1st ANNUAL GROUNDWATER MONITORING AND MAINTENANCE REPORT

Hunting Creek Shopping Plaza
1820 Georgia Highway 20 South
Conyers, Rockdale County, Georgia
HSI Site No. 10832

Prepared for Submission to:

Georgia Environmental Protection Division
Hazardous Waste Management Branch
Suite 1054, East Tower
2 Martin Luther King Jr. Drive
Atlanta, Georgia 30334

Prepared for:

F.S. Associates, L.P.
c/o Kazmarek Mowrey Cloud & Laseter LLP
One Securities Center
Suite 350
3490 Piedmont Road, NE
Atlanta, Georgia 30305

Prepared by:

AMEC Environment & Infrastructure, Inc.
396 Plasters Avenue
Atlanta, Georgia 30324
(404) 873-4761

January 15, 2014

AMEC Project No.6121-10-0013

January 15, 2013

Mr. Charles D. Williams
Environmental Protection Division
Hazardous Site Response Program
Response and Remediation Unit
Floyd Tower East, Suite 1054
2 Martin Luther King, Jr. Blvd.
Atlanta, Georgia 30334

Subject: **1st Annual Groundwater Monitoring Report**
Hunting Creek Shopping Plaza
1820 Georgia Highway 20 South
Conyers, Rockdale County, Georgia
HSI Site No. 10832
AMEC Project No. 6121-10-0013

Dear Mr. Williams:

On behalf of F.S. Associates, L.P., AMEC Environment & Infrastructure, Inc. (AMEC) respectfully submits this Annual Groundwater Monitoring Report for the Hunting Creek Shopping Plaza located at 1820 Georgia Highway 20 South in Conyers, Rockdale County, Georgia. This report addresses the Groundwater Monitoring and Maintenance Plan dated May 30, 2013 approved by the Georgia Department of Natural Resources Environmental Protection Division (EPD) on August 19, 2013.

This report is intended for the use of F.S. Associates, L.P. and for regulatory submittal, subject to the contractual terms agreed to for this project. If you have any questions and/or comments regarding the material presented in this report, please contact Chuck Ferry at (404) 817-0107 or by email at ctferry@amec.com.

Sincerely,

AMEC

Tyler Boyles
Project Geologist

Charles T. Ferry, P.E.
Senior Principal Engineer

cc: Mr. Mitchell Worth, F.S. Associates, L.P.
Mr. Scott Laseter, Kazmarek Mowrey Cloud & Laseter LLP

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1.0 PROJECT SUMMARY

The subject property is located at 1820 Georgia Highway 20 South in Conyers, Rockdale County, Georgia, referred to herein as the "site." The site is developed with a strip shopping center, Hunting Creek Shopping Plaza, and associated parking. Esquire Cleaners was a tenant dry cleaning business which operated on the south end of the building from 1988 to 2005.

The site was the subject of a series of environmental assessments which revealed the presence of volatile organic compounds (VOCs) in soil and groundwater in the area of the former dry cleaner. Results of an initial soil assessment conducted at the subject site in 1997 and follow-up environmental assessments conducted in 2005 were submitted to the Georgia EPD. Based on the data submitted, the Georgia EPD listed the subject site on the Hazardous Site Inventory (HSI) as site number 10832 due to an exeedance of the threshold for the groundwater published under the RQSM.

A Prospective Purchaser Corrective Action Plan (PPCAP) was submitted to EPD in August 2006 on behalf of Rose City Village Affordable Housing LP, Dylan/Bristol, LLC, and Bristol Equities, Inc. This PPCAP was approved by EPD in September 2006. The PPCAP was implemented from August to December 2006. The soil corrective actions implemented at the site consisted of the excavation and off-site disposal of impacted soil and in-situ chemical oxidation treatments of the remaining impacted soil. EPD concurred in previous correspondence that the soil on-site is in compliance with the Type 1 risk reduction standards (RRS).

A Voluntary Remediation Program (VRP) Application was submitted to EPD on behalf of F.S. Associates, L.P. on October 8, 2010. EPD issued a letter accepting the site into the VRP on December 6, 2010. On December 6, 2011, a Voluntary Compliance Status Report was submitted for the site. EPD reviewed the CSR and on January 20, 2012, EPD issued a comment letter regarding the CSR. AMEC addressed these comments in a response to comments letter, dated May 23, 2012. EPD responded with additional comments in a letter dated January 31, 2013 and, following a meeting on April 17, 2013, requested the submittal of a Groundwater Monitoring and Maintenance Plan (MMP). A Groundwater MMP, dated May 30, 2013, was submitted and later approved by the Georgia EPD on August 19, 2013. As detailed in the approved Groundwater MMP, groundwater monitoring is stipulated on an annual basis in

two wells (MW-5 and MW-6) for a period of at least two years (three sampling events) to document the PCE concentrations along the flow path and compare model predictions.

