2015 08:34 Water	PZ-42 MSD 21509105204 MSD NA 09/21/2015 08:43 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Ethane	74-84-0	0.00	0.110	3.28	3.27	100	45 - 128	3.28	3.09	94	6	29
Ethene	74-85-1	0.00	0.150	3.06	3.00	98	45 - 134	3.06	2.95	96	2	25
<b>Surrogate</b> Propene	115-07-1	32.1	79	40.5	31.9	79	40 - 143	40.5	31	77	3	NA

<b>Analytical Batch</b> 568186		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	PZ-42 21509105202 SAMPLE NA 09/21/2015 09:01 Water	PZ-42 MS 21509105203 MS NA 09/21/2015 09:06 Water	PZ-42 MSD 21509105204 MSD NA 09/21/2015 09:18 Water							
<b>EPA RSK-175</b>		Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Methane	74-82-8	162	4.35	17.5	160	-11*	39 - 120	17.5	164	11*	2	27

## General Chemistry QC Summary

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567926 1488631 MB NA 09/18/2015 07:45 Water	LCS567926 1488632 LCS NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	2.00U	2.00	25.0	27.7	111	80 - 120	

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	JPMW-23 21509150901 SAMPLE NA 09/18/2015 07:45 Water	1487041MS 1488633 MS NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Sulfide	18496-25-8	0.000	2.00	25.0	27.9	112	75 - 125	

<b>Analytical Batch</b> 567926		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MTWMW-4 21509150902 SAMPLE NA 09/18/2015 07:45 Water	1487051DUP 1488634 DUP NA 09/18/2015 07:45 Water				
<b>SM 4500-S2 F-2011</b>			Units Result	mg/L DL	Result	RPD	RPD Limit	
Sulfide	18496-25-8	0.000	2.00	0.000	0	25		

<b>Analytical Batch</b> 567840		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567840 1487921 MB NA 09/16/2015 16:10 Water	LCS567840 1487922 LCS NA 09/16/2015 15:52 Water	LCSD567840 1488950 LCSD NA 09/16/2015 19:21 Water								
<b>EPA 9056A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	0.100U	0.100	2.50	2.27	91	80 - 120	2.50	2.24	90	1	15	
Sulfate	14808-79-8	0.100U	0.100	2.50	2.36	94	80 - 120	2.50	2.38	95	1	15	

<b>Analytical Batch</b> 567840		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	HOAMW-5I 21509161302 SAMPLE NA 09/16/2015 21:58 Water	1487650MS 1487925 MS NA 09/16/2015 22:15 Water	1487650MSD 1487926 MSD NA 09/16/2015 22:33 Water								
<b>EPA 9056A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Nitrate	14797-55-8	1.46	0.100	2.50	3.99	101	80 - 120	2.50	3.93	99	2	15	

<b>Analytical Batch</b> 568175		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB568175 1489680 MB NA 09/20/2015 14:53 Water	LCS568175 1489681 LCS NA 09/20/2015 14:35 Water				
<b>EPA 9056A</b>			Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.42	97	80 - 120	
Sulfate	14808-79-8	0.100U	0.100	2.50	2.47	99	80 - 120	

## General Chemistry QC Summary

<b>Analytical Batch</b> 568175		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MW-04S 21509106207 SAMPLE NA 09/20/2015 19:35 Water	1485474MS 1489684 MS NA 09/20/2015 19:52 Water	1485474MSD 1489685 MSD NA 09/20/2015 20:10 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	22.0	1.00	50.0	70.3	97	80 - 120	50.0	70.3	97	0	15

<b>Analytical Batch</b> 568175		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	HOAMW-5 21509161306 SAMPLE NA 09/20/2015 16:56 Water	1487654MS 1489682 MS NA 09/20/2015 17:14 Water	1487654MSD 1489683 MSD NA 09/20/2015 17:32 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	22.7	1.00	50.0	70.7	96	80 - 120	50.0	70.8	96	0	15
Sulfate	14808-79-8	21.4	2.00	50	69.9	97	80 - 120	50	69.6	97	0	15

<b>Analytical Batch</b> 568181		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB568181 1489703 MB NA 09/21/2015 14:32 Water	LCS568181 1489704 LCS NA 09/21/2015 14:14 Water			
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Chloride	16887-00-6	0.050U	0.050	2.50	2.29	92	80 - 120
Surrogate				2.5	2.38	95	80 - 120

<b>Analytical Batch</b> 568181		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-TPS1-1 21509162204 SAMPLE NA 09/21/2015 18:21 Water	1487781MS 1489705 MS NA 09/21/2015 18:38 Water	1487781MSD 1489706 MSD NA 09/21/2015 18:56 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	105	5.00	250	348	97	80 - 120	250	352	99	1	15

<b>Analytical Batch</b> 568181		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	LF01-MW21S 21509190416 SAMPLE NA 09/21/2015 19:49 Water	1489552MS 1489707 MS NA 09/21/2015 20:06 Water	1489552MSD 1489708 MSD NA 09/21/2015 20:24 Water							
<b>EPA 9056A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	11.9	0.500	25.0	36.0	97	80 - 120	25.0	35.9	96	1	15

<b>Analytical Batch</b> 567895		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	MB567895 1488405 MB NA 09/17/2015 09:17 Water	LCS567895 1488406 LCS NA 09/17/2015 08:18 Water			
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R
Total Organic Carbon	C-012	0.37J	0.30	50.0	49.0	98	80 - 120

## General Chemistry QC Summary

<b>Analytical Batch</b> 567895		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW74 21509151614 SAMPLE NA 09/18/2015 00:04 Water	1487094MS 1488407 MS NA 09/18/2015 00:34 Water	1487094MSD 1488408 MSD NA 09/18/2015 00:58 Water					
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result %R	Control Limits%R	Spike Added	Result %R	RPD	RPD Limit
Total Organic Carbon	C-012	5.7	1.5	250	249 97	75 - 125	250	251 98	1	25

<b>Analytical Batch</b> 567895		Client ID GCAL ID Sample Type Prep Date Analysis Date Matrix	SS14-CMW12 21509162201 SAMPLE NA 09/17/2015 17:29 Water	1487778MS 1488409 MS NA 09/17/2015 17:55 Water	1487778MSD 1488410 MSD NA 09/17/2015 18:27 Water					
<b>EPA 9060A</b>		Units Result	mg/L DL	Spike Added	Result %R	Control Limits%R	Spike Added	Result %R	RPD	RPD Limit
Total Organic Carbon	C-012	5.4	1.5	250	266 104	75 - 125	250	267 105	0	25



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: 215091613



### Report to:

Client: AMEC Foster Wale  
 Address: 1075 Big Shanty Rd  
Suite 100 Kenner, LA 70124  
 Contact: Greg Wynn  
 Phone: 770-421-3400  
 E-mail:

### Bill to:

Client: Same as above  
 Address:  
 Contact:  
 Phone:  
 E-mail:

P.O. Number

Project Name/Number  
Woodall Creek

Sampled By:

Daniel H. Mark A.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers	Analytical Requests & Method	GCAL use only:
W	9/15/15	1330		✓	EB-2	10	Chloride/sulfate Nitrate VOCs Methoxy, Ethoxy, Fthoxy TDC	Custody Seal used <input type="checkbox"/> yes <input type="checkbox"/> no intact <input type="checkbox"/> yes <input type="checkbox"/> no Temperature °C <u>33.04</u> <input type="checkbox"/> Dissolved Analysis Requested <input type="checkbox"/> Field filtered <input type="checkbox"/> Lab filtered Preservative
W	9/15/15	1520		✓	HOA MW-5T	10		
W	9/15/15	1200		✓	DUP-1	10		
W	9/15/15	1233		✓	MW-X	10		
W	9/15/15	1449		✓	HOA MW-6	10		
W	9/15/15	1255		✓	HOA MW-5	10		
W	9/15/15			✓	TRIP Blank-6	3		

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Air Bill No: 7744 212 1312

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

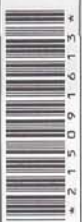
Prepared by: (Signature)	Date: <u>9/15/15</u>	Time: <u>1700</u>	Received by: (Signature)	Date: <u>9/15/15</u>	Time: <u>1742</u>
Prepared by: (Signature)	Date: <u>9/15/15</u>	Time: <u>1742</u>	Received by: (Signature)	Date: <u>9/15/15</u>	Time: <u>1742</u>

Matrix: 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.

