



3rd 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 Foster Wheeler Environment & Infrastructure, Inc.
2677 Buford Highway
Atlanta, Georgia 30324
(404) 873-4761

March 10, 2016

Amec Foster Wheeler Project No.6121-10-0013

March 10, 2016



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

**Subject: 3rd Annual Groundwater Monitoring Report
Hunting Creek Shopping Plaza
1820 Georgia Highway 20 South
Conyers, Rockdale County, Georgia
HSI Site No. 10832
Amec Foster Wheeler Project No. 6121-10-0013**

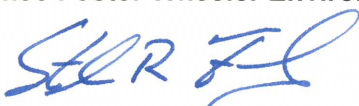
Dear Mr. Williams:

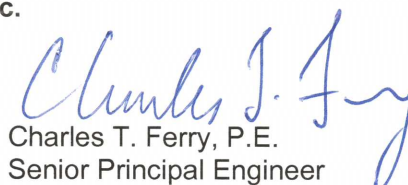
On behalf of F.S. Associates, L.P., Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) respectfully submits this 3rd and final Annual Groundwater Monitoring Report for the Hunting Creek Shopping Plaza located at 1820 Georgia Highway 20 South in Conyers, Rockdale County, Georgia. 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.

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 chuck.ferry@amecfw.com.

Sincerely,

Amec Foster Wheeler Environment & Infrastructure, Inc.


Stephen R. Foley, P.G.
Senior 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

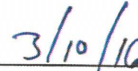
CERTIFICATION STATEMENT

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391-3-19-.07, I have determined that soil at the subject Site located at 1820 SE Highway 20 in Conyers, Georgia, are in compliance with Type 1 risk reduction standards for soil and that the approved Groundwater Monitoring and Maintenance Program has been successfully completed as required to delist the subject site pursuant to the Voluntary Remediation Program.



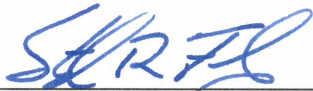
Mr. Mitchell Wirth
F.S. Associates, L.P.



Date

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 under my direction.



Mr. Stephen R. Foley, P.G.
Georgia Registration No. 1057



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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 exceedance of the threshold for the groundwater.

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 Compliance Status Report (CSR) was submitted for the site and on January 20, 2012, EPD issued a comment letter regarding the CSR. Amec Foster Wheeler addressed these comments in a 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 was 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 final annual Groundwater Monitoring Report for the subject site.

2.0 FIELD ACTIVITIES

2.1 GROUNDWATER ELEVATION

Groundwater levels were measured in all five existing monitoring wells (MW-1, MW-4, MW-5, MW-6 and MW-7) on December 21, 2015. The data obtained are summarized in Table 1. The groundwater elevations were used to prepare a potentiometric surface map (See Figure 1). The December 2015 water level measurements indicate a water table elevation within 12 to 18 inches of prior results. The groundwater flow across the site was interpreted to be generally toward the east or southeast, which is consistent with the historic potentiometric surface.

2.2 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 21, 2015.

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 and sampled immediately following 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 previous groundwater testing data. 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 of 35 µg/L was significantly lower compared to the previous sampling events going back a number of years. Chloroform was detected at 26 µg/L which is slightly lower than the previous event. Acetone, trichloroethene, 1,2-dichloroethene and vinyl chloride were not detected in MW-5 at concentrations above the maximum contaminant level (MCL) for drinking water. All constituents of concern were below

laboratory reporting limits (set at or below MCLs) in monitoring well MW-6 located on the adjacent property to the east.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the laboratory analytical results, the concentration of PCE in MW-5 has decreased significantly since the last sampling event conducted in December 2014, continuing a downward trend from the previous events, as would be expected following the extensive corrective action for soil performed at the site. Additionally, all constituents of concern remained below detection limits in MW-6, which is located downgradient of the former Esquire Cleaners. The December 2015 water level measurements indicate no significant change to the groundwater flow direction compared to previous sampling events.