This report serves as the first annual groundwater monitoring report for the subject site.

2.0 FIELD ACTIVITIES

2.1 WELL ABANDONMENT

As detailed in the approved Groundwater MMP, three uncontaminated deep monitoring wells (MW-2, MW-3 and MW-8) were properly abandoned on December 16, 2013. In accordance with AMEC's correspondence with Ms. Kristen Ritter, geologist with EPD's Hazardous Site Response Program, on September 30, 2013, the wells were abandoned by removing the upper 3-foot portion of the well casing, followed by pressure grouting the borehole from bottom to top using the tremie method to ensure an effective seal. The well abandonment activities were performed under the direct supervision of a Georgia licensed professional groundwater engineer. Well abandonment records have been included in Appendix A.

2.2 GROUNDWATER ELEVATION

Groundwater levels were measured in all five existing monitoring wells (MW-1, MW-4, MW-5, MW-6 and MW-7). The data obtained are presented in Table 1. The groundwater elevations were used to prepare a potentiometric surface map (See Figure 1). The December 2013 water level measurements indicate a general rise in the water table across the site due to the higher than average precipitation experienced during the year. However, the groundwater flow across the Site was interpreted to be generally toward the southeast, which is consistent with the potentiometric surface map presented in the June 2011 Voluntary Compliance Status Report.

2.3 GROUNDWATER MONITORING

The Groundwater MMP stipulates the annual collection of groundwater samples from MW-5 and MW-6. The two monitoring wells were sampled on December 12, 2013.

Prior to sampling, each well was purged using a peristaltic pump to remove stagnant water and allow representative formation water to enter the well. During purging, the water quality parameters of temperature, pH, conductivity and turbidity were measured to assess the effectiveness of the well purge. The wells were purged until the water quality parameters stabilized. MW-5 was sampled immediately following purging. Due to the slow recharge of MW-6, the well was sampled after the well had sufficiently recharged, which occurred within approximately 4 hours after purging. Samples were collected in laboratory supplied containers, packed on ice and maintained under chain-of-custody control from the time they were collected

until they were released to the laboratory. The water quality measurements were recorded in the field and are presented in Appendix B.

Following delivery to the laboratory, the groundwater samples were analyzed for acetone, chloroform, tetrachloroethene, trichloroethene, 1,2-dichloroethene and vinyl chloride (SW-846 Test Method 8260B) as specified in the MMP. The results of the monitoring event are summarized on the attached Table 2 and Figure 2, which also include summaries of all previous groundwater testing data obtained on site. Complete laboratory analysis reports can be found in Appendix C.

Groundwater testing results obtained from MW-5 revealed the presence of tetrachloroethene (PCE) and chloroform. The PCE concentration in MW-5 increased during this first annual sampling event relative to the most recent prior event. The PCE concentration at MW-5 is similar to those observed in March and July of 2008 after a period of lower concentrations.

The monitoring results also indicate that VOC concentrations in the off-site well MW-6 have remained below detection limits.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the laboratory analytical results, the concentration of PCE in MW-5 has increased since the last sampling event conducted in February 2012, but remains below historic highs recorded in March and July 2008. The December 2013 water level measurements indicate a general rise in the water table across the site due to the higher than average precipitation experienced during the year. In our opinion, the water table fluctuation may have contributed to the increased PCE concentration in MW-5 as a result of flushing from the capillary zone.

The PCE concentration of 2,500 micrograms per liter (µg/L) in MW-5 remains below the level of 2,900 µg/L on which the fate and transport model predictions are based. No VOC constituents analyzed were present in the off-site well MW-6 which is consistent with the model prediction. As such, the groundwater monitoring program will continued as outlined in the Groundwater MMP and the next annual monitoring event is scheduled for December 2014.

GROUNDWATER SCIENTIST STATEMENT

I certify that I am a qualified groundwater scientist who has received a baccalaureate or post-graduate degree in the natural sciences or 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 professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared in conjunction with others working my direction.