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



# SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091613		CHECKLIST		YES	NO	NA
Client PM RCH2 4829 - AMEC Environment & Infrastructure, Inc.	Transport Method FEDEX	Were all samples received using proper thermal preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Profile Number 249065	Received By McCune, Dodie N.	When used, were all custody seals intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/16/15	Were all samples received in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Were all samples received using proper chemical preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Was preservative added to any container at the lab?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
		Were all containers received in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Were all VOA vials received with no head space?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Do all sample labels match the Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Did the Chain of Custody list the sampling technician?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Was the COC maintained i.e. all signatures, dates and time of receipt included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

COOLERS		DISCREPANCIES		LAB PRESERVATIONS	
Airbill 77442121312	Thermometer ID: E24	Temp(°C) 3.3	None	None	None

**NOTES**

# ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 09/21/2015

GCAL Report 215091812



**Project** Woodall Creek

***Deliver To***

Greg Wrenn  
AMEC  
1075 Big Shanty Rd. NW  
Suite 100  
Kennesaw, GA 30144  
770-421-3400

***Report cc***

Daniel Morris, AMEC E&I





## 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

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

### Reporting Flags that may be Utilized in this Report

<b>J or I</b>	Indicates the result is between the MDL and LOQ
<b>U</b>	Indicates the compound was analyzed for but not detected
<b>B</b>	Indicates the analyte was detected in the associated Method Blank
<b>Q</b>	Indicates a non-compliant QC Result (See Q Flag Application Report)
<b>*</b>	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 Mesterling, King Data Del

Authorized Signature  
GCAL Report 215091812

## Case Narrative

**Client:** AMEC Environment & Infrastructure, Inc.      **Report:** 215091812

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 in the analyzed sample(s).**

## Sample Summary

<b>GCAL ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Collect Date/Time</b>	<b>Receive Date/Time</b>
21509181201	S-18	Water	09/16/2015 10:43	09/18/2015 09:57
21509181202	S-17	Water	09/16/2015 11:05	09/18/2015 09:57
21509181203	S-16	Water	09/16/2015 11:20	09/18/2015 09:57
21509181204	S-15	Water	09/16/2015 11:30	09/18/2015 09:57
21509181205	S-14	Water	09/16/2015 11:45	09/18/2015 09:57
21509181206	S-13	Water	09/16/2015 11:55	09/18/2015 09:57
21509181207	S-12	Water	09/16/2015 12:09	09/18/2015 09:57
21509181208	S-11	Water	09/16/2015 12:20	09/18/2015 09:57
21509181209	S-10	Water	09/16/2015 12:46	09/18/2015 09:57
21509181210	S-9	Water	09/16/2015 12:58	09/18/2015 09:57
21509181211	DUP-2	Water	09/16/2015 12:00	09/18/2015 09:57
21509181212	TRIP BLANK-7	Water	09/16/2015 00:01	09/18/2015 09:57

## Summary of Compounds Detected

<b>S-18</b>	Collect Date	09/16/2015 10:43	GCAL ID	21509181201
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.31J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	9.72	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.49J	0.200	5.00	ug/L

<b>S-17</b>	Collect Date	09/16/2015 11:05	GCAL ID	21509181202
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.32J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	9.98	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.66J	0.200	5.00	ug/L

<b>S-16</b>	Collect Date	09/16/2015 11:20	GCAL ID	21509181203
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.55J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	10.2	0.200	5.00	ug/L
79-01-6	Trichloroethene	4.02J	0.200	5.00	ug/L

<b>S-15</b>	Collect Date	09/16/2015 11:30	GCAL ID	21509181204
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.53J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	10.5	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.77J	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>S-14</b>	Collect Date	09/16/2015 11:45	GCAL ID	21509181205
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.58J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	10.0	0.200	5.00	ug/L
79-01-6	Trichloroethene	4.03J	0.200	5.00	ug/L

<b>S-13</b>	Collect Date	09/16/2015 11:55	GCAL ID	21509181206
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	3.32J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	17.4	0.200	5.00	ug/L
79-01-6	Trichloroethene	6.26	0.200	5.00	ug/L

<b>S-12</b>	Collect Date	09/16/2015 12:09	GCAL ID	21509181207
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.85J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	8.71	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.57J	0.200	5.00	ug/L

<b>S-11</b>	Collect Date	09/16/2015 12:20	GCAL ID	21509181208
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	2.08J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	8.80	0.200	5.00	ug/L
79-01-6	Trichloroethene	4.07J	0.200	5.00	ug/L

## Summary of Compounds Detected

<b>S-10</b>	Collect Date	09/16/2015 12:46	GCAL ID	21509181209
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.82J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	8.09	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.51J	0.200	5.00	ug/L

<b>S-9</b>	Collect Date	09/16/2015 12:58	GCAL ID	21509181210
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.33J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	6.58	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.02J	0.200	5.00	ug/L

<b>DUP-2</b>	Collect Date	09/16/2015 12:00	GCAL ID	21509181211
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
156-59-2	cis-1,2-Dichloroethene	1.96J	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	9.13	0.200	5.00	ug/L
79-01-6	Trichloroethene	3.50J	0.200	5.00	ug/L

<b>TRIP BLANK-7</b>	Collect Date	09/16/2015 00:01	GCAL ID	21509181212
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

CAS#	Parameter	Result	DL	LOQ	Units
108-88-3	Toluene	1.69J	0.200	5.00	ug/L

## Sample Results

<b>S-18</b>	Collect Date	09/16/2015 10:43	GCAL ID	21509181201
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 16:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.31J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>9.72</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.49J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-18</b>	Collect Date	09/16/2015 10:43	GCAL ID	21509181201
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 16:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	59.1	ug/L	118	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	52.2	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.9	ug/L	92	71 - 127

<b>S-17</b>	Collect Date	09/16/2015 11:05	GCAL ID	21509181202
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:17	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L



## Sample Results

<b>S-17</b>	Collect Date	09/16/2015 11:05	GCAL ID	21509181202
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:17	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.32J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>9.98</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.66J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	59	ug/L	118	78 - 130
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	77 - 127
2037-26-5	Toluene d8	50	50.8	ug/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	42.6	ug/L	85	71 - 127

## Sample Results

<b>S-16</b>	Collect Date	09/16/2015 11:20	GCAL ID	21509181203
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:37	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.55J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>10.2</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>4.02J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-16</b>	Collect Date	09/16/2015 11:20	GCAL ID	21509181203
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:37	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	59.8	ug/L	120	78 - 130
1868-53-7	Dibromofluoromethane	50	51.6	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	52.6	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.7	ug/L	91	71 - 127

<b>S-15</b>	Collect Date	09/16/2015 11:30	GCAL ID	21509181204
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-15</b>	Collect Date	09/16/2015 11:30	GCAL ID	21509181204
	Receive Date	09/18/2015 09:57	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 17:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.53J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>10.5</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.77J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	59.7	ug/L	119	78 - 130
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	77 - 127
2037-26-5	Toluene d8	50	51.8	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.7	ug/L	91	71 - 127

