

Prepared for:

CSI REALTY, LLC
2680 Lakeland Road
Dalton, GA 30721

**PROGRESS REPORT
COLOR SPECTRUM
29 Probasco Street
LaFayette, GA 30728**

Prepared by:



1050 Crown Pointe Parkway, Suite 550
Atlanta, Georgia 30338
Tel: 404-315-9113

March 2013

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Justin Vickery, P.G.
Associate

March 2013

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**PROGRESS REPORT
COLOR SPECTRUM
29 Probasco Street
LaFayette, GA 30728**

GROUNDWATER SCIENTIST STATEMENT

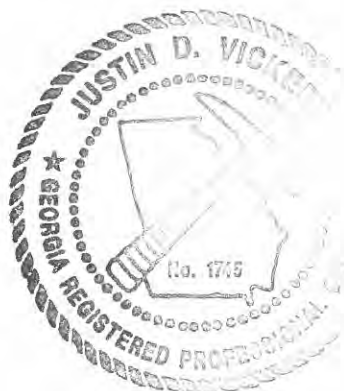
I certify that I am a qualified ground water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in ground water hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this Progress Report for HSI Site # 10831 was prepared by me or by a subordinate working under my direction.

Certified by: _____


Justin D. Vickery, P.G.
Associate
No. 1745

Date: _____

3-29-13



1 INTRODUCTION

1.1 Overview

This Progress Report is being submitted for Color Spectrum, Hazardous Site Inventory #10831, located at 29 Probasco Street, LaFayette, Walker County, Georgia, referred to herein as the “Site”. The Site was accepted into the Voluntary Remediation Program by the Georgia Environmental Protection Division (EPD) in a letter dated March 30, 2012.

The Site is located at 29 Probasco Street in LaFayette, Walker County, Georgia at latitude 34° 42’ 47” N and longitude 85° 17’ 20” W. A Site Location Map is included as Figure 1 in Appendix A, and Figure 2 is a Site Plan showing the Site features. According to the Walker County Tax Assessor Office, the Site consists of two parcels as follows:

- Parcel ID 1023 087, 1.38 acres
- Portions of the Chattooga and Chickamauga Railway Right-of-Way, located within the fenceline of the facility.

The first known development of the Site was as a cotton mill, which operated from the late 1800s until the mid-1980s when it was damaged by fire. Site operations were then converted to yarn dyeing and winding which continues to the present day. The Site is improved with one building, referred to as the Preheat Building, which is located where the former cotton mill was originally constructed.

In a letter dated June 24, 2011, the EPD concurred that the Site is in compliance with Type 1 Risk Reduction Standards (RRS) for soil, but not for groundwater. Based on the location of the groundwater plume, the historical source of groundwater impacts appears to have occurred adjacent to, and prior to the construction of, the current preheat building.

Regulated substances detected at the Site include 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), Freon-113, dichlorodifluoromethane (Freon-12), tetrachloroethene (PCE), acetone, and isopropylbenzene (IPB). With the exception of PCE, groundwater at the site is in compliance with Non-Residential RRSs.

2 VRP PROJECT MANAGEMENT

2.1 Professional Geologist Oversight

This Progress Report includes certification by the Professional Geologist (Justin Vickery) specified in the Voluntary Remediation Program (VRP) Application dated December 2011. Table 1 of Appendix B contains a monthly summary of hours invoiced and description of services provided.

2.2 Milestone Schedule

An updated projected milestone schedule has been attached as Table 2.

2.3 Conceptual Site Model

The Conceptual Site Model (CSM) has not changed since the VIRP was submitted, and it is not included as part of this Progress Report.

3 FIELD ACTIVITIES

3.1 Point of Demonstration Well Installation

As requested in EPD's letter dated March 30, 2012, Point of Demonstration Monitoring Wells MW-12 and MW-13 were installed on March 6, 2013 along the eastern fence line as shown on Figure 3. MW-12 was installed 110 feet north of MW-2, and MW-13 was installed between MW-1 and MW-2. Borings logs for MW-12 and MW-13 are included in Appendix C.

Wells MW-12 and MW-13 were advanced using hollow stem auger methods. Each boring was advanced to 13 feet below the ground surface (ft-bgs). The wells were placed through the augers, and sand was poured in the well annular space as the augers were slowly extracted. Each well was constructed with 10 feet of 2-inch diameter, 0.01-inch slotted, Schedule 40 PVC well screen placed at 3-13 ft-bgs. Because of the shallow groundwater depth, the top of the well screen was placed at 3 ft-bgs leaving a minimal distance for a well seal. Six inches of sand were placed above each of the well screens followed by one foot of bentonite (hydrated) and one foot of bentonite grout. Each well was completed with an 8-inch diameter flush-mounted well vault and a locking well cap.

The two new monitoring wells were surveyed relative to existing well MW-5. Top-of-casing elevations are shown on Table 3.

Both wells were developed using a surge block and bailers. The surge block was forced across the well screen several times, and groundwater was purged using bailers. Approximately 20 well volumes of groundwater were removed from each of the wells. In both wells, geochemical parameters, including pH and electrical conductivity, stabilized while turbidity remained elevated (>1,000 NTUs). Well development logs are included in Appendix D.

Soil cutting and development/purge water were placed into drums for off-site disposal.

3.2 First Quarterly Groundwater Monitoring Event

3.2.1 Field Work

The VRP Application proposed one year of quarterly groundwater monitoring for monitoring wells MW-2, MW-5, MW-10, and TW-1. In addition, the EPD requested quarterly sampling of the two new monitoring wells MW-12 and MW-13. The first quarterly groundwater monitoring event was conducted on March 12, 2013.

Prior to purging, the depth of water in each of the Site monitoring wells was measured with a water level meter to determine groundwater flow direction. This data, along with the top-of-casing elevation data was used to determine the groundwater elevations at each well location.

Monitoring wells were purged of a minimum of three well volumes, using a peristaltic pump and Teflon tubing, and geochemical parameters, including pH, electrical conductivity, and turbidity

were allowed to stabilize prior to sampling. Well MW-2 contained a small amount of diesel fuel, and therefore, in order to avoid damaging the water quality meter, geochemical parameters were not measured on purge water from this well. Four well volumes were purged from MW-2 prior to sampling.

Once an adequate purge was achieved, groundwater samples were collected using the straw method from each of the six monitoring wells for volatile organic compound (VOC) analysis. Groundwater was pulled into the tubing and the pump was turned off. A thumb was placed over the top end of the tubing, and the tubing was removed from the pump and the well. Water was allowed to drain into the sample bottles from the lower end of the tubing. The samples were collected in two 40-mL glass vials preserved with hydrochloric acid.

A duplicate sample was collected from MW-2 for VOC analysis immediately after collecting the parent sample. The results of the duplicate samples were similar to those of the parent sample. A Trip Blank, which was provided by the laboratory and remained with the sample bottles through the sampling event, was analyzed for VOCs. No VOCs were detected in the Trip Blank.

The samples were placed on ice in a cooler, logged under standard chain-of-custody procedures, and delivered to Analytical Environmental Services, Inc. in Norcross, Georgia for VOC analysis by EPA Method 8260B. Purge water was placed in drums for off-site disposal.

3.2.2 Results

Groundwater depths and associated elevations are summarized on Table 3. Figure 4 is a potentiometric surface map of the Site showing groundwater flow direction to the southeast and northeast, consistent with historical data.