Mr. Charles T. Ferry, P.E.
Georgia Registration No. 10957

TABLES

HUNTING CREEK SHOPPING CENTER
1820 GEORGIA HIGHWAY 20 SOUTH
CONYERS, GEORGIA

TABLE 1 - GROUNDWATER ELEVATION DATA
DECEMBER 2013

Well ID	Date	Well Elevation, FT*	Depth of Well, FT	Well Screen Interval, FT	Depth to Water, FT	Groundwater Elevation, FT
MW-1	5/5/2011	845.42	18.5	8-18	12.81	832.61
	2/24/2012				13.50	831.92
	12/12/2013				13.07	832.35
MW-4	5/5/2011	844.78	17	7-17	12.56	832.22
	2/24/2012				12.85	831.93
	12/12/2013				12.40	832.38
MW-5	5/5/2011	845.81	16.85	6.85-16.85	13.66	832.15
	2/24/2012				14.15	831.66
	12/12/2013				12.42	833.39
MW-6	5/5/2011	839.32	20	5-20	12.25	827.07
	2/24/2012				11.59	827.73
	12/12/2013				10.35	828.97
MW-7	5/5/2011	836.57	12	7-12	11.35	825.22
	2/24/2012				11.57	825.00
	12/12/2013				11.26	825.31

* Relative to documented geodetic elevations

Prepared By: Tyler Boyles
Checked By: Steve Foley

HUNTING CREEK SHOPPING CENTER
1820 GEORGIA HIGHWAY 20 SOUTH
CONYERS, GEORGIA

TABLE 2 - SUMMARY OF GROUNDWATER TESTING RESULTS

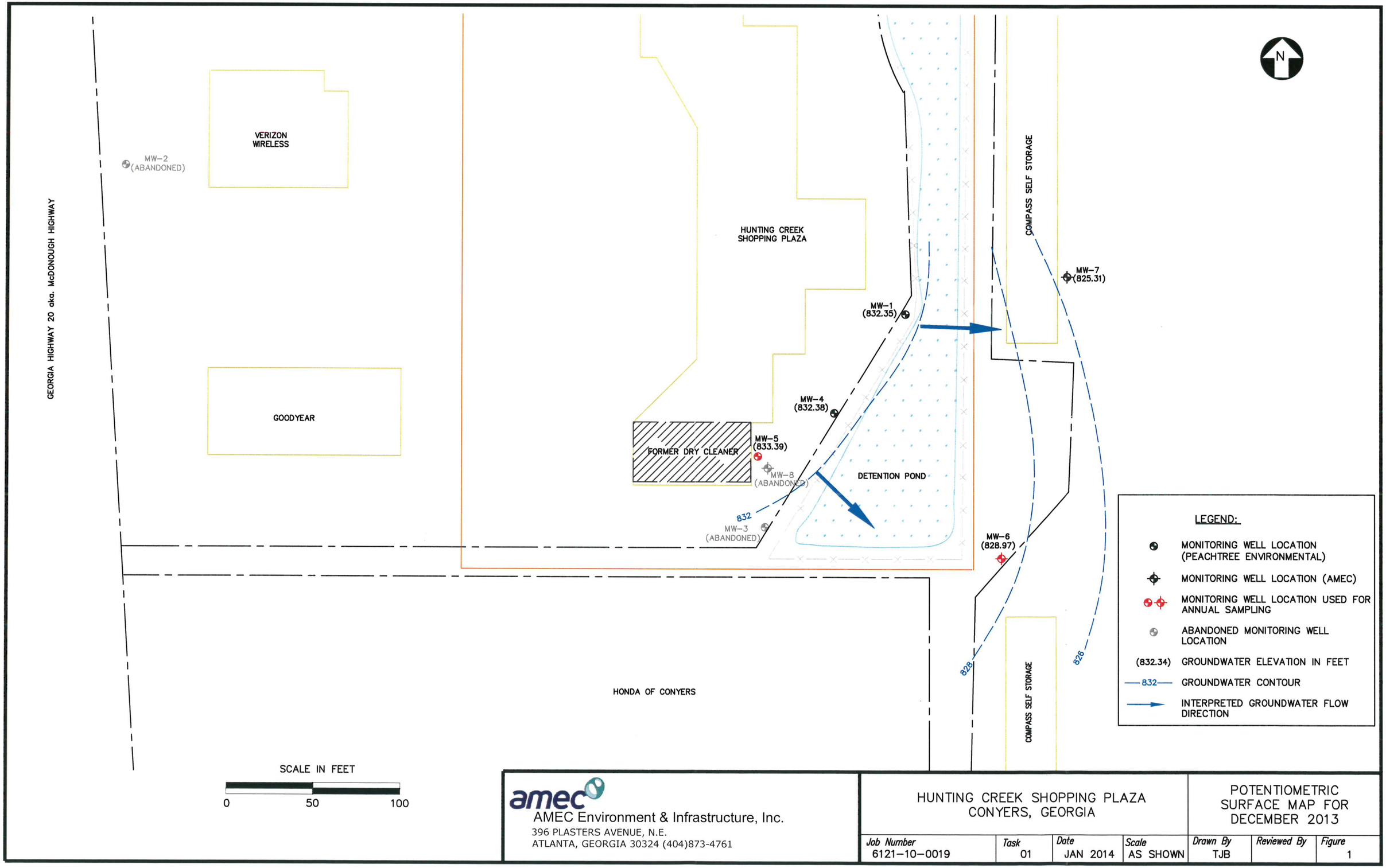
Sample ID	Date	VOCs, µg/L					
		Acetone	Chloroform	Tetrachloroethene	Trichloroethene	1,2-Dichloroethene	Vinyl Chloride
MW-5	12/29/2005	<50	**6.2**	**2400**	<5.0	<5.0	<2.0
	10/4/2006	**140**	<5.0	<5.0	<5.0	<5.0	<2.0
	4/24/2007	<50	<5.0	**1700**	NR	<5.0	<2.0
	7/6/2007	<50	<5.0	**870**	NR	<5.0	<2.0
	8/1/2007	<50	<5.0	**500**	NR	<5.0	<2.0
	8/15/2007	<50	**12**	**13**	NR	<5.0	<2.0
	9/19/2007	<50	<5.0	**270**	NR	<5.0	<2.0
	10/17/2007	<50	**5.5**	**1200**	NR	<5.0	<2.0
	11/14/2007	<50	<5.0	**1300**	NR	<5.0	<2.0
	12/13/2007	<50	**8.3**	**1100**	NR	<5.0	<2.0
	1/15/2008	<50	**6.9**	**1400**	<5.0	<5.0	<2.0
	2/20/2008	<50	<5.0	**1500**	<5.0	<5.0	<2.0
	3/21/2008	<50	<5.0	**2900**	<5.0	<5.0	<2.0
	5/19/2008	<50	**7**	**690**	<5.0	<5.0	<2.0
	7/28/2008	<50	**8**	**2800**	<5.0	<5.0	<2.0
	1/22/2010	<50	**9**	**980**	<5.0	<5.0	<2.0
	2/24/2012	<50	**11**	**870**	<5.0	<5.0	<2.0
	12/12/2013	<50	**29**	**2500**	<5.0	<5.0	<2.0
MW-6	4/7/2011	<50	<5.0	<5.0	<5.0	<5.0	<2.0
	12/12/2013	<50	<5.0	<5.0	<5.0	<5.0	<2.0