## Sample Results

<b>S-14</b>	Collect Date	09/16/2015 11:45	GCAL ID	21509181205
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:17	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.58J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>10.0</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>4.03J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-14</b>	Collect Date	09/16/2015 11:45	GCAL ID	21509181205
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:17	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.3	ug/L	123	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	51.9	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	44.5	ug/L	89	71 - 127

<b>S-13</b>	Collect Date	09/16/2015 11:55	GCAL ID	21509181206
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:37	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-13</b>	Collect Date	09/16/2015 11:55	GCAL ID	21509181206
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:37	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>3.32J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>17.4</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>6.26</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.4	ug/L	123	78 - 130
1868-53-7	Dibromofluoromethane	50	54.2	ug/L	108	77 - 127
2037-26-5	Toluene d8	50	51.8	ug/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.1	ug/L	90	71 - 127

## Sample Results

<b>S-12</b>	Collect Date	09/16/2015 12:09	GCAL ID	21509181207
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.85J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>8.71</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.57J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L



## Sample Results

<b>S-12</b>	Collect Date	09/16/2015 12:09	GCAL ID	21509181207
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 18:57	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	59.6	ug/L	119	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	53.1	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	44.1	ug/L	88	71 - 127

<b>S-11</b>	Collect Date	09/16/2015 12:20	GCAL ID	21509181208
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:18	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-11</b>	Collect Date	09/16/2015 12:20	GCAL ID	21509181208
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:18	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>2.08J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>8.80</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>4.07J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.4	ug/L	123	78 - 130
1868-53-7	Dibromofluoromethane	50	51.5	ug/L	103	77 - 127
2037-26-5	Toluene d8	50	51.4	ug/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	44.4	ug/L	89	71 - 127

## Sample Results

<b>S-10</b>	Collect Date	09/16/2015 12:46	GCAL ID	21509181209
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:38	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.82J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>8.09</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.51J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-10</b>	Collect Date	09/16/2015 12:46	GCAL ID	21509181209
	Receive Date	09/18/2015 09:57	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:38	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.7	ug/L	123	78 - 130
1868-53-7	Dibromofluoromethane	50	52.4	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	52.3	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.8	ug/L	92	71 - 127

<b>S-9</b>	Collect Date	09/16/2015 12:58	GCAL ID	21509181210
	Receive Date	09/18/2015 09:57	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:58	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L

## Sample Results

<b>S-9</b>	Collect Date	09/16/2015 12:58	GCAL ID	21509181210
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 19:58	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.33J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>6.58</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.02J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.8	ug/L	124	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	45.8	ug/L	92	71 - 127

## Sample Results

<b>DUP-2</b>	Collect Date	09/16/2015 12:00	GCAL ID	21509181211
	Receive Date	09/18/2015 09:57	Matrix	Water

**EPA 8260B**

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 20:18	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
<b>156-59-2</b>	<b>cis-1,2-Dichloroethene</b>	<b>1.96J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
<b>127-18-4</b>	<b>Tetrachloroethene</b>	<b>9.13</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
108-88-3	Toluene	0.200U	0.200	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
<b>79-01-6</b>	<b>Trichloroethene</b>	<b>3.50J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L

## Sample Results

<b>DUP-2</b>	Collect Date	09/16/2015 12:00	GCAL ID	21509181211
	Receive Date	09/18/2015 09:57	Matrix	Water

### EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 20:18	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	63.2	ug/L	126	78 - 130
1868-53-7	Dibromofluoromethane	50	53.5	ug/L	107	77 - 127
2037-26-5	Toluene d8	50	52.4	ug/L	105	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	45.7	ug/L	91	71 - 127

<b>TRIP BLANK-7</b>	Collect Date	09/16/2015 00:01	GCAL ID	21509181212
	Receive Date	09/18/2015 09:57	Matrix	Water

### EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 20:38	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
71-55-6	1,1,1-Trichloroethane	0.200U	0.200	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.200U	0.200	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.200U	0.200	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.200U	0.200	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.200U	0.200	5.00	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.200U	0.200	5.00	ug/L
96-12-8	1,2-Dibromo-3-chloropropane	0.200U	0.200	5.00	ug/L
106-93-4	1,2-Dibromoethane	0.200U	0.200	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.200U	0.200	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.200U	0.200	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.200U	0.200	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.200U	0.200	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.200U	0.200	5.00	ug/L
78-93-3	2-Butanone	0.200U	0.200	5.00	ug/L
110-75-8	2-Chloroethylvinyl ether	1.00U	1.00	5.00	ug/L
591-78-6	2-Hexanone	0.500U	0.500	5.00	ug/L
108-10-1	4-Methyl-2-pentanone	0.200U	0.200	5.00	ug/L
67-64-1	Acetone	0.500U	0.500	5.00	ug/L
71-43-2	Benzene	0.200U	0.200	5.00	ug/L
75-27-4	Bromodichloromethane	0.200U	0.200	5.00	ug/L
75-25-2	Bromoform	0.250U	0.250	5.00	ug/L
74-83-9	Bromomethane	0.500U	0.500	5.00	ug/L
75-15-0	Carbon disulfide	0.200U	0.200	5.00	ug/L

## Sample Results

<b>TRIP BLANK-7</b>	Collect Date	09/16/2015 00:01	GCAL ID	21509181212
	Receive Date	09/18/2015 09:57	Matrix	Water

EPA 8260B (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	09/20/2015 20:38	CJR	568179

CAS#	Parameter	Result	DL	LOQ	Units
56-23-5	Carbon tetrachloride	0.250U	0.250	5.00	ug/L
108-90-7	Chlorobenzene	0.200U	0.200	5.00	ug/L
75-00-3	Chloroethane	0.250U	0.250	5.00	ug/L
67-66-3	Chloroform	0.200U	0.200	5.00	ug/L
74-87-3	Chloromethane	0.200U	0.200	5.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
110-82-7	Cyclohexane	0.500U	0.500	5.00	ug/L
124-48-1	Dibromochloromethane	0.200U	0.200	5.00	ug/L
75-71-8	Dichlorodifluoromethane	0.200U	0.200	5.00	ug/L
100-41-4	Ethylbenzene	0.200U	0.200	5.00	ug/L
98-82-8	Isopropylbenzene (Cumene)	0.200U	0.200	5.00	ug/L
136777-61-2	m,p-Xylene	0.200U	0.200	10.0	ug/L
79-20-9	Methyl Acetate	1.00U	1.00	5.00	ug/L
108-87-2	Methylcyclohexane	0.200U	0.200	5.00	ug/L
75-09-2	Methylene chloride	0.200U	0.200	5.00	ug/L
95-47-6	o-Xylene	0.200U	0.200	5.00	ug/L
100-42-5	Styrene	0.200U	0.200	5.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.200U	0.200	5.00	ug/L
127-18-4	Tetrachloroethene	0.200U	0.200	5.00	ug/L
<b>108-88-3</b>	<b>Toluene</b>	<b>1.69J</b>	<b>0.200</b>	<b>5.00</b>	<b>ug/L</b>
156-60-5	trans-1,2-Dichloroethene	0.200U	0.200	5.00	ug/L
10061-02-6	trans-1,3-Dichloropropene	0.200U	0.200	5.00	ug/L
79-01-6	Trichloroethene	0.200U	0.200	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.200U	0.200	5.00	ug/L
76-13-1	Trichlorotrifluoroethane	0.200U	0.200	5.00	ug/L
108-05-4	Vinyl acetate	0.200U	0.200	5.00	ug/L
75-01-4	Vinyl chloride	0.200U	0.200	5.00	ug/L
1330-20-7	Xylene (total)	0.400U	0.400	15.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	61.4	ug/L	123	78 - 130
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	77 - 127
2037-26-5	Toluene d8	50	52.9	ug/L	106	76 - 134
17060-07-0	1,2-Dichloroethane-d4	50	46.4	ug/L	93	71 - 127