The current PCE concentration of 35 µg/L in MW-5 remains well below the level of 2,900 µg/L on which the fate and transport model predictions are based. Following the December 2014 sampling event, the fate and transport model was updated to correlate with a low level detection of PCE in MW-6. The prediction remained the same; i.e. contaminant migration will not impact the nearest downgradient receptor. The findings from the December 2015 sampling event confirm this previous conclusion. As such, the groundwater monitoring program as outlined in the MMP has been satisfactorily completed, and no further groundwater monitoring is warranted. The updated fate and transport model is included in Appendix C. Please refer to Amec Foster Wheeler's Response to Comments letter dated May 23, 2012 for an explanation of the fate and transport model and its assumptions.

Based on favorable groundwater results and the fate and transport model prediction that no receptors will be impacted, existing conditions are protective of human health and the environment. Amec Foster Wheeler recommends EPD delist the site from the HSI. The wells remaining on site will be properly abandoned upon receipt of approval by EPD to delist the site from the HSI.

TABLES

Table 1 - Groundwater Elevation Data

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
	12/5/2014				13.75	831.67
	12/21/2015				13.60	831.82
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
	12/5/2014				13.00	831.78
	12/21/2015				13.40	831.38
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
	12/5/2014				13.06	832.75
	12/21/2015				14.15	831.66
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
	12/5/2014				12.49	826.83
	12/21/2015				11.03	828.29
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
	12/5/2014				11.62	824.95
	12/21/2015				10.53	826.04

* Relative to documented geodetic elevations

TABLE 2 - SUMMARY OF GROUNDWATER TESTING RESULTS

Sample ID	Date	VOCs, µg/L						
		Acetone	Bromo-dichloromethane	Chloroform	Tetrachloroethene	Trichloroethene	1,2-Dichloroethene	Vinyl Chloride
MW-5	12/29/2005	<50	<5.0	6.2	2400	<5.0	<5.0	<2.0
	10/4/2006	140	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	4/24/2007	<50	<5.0	<5.0	1700	NR	<5.0	<2.0
	7/6/2007	<50	<5.0	<5.0	870	NR	<5.0	<2.0
	8/1/2007	<50	<5.0	<5.0	500	NR	<5.0	<2.0
	8/15/2007	<50	<5.0	12	13	NR	<5.0	<2.0
	9/19/2007	<50	<5.0	<5.0	270	NR	<5.0	<2.0
	10/17/2007	<50	<5.0	5.5	1200	NR	<5.0	<2.0
	11/14/2007	<50	<5.0	<5.0	1300	NR	<5.0	<2.0
	12/13/2007	<50	<5.0	8.3	1100	NR	<5.0	<2.0
	1/15/2008	<50	<5.0	6.9	1400	<5.0	<5.0	<2.0
	2/20/2008	<50	<5.0	<5.0	1500	<5.0	<5.0	<2.0
	3/21/2008	<50	<5.0	<5.0	2900	<5.0	<5.0	<2.0
	5/19/2008	<50	<5.0	7	690	<5.0	<5.0	<2.0
	7/28/2008	<50	<5.0	8	2800	<5.0	<5.0	<2.0
	1/22/2010	<50	<5.0	9	980	<5.0	<5.0	<2.0
	2/24/2012	<50	<5.0	11	870	<5.0	<5.0	<2.0
	12/12/2013	<50	<5.0	29	2500	<5.0	<5.0	<2.0
	12/5/2014	<50	5.2	34	490	<5.0	<5.0	<2.0
	12/21/2015	<50	<5.0	26	35	<5.0	<5.0	<2.0
MW-6	4/7/2011	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	12/12/2013	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0
	12/5/2014	<50	<5.0	6.1	7.4	<5.0	<5.0	<2.0
	12/21/2015	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0

Notes:

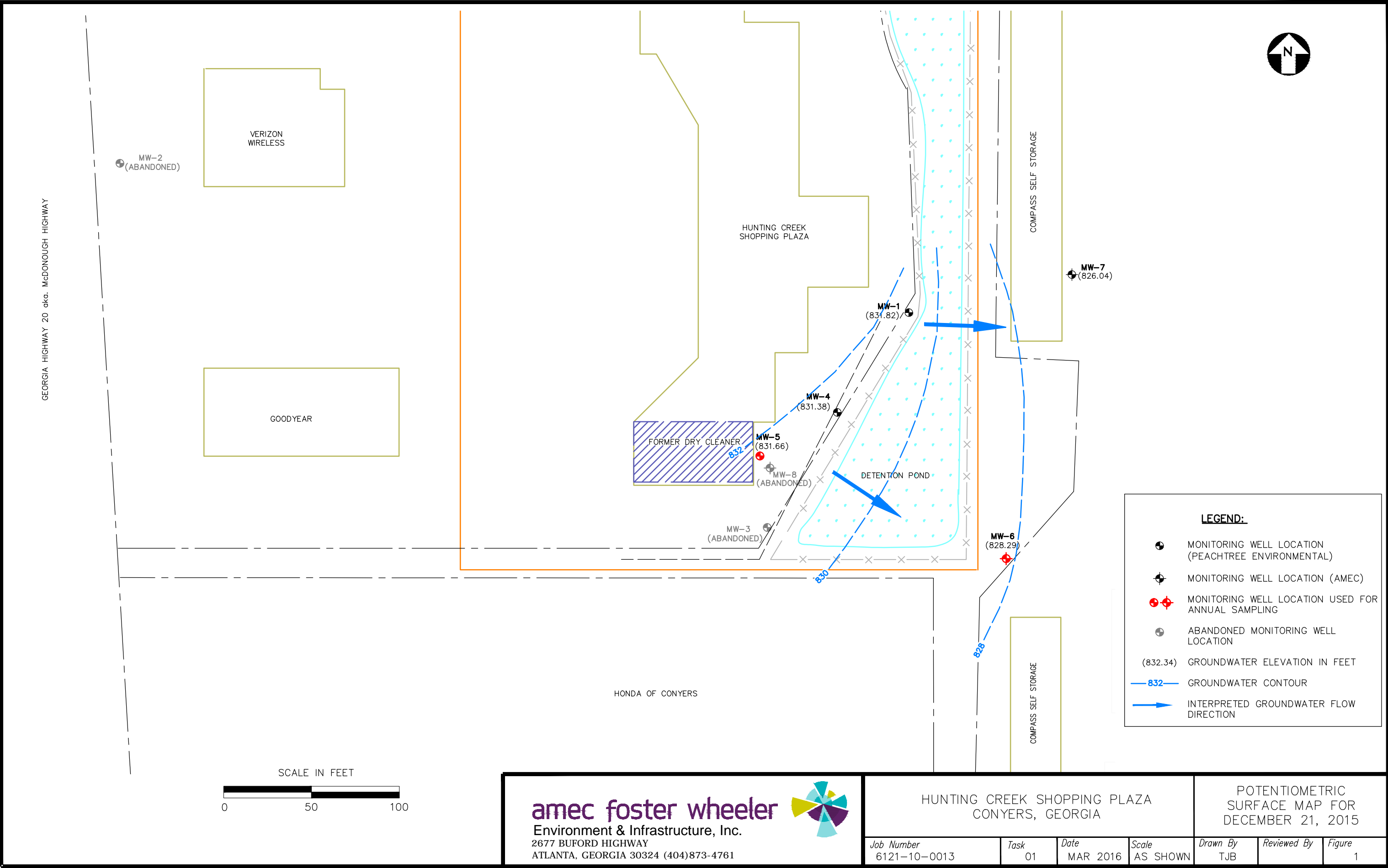
Results in µg/L - micrograms per liter

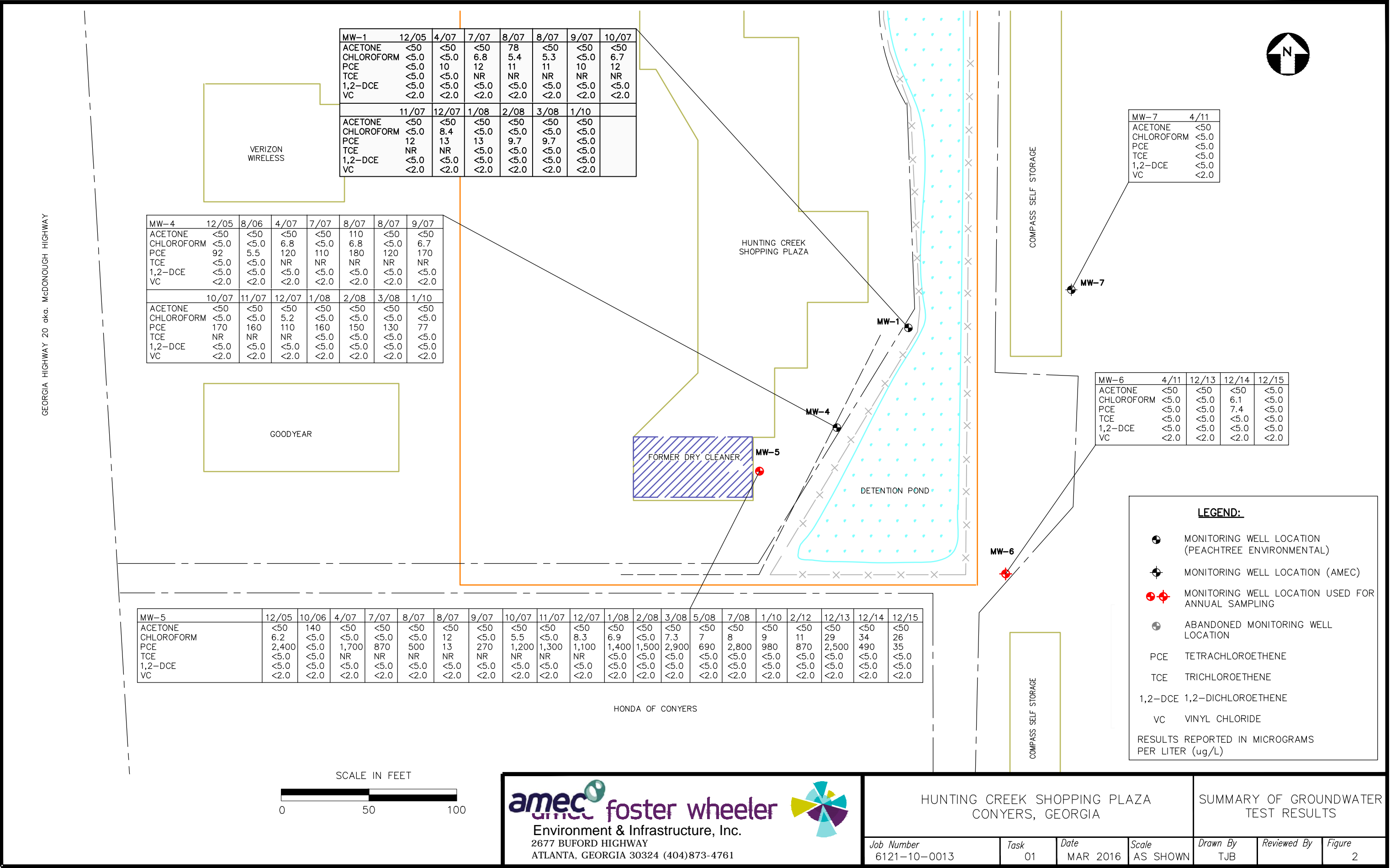
Bold type denotes above laboratory detection limits

Non-bold type denotes laboratory detection limits

NR - Not Reported

FIGURES





APPENDIX A
FIELD DATA SHEETS

Location: Hunting Creek Plaza

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

page 1 of 1

Well ID: MW-5
Field Sampling Personnel: P. Gazzo

Depth to Screen below MP: $\frac{6.85}{\text{Top}}$ of screen $\frac{16.85}{\text{Bottom}}$ of screen

Pump Intake at (ft. below MP):	15
Purging Device (Pump Type):	Peristaltic Pump

(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Well Depth, (Ft.) 16.65
Depth To Water (Ft.) 14.15
Water Column (Ft.) 2.5
Well Volume (gal) 0.41

[illegible]

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.
If stabilization does not occur within 2 hours, contact Site Manager for action.	±10% for DO
If well goes dry prior to stabilization, stop, allow well to recharge, and collect sample.	<20 NTUs for turbidity
	NA for temperature

Well Casing Volume (Gal):
 2" diameter well: Water column (ft.) x 0.163
 4" diameter well: Water column x 0.653

WELL PURGING - FIELD WATER QUALITY MEASUREMENTS FORM

Location: Hunting Creek Plaza

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

page _1_ of 1

Well ID: MW-6
Field Sampling Personnel: P. Gazzo

Depth to Screen below MP: 5 of screen 20 of screen
Top Bottom

Well Depth, (Ft.) 23.8
Depth To Water (Ft.) 11.03
Water Column (Ft.) 12.15
Well Volume (gal) 2.1

Pump Intake at (ft. below MP): 15
Purging Device (Pump Type): Peristaltic Pump
(e.g. Dedicated pump, peristaltic pump, bailer, bladder pump, etc.)