Notes:
Results in µg/L - micrograms per liter
Bold type denotes above laboratory detection limits
Non-bold type denotes laboratory detection limits
NR - Not Reported

Prepared By: Tyler Boyles
Checked By: Steve Foley

FIGURES

M:\oldUdrive\Projects\Hunting Creek\MMP Annual Reports\Hunting Creek.dwg – POT DEC 2013 01/07/2014



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HUNTING CREEK SHOPPING PLAZA CONYERS, GEORGIA

POTENTIOMETRIC SURFACE MAP FOR DECEMBER 2013

Job Number	Task	Date	Scale	Drawn By	Reviewed By	Figure
6121-10-0019	01	JAN 2014	AS SHOWN	TJB		1

M:\oldUdrive\Projects\Hunting Creek\MMP Annual Reports\Hunting Creek.dwg – GW TEST RESULTS 01/07/2014

MW–1	12/05	4/07	7/07	8/07	8/07	9/07	10/07
ACETONE	<50	<50	<50	78	<50	<50	<50
CHLOROFORM	<5.0	<5.0	6.8	5.4	5.3	<5.0	6.7
PCE	<5.0	10	12	11	11	10	12
TCE	<5.0	<5.0	NR	NR	NR	NR	NR
1,2–DCE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

	11/07	12/07	1/08	2/08	3/08	1/10
ACETONE	<50	<50	<50	<50	<50	<50
CHLOROFORM	<5.0	8.4	<5.0	<5.0	<5.0	<5.0
PCE	12	13	13	9.7	9.7	<5.0
TCE	NR	NR	<5.0	<5.0	<5.0	<5.0
1,2–DCE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

MW–4	12/05	8/06	4/07	7/07	8/07	8/07	9/07
ACETONE	<50	<50	<50	<50	110	<50	<50
CHLOROFORM	<5.0	<5.0	6.8	<5.0	6.8	<5.0	6.7
PCE	92	5.5	120	110	180	120	170
TCE	<5.0	<5.0	NR	NR	NR	NR	NR
1,2–DCE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