## GC/MS Volatiles QC Summary

Analytical Batch		Client ID	MB568179	LCS568179				LCSD568179					
568179		GCAL ID	1489697	1489698				1489699					
		Sample Type	MB	LCS				LCSD					
		Prep Date	NA	NA				NA					
		Analysis Date	09/20/2015 16:14	09/20/2015 13:46				09/20/2015 14:50					
		Matrix	Water	Water				Water					
EPA 8260B			Units Result	ug/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1,1-Trichloroethane	71-55-6	0.200U	0.200	50.0	45.9	92	76 - 126	50.0	47.5	95	3	30	
1,1,2,2-Tetrachloroethane	79-34-5	0.200U	0.200	50.0	46.7	93	70 - 122	50.0	48.9	98	5	30	
1,1,2-Trichloroethane	79-00-5	0.200U	0.200	50.0	48.3	97	72 - 121	50.0	49.3	99	2	30	
1,1-Dichloroethane	75-34-3	0.200U	0.200	50.0	45.6	91	74 - 127	50.0	48.0	96	5	30	
1,1-Dichloroethene	75-35-4	0.200U	0.200	50.0	50.1	100	69 - 129	50.0	49.4	99	1	20	
1,2,4-Trichlorobenzene	120-82-1	0.200U	0.200	50.0	49.6	99	61 - 135	50.0	53.1	106	7	30	
1,2-Dibromo-3-chloropropane	96-12-8	0.200U	0.200	50.0	47.8	96	57 - 121	50.0	48.9	98	2	30	
1,2-Dibromoethane	106-93-4	0.200U	0.200	50.0	48.3	97	70 - 124	50.0	48.8	98	1	30	
1,2-Dichlorobenzene	95-50-1	0.200U	0.200	50.0	47.3	95	71 - 126	50.0	49.7	99	5	30	
1,2-Dichloroethane	107-06-2	0.200U	0.200	50.0	43.9	88	71 - 129	50.0	45.5	91	4	30	
1,2-Dichloropropane	78-87-5	0.200U	0.200	50.0	45.5	91	72 - 128	50.0	47.9	96	5	30	
1,3-Dichlorobenzene	541-73-1	0.200U	0.200	50.0	46.8	94	74 - 126	50.0	48.8	98	4	30	
1,4-Dichlorobenzene	106-46-7	0.200U	0.200	50.0	45.6	91	72 - 122	50.0	48.4	97	6	30	
2-Butanone	78-93-3	0.200U	0.200	50.0	46.9	94	58 - 137	50.0	48.3	97	3	30	
2-Chloroethylvinyl ether	110-75-8	1.00U	1.00	50.0	52.9	106	56 - 124	50.0	53.8	108	2	30	
2-Hexanone	591-78-6	0.500U	0.500	50.0	48.7	97	50 - 135	50.0	50.3	101	3	30	
4-Methyl-2-pentanone	108-10-1	0.200U	0.200	50.0	50.1	100	57 - 132	50.0	51.1	102	2	30	
Acetone	67-64-1	0.500U	0.500	50.0	44.7	89	44 - 156	50.0	46.8	94	5	30	
Benzene	71-43-2	0.200U	0.200	50.0	46.2	92	70 - 129	50.0	47.2	94	2	20	
Bromodichloromethane	75-27-4	0.200U	0.200	50.0	48.4	97	74 - 125	50.0	49.8	100	3	30	
Bromoform	75-25-2	0.250U	0.250	50.0	50.1	100	64 - 122	50.0	51.7	103	3	30	
Bromomethane	74-83-9	0.500U	0.500	50.0	56.9	114	47 - 138	50.0	59.4	119	4	30	
Carbon disulfide	75-15-0	0.200U	0.200	50.0	49.7	99	69 - 136	50.0	50.1	100	1	30	
Carbon tetrachloride	56-23-5	0.250U	0.250	50.0	47.3	95	76 - 128	50.0	47.2	94	0	30	
Chlorobenzene	108-90-7	0.200U	0.200	50.0	46.6	93	74 - 123	50.0	47.0	94	1	20	
Chloroethane	75-00-3	0.250U	0.250	50.0	47.6	95	62 - 141	50.0	48.6	97	2	30	
Chloroform	67-66-3	0.200U	0.200	50.0	46.1	92	75 - 122	50.0	47.0	94	2	30	
Chloromethane	74-87-3	0.200U	0.200	50.0	47.4	95	59 - 132	50.0	46.6	93	2	30	
cis-1,2-Dichloroethene	156-59-2	0.200U	0.200	50.0	45.1	90	73 - 130	50.0	47.6	95	5	30	
cis-1,3-Dichloropropene	10061-01-5	0.200U	0.200	50.0	48.3	97	71 - 132	50.0	50.1	100	4	30	
Cyclohexane	110-82-7	0.500U	0.500	50.0	45.9	92	69 - 132	50.0	47.9	96	4	30	
Dibromochloromethane	124-48-1	0.200U	0.200	50.0	50.7	101	71 - 123	50.0	52.2	104	3	30	
Dichlorodifluoromethane	75-71-8	0.200U	0.200	50.0	41.7	83	58 - 140	50.0	41.6	83	0	30	
Ethylbenzene	100-41-4	0.200U	0.200	50.0	47.0	94	74 - 126	50.0	48.5	97	3	30	
Isopropylbenzene (Cumene)	98-82-8	0.200U	0.200	50.0	49.6	99	71 - 125	50.0	50.5	101	2	30	
m,p-Xylene	136777-61-2	0.200U	0.200	100	97.7	98	74 - 126	100	98.1	98	0	30	
Methyl Acetate	79-20-9	1.00U	1.00	50.0	44.4	89	57 - 139	50.0	46.3	93	4	30	
Methylcyclohexane	108-87-2	0.200U	0.200	50.0	46.5	93	67 - 138	50.0	47.6	95	2	30	
Methylene chloride	75-09-2	0.200U	0.200	50.0	43.0	86	68 - 132	50.0	44.5	89	3	30	
o-Xylene	95-47-6	0.200U	0.200	50.0	49.1	98	73 - 130	50.0	49.8	100	1	30	
Styrene	100-42-5	0.200U	0.200	50.0	51.0	102	71 - 127	50.0	50.9	102	0	30	
tert-Butyl methyl ether (MTBE)	1634-04-4	0.200U	0.200	50.0	47.0	94	71 - 125	50.0	48.1	96	2	30	
Tetrachloroethene	127-18-4	0.200U	0.200	50.0	48.9	98	68 - 128	50.0	46.9	94	4	30	
Toluene	108-88-3	0.200U	0.200	50.0	46.8	94	72 - 120	50.0	47.5	95	1	20	
trans-1,2-Dichloroethene	156-60-5	0.200U	0.200	50.0	43.9	88	69 - 132	50.0	46.1	92	5	30	
trans-1,3-Dichloropropene	10061-02-6	0.200U	0.200	50.0	49.3	99	71 - 131	50.0	51.3	103	4	30	
Trichloroethene	79-01-6	0.200U	0.200	50.0	46.4	93	76 - 129	50.0	47.9	96	3	20	
Trichlorofluoromethane	75-69-4	0.200U	0.200	50.0	48.2	96	72 - 136	50.0	50.9	102	5	30	
Trichlorotrifluoroethane	76-13-1	0.200U	0.200	50.0	47.6	95	72 - 136	50.0	44.2	88	7	30	
Vinyl acetate	108-05-4	0.200U	0.200	50.0	35.9	72	54 - 147	50.0	34.9	70	3	30	
Vinyl chloride	75-01-4	0.200U	0.200	50.0	44.1	88	68 - 132	50.0	44.3	89	1	30	
Xylene (total)	1330-20-7	0.400U	0.400	150	147	98	74 - 127	150	148	99	1	30	
<b>Surrogate</b>													
1,2-Dichloroethane-d4	17060-07-0	49.3	99	50	48.3	97	71 - 127	50	49.7	99	3	NA	
4-Bromofluorobenzene	460-00-4	48.8	98	50	51	102	78 - 130	50	50.2	100	2	NA	
Dibromofluoromethane	1868-53-7	49	98	50	49.7	99	77 - 127	50	50.3	101	1	NA	
Toluene d8	2037-26-5	50.7	101	50	50.6	101	76 - 134	50	50.3	101	1	NA	