Laboratory analytical results are summarized on Table 4 and Figure 5. Of the six VOC samples collected, three samples, MW-2, MW-12, and TW-1, had no VOC detections. VOCs were detected in the other three samples as follows:

- MW-5 – Tetrachloroethene (PCE) was detected at 6.9 micrograms per liter ($\mu\text{g/l}$) which is below the Type 2 RRS of 19 $\mu\text{g/l}$ and the Type 4 RRS of 98 $\mu\text{g/l}$. 1,1,1-Trichloroethane (1,1,1-TCA) and Freon-113 were detected at concentrations below their respective Type 1 RRS.
- MW-10 – Tetrachloroethene (PCE) was detected at 120 $\mu\text{g/l}$ which is above the Type 4 RRS of 98 $\mu\text{g/l}$. 1,1-Dichloroethene (1,1-DCE) was detected at 97 $\mu\text{g/l}$ which is below the Type 4 RRS of 520 $\mu\text{g/l}$. 1,1,1-TCA, 1,1-dichloroethane (1,1-DCA), Freon-12, and Freon-113 were detected at concentrations below the respective Type 1 RRSs.
- MW-13 – Freon-113 was detected below the Type 1 RRS.

4 VRP COMPLIANCE

In a letter dated March 30, 2012, the EPD requested that demonstration of horizontal delineation on the qualifying property be included in this Progress Report. Prior to the VRP Application submittal, monitoring wells along the eastern, or down-gradient, property boundary had concentrations below the delineation criteria (Type 1 RRS). Therefore, horizontal delineation is complete on the qualifying property. In addition, during the recent sampling, results from the new monitoring wells, MW-12 and MW-13, along with those from the existing property line wells, indicate delineation to the Type 1 RRS is complete in the down-gradient direction.

5 CONCLUSIONS

In general, VOC concentrations have decreased in MW-2 and MW-5 and remained non-detect in TW-1. VOC concentrations in MW-10 are similar to those from the previous sampling event. VOC concentrations in new Point of Demonstration wells MW-12 and MW-13 are essentially non-detect with a minor Freon-113 detection (below the Type 1 RRS) in MW-13. The VOC plume appears to be stabilized on-site. The next quarterly groundwater sampling event is scheduled for June 2013.

The Type 2 and Type 4 groundwater RRSs have been updated for PCE based on 2012 IRIS toxicological values updates. RRS calculation tables are included in Appendix F. The Type 2 RRS for PCE has increased to 19 µg/l, and the Type 4 has increased to 98 µg/l. Based on the new RRSs, PCE concentrations in groundwater are above Residential (Type 1/2) RRS in two wells (MW-8 and MW-10) and are above Non-Residential (Type 4) RRS in only one on-site well (MW-10).

APPENDIX A

Figures



0 100

Scale in Feet

Approximate Property Line

Source: Bing Maps



1050 Crown Pointe Pkwy
Suite 550
Atlanta, GA 30338
404.315.9113

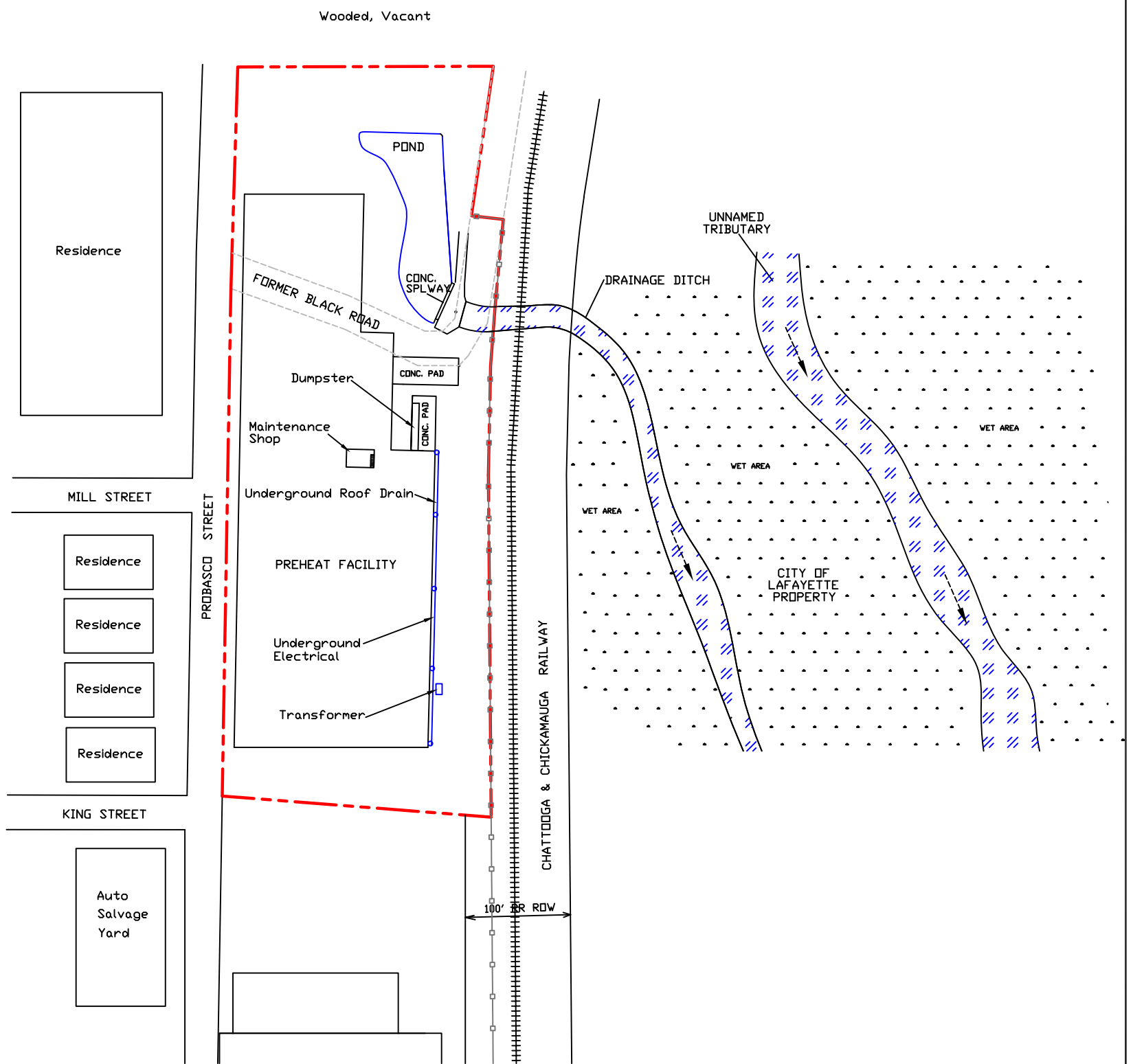


Color Spectrum
29 Probasco Street
LaFayette, GA 30728

SITE LOCATION MAP

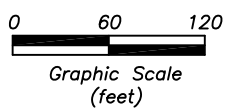
FIGURE

1



LEGEND

- ##### Railroad Tracks
- - - - - Fence Line
- - - - -> Water Flow Direction
- - - - - Site



1050 Crown Pointe Parkway
Suite 350
Atlanta, GA 30338
(404) 315-9113

DATE: March 2013		DRN: FR	
Color Spectrum 29 Probasco Street LaFayette, GA 30728			
Site Plan			FIGURE
			2



MILL STREET

PROBASCO STREET

MILL POND

CONC. PAD

CONC. PAD

CHATTOGA & CHICKAMAUGA RAILWAY

CITY OF
LAFAYETTE
PROPERTY

TW-2
NM

794.27
DW-1

MW-7
794.24

MW-11
793.10

MW-10
793.56

MW-8
793.27

MW-9
794.51

MW-4
791.17

MW-12
791.51

TW-1
791.68

MW-5
793.37

MW-3
NM

MW-13
792.67

MW-1
792.78

MW-2
792.77

MW-6
792.72

TW-3

LEGEND

- Groundwater Monitoring Well Location
- Temporary Monitoring Well Location
- Abandoned Temporary Monitoring Well Location
- 794
792.72 Groundwater Elevation Contour (Ft. Above NGVD)
- Groundwater Flow Direction
- Fenceline
- Estimated Contour Line

0 20 40
Graphic Scale
(feet)



1050 Crown Pointe Parkway
Suite 350
Atlanta, GA 30338
(404) 315-9113

DATE: March 2013

DRN: FR

Color Spectrum
29 Probasco Street
LaFayette, GA 30728

Potentiometric Surface Map
(March 2013)

FIGURE

3



MILL STREET

PROBASCO STREET

TW-2

MILL POND

MW-4

L1
CONC. PAD

DW-1

MW-7

CONC PAD

MW-10

MW-11

MW-8

MW-9

MW-6

MW-3

MW-13

MW-1

MW-2

MW-5

MW-12

TW-1

TW-3

CITY OF
LAFAYETTE
PROPERTY

CHATTOGA & CHICKAMAUGA RAILWAY

LEGEND



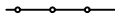
Groundwater Monitoring Well Location



Temporary Monitoring Well Location



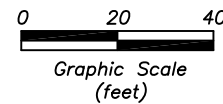
Abandoned Temporary Monitoring Well Location



Fenceline

1,1,1-TCA
1,1-DCA
1,1-DCE
Freon-12
PCE
VOC
ND
ug/L

1,1,1-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
Dichlorodifluoromethane
Tetrachloroethene
Volatile Organic Compound
Non-Detect
micrograms per liter



Graphic Scale
(feet)



1050 Crown Pointe Parkway
Suite 350
Atlanta, GA 30338
(404) 315-9113

DATE: March 2013

DRN: FR

Color Spectrum
29 Probasco Street
LaFayette, GA 30728

Groundwater Concentration Map
(March 2013)

FIGURE

4

APPENDIX B

Tables

Table 1
Summary of Labor Hours
Color Spectrum
LaFayette, Georgia

	Oct-12	Nov-12	Dec-12	Jan-12	Feb-12	Mar-12
Vickery, Justin						
CSI Realty - Color Spectrum: Demonstration Monitoring						
A-Associate:A-Project Management	0.00	0.00	0.00	0.00	0.00	1.50
CSI Realty - Color Spectrum: POD Well Installation						
A-Associate:A-Project Management	0.00	0.00	0.00	0.00	0.00	1.00
A-Associate:A-Planning/Preparation	0.00	0.00	0.00	0.00	0.00	0.50
A-Associate:A-Site Visit	0.00	0.00	0.00	0.00	0.00	5.00
CSI Realty - Color Spectrum: Semi-Annual Progress Reporting						
A-Associate:A-Document Preparation	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>25.00</u>
Total Vickery, Justin	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>33.00*</u>
Total	0.00	0.00	0.00	0.00	0.00	33.00*

*Estimated hours for March 2013

Table 2
Projected Milestone Schedule
Color Spectrum
LaFayette, Georgia

ID	Task Name	2013				2014			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Project Mangement								
	Semiannual Progress Reports								
	CSR*								
2	Groundwater Sampling								
3	Groundwater Modeling/Compliance Evaluation								

Table 3
Groundwater Elevations
Color Spectrum
LaFayette, Georgia

Well Location	Date	Ground Surface Elevation (ft above NGVD)	TOC Elevation (ft above NGVD)	Screened Interval (ft below TOC)	Depth to Groundwater (ft below TOC)	Depth to Product (ft below TOC)	Groundwater Elevation (ft above NGVD)
MW-1	6/28/2007	796.96	796.64	2-12	5.06	ND	791.58
	8/16/2011				5.58	ND	791.06
	3/12/2013				3.56	ND	792.78
MW-2*	6/28/2007	796.43	796.06	2-12	5.48	NM	790.58
	8/16/2011				5.20	5.15	791.27
	3/12/2013				3.70	3.65	792.77
MW-3	6/28/2007	797.46	797.14	2-15	5.45	ND	791.69
	8/16/2011				5.59	ND	791.55
	3/12/2013				NM	NM	NM
MW-4	6/28/2007	795.58	795.43	6-16	4.48	ND	790.95
	8/16/2011				4.82	ND	790.61
	3/12/2013				4.26	ND	791.17
MW-5	6/28/2007	797.46	797.19	3-13	5.10	ND	792.09
	8/16/2011				4.65	ND	792.54
	3/12/2013				3.82	ND	793.37
MW-6	6/28/2007	796.92	796.62	3-13	4.45	ND	792.17
	8/16/2011				4.83	ND	791.79
	3/12/2013				3.90	ND	792.72
MW-7	6/28/2007	797.89	797.52	3.5-13.5	3.69	ND	793.83
	8/16/2011				3.63	ND	793.89
	3/12/2013				3.28	ND	794.24
MW-8	6/28/2007	801.96	801.74	4-14	12.17	ND	789.57
	8/16/2011				9.27	ND	792.47
	3/12/2013				8.47	ND	793.27
MW-9	6/28/2007	801.97	801.53	4-14	7.45	ND	794.08
	8/16/2011				7.41	ND	794.12
	3/12/2013				7.02	ND	794.51
MW-10	10/6/2009	801.96	801.62	10-12.5	9.24	ND	792.38
	8/16/2011				8.78	ND	792.84
	3/12/2013				8.06	ND	793.56
MW-11	10/6/2009	801.96	801.75	17.5-20	14.21	ND	787.54
	8/16/2011				9.35	ND	792.40
	3/12/2013				8.65	ND	793.10
MW-12	3/12/2013	NM	795.29	3-13	3.78	ND	791.51
MW-13	3/12/2013	NM	796.24		3.57	ND	792.67
TW-1	6/28/2007	795.01	794.73	6-16	3.81	ND	790.92
	8/16/2011				4.10	ND	790.63
	3/12/2013				3.05	ND	791.68
TW-2	6/28/2007	801.94	801.74	4-14	7.36	ND	794.38
	8/16/2011				6.89	ND	794.85
	3/12/2013				NM	NM	NM
DW-1	6/28/2007	798.10	797.72	35.6-45.6	4.70	ND	793.02
	8/16/2011				4.45	ND	793.27
	3/12/2013				3.45	ND	794.27

Notes

ft = feet

NGVD = National Geodetic Vertical Datum

* = corrected for free product, measurement on 3/12/13 is approximate

TOC = top of casing

NM = not measured

Table 4
Groundwater Analytical Results
Color Spectrum
LaFayette, Georgia

Sample Location	Sample Date	1,1,1-TCA (ug/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	Freon-113 (ug/L)	Freon-12 (ug/L)	PCE (ug/L)	IPB (ug/L)	Arsenic (ug/L)	Lead (ug/L)
Delineation: Type 1 RRS		200	4,000	7	1,000,000	1,000	5	5*	10	15
Type 2 RRS		NC	NC	NC	NC	NC	19	NC	NC	NC
Cleanup: Type 4 RRS		13,600	NC	520	NC	NC	98	1,050	NC	NC**
Minimum Detected Value		5.5	5.0	5.5	10	110	5	8	ND	15.6
Maximum Detected Value		2,100	260	290	27,000	680	350	46	ND	15.6
MW-1	12/19/06	<5.0	<5.0	<5.0	60	<10	<5.0	<5.0	--	--
	06/28/07	<5.0	<5.0	<5.0	63	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	28	<10	<5.0	<5.0	--	--
MW-2	12/19/06	<5.0	<5.0	<5.0	54	<10	<5.0	<5.0	--	--
	06/28/07	<5.0	<5.0	<5.0	44	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	11	<10	<5.0	<5.0	--	--
Duplicate	03/12/13	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	03/12/13	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
MW-3	12/19/06	<5.0	8.5	5.5	390	<10	8.7	<5.0	--	--
	06/28/07	<5.0	7.8	<5.0	360	<10	7.6	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	230	<10	5.2	<5.0	--	--
MW-4	06/27/07	<5.0	<5.0	<5.0	10	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	--	--
MW-5	06/27/07	40	<5.0	<5.0	880	<10	18	<5.0	--	--
	08/17/11	25	<5.0	7.6	940	<10	19	<5.0	--	--
	03/12/13	12	<5.0	<5.0	520	<10	6.9	<5.0	--	--
MW-6	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	46	--	--
	08/17/11	<5.0	<5.0	<5.0	<11	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	<12	<10	<5.0	<5.0	--	--
MW-7	06/27/07	14	<5.0	<5.0	180	<10	<5.0	<5.0	--	--
	08/16/11	31	<5.0	9.5	1,100	<10	8.6	<5.0	--	--
MW-8	06/27/07	<5.0	5.9	22	3,900	<10	<5.0	<5.0	--	--
	08/16/11	5.5	30	76	8,200	110	32	<5.0	--	--
MW-9	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/16/11	<5.0	<5.0	<5.0	18	<10	<5.0	<5.0	--	--
MW-10 Duplicate	10/07/09	10	170	96	6,100	<10	54	12	<50	<10
	10/07/09	7.2	240	110	6,200	<10	42	10	<50	<10
	08/16/11	33	250	280	15,000	680	130	8.4	--	--
	11/15/11	28	260	160	11,000	<10	120	7.6	--	--
	03/12/13	36	220	97	14,000	190	120	<5.0	--	--
MW-11 MW-11(F)	10/07/09	7.6	29	94	15,000	<10	120	7.7	<50	15.6**
	10/07/09	--	--	--	--	<10	--	--	<50	<10
	08/16/11	<5.0	<5.0	<5.0	27	<10	<5.0	<5.0	--	--
	11/15/11	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
MW-12	03/12/13	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
MW-13	03/12/13	<5.0	<5.0	<5.0	160	--	<5.0	<5.0	--	--
DW-1	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/16/11	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
TW-1	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	03/12/13	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
TW-2	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/16/11	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
TW-3	06/27/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-1	10/11/05	23	5.6	<5.0	<10	<10	6.4	<5.0	--	--
SB-2	10/11/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-3	10/11/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-4	10/11/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-5	10/11/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-6	10/24/05	14	<5.0	<5.0	190	<10	<5.0	<5.0	--	--
SB-7	10/24/05	<5.0	<5.0	<5.0	11	<10	<5.0	<5.0	--	--
SB-8	10/24/05	<5.0	<5.0	<5.0	40	<10	<5.0	<5.0	--	--
SB-9	10/24/05	14	<5.0	<5.0	97	<10	<5.0	<5.0	--	--

Table 4
Groundwater Analytical Results
Color Spectrum
LaFayette, Georgia

Sample Location	Sample Date	1,1,1-TCA (ug/L)	1,1-DCA (ug/L)	1,1-DCE (ug/L)	Freon-113 (ug/L)	Freon-12 (ug/L)	PCE (ug/L)	IPB (ug/L)	Arsenic (ug/L)	Lead (ug/L)
Delineation: Type 1 RRS		200	4,000	7	1,000,000	1,000	5	5*	10	15
Type 2 RRS		NC	NC	NC	NC	NC	19	NC	NC	NC
Cleanup: Type 4 RRS		13,600	NC	520	NC	NC	98	1,050	NC	NC**
SB-10	10/24/05	13	<5.0	<5.0	370	<10	<5.0	<5.0	--	--
SB-11	10/24/05	<5.0	5.0	<5.0	54	<10	<5.0	<5.0	--	--
SB-12	07/27/06	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-13	07/27/06	<5.0	<5.0	9.0	580	<10	7.6	<5.0	--	--
SB-14	07/27/06	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
SB-15	07/27/06	<5.0	<5.0	<5.0	80	<10	<5.0	8.5	--	--
SB-16	07/27/06	23	11	<5.0	1,800	<10	20	<5.0	--	--
SB-17	07/27/06	<5.0	<5.0	7.1	510	<10	<5.0	<5.0	--	--
SB-18	07/27/06	<5.0	<5.0	<5.0	17	<10	<5.0	<5.0	--	--
SB-19	07/27/06	NS	NS	NS	NS	NS	NS	NS	--	--
SB-20	12/20/06	<5.0	<5.0	<5.0	160	<10	<5.0	<5.0	--	--
SB-21	12/20/06	<5.0	<5.0	<5.0	49	<10	<5.0	<5.0	--	--
SB-22	12/20/06	30	32	120	27,000	<10	150	<5.0	--	--
SB-23	12/20/06	2,100	230	290	27,000	<10	350	<5.0	--	--
SB-26	12/20/06	<5.0	<5.0	<5.0	36	<10	<5.0	<5.0	--	--
Duplicate	12/20/06	<5.0	<5.0	<5.0	22	<10	<5.0	<5.0	--	--
SB-27	12/20/06	34	<5.0	<5.0	1,100	<10	9.8	<5.0	--	--
SB-28	12/20/06	<5.0	5.4	6.2	270	<10	<5.0	8.3	--	--
POND	10/11/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
Field Blank	12/20/06	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
Trip Blank	10/24/05	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	12/20/06	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	06/29/07	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	10/07/09	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/18/11	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
Rinsate	03/11/13	<5.0	<5.0	<5.0	<10	<10	<5.0	<5.0	--	--
	08/17/11	<5.0	<5.0	<5.0	<11	<10	<5.0	<5.0	--	--

Notes:

ug/L = micrograms per liter

<5.0 = constituent was not detected above the detection limit.

NS = not sampled

* = A value does not exist on Table 1 of Appendix III for this compound.

The Method Detection Limit was used for the Type 1 RRS.

** The well could not be fully developed due to slow recharge.

The result represents a highly turbid sample and is not considered

valid. Lead was not detected in a filtered sample

collected from the same well.

 Above Delineation Criteria (Type 1 RRS)

 Above Residential RRS (Type 1/2 RRS)

 Above Cleanup Criteria (Type 4 RRS)

NC = Not Calculated

1,1,1-TCA = 1,1,1-Trichloroethane

1,1-DCA = 1,1-Dichloroethane

1,1-DCE = 1,1-Dichloroethene

PCE = Tetrachloroethene

IPB = Isopropylbenzene

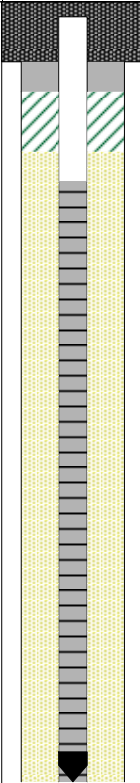
-- = Constituent Not Analyzed

NR = Not Regulated

(F) = Filtered

APPENDIX C

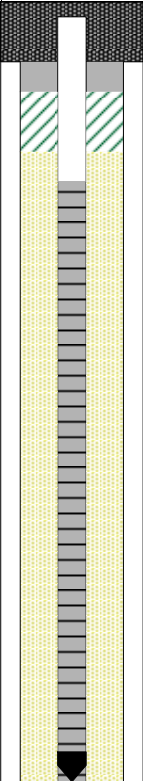
Boring Logs

PROJECT: Color Spectrum					Log of Boring No. MW-12				
SITE LOCATION: LaFayette, GA					TOP OF CASING ELEVATION (ft): 795.29				
DRILLING CONTRACTOR: Geo Lab					DATE STARTED: 3/6/2013		DATE FINISHED: 3/6/2013		
DRILLING METHOD: Hollow Stem Auger					TOTAL DEPTH (ft.): 13		SCREEN INTERVAL (ft.): 3-13		
DRILLING EQUIPMENT: Geoprobe					DEPTH TO WATER AT TIME OF BORING (ft.): N/A		CASING (ft.): 0-3		
SAMPLING METHOD: N/A					BOREHOLE DIAMETER (In.): 7.25		WELL DIAMETER (In.): 2		
LOGGED BY: B. Crowe									
DEPTH (feet)	SAMPLES			PID Reading	DESCRIPTION			WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS	
	Sample No.	Location	Blows/ Foot		Ground Surface Elevation (ft): N/A				
0								 Flush mounted vault set in concrete Grout 1-1.5 Bentonite 1.5-2.5 ft-bls.	
5								Filter Sand 2.5-13 ft-bls.	
10								Boring terminated at 13 ft-bls.	
15									
20									



PROJECT: Color Spectrum		Log of Boring No. MW-13	
SITE LOCATION: LaFayette, GA		TOP OF CASING ELEVATION (ft): 796.24	
DRILLING CONTRACTOR: Geo Lab		DATE STARTED: 3/6/2013	DATE FINISHED: 3/6/2013
DRILLING METHOD: Hollow Stem Auger		TOTAL DEPTH (ft.): 13	SCREEN INTERVAL (ft.): 3-13
DRILLING EQUIPMENT: Geoprobe		DEPTH TO WATER AT TIME OF BORING (ft.): N/A	CASING (ft.): 0-3
SAMPLING METHOD: N/A		BOREHOLE DIAMETER (In.): 7.25	WELL DIAMETER (In.): 2

LOGGED BY: B. Crowe

DEPTH (feet)	SAMPLES			PID Reading	DESCRIPTION			WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS	
	Sample No.	Location	Blows/ Foot						
					Ground Surface Elevation (ft): N/A				
0								Flush mounted vault set in concrete Grout 1-1.5 Bentonite 1.5-2.5 ft-bls <	



APPENDIX D

Monitoring Well Development Logs and Sampling Forms



Monitoring Well Sampling Form

EPS Project: <u>Color Spectrum</u>		Date: <u>03/07/2012</u>
Well ID: <u>NW-13 (Development)</u>		Field Conditions: <u>clear, ~ 40°F</u>
Sampling Performed By: _____		
Well Construction: _____	General Condition of Well: <u>new</u>	
Well Labeled: _____	Well Cap: _____	Condition of surrounding area: <u>gravel/grass</u>
Well depth from TOC: <u>12.13</u>	Well Locked: _____	Depth to Water from TOC: <u>4.20</u>
Well Diameter (in): <u>2"</u>	Method of measure: <u>UCM</u>	
Height (Ht) of water in well (Well depth from TOC - Static level from TOC): _____		
Volume of water in well (Ht. x(.16 for 2")(.653 for 4") (1.469 for 6")): <u>1.27</u>		Three Well Volumes (gal): _____
Purging Method: <u>Bailer / Surge block</u>	Time @ Start of Purge: <u>11:05</u>	
Sample Method: _____	Sample Parameters: _____	

[illegible]

Temp probe ID:

Ferrous Iron (Fe²⁺)= **mg/L**

Sample ID:

Time Collected: _____

Technician Signature 



Sample ID: 13071-MW-2
13071-Dup

Time Collected: 1745

Technician Signature





Date: 3/12/2013

Well ID: MW-10
Sampling Performed By: Ben Crabb

Field Conditions: indoors

Sampling Performed By: Ben Cray

Well Construction: ben crane

Well Labeled: flush mount

Well depth from TOC: _____ Well cap: _____ Well Locked: _____

Well Diameter (in): 12.57
22

Height (Ht) of water in well (Well depth from TOC - 81.8 ft) = 62.3

Volume of water in well (H₂O) x 1.6 for 2" I.D. casing for 4" 1/4 I.D. 100 ft. or less.

Purging Method: DeG. 100-100

Sample Method: Per. Bund

SECRET

General Condition of Well: Good

Condition of surrounding area: Good forest

Depth to Water from TOC: 4000 Concreate

Method of measure: WLM

10 4.3

0.69 Three Wet Volumes (gal): 3.83

Time @ Start of Purge: 115 Time @ End of Purge (Gal): 20

Sample Parameters: 113

Temp probe ID:

Ferrous Iron (Fe^{2+})= **mg/L**

Time Collected: 1750

Technician Signature [Signature]



Date: 7/15/2017

Field Conditions: cloudy, ~ 40°F

General Condition of Well: good (new)

We're Locked

Condition of surrounding area: Good (new)
Depth to Water from TGC: Good, grassy, grass

Well Diameter (in): 13 3/4

Depth to Water from TOC: 3.98

Height (Ht) of water in well (Well depth from TOC - Static level from TOC):

Method of measure: *WLM*

Volume of water in well (HL x (.16 for 2") (.853 for 4") (1.489 for 6")):

9.42

Purging Method: Pea Pump

Time @ Start of Purge: 1339

Three Well Volumes (gal): 4.53

Sample Method: 100
500

Sample Parameters: 1337
10/1

Temp probe ID:

Ferrous Iron (Fe^{2+}) = **mg/L**

Sample ID: 13071-mw-12

Time Collected: 1520

Technician Signature [Signature]

APPENDIX E

Laboratory Analytical Report



ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 20, 2013

Justin Vickery
Environmental Planning Specialists, Inc.
1050 Crown Pointe Parkway
Atlanta GA 30338

TEL: (404) 315-9113
FAX: (404) 315-8509

RE: Color Spectrum

Dear Justin Vickery:

Order No: 1303A47

Analytical Environmental Services, Inc. received 8 samples on 3/13/2013 10:27:00 AM 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 07/01/12-06/30/13.
- AIHA Certification ID #100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/13.

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.

Dorothy deBruyn
Project Manager

Analytical Environmental Services, Inc
Date: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-001

Client Sample ID: 13071-MW-12
Collection Date: 3/12/2013 3:20:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 11:55	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 11:55	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Freon-113	BRL	10		ug/L	173586	1	03/18/2013 11:55	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-001

Client Sample ID: 13071-MW-12
Collection Date: 3/12/2013 3:20:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 11:55	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 11:55	YT
Surr: 4-Bromofluorobenzene	89.7	64.6-123		%REC	173586	1	03/18/2013 11:55	YT
Surr: Dibromofluoromethane	108	76.6-133		%REC	173586	1	03/18/2013 11:55	YT
Surr: Toluene-d8	101	77.8-120		%REC	173586	1	03/18/2013 11:55	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-002

Client Sample ID: 13071-TW-1
Collection Date: 3/12/2013 2:55:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 19:59	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 19:59	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Freon-113	BRL	10		ug/L	173586	1	03/18/2013 19:59	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-002

Client Sample ID: 13071-TW-1
Collection Date: 3/12/2013 2:55:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:59	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 19:59	YT
Surr: 4-Bromofluorobenzene	86.4	64.6-123		%REC	173586	1	03/18/2013 19:59	YT
Surr: Dibromofluoromethane	97.6	76.6-133		%REC	173586	1	03/18/2013 19:59	YT
Surr: Toluene-d8	93.7	77.8-120		%REC	173586	1	03/18/2013 19:59	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-003

Client Sample ID: 13071-MW-13
Collection Date: 3/12/2013 4:20:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 20:28	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 20:28	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 20:28	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 20:28	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 20:28	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 20:28	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 20:28	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Freon-113	160	100		ug/L	173586	10	03/19/2013 14:28	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-003

Client Sample ID: 13071-MW-13
Collection Date: 3/12/2013 4:20:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 20:28	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 20:28	YT
Surr: 4-Bromofluorobenzene	85	64.6-123		%REC	173586	1	03/18/2013 20:28	YT
Surr: 4-Bromofluorobenzene	99.1	64.6-123		%REC	173586	10	03/19/2013 14:28	YT
Surr: Dibromofluoromethane	93.4	76.6-133		%REC	173586	10	03/19/2013 14:28	YT
Surr: Dibromofluoromethane	99	76.6-133		%REC	173586	1	03/18/2013 20:28	YT
Surr: Toluene-d8	95	77.8-120		%REC	173586	10	03/19/2013 14:28	YT
Surr: Toluene-d8	97	77.8-120		%REC	173586	1	03/18/2013 20:28	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-004

Client Sample ID: 13071-MW-2
Collection Date: 3/12/2013 5:05:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 23:22	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 23:22	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Freon-113	BRL	10		ug/L	173586	1	03/18/2013 23:22	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-004

Client Sample ID: 13071-MW-2
Collection Date: 3/12/2013 5:05:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:22	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 23:22	YT
Surr: 4-Bromofluorobenzene	89.1	64.6-123		%REC	173586	1	03/18/2013 23:22	YT
Surr: Dibromofluoromethane	105	76.6-133		%REC	173586	1	03/18/2013 23:22	YT
Surr: Toluene-d8	102	77.8-120		%REC	173586	1	03/18/2013 23:22	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-005

Client Sample ID: 13071-MW-5
Collection Date: 3/12/2013 5:40:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	12	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 23:51	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 23:51	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 23:51	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 23:51	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 23:51	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 23:51	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 23:51	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Freon-113	520	100		ug/L	173586	10	03/19/2013 15:26	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-005

Client Sample ID: 13071-MW-5
Collection Date: 3/12/2013 5:40:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Tetrachloroethene	6.9	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 23:51	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 23:51	YT
Surr: 4-Bromofluorobenzene	87.4	64.6-123		%REC	173586	1	03/18/2013 23:51	YT
Surr: 4-Bromofluorobenzene	93.9	64.6-123		%REC	173586	10	03/19/2013 15:26	YT
Surr: Dibromofluoromethane	95.7	76.6-133		%REC	173586	1	03/18/2013 23:51	YT
Surr: Dibromofluoromethane	94.5	76.6-133		%REC	173586	10	03/19/2013 15:26	YT
Surr: Toluene-d8	97.8	77.8-120		%REC	173586	1	03/18/2013 23:51	YT
Surr: Toluene-d8	96.9	77.8-120		%REC	173586	10	03/19/2013 15:26	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-006

Client Sample ID: 13071-MW-10
Collection Date: 3/12/2013 5:50:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	36	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,1-Dichloroethane	220	50		ug/L	173586	10	03/19/2013 16:25	YT
1,1-Dichloroethene	97	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
2-Butanone	BRL	50		ug/L	173586	1	03/19/2013 17:23	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/19/2013 17:23	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/19/2013 17:23	YT
Acetone	140	50		ug/L	173586	1	03/19/2013 17:23	YT
Benzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Chloroethane	BRL	10		ug/L	173586	1	03/19/2013 17:23	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Chloromethane	BRL	10		ug/L	173586	1	03/19/2013 17:23	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Dichlorodifluoromethane	190	10		ug/L	173586	1	03/19/2013 17:23	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Freon-113	14000	1000		ug/L	173586	100	03/18/2013 19:01	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-006

Client Sample ID: 13071-MW-10
Collection Date: 3/12/2013 5:50:00 PM
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Tetrachloroethene	120	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Toluene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/19/2013 17:23	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/19/2013 17:23	YT
Surr: 4-Bromofluorobenzene	86.8	64.6-123		%REC	173586	100	03/18/2013 19:01	YT
Surr: 4-Bromofluorobenzene	94.3	64.6-123		%REC	173586	10	03/19/2013 16:25	YT
Surr: 4-Bromofluorobenzene	98.6	64.6-123		%REC	173586	1	03/19/2013 17:23	YT
Surr: Dibromofluoromethane	91.7	76.6-133		%REC	173586	10	03/19/2013 16:25	YT
Surr: Dibromofluoromethane	97.2	76.6-133		%REC	173586	100	03/18/2013 19:01	YT
Surr: Dibromofluoromethane	99.2	76.6-133		%REC	173586	1	03/19/2013 17:23	YT
Surr: Toluene-d8	96	77.8-120		%REC	173586	100	03/18/2013 19:01	YT
Surr: Toluene-d8	97	77.8-120		%REC	173586	10	03/19/2013 16:25	YT
Surr: Toluene-d8	98.4	77.8-120		%REC	173586	1	03/19/2013 17:23	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-007

Client Sample ID: 13071-DUP
Collection Date: 3/12/2013
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
2-Butanone	BRL	50		ug/L	173586	1	03/19/2013 15:56	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
Acetone	BRL	50		ug/L	173586	1	03/19/2013 15:56	YT
Benzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Chloroethane	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Chloromethane	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Freon-113	BRL	10		ug/L	173586	1	03/19/2013 15:56	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-007

Client Sample ID: 13071-DUP
Collection Date: 3/12/2013
Matrix: Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Toluene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/19/2013 15:56	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/19/2013 15:56	YT
Surr: 4-Bromofluorobenzene	94.7	64.6-123		%REC	173586	1	03/19/2013 15:56	YT
Surr: Dibromofluoromethane	94.3	76.6-133		%REC	173586	1	03/19/2013 15:56	YT
Surr: Toluene-d8	96.4	77.8-120		%REC	173586	1	03/19/2013 15:56	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-008

Client Sample ID: TRIP BLANK
Collection Date: 3/11/2013
Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
1,1,1-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,1,2-Trichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,1-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,1-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2-Dibromoethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2-Dichloroethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,2-Dichloropropane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,3-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
1,4-Dichlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
2-Butanone	BRL	50		ug/L	173586	1	03/18/2013 19:30	YT
2-Hexanone	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
4-Methyl-2-pentanone	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
Acetone	BRL	50		ug/L	173586	1	03/18/2013 19:30	YT
Benzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Bromodichloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Bromoform	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Bromomethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Carbon disulfide	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Carbon tetrachloride	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Chlorobenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Chloroethane	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
Chloroform	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Chloromethane	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
cis-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
cis-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Cyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Dibromochloromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Dichlorodifluoromethane	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
Ethylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Freon-113	BRL	10		ug/L	173586	1	03/18/2013 19:30	YT
Isopropylbenzene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
m,p-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Methyl acetate	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Methyl tert-butyl ether	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Methylcyclohexane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Methylene chloride	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
o-Xylene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT

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: 20-Mar-13

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Lab ID: 1303A47-008

Client Sample ID: TRIP BLANK
Collection Date: 3/11/2013
Matrix: Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				(SW5030B)				
Styrene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Tetrachloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Toluene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
trans-1,2-Dichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
trans-1,3-Dichloropropene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Trichloroethene	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Trichlorofluoromethane	BRL	5.0		ug/L	173586	1	03/18/2013 19:30	YT
Vinyl chloride	BRL	2.0		ug/L	173586	1	03/18/2013 19:30	YT
Surr: 4-Bromofluorobenzene	86.4	64.6-123		%REC	173586	1	03/18/2013 19:30	YT
Surr: Dibromofluoromethane	98.6	76.6-133		%REC	173586	1	03/18/2013 19:30	YT
Surr: Toluene-d8	98.5	77.8-120		%REC	173586	1	03/18/2013 19:30	YT

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 EPS

Work Order Number 1303A47

Checklist completed by [Signature] 3/13/13
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.

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

Client: Environmental Planning Specialists, Inc.
 Project Name: Color Spectrum
 Workorder: 1303A47

ANALYTICAL QC SUMMARY REPORT

BatchID: 173586

Sample ID: MB-173586	Client ID:					Units: ug/L	Prep Date: 03/15/2013	Run No: 240191			
SampleType: MBLK	TestCode: TCL VOLATILE ORGANICS SW8260B					BatchID: 173586	Analysis Date: 03/15/2013	Seq No: 5028112			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,1,2,2-Tetrachloroethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,1,2-Trichloroethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,1-Dichloroethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,1-Dichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
1,2,4-Trichlorobenzene	BRL	5.0	0	0	0	0	0	0	0	0	
1,2-Dibromo-3-chloropropane	BRL	5.0	0	0	0	0	0	0	0	0	
1,2-Dibromoethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,2-Dichlorobenzene	BRL	5.0	0	0	0	0	0	0	0	0	
1,2-Dichloroethane	BRL	5.0	0	0	0	0	0	0	0	0	
1,2-Dichloropropane	BRL	5.0	0	0	0	0	0	0	0	0	
1,3-Dichlorobenzene	BRL	5.0	0	0	0	0	0	0	0	0	
1,4-Dichlorobenzene	BRL	5.0	0	0	0	0	0	0	0	0	
2-Butanone	BRL	50	0	0	0	0	0	0	0	0	
2-Hexanone	BRL	10	0	0	0	0	0	0	0	0	
4-Methyl-2-pentanone	BRL	10	0	0	0	0	0	0	0	0	
Acetone	BRL	50	0	0	0	0	0	0	0	0	
Benzene	BRL	5.0	0	0	0	0	0	0	0	0	
Bromodichloromethane	BRL	5.0	0	0	0	0	0	0	0	0	
Bromoform	BRL	5.0	0	0	0	0	0	0	0	0	
Bromomethane	BRL	5.0	0	0	0	0	0	0	0	0	
Carbon disulfide	BRL	5.0	0	0	0	0	0	0	0	0	
Carbon tetrachloride	BRL	5.0	0	0	0	0	0	0	0	0	
Chlorobenzene	BRL	5.0	0	0	0	0	0	0	0	0	
Chloroethane	BRL	10	0	0	0	0	0	0	0	0	
Chloroform	BRL	5.0	0	0	0	0	0	0	0	0	
Chloromethane	BRL	10	0	0	0	0	0	0	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		

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Workorder: 1303A47

ANALYTICAL QC SUMMARY REPORT**BatchID: 173586**

Sample ID: MB-173586		Client ID:				Units: ug/L		Prep Date: 03/15/2013		Run No: 240191	
SampleType: MBLK		TestCode: TCL VOLATILE ORGANICS SW8260B				BatchID: 173586		Analysis Date: 03/15/2013		Seq No: 5028112	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
cis-1,3-Dichloropropene	BRL	5.0	0	0	0	0	0	0	0	0	
Cyclohexane	BRL	5.0	0	0	0	0	0	0	0	0	
Dibromochloromethane	BRL	5.0	0	0	0	0	0	0	0	0	
Dichlorodifluoromethane	BRL	10	0	0	0	0	0	0	0	0	
Ethylbenzene	BRL	5.0	0	0	0	0	0	0	0	0	
Freon-113	BRL	10	0	0	0	0	0	0	0	0	
Isopropylbenzene	BRL	5.0	0	0	0	0	0	0	0	0	
m,p-Xylene	BRL	5.0	0	0	0	0	0	0	0	0	
Methyl acetate	BRL	5.0	0	0	0	0	0	0	0	0	
Methyl tert-butyl ether	BRL	5.0	0	0	0	0	0	0	0	0	
Methylcyclohexane	BRL	5.0	0	0	0	0	0	0	0	0	
Methylene chloride	BRL	5.0	0	0	0	0	0	0	0	0	
o-Xylene	BRL	5.0	0	0	0	0	0	0	0	0	
Styrene	BRL	5.0	0	0	0	0	0	0	0	0	
Tetrachloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
Toluene	BRL	5.0	0	0	0	0	0	0	0	0	
trans-1,2-Dichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
trans-1,3-Dichloropropene	BRL	5.0	0	0	0	0	0	0	0	0	
Trichloroethene	BRL	5.0	0	0	0	0	0	0	0	0	
Trichlorofluoromethane	BRL	5.0	0	0	0	0	0	0	0	0	
Vinyl chloride	BRL	2.0	0	0	0	0	0	0	0	0	
Surr: 4-Bromofluorobenzene	45.79	0	50	0	91.6	64.6	123	0	0	0	
Surr: Dibromofluoromethane	50.43	0	50	0	101	76.6	133	0	0	0	
Surr: Toluene-d8	49.26	0	50	0	98.5	77.8	120	0	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		

Client: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Workorder: 1303A47

ANALYTICAL QC SUMMARY REPORT**BatchID: 173586**

Sample ID: LCS-173586	Client ID:					Units: ug/L	Prep Date: 03/15/2013	Run No: 240191			
SampleType: LCS	TestCode: TCL VOLATILE ORGANICS SW8260B					BatchID: 173586	Analysis Date: 03/15/2013	Seq No: 5028111			
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	46.02	5.0	50	0	92	61.1	142	0	0	0	
Benzene	48.17	5.0	50	0	96.3	73.5	130	0	0	0	
Chlorobenzene	46.37	5.0	50	0	92.7	72.4	123	0	0	0	
Toluene	49.73	5.0	50	0	99.5	73.6	130	0	0	0	
Trichloroethene	47.52	5.0	50	0	95	70	135	0	0	0	
Surr: 4-Bromofluorobenzene	52.85	0	50	0	106	64.6	123	0	0	0	
Surr: Dibromofluoromethane	50.72	0	50	0	101	76.6	133	0	0	0	
Surr: Toluene-d8	51.63	0	50	0	103	77.8	120	0	0	0	

Sample ID: 1303D71-001AMS	Client ID:				Units: ug/L	Prep Date: 03/15/2013	Run No: 240191				
SampleType: MS	TestCode: TCL VOLATILE ORGANICS SW8260B				BatchID: 173586	Analysis Date: 03/15/2013	Seq No: 5029317				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	43.85	5.0	50	0	87.7	60	168	0	0	0	
Benzene	52.87	5.0	50	0	106	66.6	148	0	0	0	
Chlorobenzene	44.56	5.0	50	0	89.1	71.9	135	0	0	0	
Toluene	53.14	5.0	50	0	106	68	149	0	0	0	
Trichloroethene	46.39	5.0	50	0	92.8	71.1	154	0	0	0	
Surr: 4-Bromofluorobenzene	54.01	0	50	0	108	64.6	123	0	0	0	
Surr: Dibromofluoromethane	54.89	0	50	0	110	76.6	133	0	0	0	
Surr: Toluene-d8	54.22	0	50	0	108	77.8	120	0	0	0	

Sample ID: 1303D71-001AMSD	Client ID:				Units: ug/L	Prep Date: 03/15/2013	Run No: 240191				
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260B				BatchID: 173586	Analysis Date: 03/15/2013	Seq No: 5029319				
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	43.13	5.0	50	0	86.3	60	168	43.85	1.66	18.6	
Benzene	51.19	5.0	50	0	102	66.6	148	52.87	3.23	20	

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: Environmental Planning Specialists, Inc.
Project Name: Color Spectrum
Workorder: 1303A47

ANALYTICAL QC SUMMARY REPORT

BatchID: 173586

Sample ID: 1303D71-001AMSD	Client ID:	Units: ug/L			Prep Date: 03/15/2013	Run No: 240191					
SampleType: MSD	TestCode: TCL VOLATILE ORGANICS SW8260B	BatchID: 173586			Analysis Date: 03/15/2013	Seq No: 5029319					
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Chlorobenzene	45.08	5.0	50	0	90.2	71.9	135	44.56	1.16	20	
Toluene	52.47	5.0	50	0	105	68	149	53.14	1.27	20	
Trichloroethene	44.75	5.0	50	0	89.5	71.1	154	46.39	3.6	20	
Surr: 4-Bromofluorobenzene	53.18	0	50	0	106	64.6	123	54.01	0	0	
Surr: Dibromofluoromethane	53.14	0	50	0	106	76.6	133	54.89	0	0	
Surr: Toluene-d8	51.89	0	50	0	104	77.8	120	54.22	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		

APPENDIX F

Risk Reduction Standard Calculations

RAGS Equations - Groundwater

RAGS Equation 1
Carcinogenic effects (RSS_c) mg/L

$$RSS_c = \frac{TR \times BW \times AT_c}{EF \times ED \times [(SF_o \times K \times IR_{air}) + (SF_i \times IR_{water})]}$$

RAGS Equation 2
Noncarcinogenic effects (RSS_{nc}) mg/L:

$$RSS_{nc} = \frac{THI \times BW \times ED \times 365 \text{ days}}{ED \times EF \times [(1/RfD_i \times K \times IR_{air}) + (1/RfD_o \times IR_{water})]}$$

Table 1
Exposure Assumptions for Risk Reduction Standard Calculations
Color Spectrum
LaFayette, Georgia

Parameter	Abbreviation	Value	Source	Comment
Body Weight, Adult (kg)	BW_a	70	1	
Body Weight, Child (kg)	BW_c	15	1	
Body Weight, Worker (kg)	BW_w	70	1	
Exposure Frequency, Resident Child (days/year)	EF_c	350	1	
Exposure Frequency, Resident Adult (days/year)	EF_a	350	1	
Exposure Frequency, Worker (days/year)	EF_w	250	1	
Exposure Duration, Resident Child (years)	ED_c	6	2	
Exposure Duration, Resident Adult (years)	ED_a	30	1	
Exposure Duration, Worker (years)	ED_w	25	1	
Water ingestion, Resident Child (L/day)	IRW_c	1	1	
Water ingestion, Resident Adult (L/day)	IRW_a	2	1	
Water ingestion, Worker (L/day)	IRW_w	1	1	
Inhalation Rate, Resident Child (m ³ /day)	IR_air_c	15	2	
Inhalation Rate, Resident Adult (m ³ /day)	IR_air_a	15	1	
Inhalation Rate, Worker (m ³ /day)	IR_air_w	20	1	
Averaging Time, Noncancer, Child (days)	AT_NC_c	2190	1	Exposure Duration x 365 days
Averaging Time, Noncancer, Adult (days)	AT_NC_a	10950	1	Exposure Duration x 365 days
Averaging Time, Noncancer, Worker (days)	AT_NC_w	9125	1	Exposure Duration x 365 days
Averaging Time, Cancer (days)	AT_c	25550	1	
Target Risk	TR	0.00001	1	for group A and B carcinogens
Target hazard quotient	THQ	1	1	
Water-to-air volatilization factor (L/m ³)	K	0.5	1	

Notes:

Source 1 - GaEPD Reg 391-3-19 Appendix III, Table 3

Source 2 - EPA Regional Screening Levels User's Guide

Table 2
Toxicity Values for Risk Reduction Standard Calculations
Color Spectrum
LaFayette, Georgia

		NonCancer Toxicity Values		Cancer Toxicity Values	
CAS	Parameter	Oral RfD mg/kg-day	Inhalation RfD mg/kg-day	Oral CSF per mg/kg-day	Inhalation CSF per mg/kg-day
127-18-4	Tetrachloroethene	1.00E-02	7.70E-02	5.40E-01	2.07E-02

mg/kg-day = milligrams per kilogram days

Table 3
Type 1 & 2 Risk Reduction Standards for Groundwater
Color Spectrum
LaFayette, Georgia

		TYPE 1 GW RRS			TYPE 2 GW RRS						Residential GW RRS - higher of Type 1 and 2 mg/L
		Rule 391-3-19-.07(6)(b) and Guidance: The lesser of Table 1 App III and GA MCL (or where NA, the higher of DL or Bkg)			Rule 391-3-19-.07(7)(b): The lesser of Items 1 and 2 (or where NA, the higher of Table 1 App III, background or DL)						
		Table 1, App III mg/L	GA MCL mg/L	Type 1 GW RRS mg/L	Item 1: RAGS Eqn 2 (NC)		Item 2: RAGS Eqn 1 (C)		Lesser of Items 1 and 2	Type 2 GW RRS mg/L	
Child mg/L	Adult mg/L				Child mg/L	Adult mg/L					
CAS #	Parameter										
127-18-4	Tetrachloroethene	0.005	0.005	0.005	0.019	0.074	0.204	0.155	0.019	0.019	0.019

Table 4
Type 3 & 4 Risk Reduction Standards for Groundwater
Color Spectrum
LaFayette, Georgia

			TYPE 3 GW RRS	TYPE 4 GW RRS				Non-Residential RRS - higher of Type 3 and 4 mg/L
			Rule 391-3-19-.07(8)(c) Same as Type 1 GW RRS mg/L	Rule 391-3-19-.07(9)(c): The lesser of Items 1 and 2 (or where NA, the higher of Table 1 App III, background and DL)				
CAS #	Parameter	Table 1, App III mg/L		Item 1 RAGS Eqn 2 - NC mg/L	Item 2 RAGS Eqn 1 - C mg/L	Lesser of Items 1 and 2	Type 4 GW RRS mg/L	
127-18-4	Tetrachloroethene	0.005		0.098	0.256	0.098	0.098	