	10/07	11/07	12/07	1/08	2/08	3/08	1/10
ACETONE	<50	<50	<50	<50	<50	<50	<50
CHLOROFORM	<5.0	<5.0	5.2	<5.0	<5.0	<5.0	<5.0
PCE	170	160	110	160	150	130	77
TCE	NR	NR	NR	<5.0	<5.0	<5.0	<5.0
1,2–DCE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

MW–5	12/05	10/06	4/07	7/07	8/07	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	5/08	7/08	1/10	2/12	12/13
ACETONE	<50	140	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
CHLOROFORM	6.2	<5.0	<5.0	<5.0	<5.0	12	<5.0	5.5	<5.0	8.3	6.9	<5.0	7.3	7	8	9	11	29
PCE	2,400	<5.0	1,700	870	500	13	270	1,200	1,300	1,100	1,400	1,500	2,900	690	2,800	980	870	2,500
TCE	<5.0	<5.0	NR	NR	NR	NR	NR	NR	NR	NR	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2–DCE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
VC	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0

MW–7	4/11
ACETONE	<50
CHLOROFORM	<5.0
PCE	<5.0
TCE	<5.0
1,2–DCE	<5.0
VC	<2.0

MW–6	4/11	12/13
ACETONE	<50	<50
CHLOROFORM	<5.0	<5.0
PCE	<5.0	<5.0
TCE	<5.0	<5.0
1,2–DCE	<5.0	<5.0
VC	<2.0	<2.0

VERIZON WIRELESS

GOODYEAR

HUNTING CREEK SHOPPING PLAZA

COMPASS SELF STORAGE

FORMER DRY CLEANER

DETENTION POND

HONDA OF CONYERS

COMPASS SELF STORAGE

GEORGIA HIGHWAY 20 aka. McDONOUGH HIGHWAY

MW–1 MW–4 MW–5 MW–6 MW–7

N

LEGEND:

- MONITORING WELL LOCATION (PEACHTREE ENVIRONMENTAL)
- MONITORING WELL LOCATION (AMEC)
- MONITORING WELL LOCATION USED FOR ANNUAL SAMPLING
- ABANDONED MONITORING WELL LOCATION
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- 1,2–DCE 1,2–DICHLOROETHENE
- VC VINYL CHLORIDE

RESULTS REPORTED IN MICROGRAMS PER LITER (ug/L)

SCALE IN FEET

0 50 100

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HUNTING CREEK SHOPPING PLAZA
CONYERS, GEORGIA

SUMMARY OF GROUNDWATER TEST RESULTS

Job Number	Task	Date	Scale	Drawn By	Reviewed By	Figure
6121–10–0019	01	JAN 2014	AS SHOWN	TJB		2

APPENDIX A

WELL ABANDONMENT RECORDS

Well Abandonment Record

WELL NO.: MW-2

PROJECT NAME: Hunting Creek Shopping Plaza

PROJECT NO: 6121-10-0013

FINISH DATE: December 16, 2013

Name of Property:	Hunting Creek Shopping Plaza
Address of Property:	1820 Georgia Highway 20 South, Conyers, Georgia
Type of Well Installation Method:	Type III Open Rock Well
Date of Well Installation:	November 2, 2005
Original Purpose of Well Installation:	Groundwater Monitoring Well
Total Depth of Well (measured from Top of Riser):	57 feet
Top of Riser Height (above/below ground surface):	None - Flush Mount
Well Diameter (nominal) and Material Type:	4 inch PVC to depth of 8ft / open rock well
Screen Slot Size and Opening Type:	Not Applicable (Open rock well)
Screen Length and Backfill Material:	Not Applicable (Open rock well)
Depth to Water/Date (measured from Top of Riser):	5.94 feet measured on December 16, 2013
Screened Formation or Aquifer Type:	Bedrock
Description of Well Abandonment Method:	Excavated and remove upper 3 feet of riser, followed by pressure grouting borehole from bottom to top using tremie method
Type and Volume of Materials Used to Plug Well:	Grout / 7 gallons
Riser and/or Screen Length Removed or Left in Place:	Upper 3 feet of riser and well pad removed

Drilling Contractor: Premier Drilling

Driller's Name: Larry Carter

Additional Notes – Sketch of Monitor Well Location

Grout Formula: 30% solids bentonite grout

AMEC Field Representative: Tyler Boyles

Certified By:

Well Abandonment Record

WELL NO.: MW-3

PROJECT NAME: Hunting Creek Shopping Plaza

PROJECT NO: 6121-10-0013

FINISH DATE: December 16, 2013

Name of Property:	Hunting Creek Shopping Plaza
Address of Property:	1820 Georgia Highway 20 South, Conyers, Georgia
Type of Well Installation Method:	Type III Open Rock Well
Date of Well Installation:	November 2, 2005
Original Purpose of Well Installation:	Groundwater Monitoring Well
Total Depth of Well (measured from Top of Riser):	61 feet
Top of Riser Height (above/below ground surface):	None - Flush Mount
Well Diameter (nominal) and Material Type:	4 inch PVC to depth of 16ft / open rock well
Screen Slot Size and Opening Type:	Not Applicable (Open rock well)
Screen Length and Backfill Material:	Not Applicable (Open rock well)
Depth to Water/Date (measured from Top of Riser):	12.92 feet measured on December 16, 2013
Screened Formation or Aquifer Type:	Bedrock
Description of Well Abandonment Method:	Excavated and remove upper 3 feet of riser, followed by pressure grouting borehole from bottom to top using tremie method
Type and Volume of Materials Used to Plug Well:	Grout / 14 gallons
Riser and/or Screen Length Removed or Left in Place:	Upper 3 feet of riser and well pad removed

Drilling Contractor: Premier Drilling

Driller's Name: Larry Carter

Additional Notes – Sketch of Monitor Well Location

Grout Formula: 30% solids bentonite grout

AMEC Field Representative: Tyler Boyles

Certified By:

Well Abandonment Record

WELL NO.: MW-8

PROJECT NAME: Hunting Creek Shopping Plaza

PROJECT NO: 6121-10-0013

FINISH DATE: December 16, 2013

Name of Property:	Hunting Creek Shopping Plaza
Address of Property:	1820 Georgia Highway 20 South, Conyers, Georgia
Type of Well Installation Method:	Type III Rock Well
Date of Well Installation:	May 4, 2011
Original Purpose of Well Installation:	Groundwater Monitoring Well
Total Depth of Well (measured from Top of Riser):	43 feet
Top of Riser Height (above/below ground surface):	None - Flush Mount
Well Diameter (nominal) and Material Type:	2 inch / / Schedule 40 PVC
Screen Slot Size and Opening Type:	0.001-inch factory slotted PVC
Screen Length and Backfill Material:	10 feet
Depth to Water/Date (measured from Top of Riser):	12.88 feet measured on December 16, 2013
Screened Formation or Aquifer Type:	Bedrock
Description of Well Abandonment Method:	Excavated and remove upper 3 feet of riser, followed by pressure grouting borehole from bottom to top using tremie method
Type and Volume of Materials Used to Plug Well:	Grout / 11 gallons
Riser and/or Screen Length Removed or Left in Place:	Upper 3 feet of riser and well pad removed

Drilling Contractor: Premier Drilling

Driller's Name: Larry Carter

Additional Notes – Sketch of Monitor Well Location

Grout Formula: 30% solids bentonite grout

AMEC Field Representative: Tyler Boyles

Certified By: Charles T. Long

APPENDIX B

FIELD DATA SHEETS

Attachment 4.4

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Hunting Creek Shopping Plaza

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Well ID: MW-5

Field Sampling Personnel: T. Boyles

Depth to Screen below MP: 6.85 of screen (Top) 16.85 of screen (Bottom)

Pump Intake at (ft. below MP): 13

Purging Device (Pump Type): Peristaltic
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
12/12/13	1240	12.48		5.49	0.049	8.43	6.48	16.66	5.48	-			16.85 - 12.48 = 4.37
	1250	12.51		5.43	0.049	4.31	6.51	16.69	82.3	0.5			4.37 x 0.16 = 0.699
	1300	12.55		5.31	0.048	1.87	6.67	16.51	87.8	1			0.699 x 3 = 2.1 (3 well Volums)
	1310	12.56		5.28	0.048	1.74	6.65	16.68	89.4	1.5			
	1320	12.56		5.25	0.048	1.92	6.64	16.71	91.7	2			
	1330	12.56		5.24	0.048	1.64	6.64	16.80	91.9	2.5			SAMPLE WELL

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<20 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

Attachment 4.4

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Hunting Creek Shopping Plaza

Identify Measuring Point (MP): TOC
(e.g. Top of Casing)

Well ID: MW-6

Field Sampling Personnel: T. Boyles

Depth to Screen below MP: 8.15 of screen (Top) 23.15 of screen (Bottom)

Pump Intake at (ft. below MP): 21

Purging Device (Pump Type): peristaltic
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Date	Time 24 hr	Depth to Water Below MP ft	Purge Rate mL/min	pH pH units	Spec Cond. mS/cm	Turbidity NTUs	DO Flow cell mg/L	Temp. °C	Redox Potential mV	Cum. Volume Purged gallons	CHEMetrics DO mg/L (low)	Hach Ferrous Iron mg/L	Comments
12/12/13	0916	10.35		6.83	0.199	10.1	4.76	18.53	4.9	-			23.15 - 10.35 = 12.8
	0925	12.36		6.63	0.197	3.26	2.15	18.89	6.04	1			12.8 * 0.16 = 2.05
	0935	13.79		6.55	0.183	2.70	1.49	18.85	6.54	2			2.05 * 3 = 6.15 (3 well volumes)
	0945	15.65		6.56	0.180	1.21	1.16	19.33	6.57	3			
	0955	17.25		6.70	0.205	1.18	1.14	19.72	6.71	4			
	1005	19.05		6.70	0.206	1.16	1.14	19.74	6.70	5			
	1020	20.76		6.71	0.205	1.15	1.13	19.71	6.70	6.5			Stop Purge Allow Well to Recharge
12/12/13	1419	14.98											Sample Well

Notes:
Note when "Stabilization " has occurred. Stabilization Criteria (achieved after a minimum of three successive readings):

±0.1 for pH
±10 mV for redox
±3% for specific cond.
±10% for DO
<20 NTUs for turbidity
NA for temperature

If stabilization does not occur within 2 hours, contact Site Manager for action.
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.

APPENDIX C
LABORATORY DATA REPORTS

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

December 18, 2013

Tyler Boyles
AMEC E&I, Inc.
396 Plasters Ave
Atlanta GA 30324

TEL: (404) 873-4761
FAX: (404) 817-0183

RE: Hunting Creek Plaza

Dear Tyler Boyles: Order No: 1312B36

Analytical Environmental Services, Inc. received 3 samples on 12/12/2013 3:10:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Tara Esbeck

Tara Esbeck
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1312B36

Date: 12/12/13 Page 1 of 1

COMPANY:	ADDRESS:
MACTEC	396 Plasters Ave Atlanta GA
PHONE: 404 817 0153	FAX: 404 817 0183
SAMPLED BY: Tyler Boyle	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED: VOC's-SW8K	PRESERVATION (See codes): #1	REMARKS	No # of Containers
1	MW-5	12/12/13	1330	X		GW	X	X		2
2	MW-6	12/12/13	1419	X		GW	X	X		2
3	Trip Blank									
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

Visit our website **www.aesatlanta.com** to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	12/12/13 1509	1:	12/12/13
2:		2:	3:10
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Hunting Creek
PROJECT #: 6121 10 0013
SITE ADDRESS: GA Hwy 20
SEND REPORT TO: Tyler Boyle
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers: 4

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush **(auth req.)**
- ( ) Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: Report Only Acetone, Chloroform, PCE, TCE 1,2-Dichloroethene + Vinyl Chloride

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 18-Dec-13

Client:	AMEC E&I, Inc.	**Client Sample ID:**	MW-5
Project Name:	Hunting Creek Plaza	**Collection Date:**	12/12/2013 1:30:00 PM
Lab ID:	1312B36-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,2-Dichloroethane	BRL	5.0		ug/L	185009	1	12/18/2013 13:32	NP
Acetone	BRL	50		ug/L	185009	1	12/18/2013 13:32	NP
Chloroform	29	5.0		ug/L	185009	1	12/18/2013 13:32	NP
Tetrachloroethene	2500	100		ug/L	185009	20	12/18/2013 11:38	NP
Trichloroethene	BRL	5.0		ug/L	185009	1	12/18/2013 13:32	NP
Vinyl chloride	BRL	2.0		ug/L	185009	1	12/18/2013 13:32	NP
Surr: 4-Bromofluorobenzene	96.2	66.2-120		%REC	185009	1	12/18/2013 13:32	NP
Surr: 4-Bromofluorobenzene	95.5	66.2-120		%REC	185009	20	12/18/2013 11:38	NP
Surr: Dibromofluoromethane	105	79.5-121		%REC	185009	20	12/18/2013 11:38	NP
Surr: Dibromofluoromethane	102	79.5-121		%REC	185009	1	12/18/2013 13:32	NP
Surr: Toluene-d8	99.3	77-117		%REC	185009	1	12/18/2013 13:32	NP
Surr: Toluene-d8	98.6	77-117		%REC	185009	20	12/18/2013 11:38	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Dec-13

Client:	AMEC E&I, Inc.	**Client Sample ID:**	MW-6
Project Name:	Hunting Creek Plaza	**Collection Date:**	12/12/2013 2:19:00 PM
Lab ID:	1312B36-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,2-Dichloroethane	BRL	5.0		ug/L	185009	1	12/18/2013 01:05	NP
Acetone	BRL	50		ug/L	185009	1	12/18/2013 01:05	NP
Chloroform	BRL	5.0		ug/L	185009	1	12/18/2013 01:05	NP
Tetrachloroethene	BRL	5.0		ug/L	185009	1	12/18/2013 01:05	NP
Trichloroethene	BRL	5.0		ug/L	185009	1	12/18/2013 01:05	NP
Vinyl chloride	BRL	2.0		ug/L	185009	1	12/18/2013 01:05	NP
Surr: 4-Bromofluorobenzene	89.7	66.2-120		%REC	185009	1	12/18/2013 01:05	NP
Surr: Dibromofluoromethane	108	79.5-121		%REC	185009	1	12/18/2013 01:05	NP
Surr: Toluene-d8	100	77-117		%REC	185009	1	12/18/2013 01:05	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Dec-13

Client:	AMEC E&I, Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Hunting Creek Plaza	**Collection Date:**	12/12/2013
Lab ID:	1312B36-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
1,2-Dichloroethane	BRL	5.0		ug/L	185009	1	12/17/2013 22:15	NP
Acetone	BRL	50		ug/L	185009	1	12/17/2013 22:15	NP
Chloroform	BRL	5.0		ug/L	185009	1	12/17/2013 22:15	NP
Tetrachloroethene	BRL	5.0		ug/L	185009	1	12/17/2013 22:15	NP
Trichloroethene	BRL	5.0		ug/L	185009	1	12/17/2013 22:15	NP
Vinyl chloride	BRL	2.0		ug/L	185009	1	12/17/2013 22:15	NP
Surr: 4-Bromofluorobenzene	88.2	66.2-120		%REC	185009	1	12/17/2013 22:15	NP
Surr: Dibromofluoromethane	104	79.5-121		%REC	185009	1	12/17/2013 22:15	NP
Surr: Toluene-d8	96.9	77-117		%REC	185009	1	12/17/2013 22:15	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client AMEC Work Order Number 1312B36

Checklist completed by [signature] 12/12/13
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No __

Cooler #1 3.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Client: AMEC E&I, Inc.
Project Name: Hunting Creek Plaza
Workorder: 1312B36

ANALYTICAL QC SUMMARY REPORT

BatchID: 185009

Sample ID: **MB-185009** Client ID: Units: **ug/L** Prep Date: **12/17/2013** Run No: **257957**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **185009** Analysis Date: **12/17/2013** Seq No: **5420139**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2-Dichloroethane	BRL	5.0									
Acetone	BRL	50									
Chloroform	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	43.42	0	50.00		86.8	66.2	120				
Surr: Dibromofluoromethane	51.16	0	50.00		102	79.5	121				
Surr: Toluene-d8	48.59	0	50.00		97.2	77	117				

Sample ID: **LCS-185009** Client ID: Units: **ug/L** Prep Date: **12/17/2013** Run No: **257957**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **185009** Analysis Date: **12/17/2013** Seq No: **5420140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	55.19	5.0	50.00		110	71.2	135				
Surr: 4-Bromofluorobenzene	52.70	0	50.00		105	66.2	120				
Surr: Dibromofluoromethane	53.51	0	50.00		107	79.5	121				
Surr: Toluene-d8	51.74	0	50.00		103	77	117				

Sample ID: **1312B36-001AMS** Client ID: **MW-5** Units: **ug/L** Prep Date: **12/17/2013** Run No: **257957**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **185009** Analysis Date: **12/18/2013** Seq No: **5420174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	611.4	50	500.0		122	70.1	144				
Surr: 4-Bromofluorobenzene	535.5	0	500.0		107	66.2	120				
Surr: Dibromofluoromethane	554.8	0	500.0		111	79.5	121				
Surr: Toluene-d8	521.5	0	500.0		104	77	117				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: AMEC E&I, Inc.
Project Name: Hunting Creek Plaza
Workorder: 1312B36

ANALYTICAL QC SUMMARY REPORT

BatchID: 185009

Sample ID: **1312B36-001AMSD** Client ID: **MW-5** Units: **ug/L** Prep Date: **12/17/2013** Run No: **257957**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **185009** Analysis Date: **12/18/2013** Seq No: **5420175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	587.7	50	500.0		118	70.1	144	611.4	3.95	20	
Surr: 4-Bromofluorobenzene	522.6	0	500.0		105	66.2	120	535.5	0	0	
Surr: Dibromofluoromethane	528.5	0	500.0		106	79.5	121	554.8	0	0	
Surr: Toluene-d8	509.6	0	500.0		102	77	117	521.5	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		