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: 215091812

**Report to:**  
 Client: AMEC Foster Wheeler  
 Address: 1075 Big Shanty RD  
 Suite 100 Kennesaw GA  
 Contact: Greg Wren  
 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

Sampled By: Mark A.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	No. Containers
W	9/16/15	1043		✓	S-18	3
W	9/16/15	1105		✓	S-17	3
W	9/16/15	1120		✓	S-16	3
W	9/16/15	1130		✓	S-15	3
W	9/16/15	1145		✓	S-14	3
W	9/16/15	1155		✓	S-13	3
W	9/16/15	1209		✓	S-12	3
W	9/16/15	1220		✓	S-11	3
W	9/16/15	1246		✓	S-10	3
W	9/16/15	1258		✓	S-9	3
W	9/16/15	1200		✓	DUP-2	3
W					TRIP Blank-7	3

Air Bill No: 7744201389

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

Reinquired by (Signature): [Signature] Date: 9/15/15 Time: 1400  
 Received by (Signature): [Signature] Date: 9/15/15 Time: 1400

Reinquired by (Signature): [Signature] Date: 9/15/15 Time: 1400  
 Received by (Signature): [Signature] Date: 9/15/15 Time: 1400

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

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

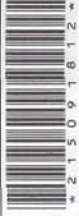
\*Requires prior approval, rush charges may apply.

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

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT



## SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 215091812		CHECKLIST		YES	NO	NA
Client 4829 - AMEC Environment & Infrastructure, Inc.	PM RCH2 Transport Method FEDEX	Were all samples received using proper thermal preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profile Number 249065	Received By McCune, Dodie N.	When used, were all custody seals intact?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Line Item(s) 1 - Full VOC, TOC, Cl, SO4, NO3, Sulfide, RSK-175	Receive Date(s) 09/18/15	Were all samples received in proper containers?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Were all samples received using proper chemical preservation?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Was preservative added to any container at the lab?		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Were all containers received in good condition?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Were all VOA vials received with no head space?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Do all sample labels match the Chain of Custody?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Did the Chain of Custody list the sampling technician?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Was the COC maintained i.e. all signatures, dates and time of receipt included?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COOLERS		DISCREPANCIES	LAB PRESERVATIONS
Airbill 77442121389	Thermometer ID: E24	None	None
	Temp(°C) 3.2		

NOTES

**APPENDIX C  
DEFOORS FERRY GAGE DATA  
16 SEPTEMBER 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](mailto:gs-w_support_nwisweb@usgs.gov)  
 # retrieved: 2015-10-22 13:54:05 EDT (vaww01)  
 #

# 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  
 # 02 00065 Gage height, feet  
 # 03 00045 Precipitation, total, inches  
 # 04 00010 Temperature, water, degrees Celsius  
 # 05 00095 Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius  
 # 06 00300 Dissolved oxygen, water, unfiltered, milligrams per liter  
 # 07 00400 pH, water, unfiltered, field, standard units  
 # 08 63680 Turbidity, water, unfiltered, monochrome near infra-red LED light, 780-900 nm, detection angle 90 +-2.5 degrees, formaz  
 #