Date	Time	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
12/21/2015	1205	12.05	500	4.92	0.202	17.2	7.67	18.75	290	0			
	1210	12.06		4.99	0.228	12.1	5.99	18.67	258	0.5			
	1215	12.21		50.2	0.196	5.7	5.9	18.62	228	1.1			
	1220	12.29		5.03	0.189	4.4	5.64	18.51	226	1.8			
	1225	12.35		5.03	0.185	3.9	5.52	18.42	221	2.5			
	1230	12.42		5.04	0.184	4	5.2	18.4	219	3.1			
	1235	12.47		5.04	0.185	3.8	5.14	18.28	213	3.7			
	1240	12.53		5.04	0.185	2.5	5.1	18.26	212	4.5			
	1245	12.57		5.04	0.184	2.4	5.08	18.16	212	5.1			
	1250	12.61		5.05	0.186	2	5.08	18.09	210	5.8			
	1255	12.67		5.04	0.185	2.1	5.06	18.07	211	6.5			Sample collected at 12:55

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.

Well Casing Volume (Gal):
2" diameter well: Water column (ft.) x 0.163
4" diameter well: Water column x 0.653

APPENDIX B
LABORATORY DATA REPORTS



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 01, 2016

Steve Foley
AMEC E&I, Inc. - Plasters
2677 Buford Highway NE
Atlanta GA 30324

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

RE: Hunting Creek Plaza

Dear Steve Foley:

Order No: 1512J48

Analytical Environmental Services, Inc. received 3 samples on 12/21/2015 3:05:00 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's accreditations are as follows:

- NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
- NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
- NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Ioana Pacurar
Project Manager

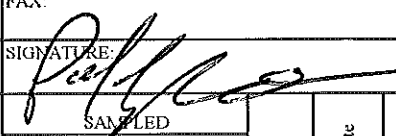
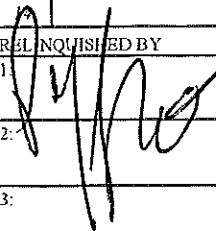
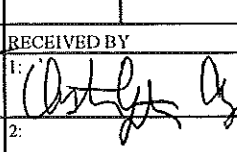
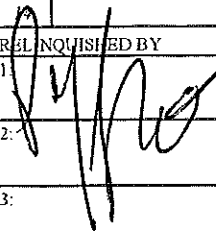
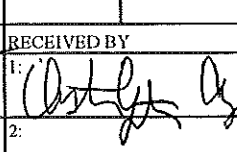
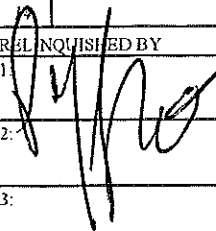
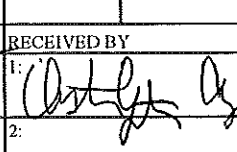
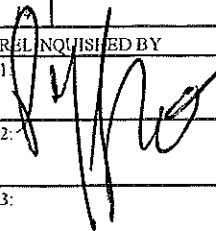
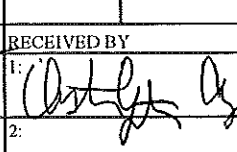

Revision 3/1/2016



TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Work Order: 1512548

Date: 12/21/15 Page 1 of 1

COMPANY: Amec		ADDRESS: 2677 Buford Hwy Atlanta GA 30324		ANALYSIS REQUESTED										Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.		No # of Containers		
PHONE: 404 817 0152		FAX:		<div>1000</div>														
SAMPLED: P. GAZZ		SIGNATURE: 																
#	SAMPLE ID	SAMPLED		Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)											
		DATE	TIME							#								
1	MW 6	12/21/11	1255	✓		GW	X											
2	MW 5	12/21/11	1355	✓		GW	X											
3	TRIP																	
4	Tamp																	
5																		
6																		
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RELINQUISHED BY: 		DATE/TIME: 12/21/11 1505	RECEIVED BY: 		DATE/TIME: 12-21-11 1505	PROJECT INFORMATION										RECEIPT		
1: 			1: 			PROJECT NAME: Hunting Creek Plaza										Total # of Containers		
2: 			2: 			PROJECT #: 6121 10 0013										<div>Turnaround Time Request</div> <div><input checked="" type="radio"/> Standard 5 Business Days</div> <div><input type="radio"/> 2 Business Day Rush</div> <div><input type="radio"/> Next Business Day Rush</div> <div><input type="radio"/> Same Day Rush (auth req.)</div> <div><input type="radio"/> Other</div>		
3: 			3: 			SITE ADDRESS: 1810 MC DONOUGH HWY												
SPECIAL INSTRUCTIONS/COMMENTS:		SHIPMENT METHOD		INVOICE TO: (IF DIFFERENT FROM ABOVE)		SEND REPORT TO: Steve Foley churck foley										STATE PROGRAM (if any):		
																E-mail? Y/N; Fax? Y/N		
		OUT / / VIA:		QUOTE #:		PO#:										DATA PACKAGE: I II III IV		
		IN  CLIENT FedEx UPS MAIL COURIER																
		GREYHOUND OTHER																

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

Client: AMEC E&I, Inc. - Plasters
Project: Hunting Creek Plaza
Lab ID: 1512J48

Case Narrative

Sample Receiving Nonconformance:

Sample information on the Chain of Custody did not match that on the sample bottle labels for sample MW5. Sample MW5 was listed as being collected at 1355 on the Chain of Custody, while on the container label it was listed as being collected at 1455. Sample was logged in using the information the Chain of Custody.

Analytical Environmental Services, Inc

Date: 1-Mar-16

Client: AMEC E&I, Inc. - Plasters
 Project Name: Hunting Creek Plaza
 Lab ID: 1512J48-001

Client Sample ID: MW-6
 Collection Date: 12/21/2015 12:55:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Acetone	BRL	50		ug/L	217633	1	12/23/2015 17:23	NH
Chloroform	BRL	5.0		ug/L	217633	1	12/23/2015 17:23	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 17:23	NH
Tetrachloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 17:23	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 17:23	NH
Trichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 17:23	NH
Vinyl chloride	BRL	2.0		ug/L	217633	1	12/23/2015 17:23	NH
Surr: 4-Bromofluorobenzene	78.9	70.7-125		%REC	217633	1	12/23/2015 17:23	NH
Surr: Dibromofluoromethane	116	82.2-120		%REC	217633	1	12/23/2015 17:23	NH
Surr: Toluene-d8	88.1	81.8-120		%REC	217633	1	12/23/2015 17:23	NH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 1-Mar-16

Client: AMEC E&I, Inc. - Plasters
 Project Name: Hunting Creek Plaza
 Lab ID: 1512J48-002

Client Sample ID: MW-5
 Collection Date: 12/21/2015 1:55:00 PM
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Acetone	BRL	50		ug/L	217633	1	12/24/2015 18:33	CH
Chloroform	26	5.0		ug/L	217633	1	12/24/2015 18:33	CH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/24/2015 18:33	CH
Tetrachloroethene	35	5.0		ug/L	217633	1	12/24/2015 18:33	CH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/24/2015 18:33	CH
Trichloroethene	BRL	5.0		ug/L	217633	1	12/24/2015 18:33	CH
Vinyl chloride	BRL	2.0		ug/L	217633	1	12/24/2015 18:33	CH
Surr: 4-Bromofluorobenzene	77.5	70.7-125		%REC	217633	1	12/24/2015 18:33	CH
Surr: Dibromofluoromethane	117	82.2-120		%REC	217633	1	12/24/2015 18:33	CH
Surr: Toluene-d8	90.4	81.8-120		%REC	217633	1	12/24/2015 18:33	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 1-Mar-16

Client: AMEC E&I, Inc. - Plasters
 Project Name: Hunting Creek Plaza
 Lab ID: 1512J48-003

Client Sample ID: TRIP BLANK
 Collection Date: 12/21/2015
 Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Acetone	BRL	50		ug/L	217633	1	12/23/2015 16:25	NH
Chloroform	BRL	5.0		ug/L	217633	1	12/23/2015 16:25	NH
cis-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 16:25	NH
Tetrachloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 16:25	NH
trans-1,2-Dichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 16:25	NH
Trichloroethene	BRL	5.0		ug/L	217633	1	12/23/2015 16:25	NH
Vinyl chloride	BRL	2.0		ug/L	217633	1	12/23/2015 16:25	NH
Surr: 4-Bromofluorobenzene	77.8	70.7-125		%REC	217633	1	12/23/2015 16:25	NH
Surr: Dibromofluoromethane	117	82.2-120		%REC	217633	1	12/23/2015 16:25	NH
Surr: Toluene-d8	90.2	81.8-120		%REC	217633	1	12/23/2015 16:25	NH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Amer Plasters Work Order Number 1512548

Checklist completed by [Signature] Date 12/21/15
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 3.2C 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.

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

Client: AMEC E&I, Inc. - Plasters
Project Name: Hunting Creek Plaza
Workorder: 1512J48

ANALYTICAL QC SUMMARY REPORT**BatchID: 217633**

Sample ID: MB-217633	Client ID:					Units: ug/L	Prep Date: 12/23/2015	Run No: 307072			
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS SW8260B					BatchID: 217633	Analysis Date: 12/23/2015	Seq No: 6588026			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Acetone	BRL	50									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Surr: 4-Bromofluorobenzene	38.00	0	50.00		76.0	70.7	125				
Surr: Dibromofluoromethane	57.11	0	50.00		114	82.2	120				
Surr: Toluene-d8	45.43	0	50.00		90.9	81.8	120				

Sample ID: LCS-217633	Client ID:				Units: ug/L	Prep Date: 12/23/2015	Run No: 307072				
SampleType: LCS	TestCode: TCL VOLATILE ORGANICS SW8260B				BatchID: 217633	Analysis Date: 12/23/2015	Seq No: 6588025				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Trichloroethene	50.60	5.0	50.00		101	73.1	128				
Surr: 4-Bromofluorobenzene	39.81	0	50.00		79.6	70.7	125				
Surr: Dibromofluoromethane	58.13	0	50.00		116	82.2	120				
Surr: Toluene-d8	45.09	0	50.00		90.2	81.8	120				

Sample ID: 1512J48-001AMS	Client ID: MW-6	Units: ug/L			Prep Date: 12/23/2015	Run No: 307072					
SampleType: MS	TestCode: TCL VOLATILE ORGANICS SW8260B	BatchID: 217633			Analysis Date: 12/23/2015	Seq No: 6588106					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Trichloroethene	57.60	5.0	50.00		115	70	136				
Surr: 4-Bromofluorobenzene	39.39	0	50.00		78.8	70.7	125				
Surr: Dibromofluoromethane	56.40	0	50.00		113	82.2	120				
Surr: Toluene-d8	43.39	0	50.00		86.8	81.8	120				

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. - Plasters
Project Name: Hunting Creek Plaza
Workorder: 1512J48

ANALYTICAL QC SUMMARY REPORT

BatchID: 217633

Sample ID: 1512J48-001AMSD		Client ID: MW-6				Units: ug/L		Prep Date: 12/23/2015		Run No: 307072	
SampleType: MSD		TestCode: TCL VOLATILE ORGANICS SW8260B				BatchID: 217633		Analysis Date: 12/23/2015		Seq No: 6588107	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Trichloroethene	51.15	5.0	50.00		102	70	136	57.60	11.9	20	
Surr: 4-Bromofluorobenzene	37.61	0	50.00		75.2	70.7	125	39.39	0	0	
Surr: Dibromofluoromethane	59.63	0	50.00		119	82.2	120	56.40	0	0	
Surr: Toluene-d8	45.37	0	50.00		90.7	81.8	120	43.39	0	0	

APPENDIX C
GROUNDWATER FATE AND TRANSPORT MODEL