# 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	02_00065	02_00065_cd	03_00045	03_00045_cd							
5s	15s	20d	6s	14n	10s	14n	10s	14n	10s	14n	10s	14n	10s	14n		
USGS	02336313		2015-09-16	00:00	EDT	0.46	P	0.47	P	0.00	P	19.6	P	297	P	7.2
USGS	02336313		2015-09-16	00:15	EDT	0.46	P	0.47	P	0.00	P	19.6	P	297	P	7.1
USGS	02336313		2015-09-16	00:30	EDT	0.46	P	0.47	P	0.00	P	19.5	P	297	P	7.2
USGS	02336313		2015-09-16	00:45	EDT	0.46	P	0.47	P	0.00	P	19.5	P	298	P	7.2
USGS	02336313		2015-09-16	01:00	EDT	0.46	P	0.47	P	0.00	P	19.4	P	298	P	7.2
USGS	02336313		2015-09-16	01:15	EDT	0.46	P	0.47	P	0.00	P	19.4	P	298	P	7.2
USGS	02336313		2015-09-16	01:30	EDT	0.42	P	0.46	P	0.00	P	19.4	P	297	P	7.1
USGS	02336313		2015-09-16	01:45	EDT	0.46	P	0.47	P	0.00	P	19.3	P	298	P	7.2
USGS	02336313		2015-09-16	02:00	EDT	0.46	P	0.47	P	0.00	P	19.2	P	298	P	7.2
USGS	02336313		2015-09-16	02:15	EDT	0.46	P	0.47	P	0.00	P	19.2	P	298	P	7.1
USGS	02336313		2015-09-16	02:30	EDT	0.46	P	0.47	P	0.00	P	19.2	P	298	P	7.2
USGS	02336313		2015-09-16	02:45	EDT	0.46	P	0.47	P	0.00	P	19.1	P	298	P	7.2
USGS	02336313		2015-09-16	03:00	EDT	0.46	P	0.47	P	0.00	P	19.1	P	298	P	7.2
USGS	02336313		2015-09-16	03:15	EDT	0.46	P	0.47	P	0.00	P	19.0	P	298	P	7.1
USGS	02336313		2015-09-16	03:30	EDT	0.46	P	0.47	P	0.00	P	19.0	P	299	P	7.1
USGS	02336313		2015-09-16	03:45	EDT	0.46	P	0.47	P	0.00	P	19.0	P	299	P	7.1
USGS	02336313		2015-09-16	04:00	EDT	0.46	P	0.47	P	0.00	P	18.9	P	299	P	7.1
USGS	02336313		2015-09-16	04:15	EDT	0.46	P	0.47	P	0.00	P	18.9	P	300	P	7.1
USGS	02336313		2015-09-16	04:30	EDT	0.42	P	0.46	P	0.00	P	18.8	P	300	P	7.1
USGS	02336313		2015-09-16	04:45	EDT	0.46	P	0.47	P	0.00	P	18.8	P	300	P	7.1
USGS	02336313		2015-09-16	05:00	EDT	0.46	P	0.47	P	0.00	P	18.8	P	300	P	7.0
USGS	02336313		2015-09-16	05:15	EDT	0.46	P	0.47	P	0.00	P	18.7	P	300	P	7.0
USGS	02336313		2015-09-16	05:30	EDT	0.46	P	0.47	P	0.00	P	18.6	P	300	P	7.0
USGS	02336313		2015-09-16	05:45	EDT	0.46	P	0.47	P	0.00	P	18.6	P	300	P	7.1
USGS	02336313		2015-09-16	06:00	EDT	0.46	P	0.47	P	0.00	P	18.6	P	300	P	7.1
USGS	02336313		2015-09-16	06:15	EDT	0.46	P	0.47	P	0.00	P	18.5	P	300	P	7.1
USGS	02336313		2015-09-16	06:30	EDT	0.46	P	0.47	P	0.00	P	18.5	P	300	P	7.1
USGS	02336313		2015-09-16	06:45	EDT	0.42	P	0.46	P	0.00	P	18.5	P	300	P	7.1
USGS	02336313		2015-09-16	07:00	EDT	0.46	P	0.47	P	0.00	P	18.4	P	300	P	7.1
USGS	02336313		2015-09-16	07:15	EDT	0.46	P	0.47	P	0.00	P	18.4	P	300	P	7.1
USGS	02336313		2015-09-16	07:30	EDT	0.46	P	0.47	P	0.00	P	18.3	P	300	P	7.2
USGS	02336313		2015-09-16	07:45	EDT	0.46	P	0.47	P	0.00	P	18.3	P	300	P	7.1
USGS	02336313		2015-09-16	08:00	EDT	0.46	P	0.47	P	0.00	P	18.3	P	300	P	7.1
USGS	02336313		2015-09-16	08:15	EDT	0.46	P	0.47	P	0.00	P	18.2	P	300	P	7.2
USGS	02336313		2015-09-16	08:30	EDT	0.46	P	0.47	P	0.00	P	18.2	P	300	P	7.2
USGS	02336313		2015-09-16	08:45	EDT	0.51	P	0.48	P	0.00	P	18.2	P	301	P	7.3
USGS	02336313		2015-09-16	09:00	EDT	0.51	P	0.48	P	0.00	P	18.2	P	301	P	7.3
USGS	02336313		2015-09-16	09:15	EDT	0.51	P	0.48	P	0.00	P	18.3	P	300	P	7.4
USGS	02336313		2015-09-16	09:30	EDT	0.51	P	0.48	P	0.00	P	18.3	P	301	P	7.4
USGS	02336313		2015-09-16	09:45	EDT	0.46	P	0.47	P	0.00	P	18.4	P	301	P	7.6
USGS	02336313		2015-09-16	10:00	EDT	0.51	P	0.48	P	0.00	P	18.4	P	301	P	7.6
USGS	02336313		2015-09-16	10:15	EDT	0.51	P	0.48	P	0.00	P	18.4	P	301	P	7.8
USGS	02336313		2015-09-16	10:30	EDT	0.51	P	0.48	P	0.00	P	18.5	P	301	P	7.8
USGS	02336313		2015-09-16	10:45	EDT	0.51	P	0.48	P	0.00	P	18.7	P	300	P	7.9
USGS	02336313		2015-09-16	11:00	EDT	0.51	P	0.48	P	0.00	P	18.9	P	300	P	8.0
USGS	02336313		2015-09-16	11:15	EDT	0.51	P	0.48	P	0.00	P	19.1	P	300	P	8.1
USGS	02336313		2015-09-16	11:30	EDT	0.51	P	0.48	P	0.00	P	19.3	P	300	P	8.3
USGS	02336313		2015-09-16	11:45	EDT	0.51	P	0.48	P	0.00	P	19.4	P	300	P	8.4
USGS	02336313		2015-09-16	12:00	EDT	0.51	P	0.48	P	0.00	P	19.6	P	300	P	8.5
USGS	02336313		2015-09-16	12:15	EDT	0.46	P	0.47	P	0.00	P	19.8	P	300	P	8.5
USGS	02336313		2015-09-16	12:30	EDT	0.46	P	0.47	P	0.00	P	19.7	P	300	P	8.6
USGS	02336313		2015-09-16	12:45	EDT	0.51	P	0.48	P	0.00	P	20.0	P	299	P	8.7
USGS	02336313		2015-09-16	13:00	EDT	0.51	P	0.48	P	0.00	P	20.2	P	300	P	8.8
USGS	02336313		2015-09-16	13:15	EDT	0.51	P	0.48	P	0.00	P	20.2	P	300	P	8.9
USGS	02336313		2015-09-16	13:30	EDT	0.46	P	0.47	P	0.00	P	20.4	P	299	P	8.8
USGS	02336313		2015-09-16	13:45	EDT	0.51	P	0.48	P	0.00	P	20.3	P	300	P	9.0
USGS	02336313		2015-09-16	14:00	EDT	0.51	P	0.48	P	0.00	P	20.3	P	300	P	9.0
USGS	02336313		2015-09-16	14:15	EDT	0.46	P	0.47	P	0.00	P	20.3	P	299	P	8.9
USGS	02336313		2015-09-16	14:30	EDT	0.51	P	0.48	P	0.00	P	20.3	P	299	P	9.0
USGS	02336313		2015-09-16	14:45	EDT	0.51	P	0.48	P	0.00	P	20.4	P	299	P	8.9
USGS	02336313		2015-09-16	15:00	EDT	0.51	P	0.48	P	0.00	P	20.4	P	299	P	8.9
USGS	02336313		2015-09-16	15:15	EDT	0.46	P	0.47	P	0.00	P	20.4	P	299	P	8.9
USGS	02336313		2015-09-16	15:30	EDT	0.51	P	0.48	P	0.00	P	20.5	P	299	P	8.8
USGS	02336313		2015-09-16	15:45	EDT	0.51	P	0.48	P	0.00	P	20.4	P	299	P	8.7
USGS	02336313		2015-09-16	16:00	EDT	0.51	P	0.48	P	0.00	P	20.4	P	299	P	8.8
USGS	02336313		2015-09-16	16:15	EDT	0.51	P	0.48	P	0.00	P	20.4	P	299	P	8.8



USGS	02336313	2015-09-17 17:30	EDT	0.46	P	0.47	P	0.00	P	21.0	P	305	P	7.6
USGS	02336313	2015-09-17 17:45	EDT	0.46	P	0.47	P	0.00	P	21.0	P	305	P	7.5
USGS	02336313	2015-09-17 18:00	EDT	0.46	P	0.47	P	0.00	P	21.0	P	305	P	7.4
USGS	02336313	2015-09-17 18:15	EDT	0.46	P	0.47	P	0.00	P	21.0	P	305	P	7.4
USGS	02336313	2015-09-17 18:30	EDT	0.46	P	0.47	P	0.00	P	21.0	P	305	P	7.4
USGS	02336313	2015-09-17 18:45	EDT	0.46	P	0.47	P	0.00	P	21.1	P	304	P	7.3
USGS	02336313	2015-09-17 19:00	EDT	0.46	P	0.47	P	0.00	P	21.1	P	304	P	7.3
USGS	02336313	2015-09-17 19:15	EDT	0.46	P	0.47	P	0.00	P	21.1	P	304	P	7.3
USGS	02336313	2015-09-17 19:30	EDT	0.46	P	0.47	P	0.00	P	21.1	P	304	P	7.2
USGS	02336313	2015-09-17 19:45	EDT	0.46	P	0.47	P	0.00	P	21.1	P	304	P	7.2
USGS	02336313	2015-09-17 20:00	EDT	0.46	P	0.47	P	0.00	P	21.0	P	304	P	7.2
USGS	02336313	2015-09-17 20:15	EDT	0.46	P	0.47	P	0.00	P	21.0	P	303	P	7.1
USGS	02336313	2015-09-17 20:30	EDT	0.46	P	0.47	P	0.00	P	21.0	P	303	P	7.0
USGS	02336313	2015-09-17 20:45	EDT	0.46	P	0.47	P	0.00	P	21.0	P	303	P	7.0
USGS	02336313	2015-09-17 21:00	EDT	0.46	P	0.47	P	0.00	P	20.9	P	303	P	6.9
USGS	02336313	2015-09-17 21:15	EDT	0.46	P	0.47	P	0.00	P	20.9	P	304	P	6.9
USGS	02336313	2015-09-17 21:30	EDT	0.46	P	0.47	P	0.00	P	20.9	P	304	P	6.9
USGS	02336313	2015-09-17 21:45	EDT	0.46	P	0.47	P	0.00	P	20.8	P	304	P	6.9
USGS	02336313	2015-09-17 22:00	EDT	0.46	P	0.47	P	0.00	P	20.8	P	304	P	6.9
USGS	02336313	2015-09-17 22:15	EDT	0.46	P	0.47	P	0.00	P	20.8	P	304	P	6.8
USGS	02336313	2015-09-17 22:30	EDT	0.46	P	0.47	P	0.00	P	20.8	P	304	P	6.8
USGS	02336313	2015-09-17 22:45	EDT	0.46	P	0.47	P	0.00	P	20.7	P	304	P	6.8
USGS	02336313	2015-09-17 23:00	EDT	0.42	P	0.46	P	0.00	P	20.7	P	304	P	6.8
USGS	02336313	2015-09-17 23:15	EDT	0.46	P	0.47	P	0.00	P	20.7	P	304	P	6.8
USGS	02336313	2015-09-17 23:30	EDT	0.46	P	0.47	P	0.00	P	20.6	P	304	P	6.7
USGS	02336313	2015-09-17 23:45	EDT	0.42	P	0.46	P	0.00	P	20.6	P	304	P	6.7

**APPENDIX D  
MNA EVALUATION**



## Woodall Creek Site Monitored Natural Attenuation Evaluation

### Summary

The area contains groundwater of heterogeneous redox conditions. Areas of suboxic and anoxic redox conditions that can support reductive bio dechlorination (RBDC) attenuation of chlorinated solvents are scattered but widely present. The existence of daughter products of RBDC support RBDC has occurred. The current presence of suboxic and anoxic areas of groundwater suggest conditions are favorable for continued RBDC.

### Data

Data were compiled from four sampling events from March and September 2014 to March and September 2015 on 72 wells:

AKZO	Daltile	Dobbins Property	Goodstone	Macys Property	Midtown West Partners	M-West HOA	Restaurant Supply	Southern Metal Finishing
AKZMW-3	RPMW-1	DPMW-10	GPMW-11	MPMW-15	MTWMW-08	HOAMW-14	JPBRW-1	SMFDR-1
AKZMW-4	RPMW-14	DPMW-15	GPMW-18	MPMW-19	MTWMW-1	HOAMW-3	JPMW-16	SMFDR-2
AKZMW-6	RPMW-15	DPMW-16	GPMW-19		MTWMW-10	HOAMW-5	JPMW-17	SMFDR-3
AKZMW-7	RPMW-2	DPMW-1S	GPMW-20		MTWMW-12	HOAMW-5I	JPMW-21	SMFDS-1
AKZMW-8	RPMW-24	DPMW-25			MTWMW-4	HOAMW-6	JPMW-22	SMFDS-3
		DPMW-26			MTWMW-7	MW-X	JPMW-23	SMFMW-1
		DPMW-27			MTWMW-7I			SMFMW-10
		DPMW-28			MTWMW-9			SMFMW-11
		DPMW-2I						SMFMW-12
		DPMW-2S						SMFMW-13
		DPMW-3I						SMFMW-14
		DPMW-3S						SMFMW-17
		DPMW-4I						SMFMW-18
		DPMW-4S						SMFMW-1D
								SMFMW-2
								SMFMW-3
								SMFMW-4
								SMFMW-6
								SMFMW-7
								SMFMW-9
								SMFPI-1
								SMWPI-1

Chemical and field analytes included: 1,1-Dichloroethene, Acetone, Benzene, Chloroform, cis-1,2-Dichloroethene, Ethylbenzene, Isopropylbenzene (Cumene), m,p-

Xylene, Methylcyclohexane, o-Xylene, Tetrachloroethene, Trichloroethene, 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 2-Butanone, 2-Chloroethylvinyl ether, 2-Hexanone, 4-Methyl-2-pentanone, Bromodichloromethane, Bromoform, Bromomethane, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, cis-1,3-Dichloropropene, Cyclohexane, Dibromochloromethane, Dichlorodifluoromethane, Methyl Acetate, Methylene chloride, Styrene, Toluene, Trichlorofluoromethane, Trichlorotrifluoroethane, Vinyl acetate, Vinyl chloride, Xylene (total), tert-Butyl methyl ether (MTBE), trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, Ethane, Ethene, Methane, Total Organic Carbon, Sulfide, Chloride, Nitrate, Sulfate, Ferrous Iron, Temperature, pH, Turbidity, Conductivity, ORP, and Dissolved Oxygen

## Methods

### M&C categories

Two methods of assessing viability and presence of natural attenuation were used. First a survey of the oxidation/reduction conditions was made at each well for each sampling event. This was based on the method of McMahon and Chapelle (M&C) (Groundwater, Vol 46, No. 2). In this publication, the authors describe a series of water chemistry criteria used to identify predominant redox conditions present in a water sample. The criteria used are very similar to those used by Wiedemeier's protocol for scoring of reductive dechlorination potential (USEPA 1998). The redox conditions include: Oxidic, Suboxidic, Anoxic (with subcategories), and Mixed. They describe these categories based on concentrations of dissolved oxygen, nitrate, manganese ( $Mn^{2+}$ ), iron ( $Fe^{2+}$ ), and sulfate.

Oxidic conditions represent  $O_2$  reduction processes and have dissolved oxygen concentrations greater than 0.5 mg/L and no detected  $Mn^{2+}$  or  $Fe^{2+}$  (dissolved manganese was not analyzed in these samples).

Suboxidic conditions have dissolved oxygen concentrations less than 0.5 mg/L and no detected nitrate,  $Mn^{2+}$  or  $Fe^{2+}$ . No further more detailed redox process categorizing is possible.

Anoxic conditions include nitrate reduction (nitrate greater than 0.5 mg/L and no detected  $Mn^{2+}$  or  $Fe^{2+}$ ). Manganese reduction has  $Mn^{2+}$  greater than 0.05 mg/L and no detected nitrate or  $Fe^{2+}$ . Iron/sulfate reduction has no detected nitrate but detections of  $Fe^{2+}$  and sulfate. Methanogenesis conditions have no detectable nitrate or sulfate but detectable  $Fe^{2+}$ .

If none of these criteria are met, then the redox conditions are considered "mixed".

Based on ORP values in Wiedemeier's protocol for scoring of reductive dechlorination potential (USEPA 1998), Oxidic conditions are not amenable to RBDC of chlorinated

solvents. ORP values below 50 mV are needed for RBDC to be possible and -100 mV before it is likely. So, at least nitrate reducing conditions are needed and iron/sulfate conditions are preferable. The M&C Oxidic redox conditions are not expected to be conducive to chlorinated solvent biodechlorination degradation, but mixed redox conditions may be.

### Daughter Products

A separate line of evidence of RBDC of chlorinated solvents is the presence of breakdown (daughter) products not present in the solvent that was released. Both tetrachloroethene (PCE) and trichloroethene (TCE) are commercially used as solvents, but *cis* 1, 2 dichloroethene (c12DCE) and vinyl chloride (VC) are not. They are daughter products. Similarly, 1, 1, 1 trichloroethane (111TCA) is a commercial solvent while 1, 1 dichloroethane (11DCA) and chloroethane (CA) are daughter products. Their presence strongly suggests reductive biodechlorination has occurred. (See table 1 for a summary of the detection of parent and daughter chlorinated solvent analytes for each well).

### **Results**

Many of the wells fall into the M&C Oxidic redox category where active RBDC is not predicted to be happening, based on the simple M&C redox categorization method. (See table 1). Those wells that do not (that are mixed or suboxic or more reducing), are scattered across many of the properties, suggesting a heterogeneous mixture of groundwater redox conditions over the area. As such, pockets of reductive dechlorination appear to be occurring.

The existence of RBDC is further supported by the widespread prevalence of daughter products. Even in wells categorized as Oxidic, many have daughter products present, strongly suggesting RBDC has occurred.

## References

*Redox Processes and Water Quality of Selected Principal Aquifer Systems*

P.B. McMahon, F.H. Chapelle

GROUND WATER 46, no. 2: 259–271

*Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water*

Todd H. Wiedemeier, Matthew A. Swanson, David E. Moutoux, E. Kinzie Gordon, John T. Wilson, Barbara H. Wilson, and Donald H. Kampbell, Patrick E. Haas, Ross N. Miller, Jerry E. Hansen, and Francis H. Chapelle.

EPA/600/R-98/128

Table 1. Summary of Evidence for Reductive Bio Dechlorination

Property Location	Well Designation	McMahon Chapelle Designation	Count of Events	Potential for Reductive bio dechlorination (RBDC)	Chlorinated Ethylenes				Chlorinated Ethanes		
					PERC Detected	TCE Detected	c12DCE Detected	VC Detected	111TCA Detected	11DCA Detected	CA Detected
AKZO	AKZMW-3	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-4	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-6	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-7	Suboxic	1	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-8	Anoxic Fe3 SO4 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-10	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-15	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Dobbins Property	DPMW-15	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Dobbins Property	DPMW-16	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-1S	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-25	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-26	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-27	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-27	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-28	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2I	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2I	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2S	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2S	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3S	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3S	Oxic - O2 reduction	2		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-4I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-4S	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-11	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-11	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-18	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-19	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-19	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-20	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-14	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-3	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-5	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
M-West HOA	HOAMW-5	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-5I	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-6	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	MW-X	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	MW-X	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPBW-1	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-16	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-17	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-17	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-21	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-22	Anoxic NO2 reduction	2	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-22	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Restaurant Supply	JPMW-22	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-23	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-23	Suboxic	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Macys Property	MPMW-15	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Macys Property	MPMW-15	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Macys Property	MPMW-19	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-08	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-1	Anoxic Fe3 SO4 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-10	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Anoxic NO2 reduction	1	Potential RBDC	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Mixed or Unknown	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-4	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-4	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-7	Anoxic Fe3 SO4 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-7	Mixed or Unknown	1		TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-7	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Suboxic	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-9	Mixed or Unknown	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-9	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-1	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-14	Anoxic NO2 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-14	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-15	Anoxic NO2 reduction	2	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-15	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-2	Mixed or Unknown	1	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-2	Oxic - O2 reduction	2		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dalltile	RPMW-24	Oxic - O2 reduction	5		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-1	Anoxic NO2 reduction	1	Potential RBDC	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-2	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE

Table 1. Summary of Evidence for Reductive Bio Dechlorination

Property Location	Well Designation	McMahon Chapelle Designation	Count of Events	Potential for Reductive bio dechlorination (RBDC)	Chlorinated Ethylenes				Chlorinated Ethanes		
					PERC Detected	TCE Detected	c12DCE Detected	VC Detected	111TCA Detected	11DCA Detected	CA Detected
Southern Metal Finishing	SMFDR-2	Oxic - O2 reduction	3		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-3	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFDR-3	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDS-1	Oxic - O2 reduction	2		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDS-3	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-10	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-11	Mixed or Unknown	2	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-12	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-13	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-14	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-17	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	2		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1D	Oxic - O2 reduction	3		TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFMW-1D	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-2	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-3	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-4	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-6	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-7	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-9	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1	Mixed or Unknown	1	Potential RBDC	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFPI-1	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFPI-1	Oxic - O2 reduction	2		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMWPI-1	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE

Table 1. Summary of Evidence for Reductive Bio Dechlorination

Property Location	Well Designation	McMahon Chapelle Designation	Count of Events	Potential for Reductive bio dechlorination (RBDC)	Chlorinated Ethylenes				Chlorinated Ethanes		
					PERC Detected	TCE Detected	c12DCE Detected	VC Detected	111TCA Detected	11DCA Detected	CA Detected
AKZO	AKZMW-3	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-4	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-6	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-7	Suboxic	1	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
AKZO	AKZMW-8	Anoxic Fe3 SO4 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-10	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-15	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Dobbins Property	DPMW-15	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Dobbins Property	DPMW-16	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-1S	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-25	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-26	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-27	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-27	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-28	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2I	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2I	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2S	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-2S	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3S	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-3S	Oxic - O2 reduction	2		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-4I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dobbins Property	DPMW-4S	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-11	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-11	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-18	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-19	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-19	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Goodstone	GPMW-20	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-14	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-3	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-5	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
M-West HOA	HOAMW-5	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-5I	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	HOAMW-6	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	MW-X	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
M-West HOA	MW-X	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPBW-1	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-16	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-17	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-17	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-21	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-22	Anoxic NO2 reduction	2	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-22	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Restaurant Supply	JPMW-22	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-23	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Restaurant Supply	JPMW-23	Suboxic	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Macys Property	MPMW-15	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Macys Property	MPMW-15	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Macys Property	MPMW-19	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-08	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-1	Anoxic Fe3 SO4 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-10	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Anoxic NO2 reduction	1	Potential RBDC	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Mixed or Unknown	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-12	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-4	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-4	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-7	Anoxic Fe3 SO4 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-7	Mixed or Unknown	1		TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE
Midtown West Partners	MTWMW-7	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-7I	Suboxic	1	Potential RBDC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE
Midtown West Partners	MTWMW-9	Mixed or Unknown	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Midtown West Partners	MTWMW-9	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-1	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-14	Anoxic NO2 reduction	1	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-14	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-15	Anoxic NO2 reduction	2	Potential RBDC	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-15	Oxic - O2 reduction	2		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-2	Mixed or Unknown	1	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-2	Oxic - O2 reduction	2		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Dallite	RPMW-24	Oxic - O2 reduction	5		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-1	Anoxic NO2 reduction	1	Potential RBDC	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-2	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE

Table 1. Summary of Evidence for Reductive Bio Dechlorination

Property Location	Well Designation	McMahon Chapelle Designation	Count of Events	Potential for Reductive bio dechlorination (RBDC)	Chlorinated Ethylenes				Chlorinated Ethanes		
					PERC Detected	TCE Detected	c12DCE Detected	VC Detected	111TCA Detected	11DCA Detected	CA Detected
Southern Metal Finishing	SMFDR-2	Oxic - O2 reduction	3		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDR-3	Oxic - O2 reduction	3		TRUE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFDR-3	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDS-1	Oxic - O2 reduction	2		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFDS-3	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1	Mixed or Unknown	1	Potential RBDC	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-10	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-11	Mixed or Unknown	2	Potential RBDC	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-12	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-13	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-14	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-17	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	2		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-18	Oxic - O2 reduction	1		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1D	Oxic - O2 reduction	3		TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE
Southern Metal Finishing	SMFMW-1D	Oxic - O2 reduction	1		TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-2	Oxic - O2 reduction	4		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-3	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-4	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-6	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-7	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-9	Oxic - O2 reduction	1		TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFMW-1	Mixed or Unknown	1	Potential RBDC	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFPI-1	Oxic - O2 reduction	1		TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMFPI-1	Oxic - O2 reduction	2		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
Southern Metal Finishing	SMWPI-1	Oxic - O2 reduction	1		TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE