Hazardous Waste Section

File Room Document Transmittal Sheet

17

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Facility Name:	Transcontinental Gas Pipe Line Corporation Station 155
Document Group:	Groundwater (GW)
Document Type:	Groundwater Monitoring Report (GMR)
Description:	December 2015 Semiannual Groundwater Monitoring Report
Date of Doc:	2/15/2016
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Oneal, Katherine

From: Oneal, Katherine
Sent: Wednesday, March 09, 2016 9:17 AM
To: 'Lutz, Richard'
Subject: RE: Transcontinental Gas Pipe Line Company, LLC - Station 155

Thank you for submitting the electronic and hard copies of the December 2015 monitoring report. The report has been reviewed and I have no comments at this time. Please continue to conduct the semiannual groundwater monitoring at the site.

Katherine O'Neal
Engineer
Division of Waste Management/Hazardous Waste Section
North Carolina Department of Environmental Quality

919 707 8209 office
katherine.oneal@ncdenr.gov

217 West Jones Street
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From: Lutz, Richard [mailto:Richard.C.Lutz@Williams.com]
Sent: Tuesday, February 16, 2016 1:29 PM
To: Oneal, Katherine <katherine.oneal@ncdenr.gov>
Subject: Transcontinental Gas Pipe Line Company, LLC - Station 155

Katherine,

Please find attached an electronic copy of the December 2015 Groundwater Monitoring Report for Transcontinental Gas Pipe Line Company, LLC Compressor Station 155. A hard copy has been sent to your office by FedEx.

Please contact me if additional information is required.

Rich Lutz
Environmental Specialist V
Williams
Atlantic – Gulf Operating Area
345 Greenbrier Drive

By Federal Express

Williams

We make energy happen.

ATLANTIC - GULF
TRANSCO
345 Greenbrier Drive
Charlottesville, VA 22901-1618
434-973-4384
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February 15, 2016

Ms. Julie Woosley, Section Chief
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Hazardous Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

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FEB 2016
Hazardous Waste Section

Reference: Submittal of December 2015 Sampling Event
Semi-Annual Post-Closure Groundwater Monitoring Report
Transcontinental Gas Pipe Line Company, LLC
Compressor Station 155
Lexington, North Carolina
EPA ID Number NCD 060 299 765

Dear Ms. Woosley:

Enclosed please find a copy of the December 2015 Semi-Annual Post-Closure Groundwater Monitoring Report for Transcontinental Gas Pipe Line Company, LLC (Transco) Station 155, Lexington, North Carolina. The December 2015 sampling event was conducted in accordance with the requirements of the final Hazardous Waste Management Permit issued by the North Carolina Department of Environment and Natural Resources, effective July 28, 1997.

If you should require additional information, please contact me at (434) 964-2107.

Sincerely,

Richard C. Lutz
Environmental Specialist V

Enclosure

CERTIFICATION

Semi-Annual Post-Closure Groundwater Monitoring Report
December 2015 Sampling Event
Transco Compressor Station 155, Lexington, North Carolina
Facility ID No. NCD 060 299 765

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Waste Section

Prepared By:

Ground Water Investigations, Inc.
18 Bridge Street
Montgomery, New York 12549

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or those persons directly responsible for gathering the information, the information 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."

Michael C. Callegari
Manager, Environmental Services

02/08/2016
Date

DECEMBER 2015
SEMI-ANNUAL POST-CLOSURE
GROUNDWATER MONITORING REPORT

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155
LEXINGTON, NORTH CAROLINA

Prepared For

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
Houston, Texas 77056

Prepared By

GROUND WATER INVESTIGATIONS, INC.
Montgomery, New York 12549

February 2016

Ground Water Investigations, Inc.
Professional Hydrogeologic Services

CERTIFICATION

Semi-Annual Post-Closure Groundwater Monitoring Report
December 2015 Sampling Event
Transco Compressor Station 155, Lexington, North Carolina
Facility ID No. NCD 060 299 765

Prepared By:

Ground Water Investigations, Inc.
18 Bridge Street
Montgomery, New York 12549

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or those persons directly responsible for gathering the information, the information 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."

_____ _____

Michael C. Callegari Date
Manager, Environmental Services

DECEMBER 2015
SEMI-ANNUAL POST-CLOSURE
GROUNDWATER MONITORING REPORT

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155
LEXINGTON, NORTH CAROLINA

Prepared For

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
2800 Post Oak Boulevard
P.O. Box 1396 (77251)
Houston, Texas 77056

Prepared By

GROUND WATER INVESTIGATIONS, INC.
18 Bridge Street
Montgomery, New York 12549

GWI Project No. 364-02-02

February 2016

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APPENDICES

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Appendix B Data Validation Report

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1.0 INTRODUCTION

1.0 INTRODUCTION

This report documents and presents the findings of the December 2015 semi-annual post-closure groundwater monitoring event conducted at Transcontinental Gas Pipe Line Company, LLC (Transco) Compressor Station 155 located in Lexington, North Carolina. The semi-annual groundwater compliance monitoring event was conducted by Ground Water Investigations, Inc. (GWI) in accordance with the requirements of the final Hazardous Waste Management Permit (Permit No. NCD 060 299 765-M1) issued by the North Carolina Department of Environment and Natural Resources (NCDENR), effective July 28, 1997.

2.0 SAMPLING AND ANALYSIS PROCEDURES

2.0 SAMPLING AND ANALYSIS PROCEDURES

Semi-annual groundwater compliance sampling was conducted on December 2, 2015 at three monitoring wells. Samples were collected from monitoring wells MW-3, MW-4 and MW-5, and analyzed for analytes specified in the permit. The permit-specified analytes include select volatile organic compounds (VOCs) by SW-846 Method 8260B; select semi-volatile organic compounds (SVOCs) by SW-846 Method 8270C; and total and dissolved arsenic, barium, cadmium, chromium and lead by SW-846 Methods 6010/6020. Groundwater samples were also analyzed for several metals added to the permit-specified groundwater monitoring list of parameters including antimony, cobalt, copper, nickel, silver and zinc (Methods 6010/6020). In addition and at the request of the NCDENR, groundwater samples were also analyzed for iron and manganese during the December 2015 "semi-annual" sampling event. For quality control (QC) purposes, a duplicate sample (labeled DUP-01) was collected at the monitoring well MW-5 location, and an equipment field blank sample (labeled EB-01) was performed. Both QC samples were analyzed for the full suite of parameters as the other groundwater samples.

Prior to purging and sampling, static groundwater levels were measured at eighteen monitoring wells with an electronic water-level meter. The depth to water from the top of the inner well casing was recorded to the nearest one-hundredth (0.01) foot accuracy and converted to site control elevations. **Table 1** provides a summary of the recorded water-level elevation data.

Low flow/low volume sampling techniques were utilized to purge and collect samples from all monitoring wells to be sampled. During the low flow sampling, a decontaminated stainless steel submersible pump equipped with disposable tubing was used for the low-flow sampling. Prior to purging, the submersible pump was lowered to within 1-foot above the bottom of the well. The monitoring wells were purged at a flow rate of 1.0 liter per minute or less.

Field-measured parameters of pH, specific conductance, temperature, turbidity, Eh/ORP and dissolved oxygen were recorded at regular intervals during purging and are presented in **Table 2**. Purged groundwater was contained in 55-gallon drums. Once the field-measured parameters stabilized, the monitoring wells were sampled by diverting the flow of water from the discharge tubing into analyte-specific sample containers.

Samples for VOC analysis were collected in two (2) laboratory-supplied 40-ml glass vials pre-preserved with hydrochloric acid. Vials were filled and sealed to eliminate any headspace, then were inverted, gently tapped, and inspected to insure that no air bubbles were entrapped within the container. Samples for SVOC analysis were collected in 2 unpreserved 100 ml amber glass bottles.

Samples for the analysis of total metals were collected in one (1) laboratory-supplied 500-ml plastic container pre-preserved with nitric acid. Samples for dissolved metal analysis were collected in an unpreserved laboratory-supplied 500-ml plastic container. Samples collected for dissolved metals analysis were filtered in the field using disposable 0.45 micron in-line filter cartridges.

Table 3 provides a summary of the sample collection, sample preservation, and analytical testing methodologies. The groundwater samples were packed with ice in a laboratory-supplied cooler immediately after collection and were subsequently shipped to the laboratory by an overnight express carrier. A chain-of-custody record accompanied the samples. Custody seals were affixed to the opening end of the cooler and 2-inch wide tape was wrapped entirely around the cooler prior to shipment.

One (1) laboratory-supplied trip blank (TB-01) accompanied the sample containers at all times and was shipped with the collected groundwater samples to ESC Lab Sciences located in Mt. Juliet, Tennessee for laboratory analyses. The trip blank was analyzed for VOCs only.

3.0 MONITORING RESULTS

3.0 MONITORING RESULTS

Monitoring wells MW-3, MW-4 and MW-5 are situated to monitor groundwater quality immediately downgradient of the former pit located in the northeast portion of the Station 155 facility. **Figure 1** illustrates the monitoring well locations and presents the shallow groundwater elevation contour map based on water-level elevation data collected on December 2, 2015. As depicted in **Figure 1**, shallow groundwater flows to the northwest as the water-table generally mimics site topography.

The average hydraulic gradient was calculated from **Figure 1** to be 0.02 ft/ft. The average hydraulic conductivity for monitoring wells MW-03, MW-04, and MW-05 is estimated at 7 feet/day, based on the hydraulic properties documented in the *December 1999 Semi-Annual Event Groundwater Compliance Monitoring Program, Transco Station 155, Lexington, North Carolina* (Vincent Uhl Associates, Inc., February 2000). Assuming effective porosity of 10 percent for saprolite, the seepage (linear) velocity of groundwater for Station 155 is estimated to be on the order of 1.4 ft/day.

The laboratory analytical results for the permit-specified VOCs, SVOCs and metals analyses are summarized in **Table 4**. A copy of the laboratory analytical data summary package for the December 2015 semi-annual groundwater monitoring event is provided in **Appendix A**. The data validation report and field data summary sheets are provided in **Appendices B and C**, respectively.

3.1 VOCs

No permit-specified VOCs were detected in any of the groundwater samples collected during the December 2015 semi-annual sampling event (refer to **Table 4**). All VOC analytical results were reported as non-detected below practical quantitation limits.

3.2 SVOCs

No permit-specified SVOCs were detected in any of the groundwater samples collected during the December 2015 semi-annual sampling event (refer to **Table 4**). SVOC analytical results were all reported as non-detected below practical quantitation limits.

3.3 Metals

All permit-specified metal concentrations were either reported as non-detected or measured at trace concentrations below the Groundwater Protection Standards (**Table 4**). Total iron was detected above the North Carolina iron groundwater standard of 0.3 mg/l in the MW-3 groundwater sample at a concentration of 1.19 mg/l, but was reported below the iron standard in the MW-4, MW-5 and Duplicate (DUP-01) groundwater samples. Total manganese was measured above the manganese standard of 0.05 mg/l in the MW-3, MW-5 and DUP-01 groundwater samples at concentrations of 0.203 mg/l, 0.626 mg/l and 0.579 mg/l, respectively (refer to **Table 4**).

4.0 QUALITY CONTROL

4.0 QUALITY CONTROL

Validata Chemical Services in Duluth, Georgia evaluated analytical results and laboratory QA/QC data from the December 2015 monitoring event. Accuracy was determined from the review of spike recoveries. Precision was based on the evaluation of laboratory and field duplicate results. Sensitivity was evaluated by comparing reported detection limits to project-specific maximum reporting limits and representativeness was evaluated from the review of holding time and blank data. The evaluation of the data was modeled after the *USEPA Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and February 1994, respectively). The data validation summary report for the December 2015 semi-annual groundwater monitoring event completed at Transco's Station 155 is provided in **Appendix B**. Sample results have been qualified based on the results of the data review process, as described in the data qualification summary (**Appendix B**).

A copy of the laboratory data, quality control documentation and chain-of-custody are provided in **Appendix A**. Field data sampling sheets are also included as **Appendix C**.

TABLES

TABLE 1

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155 - LEXINGTON, NORTH CAROLINA
DECEMBER 2015 SEMI-ANNUAL POST-CLOSURE MONITORING REPORT

SUMMARY OF WATER-LEVEL ELEVATION DATA (DECEMBER 2, 2015)

Well Number	*Top of Inner Casing Elevation*	*Screen Interval Elevation*	*Water-Level Measurements*	
			Depth (BTIC)	*Elevation*
MW-2	822.69	775.7 - 765.7	45.10	777.59
MW-2N	822.42	784.9 - 769.9	44.93	777.49
MW-3	817.26	770.3 - 766.3	44.73	772.53
MW-3D	816.93	747.1 - 727.1	44.71	772.22
MW-4	819.35	771.3 - 766.3	46.55	772.80
MW-5	820.32	770.3 - 765.3	47.31	773.01
MW-6*	794.76	761.8 - 756.8	20.46	774.30
MW-7	805.81	775.8 - 765.8	38.68	767.13
MW-7D	807.17	748.3 - 743.3	39.73	767.44
MW-8	816.74	778.7 - 768.7	45.09	771.65
MW-8D	816.94	748.2 - 743.2	45.24	771.70
MW-9	799.85	767.3 - 762.3	31.53	768.32
MW-10	807.43	767.5 - 762.5	40.95	766.48
MW-11	788.67	760.7 - 750.7	27.39	761.28
MW-12	772.53	764.4 - 754.4	12.85	759.68
MW-13	768.48	760.8 - 755.8	6.64	761.84
MW-13D	768.40	752.8 - 747.8	6.91	761.49
MW-14	787.30	768.0 - 758.0	21.88	765.42

Notes:
BTIC - Below Top of Inner Casing
* PVC inner Casing Broken Below Ground Surface. Water Level Measured from Below Top Of Outer Steel Casing.
MW-6 Water Level Elevation is Considered Not Applicable (N/A) Due to Surface Water Infiltration at Time of Measurement.

TABLE 2

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155 - LEXINGTON, NORTH CAROLINA
DECEMBER 2015 SEMI-ANNUAL POST-CLOSURE MONITORING REPORT

SUMMARY OF FIELD MEASURED PARAMETERS DURING LOW-FLOW SAMPLING (DECEMBER 2, 2015)

			Field Measured Parameters					
Well Number	***Time***	***Purged Volume (gallons)***	***Temperature (degrees C)***	***pH***	***Specific Conductivity (us/cm^2)***	***Turbidity (NTU)***	***Eh/ORP***	***Dissolved Oxygen (mg/l)***
MW-3	9:00	0.00	-	-	-	-	-	-
	9:05	0.75	18.96	5.75	64	12.90	69.0	1.06
	9:10	1.50	19.75	5.49	63	10.82	76.2	0.87
	9:15	2.25	19.97	5.41	67	6.59	80.9	0.72
	9:20	3.00	19.87	5.37	67	5.63	85.6	0.67
	9:25	3.75	19.97	5.37	66	4.52	94.0	0.44
	9:30	4.25	19.97	5.37	66	3.99	99.6	0.44
	9:35	5.00	19.97	5.37	65	2.96	99.9	0.44
MW-4	10:10	0.00	-	-	-	-	-	-
	10:15	0.75	17.46	5.65	113	15.60	156.3	0.43
	10:20	1.50	19.93	5.69	111	9.21	162.3	0.35
	10:25	2.00	21.02	5.75	110	6.91	163.1	0.68
	10:30	2.50	21.15	5.76	110	6.33	164.2	0.53
	10:35	3.00	21.11	5.77	110	5.27	165.3	0.71
	10:40	3.50	21.30	5.78	109	4.83	165.8	0.77
	10:45	4.00	21.31	5.78	109	4.21	166.1	0.76
	10:50	4.50	21.22	5.78	109	4.19	165.4	0.72
MW-5	11:35	0.00	-	-	-	-	-	-
	11:40	0.75	18.88	5.43	59	6.67	185.2	5.84
	11:45	1.50	20.67	5.44	59	3.54	192.3	6.09
	11:50	2.00	20.67	5.43	58	2.33	195.8	6.21
	11:55	2.50	20.76	5.43	58	2.25	197.8	6.32
	12:00	3.00	20.92	5.42	58	2.22	199.1	6.26
	12:05	3.50	20.97	5.42	58	2.13	198.8	6.16
	12:10	4.00	20.97	5.42	58	1.59	198.8	6.18

TABLE 3

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155 - LEXINGTON, NORTH CAROLINA
DECEMBER 2015 SEMI-ANNUAL POST-CLOSURE MONITORING REPORT

SUMMARY OF SAMPLE COLLECTION & ANALYSIS REQUIREMENTS

Analyte	***Laboratory Supplied Containers***	***Preservation Method***	***Laboratory Analysis Method***
VOCs	2 - 40 ml glass voa vials (prepreserved)	Hydrochloric Acid to pH < 2 4 degrees Celsius	SW-846 8260B
SVOCs	2 - 100 ml amber glass (unpreserved)	Unpreserved Bottles 4 degrees Celsius	SW-846 8270C
Total Metals Including: As, Ba, Cd, Cr, Fe, Pb, Mn Sb, Co, Cu, Ni, Ag & Zn	1-500 ml plastic (preserved)	Nitric Acid to pH < 2 4 degrees Celsius	SW-846 6010 & 6020
Dissolved Metals Including: As, Ba, Cd, Cr, Fe, Pb, Mn Sb, Co, Cu, Ni, Ag & Zn	1-500 ml plastic (unpreserved)	Unpreserved - Field Filtered 4 degrees Celsius	SW-846 6010 & 6020

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-Volatile Organic Compounds or Base Neutral Acid Extractable Compounds (BNAs).

As - Arsenic	Sb - Antimony
Ba - Barium	Co - Cobalt
Cd - Cadmium	Cu - Copper
Cr - Chromium	Ni - Nickel
Fe - Iron	Ag - Silver
Pb - Lead	Zn - Zinc
Mn - Manganese	

ECS Lab Sciences, Located in Mt. Juliet, Tennessee, Performed Laboratory Analysis for the December 2015 Sampling Event.

TABLE 4

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
COMPRESSOR STATION 155 - LEXINGTON, NORTH CAROLINA
DECEMBER 2015 SEMI-ANNUAL POST-CLOSURE MONITORING REPORT

SUMMARY OF ANALYTICAL RESULTS FOR DECEMBER 2, 2015 SAMPLING EVENT

	NC	Laboratory Analytical Results					
Sample ID	***Groundwater***	***MW-3***	***MW-4***	***MW-5***	***DUP-01***	***EB-01***	***TB-01***
Lab ID	***Protection***	***L804483-03***	***L804483-01***	***L804483-02***	***L804483-05***	***L804483-04***	***L804483-06***
Compounds of Concern	***Standards****	***2-Dec-15***	***2-Dec-15***	***2-Dec-15***	***2-Dec-15***	***2-Dec-15***	***2-Dec-15***
Volatile Organic Compounds (VOCs) By Method 8260B (Results in ug/l)							
Acetone	700	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Benzene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (Methyl ethyl ketone)	170	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
2-Hexanone	50	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
4-Methyl-2-pentanone	395	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Tetrachloroethene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes, Total	530	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Semi-Volatile Organic Compounds (SVOCs) By Method 8270D (Results in ug/l)							
Isophorone	100	<10.0	<10.0	<10.0	<10.0	<10.0	-
Napthalene	21	<1.0	<1.0	<1.0	<1.0	<1.0	-
2-Methylnapthalene	10	<1.0	<1.0	<1.0	<1.0	<1.0	-
2,4-Dichlorophenol	20	<10.0	<10.0	<10.0	<10.0	<10.0	-
2,4-Dinitrophenol	70	<10.0	<10.0	<10.0	<10.0	<10.0	-
2-Nitrophenol	10	<10.0	<10.0	<10.0	<10.0	<10.0	-
4-Nitrophenol	50	<10.0	<10.0	<10.0	<10.0	<10.0	-
3&4-Methylphenol (m&p-cresol)	285	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0 UJ	<10.0	-
Phenol	300	<10.0	<10.0	<10.0	<10.0	<10.0	-
Total Metals By Methods 6010/6020 (Results in mg/l)							
Total Antimony	NA	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Arsenic	0.05**	<0.002	<0.002	<0.002	<0.002	<0.002	-
Total Barium	2	0.0359	0.0232	0.0803	0.0813	<0.005	-
Total Cadmium	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	-
Total Chromium	0.1	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Cobalt	NA	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Copper	1**	<0.010	<0.010	<0.010	<0.010	<0.010	-
Total Iron	0.3**	**1.19**	0.173	<0.100	<0.100	<0.100	-
Total Lead	0.015	<0.002	<0.002	<0.002	<0.002	<0.002	-
Total Manganese	0.05**	**0.203**	0.0164	**0.626**	**0.579**	<0.005	-
Total Nickel	0.1**	0.00425	0.00343	0.00767	0.00812	<0.002	-
Total Silver	0.0175**	<0.002	<0.002	<0.002	<0.002	<0.002	-
Total Zinc	1.05**	<0.050	<0.050	<0.050	<0.050	<0.050	-
Dissolved Metals By Methods 6010/6020 (Results in mg/l)							
Dissolved Antimony		<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Arsenic		<0.002	<0.002	<0.002	<0.002	<0.002	-
Dissolved Barium		0.0357	0.0205	0.0672	0.0681	<0.005	-
Dissolved Cadmium		<0.001	<0.001	<0.001	<0.001	<0.001	-
Dissolved Chromium		<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Cobalt		<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Copper		<0.010	<0.010	<0.010	<0.010	<0.010	-
Dissolved Iron		0.626	<0.100	<0.100	<0.100	<0.100	-
Dissolved Lead		<0.002	<0.002	<0.002	<0.002	<0.002	-
Dissolved Manganese		0.182	0.0135	0.453	0.45	<0.005	-
Dissolved Nickel		0.00308	0.00232	0.00584	0.00774	<0.002	-
Dissolved Silver		<0.002	<0.002	<0.002	<0.002	<0.002	-
Dissolved Zinc		<0.050	<0.050	<0.050	<0.050	<0.050	-

Notes:

* - Groundwater Protection Standards as Specified in Table IV-1 of the Hazardous Waste Permit No. NCD 060 299 765-M1.

** - North Carolina Class GA Groundwater Quality Standards as per Subtitle 15A NCAC Subchapter 2L Sections .0100 and .0200.

<0.001 - None detected at a Practical Quantitation Limit of 0.001.

Shaded box indicates exceedance of Groundwater Protection Standard.

NA - Not Applicable, No Listed Groundwater Quality Standard.

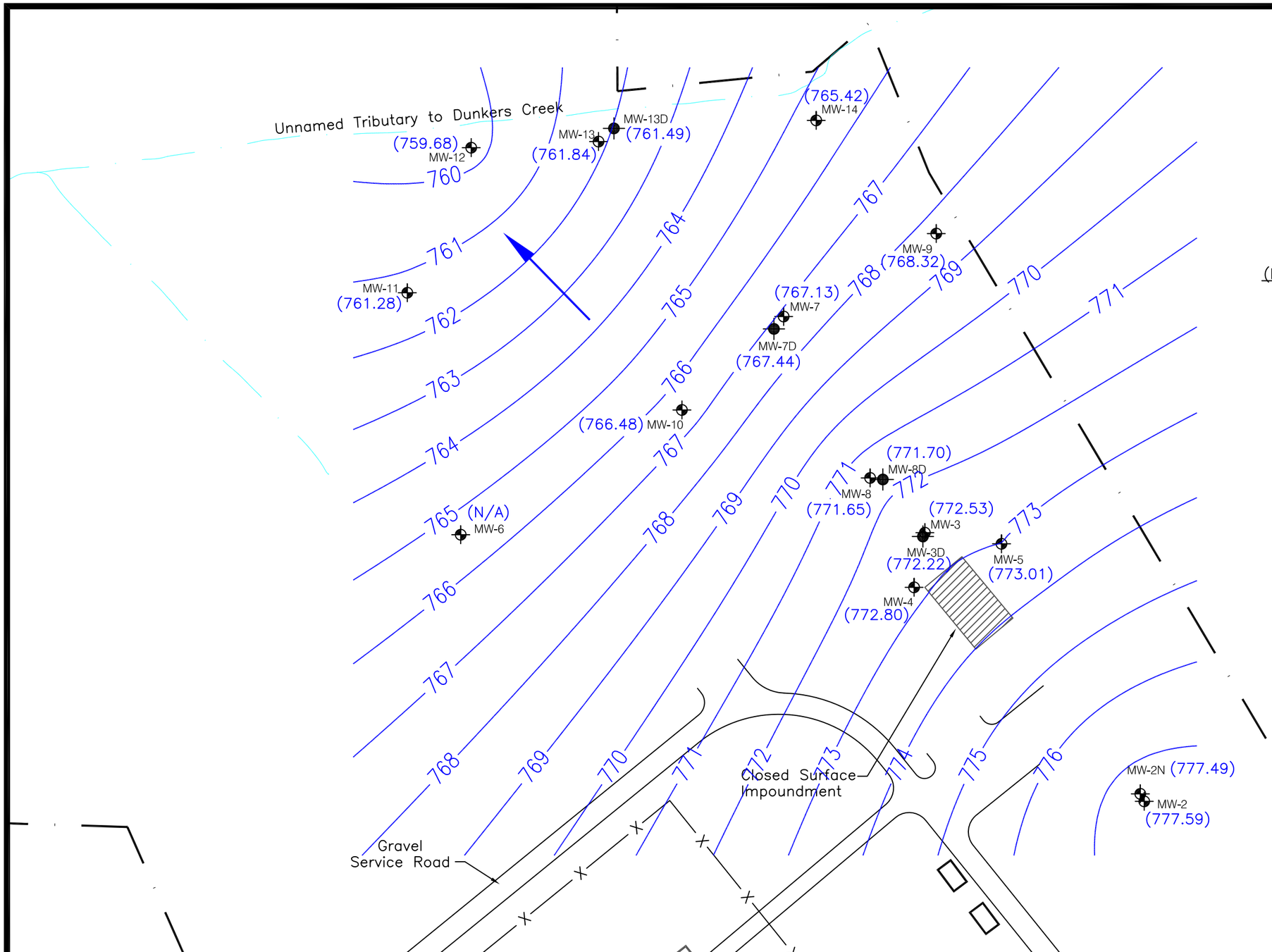
\- "Dash" Indicates Sample Not Analyzed for this Parameter.

ug/l - Micrograms per Liter or Parts per Billion (ppb).

mg/l - Milligrams per Liter or Parts per Million (ppm).

UJ - Data Validation Qualifier indicating that the compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity.

FIGURE



Average Groundwater Flow Velocity =

$$\frac{\text{(Hydraulic Conductivity)(Hydraulic Gradient)}}{\text{Effective Porosity}} = \frac{(7.0\ \text{ft/day})(0.02)}{0.10} =$$

1.4 ft/day

LEGEND

- 771 — Groundwater Elevation Contour (Dashed Where Inferred)
- Generalized Groundwater Flow Direction
- (777.59) Water–Level Elevation
- Property Line
- Shallow Monitoring Well
- Deep Monitoring Well

NOTES:

1. BASE MAP TAKEN FROM DRAWING NO. GW-JUN02 PREPARED BY URS CORP., DATED AUGUST 30, 2002.
2. WATER-LEVEL ELEVATIONS RECORDED DECEMBER 2, 2015 BY GWI.
3. ELEVATION CONTOURS BASED ON WATER-LEVEL ELEVATION DATA RECORDED FROM SHALLOW WATER-TABLE MONITORING WELLS ONLY.
4. MW-6 WELL DAMAGED; PVC BROKEN BELOW GRADE; WATER LEVEL MEASUREMENT CONSIDERED NOT APPLICABLE (N/A) AND NOT USED TO DEVELOP SHALLOW GROUNDWATER CONTOUR MAP.

100 0 100

SCALE IN FEET

GROUND WATER INVESTIGATIONS, INC.

Montgomery, New York

Project No.	364-02-00
Scale:	1"=100'
Date:	12/7/15
Designed By:	LFC
Checked By:	RTM
Drawn By:	KAH

FIGURE 1

SHALLOW GROUNDWATER ELEVATION CONTOUR MAP DECEMBER 2, 2015

WILLIAMS GAS PIPELINE - TRANSCO
TRANSCO COMPRESSOR STATION 155
LEXINGTON, NORTH CAROLINA

PROJECTS\TRANSCO\364-02-00\STATION 155 DECEMBER 2015\155-GW-120215.dwg LAST REV: 1/21/16

APPENDICES

APPENDIX A
LABORATORY ANALYTICAL DATA PACKAGE

ANALYTICAL REPORT

December 10, 2015

Transco

Sample Delivery Group:	L804483
Samples Received:	12/03/2015
Project Number:	364-02-00
Description:	Transco - Station 155
Site:	STATION 155
Report To:	Mr. Lawrence F. Coddington 18 Bridge Street Montgomery, NY 12566

Entire Report Reviewed By:

T. Alan Harvill
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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6 Qc
7 Gl
8 Al
9 Sc

MW-4 L804483-01 GW

Collected by: Lawrence Coddington | Collected date/time: 12/02/15 10:52 | Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 09:51	CCE
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 13:43	LTB
Metals (ICP) by Method 6010C	WG833718	1	12/07/15 12:45	12/08/15 02:56	JDG
Metals (ICPMS) by Method 6020	WG833480	1	12/06/15 19:53	12/07/15 09:31	JDG
Metals (ICPMS) by Method 6020	WG833649	1	12/06/15 17:37	12/07/15 17:59	VSS
Semi Volatile Organic Compounds (GC/MS) by Method 8270D	WG833692	1	12/08/15 09:13	12/08/15 16:55	JF
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833293	1	12/09/15 17:02	12/09/15 17:02	ACG

MW-5 L804483-02 GW

Collected by: Lawrence Coddington | Collected date/time: 12/02/15 12:12 | Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 09:12	CCE
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 13:31	LTB
Metals (ICP) by Method 6010C	WG833718	1	12/07/15 12:45	12/08/15 03:08	JDG
Metals (ICPMS) by Method 6020	WG833480	1	12/06/15 19:53	12/07/15 09:41	JDG
Metals (ICPMS) by Method 6020	WG833480	5	12/06/15 19:53	12/07/15 11:12	JDG
Metals (ICPMS) by Method 6020	WG833649	1	12/06/15 17:37	12/07/15 19:27	VSS
Metals (ICPMS) by Method 6020	WG833649	5	12/06/15 17:37	12/07/15 22:04	VSS
Semi Volatile Organic Compounds (GC/MS) by Method 8270D	WG833692	1	12/08/15 09:13	12/08/15 17:18	JF
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833293	1	12/09/15 17:22	12/09/15 17:22	ACG

MW-3 L804483-03 GW

Collected by: Lawrence Coddington | Collected date/time: 12/02/15 09:37 | Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 09:54	CCE
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 13:46	LTB
Metals (ICP) by Method 6010C	WG833718	1	12/07/15 12:45	12/08/15 03:12	JDG
Metals (ICPMS) by Method 6020	WG833480	1	12/06/15 19:53	12/07/15 09:43	JDG
Metals (ICPMS) by Method 6020	WG833649	1	12/06/15 17:37	12/07/15 19:32	VSS
Semi Volatile Organic Compounds (GC/MS) by Method 8270D	WG833692	1	12/08/15 09:13	12/08/15 17:41	JF
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833293	1	12/09/15 17:42	12/09/15 17:42	ACG

EB-01 L804483-04 GW

Collected by: Lawrence Coddington | Collected date/time: 12/02/15 09:00 | Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 09:58	CCE
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 13:50	LTB
Metals (ICP) by Method 6010C	WG833718	1	12/07/15 12:45	12/08/15 03:15	JDG
Metals (ICPMS) by Method 6020	WG833480	1	12/06/15 19:53	12/07/15 09:45	JDG
Metals (ICPMS) by Method 6020	WG833649	1	12/06/15 17:37	12/07/15 19:37	VSS
Semi Volatile Organic Compounds (GC/MS) by Method 8270D	WG833692	1	12/08/15 09:13	12/08/15 18:05	JF
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833293	1	12/09/15 18:01	12/09/15 18:01	ACG

DUP-01 L804483-05 GW

Collected by: Lawrence Coddington
Collected date/time: 12/02/15 12:17
Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 10:01	CCE
Metals (ICP) by Method 6010C	WG833386	1	12/06/15 18:25	12/07/15 14:05	CCE
Metals (ICP) by Method 6010C	WG833718	1	12/07/15 12:45	12/08/15 03:24	JDG
Metals (ICPMS) by Method 6020	WG833480	1	12/06/15 19:53	12/07/15 11:00	JDG
Metals (ICPMS) by Method 6020	WG833480	5	12/06/15 19:53	12/07/15 11:14	JDG
Metals (ICPMS) by Method 6020	WG833649	1	12/06/15 17:37	12/07/15 19:42	VSS
Metals (ICPMS) by Method 6020	WG833649	5	12/06/15 17:37	12/07/15 22:09	VSS
Semi Volatile Organic Compounds (GC/MS) by Method 8270D	WG833692	1	12/08/15 09:13	12/08/15 18:28	JF
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833293	1	12/09/15 18:21	12/09/15 18:21	ACG

TB-01 L804483-06 GW

Collected by: Lawrence Coddington
Collected date/time: 12/02/15 00:00
Received date/time: 12/03/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG833295	1	12/09/15 11:13	12/09/15 11:13	ACG

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Technical Service Representative

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:51	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Barium	23.2		5.00	1	12/07/2015 09:51	WG833386
Barium,Dissolved	20.5		5.00	1	12/08/2015 02:56	WG833718
Chromium	ND		10.0	1	12/07/2015 09:51	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:51	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Copper	ND		10.0	1	12/07/2015 13:43	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Iron	173		100	1	12/07/2015 09:51	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 02:56	WG833718
Zinc	ND		50.0	1	12/07/2015 09:51	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 02:56	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:31	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:31	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 17:59	WG833649
Lead	ND		2.00	1	12/07/2015 09:31	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649
Manganese	16.4		5.00	1	12/07/2015 09:31	WG833480
Manganese,Dissolved	13.5		5.00	1	12/07/2015 17:59	WG833649
Nickel	3.43		2.00	1	12/07/2015 09:31	WG833480
Nickel,Dissolved	2.32		2.00	1	12/07/2015 17:59	WG833649
Silver	ND		2.00	1	12/07/2015 09:31	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:02	WG833293
Benzene	ND		1.00	1	12/09/2015 17:02	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:02	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:02	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:02	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:02	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:02	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:02	WG833293
Toluene	ND		5.00	1	12/09/2015 17:02	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:02	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:02*	WG833293
(S) Dibromofluoromethane	*100*		*79.0-121*		*12/09/2015 17:02*	WG833293
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*12/09/2015 17:02*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 16:55	WG833692
Naphthalene	ND		1.00	1	12/08/2015 16:55	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 16:55	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 16:55	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 16:55	WG833692
Phenol	ND		10.0	1	12/08/2015 16:55	WG833692
(S) 2-Fluorophenol	*50.6*		*10.0-77.9*		*12/08/2015 16:55*	WG833692
(S) Phenol-d5	*36.1*		*5.00-70.1*		*12/08/2015 16:55*	WG833692
(S) Nitrobenzene-d5	*71.3*		*21.8-123*		*12/08/2015 16:55*	WG833692
(S) 2-Fluorobiphenyl	*75.8*		*29.5-131*		*12/08/2015 16:55*	WG833692
(S) 2,4,6-Tribromophenol	*78.4*		*11.2-130*		*12/08/2015 16:55*	WG833692
(S) p-Terphenyl-d14	*86.7*		*29.3-137*		*12/08/2015 16:55*	WG833692

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:12	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Barium	80.3		5.00	1	12/07/2015 09:12	WG833386
Barium,Dissolved	67.2		5.00	1	12/08/2015 03:08	WG833718
Chromium	ND		10.0	1	12/07/2015 09:12	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:12	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Copper	ND		10.0	1	12/07/2015 13:31	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Iron	ND		100	1	12/07/2015 09:12	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:08	WG833718
Zinc	ND		50.0	1	12/07/2015 09:12	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:08	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:41	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:41	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:27	WG833649
Lead	ND		2.00	1	12/07/2015 09:41	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649
Manganese	626		25.0	5	12/07/2015 11:12	WG833480
Manganese,Dissolved	453		25.0	5	12/07/2015 22:04	WG833649
Nickel	7.67		2.00	1	12/07/2015 09:41	WG833480
Nickel,Dissolved	5.84		2.00	1	12/07/2015 19:27	WG833649
Silver	ND		2.00	1	12/07/2015 09:41	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:22	WG833293
Benzene	ND		1.00	1	12/09/2015 17:22	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:22	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:22	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:22	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:22	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:22	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:22	WG833293
Toluene	ND		5.00	1	12/09/2015 17:22	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:22	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:22*	WG833293
(S) Dibromofluoromethane	*102*		*79.0-121*		*12/09/2015 17:22*	WG833293
(S) 4-Bromofluorobenzene	*100*		*80.1-120*		*12/09/2015 17:22*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 17:18	WG833692
Naphthalene	ND		1.00	1	12/08/2015 17:18	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 17:18	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 17:18	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 17:18	WG833692
Phenol	ND		10.0	1	12/08/2015 17:18	WG833692
(S) 2-Fluorophenol	*30.4*		*10.0-77.9*		*12/08/2015 17:18*	WG833692
(S) Phenol-d5	*16.9*		*5.00-70.1*		*12/08/2015 17:18*	WG833692
(S) Nitrobenzene-d5	*81.7*		*21.8-123*		*12/08/2015 17:18*	WG833692
(S) 2-Fluorobiphenyl	*81.5*		*29.5-131*		*12/08/2015 17:18*	WG833692
(S) 2,4,6-Tribromophenol	*84.5*		*11.2-130*		*12/08/2015 17:18*	WG833692
(S) p-Terphenyl-d14	*89.0*		*29.3-137*		*12/08/2015 17:18*	WG833692

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:54	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Barium	35.9		5.00	1	12/07/2015 09:54	WG833386
Barium,Dissolved	35.7		5.00	1	12/08/2015 03:12	WG833718
Chromium	ND		10.0	1	12/07/2015 09:54	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:54	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Copper	ND		10.0	1	12/07/2015 13:46	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Iron	1190		100	1	12/07/2015 09:54	WG833386
Iron,Dissolved	626		100	1	12/08/2015 03:12	WG833718
Zinc	ND		50.0	1	12/07/2015 09:54	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:12	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:43	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:43	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:32	WG833649
Lead	ND		2.00	1	12/07/2015 09:43	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649
Manganese	203		5.00	1	12/07/2015 09:43	WG833480
Manganese,Dissolved	182		5.00	1	12/07/2015 19:32	WG833649
Nickel	4.25		2.00	1	12/07/2015 09:43	WG833480
Nickel,Dissolved	3.08		2.00	1	12/07/2015 19:32	WG833649
Silver	ND		2.00	1	12/07/2015 09:43	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:42	WG833293
Benzene	ND		1.00	1	12/09/2015 17:42	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:42	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:42	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:42	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:42	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:42	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:42	WG833293
Toluene	ND		5.00	1	12/09/2015 17:42	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:42	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:42*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 17:42*	WG833293
(S) 4-Bromofluorobenzene	*100*		*80.1-120*		*12/09/2015 17:42*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 17:41	WG833692
Naphthalene	ND		1.00	1	12/08/2015 17:41	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 17:41	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 17:41	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 17:41	WG833692
Phenol	ND		10.0	1	12/08/2015 17:41	WG833692
(S) 2-Fluorophenol	*51.5*		*10.0-77.9*		*12/08/2015 17:41*	WG833692
(S) Phenol-d5	*34.2*		*5.00-70.1*		*12/08/2015 17:41*	WG833692
(S) Nitrobenzene-d5	*76.3*		*21.8-123*		*12/08/2015 17:41*	WG833692
(S) 2-Fluorobiphenyl	*78.8*		*29.5-131*		*12/08/2015 17:41*	WG833692
(S) 2,4,6-Tribromophenol	*93.4*		*11.2-130*		*12/08/2015 17:41*	WG833692
(S) p-Terphenyl-d14	*77.6*		*29.3-137*		*12/08/2015 17:41*	WG833692

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:58	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Barium	ND		5.00	1	12/07/2015 09:58	WG833386
Barium,Dissolved	ND		5.00	1	12/08/2015 03:15	WG833718
Chromium	ND		10.0	1	12/07/2015 09:58	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:58	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Copper	ND		10.0	1	12/07/2015 13:50	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Iron	ND		100	1	12/07/2015 09:58	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:15	WG833718
Zinc	ND		50.0	1	12/07/2015 09:58	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:15	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:45	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:45	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:37	WG833649
Lead	ND		2.00	1	12/07/2015 09:45	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Manganese	ND		5.00	1	12/07/2015 09:45	WG833480
Manganese,Dissolved	ND		5.00	1	12/07/2015 19:37	WG833649
Nickel	ND		2.00	1	12/07/2015 09:45	WG833480
Nickel,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Silver	ND		2.00	1	12/07/2015 09:45	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 18:01	WG833293
Benzene	ND		1.00	1	12/09/2015 18:01	WG833293
Chloroform	ND		5.00	1	12/09/2015 18:01	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 18:01	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 18:01	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 18:01	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 18:01	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 18:01	WG833293
Toluene	ND		5.00	1	12/09/2015 18:01	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 18:01	WG833293
(S) Toluene-d8	*104*		*90.0-115*		*12/09/2015 18:01*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 18:01*	WG833293
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*12/09/2015 18:01*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 18:05	WG833692
Naphthalene	ND		1.00	1	12/08/2015 18:05	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 18:05	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 18:05	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 18:05	WG833692
Phenol	ND		10.0	1	12/08/2015 18:05	WG833692
(S) 2-Fluorophenol	*53.5*		*10.0-77.9*		*12/08/2015 18:05*	WG833692
(S) Phenol-d5	*38.9*		*5.00-70.1*		*12/08/2015 18:05*	WG833692
(S) Nitrobenzene-d5	*76.1*		*21.8-123*		*12/08/2015 18:05*	WG833692
(S) 2-Fluorobiphenyl	*77.2*		*29.5-131*		*12/08/2015 18:05*	WG833692
(S) 2,4,6-Tribromophenol	*88.4*		*11.2-130*		*12/08/2015 18:05*	WG833692
(S) p-Terphenyl-d14	*86.2*		*29.3-137*		*12/08/2015 18:05*	WG833692

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 10:01	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Barium	81.3		5.00	1	12/07/2015 10:01	WG833386
Barium,Dissolved	68.1		5.00	1	12/08/2015 03:24	WG833718
Chromium	ND		10.0	1	12/07/2015 10:01	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Cobalt	ND		10.0	1	12/07/2015 10:01	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Copper	ND		10.0	1	12/07/2015 14:05	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Iron	ND		100	1	12/07/2015 10:01	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:24	WG833718
Zinc	ND		50.0	1	12/07/2015 10:01	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:24	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 11:00	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649
Cadmium	ND		1.00	1	12/07/2015 11:00	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:42	WG833649
Lead	ND		2.00	1	12/07/2015 11:00	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649
Manganese	579		25.0	5	12/07/2015 11:14	WG833480
Manganese,Dissolved	450		25.0	5	12/07/2015 22:09	WG833649
Nickel	8.12		2.00	1	12/07/2015 11:00	WG833480
Nickel,Dissolved	7.74		2.00	1	12/07/2015 19:42	WG833649
Silver	ND		2.00	1	12/07/2015 11:00	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 18:21	WG833293
Benzene	ND		1.00	1	12/09/2015 18:21	WG833293
Chloroform	ND		5.00	1	12/09/2015 18:21	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 18:21	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 18:21	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 18:21	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 18:21	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 18:21	WG833293
Toluene	ND		5.00	1	12/09/2015 18:21	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 18:21	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 18:21*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 18:21*	WG833293
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*12/09/2015 18:21*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 18:28	WG833692
Naphthalene	ND		1.00	1	12/08/2015 18:28	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 18:28	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 18:28	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 18:28	WG833692
Phenol	ND		10.0	1	12/08/2015 18:28	WG833692
(S) 2-Fluorophenol	*28.1*		*10.0-77.9*		*12/08/2015 18:28*	WG833692
(S) Phenol-d5	*13.6*		*5.00-70.1*		*12/08/2015 18:28*	WG833692
(S) Nitrobenzene-d5	*71.4*		*21.8-123*		*12/08/2015 18:28*	WG833692
(S) 2-Fluorobiphenyl	*76.5*		*29.5-131*		*12/08/2015 18:28*	WG833692
(S) 2,4,6-Tribromophenol	*76.6*		*11.2-130*		*12/08/2015 18:28*	WG833692
(S) p-Terphenyl-d14	*77.7*		*29.3-137*		*12/08/2015 18:28*	WG833692

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 11:13	WG833295
Benzene	ND		1.00	1	12/09/2015 11:13	WG833295
Chloroform	ND		5.00	1	12/09/2015 11:13	WG833295
1,1-Dichloroethane	ND		1.00	1	12/09/2015 11:13	WG833295
2-Butanone (MEK)	ND	J4	10.0	1	12/09/2015 11:13	WG833295
2-Hexanone	ND		10.0	1	12/09/2015 11:13	WG833295
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 11:13	WG833295
Tetrachloroethene	ND		1.00	1	12/09/2015 11:13	WG833295
Toluene	ND		5.00	1	12/09/2015 11:13	WG833295
Xylenes, Total	ND		3.00	1	12/09/2015 11:13	WG833295
(S) Toluene-d8	*101*		*90.0-115*		*12/09/2015 11:13*	WG833295
(S) Dibromofluoromethane	*102*		*79.0-121*		*12/09/2015 11:13*	WG833295
(S) 4-Bromofluorobenzene	*89.7*		*80.1-120*		*12/09/2015 11:13*	WG833295

Method Blank (MB)

(MB) 12/07/15 09:04

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Antimony	ND		0.0100
Barium	ND		0.00500
Chromium	ND		0.0100
Cobalt	ND		0.0100
Iron	ND		0.100
Zinc	ND		0.0500

Method Blank (MB)

(MB) 12/07/15 13:22

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Copper	ND		0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/07/15 09:07 • (LCSD) 12/07/15 09:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	1.05	1.04	105	104	80-120			1	20
Barium	1.00	1.02	1.01	102	101	80-120			1	20
Chromium	1.00	1.07	1.05	107	105	80-120			1	20
Cobalt	1.00	1.03	1.02	103	102	80-120			1	20
Iron	1.00	1.04	1.03	104	103	80-120			1	20
Zinc	1.00	0.999	0.988	100	99	80-120			1	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/07/15 13:25 • (LCSD) 12/07/15 13:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Copper	1.00	1.00	1.01	100	101	80-120			1	20

L804483-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/07/15 09:12 • (MS) 12/07/15 09:18 • (MSD) 12/07/15 09:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	0.00312	1.03	1.04	103	103	1	75-125			0	20
Barium	1.00	0.0803	1.09	1.09	101	101	1	75-125			0	20
Chromium	1.00	0.00503	1.05	1.05	105	105	1	75-125			0	20
Cobalt	1.00	0.00519	1.03	1.03	103	103	1	75-125			0	20
Iron	1.00	0.0672	1.08	1.10	102	103	1	75-125			1	20
Zinc	1.00	0.00980	0.997	1.00	99	99	1	75-125			0	20

L804483-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/07/15 13:31 • (MS) 12/07/15 13:37 • (MSD) 12/07/15 13:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Copper	1.00	0.00318	1.02	1.02	102	102	1	75-125			0	20

Method Blank (MB)

(MB) 12/08/15 02:47

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Antimony,Dissolved	ND		0.0100
Barium,Dissolved	ND		0.00500
Chromium,Dissolved	ND		0.0100
Cobalt,Dissolved	ND		0.0100
Copper,Dissolved	ND		0.0100
Iron,Dissolved	ND		0.100
Zinc,Dissolved	ND		0.0500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/08/15 02:50 • (LCSD) 12/08/15 02:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony,Dissolved	1.00	1.04	1.04	104	104	80-120			0	20
Barium,Dissolved	1.00	1.03	1.02	103	102	80-120			0	20
Chromium,Dissolved	1.00	1.05	1.04	105	104	80-120			0	20
Cobalt,Dissolved	1.00	1.04	1.03	104	103	80-120			0	20
Copper,Dissolved	1.00	1.03	1.02	103	102	80-120			0	20
Iron,Dissolved	1.00	0.991	0.991	99	99	80-120			0	20
Zinc,Dissolved	1.00	1.00	0.999	100	100	80-120			0	20

L804483-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/08/15 02:56 • (MS) 12/08/15 03:02 • (MSD) 12/08/15 03:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony,Dissolved	1.00	ND	1.02	1.03	102	103	1	75-125			1	20
Barium,Dissolved	1.00	0.0205	1.02	1.04	100	102	1	75-125			1	20
Chromium,Dissolved	1.00	0.000210	1.03	1.04	102	104	1	75-125			1	20
Cobalt,Dissolved	1.00	0.000107	1.02	1.03	102	103	1	75-125			1	20
Copper,Dissolved	1.00	0.00405	1.02	1.02	101	102	1	75-125			1	20
Iron,Dissolved	1.00	0.0436	1.03	1.03	99	99	1	75-125			0	20
Zinc,Dissolved	1.00	0.00475	0.992	1.00	99	100	1	75-125			1	20

Method Blank (MB)

(MB) 12/07/15 09:25

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Arsenic	ND		0.00200
Cadmium	ND		0.00100
Lead	ND		0.00200
Manganese	ND		0.00500
Nickel	ND		0.00200
Silver	ND		0.00200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/07/15 09:27 • (LCSD) 12/07/15 09:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	0.0500	0.0489	0.0471	98	94	80-120			4	20
Cadmium	0.0500	0.0489	0.0472	98	94	80-120			4	20
Lead	0.0500	0.0495	0.0510	99	102	80-120			3	20
Manganese	0.0500	0.0504	0.0491	101	98	80-120			3	20
Nickel	0.0500	0.0514	0.0536	103	107	80-120			4	20
Silver	0.0500	0.0504	0.0498	101	100	80-120			1	20

L804483-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/07/15 09:31 • (MS) 12/07/15 09:36 • (MSD) 12/07/15 09:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	0.0500	0.00191	0.0501	0.0514	96	99	1	75-125			2	20
Cadmium	0.0500	0.0000157	0.0481	0.0498	96	100	1	75-125			3	20
Lead	0.0500	0.00119	0.0503	0.0506	98	99	1	75-125			1	20
Manganese	0.0500	0.0164	0.0660	0.0662	99	99	1	75-125			0	20
Nickel	0.0500	0.00343	0.0527	0.0524	98	98	1	75-125			1	20
Silver	0.0500	0.000128	0.0497	0.0501	99	100	1	75-125			1	20

Method Blank (MB)

(MB) 12/07/15 17:45

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Arsenic,Dissolved	ND		0.00200
Cadmium,Dissolved	ND		0.00100
Lead,Dissolved	ND		0.00200
Manganese,Dissolved	ND		0.00500
Nickel,Dissolved	ND		0.00200
Silver,Dissolved	ND		0.00200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/07/15 17:50 • (LCSD) 12/07/15 17:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	0.0500	0.0405	0.0435	81	87	80-120			7	20
Cadmium,Dissolved	0.0500	0.0426	0.0453	85	91	80-120			6	20
Lead,Dissolved	0.0500	0.0442	0.0486	88	97	80-120			10	20
Manganese,Dissolved	0.0500	0.0426	0.0456	85	91	80-120			7	20
Nickel,Dissolved	0.0500	0.0418	0.0449	84	90	80-120			7	20
Silver,Dissolved	0.0500	0.0424	0.0452	85	90	80-120			6	20

L804483-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/07/15 17:59 • (MS) 12/07/15 18:09 • (MSD) 12/07/15 18:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	0.0500	0.00123	0.0453	0.0446	88	87	1	75-125			2	20
Cadmium,Dissolved	0.0500	0.0000230	0.0466	0.0461	93	92	1	75-125			1	20
Lead,Dissolved	0.0500	0.000677	0.0489	0.0492	96	97	1	75-125			1	20
Manganese,Dissolved	0.0500	0.0135	0.0593	0.0589	92	91	1	75-125			1	20
Nickel,Dissolved	0.0500	0.00232	0.0470	0.0467	89	89	1	75-125			1	20
Silver,Dissolved	0.0500	0.0000125	0.0461	0.0456	92	91	1	75-125			1	20

Method Blank (MB)

(MB) 12/09/15 12:23

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Benzene	ND		0.00100
Chloroform	ND		0.00500
1,1-Dichloroethane	ND		0.00100
2-Hexanone	ND		0.0100
2-Butanone (MEK)	ND		0.0100
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*103*		*90.0-115*
(S) Dibromofluoromethane	*101*		*79.0-121*
(S) 4-Bromofluorobenzene	*99.5*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/09/15 11:04 • (LCSD) 12/09/15 11:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0963	0.0941	77.0	75.3	28.7-175			2.26	20.9
Benzene	0.0250	0.0228	0.0247	91.1	99.0	73.0-122			8.32	20
Chloroform	0.0250	0.0233	0.0254	93.3	101	73.2-125			8.34	20
1,1-Dichloroethane	0.0250	0.0235	0.0255	93.8	102	71.7-127			8.45	20
2-Hexanone	0.125	0.119	0.127	95.4	101	59.4-151			5.89	20
2-Butanone (MEK)	0.125	0.113	0.118	90.2	94.7	46.4-155			4.82	20
4-Methyl-2-pentanone (MIBK)	0.125	0.115	0.123	92.4	98.2	63.3-138			6.07	20
Tetrachloroethene	0.0250	0.0225	0.0246	90.1	98.5	73.5-130			8.85	20
Toluene	0.0250	0.0222	0.0242	89.0	96.7	77.9-116			8.34	20
Xylenes, Total	0.0750	0.0682	0.0729	90.9	97.2	79.2-122			6.74	20
(S) Toluene-d8				*103*	*102*	*90.0-115*				
(S) Dibromofluoromethane				*99.1*	*100*	*79.0-121*				
(S) 4-Bromofluorobenzene				*102*	*101*	*80.1-120*				

L804460-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/09/15 13:23 • (MS) 12/09/15 13:43 • (MSD) 12/09/15 14:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00388	0.0470	0.0531	34.5	39.3	1	25.0-156			12.2	21.5
Benzene	0.0250	ND	0.0229	0.0227	91.6	90.8	1	58.6-133			0.910	20
Chloroform	0.0250	ND	0.0244	0.0240	97.5	95.8	1	66.1-133			1.67	20
1,1-Dichloroethane	0.0250	ND	0.0245	0.0241	98.0	96.6	1	64.0-134			1.47	20
2-Hexanone	0.125	ND	0.108	0.112	86.5	89.5	1	59.4-154			3.38	20.1
2-Butanone (MEK)	0.125	0.00124	0.0853	0.0894	67.3	70.5	1	45.0-156			4.69	20.8
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.130	0.132	104	106	1	60.7-150			2.08	20
Tetrachloroethene	0.0250	ND	0.0223	0.0219	89.3	87.7	1	57.4-141			1.88	20
Toluene	0.0250	0.00193	0.0243	0.0238	89.5	87.6	1	67.8-124			2.05	20
Xylenes, Total	0.0750	0.000996	0.0697	0.0694	91.6	91.2	1	65.6-133			0.460	20
(S) Toluene-d8					*104*	*103*		*90.0-115*				
(S) Dibromofluoromethane					*101*	*101*		*79.0-121*				
(S) 4-Bromofluorobenzene					*101*	*102*		*80.1-120*				

Method Blank (MB)

(MB) 12/09/15 09:23

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Benzene	ND		0.00100
Chloroform	ND		0.00500
1,1-Dichloroethane	ND		0.00100
2-Hexanone	ND		0.0100
2-Butanone (MEK)	ND		0.0100
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*103*		*90.0-115*
(S) Dibromofluoromethane	*100*		*79.0-121*
(S) 4-Bromofluorobenzene	*91.2*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/09/15 08:11 • (LCSD) 12/09/15 08:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.175	0.163	140	130	28.7-175			7.39	20.9
Benzene	0.0250	0.0279	0.0270	112	108	73.0-122			3.28	20
Chloroform	0.0250	0.0268	0.0260	107	104	73.2-125			3.28	20
1,1-Dichloroethane	0.0250	0.0288	0.0279	115	112	71.7-127			3.20	20
2-Hexanone	0.125	0.172	0.168	137	134	59.4-151			2.36	20
2-Butanone (MEK)	0.125	0.198	0.186	158	149	46.4-155	J4		6.27	20
4-Methyl-2-pentanone (MIBK)	0.125	0.156	0.146	125	117	63.3-138			6.15	20
Tetrachloroethene	0.0250	0.0246	0.0248	98.2	99.2	73.5-130			1.00	20
Toluene	0.0250	0.0262	0.0255	105	102	77.9-116			2.74	20
Xylenes, Total	0.0750	0.0752	0.0757	100	101	79.2-122			0.690	20
(S) Toluene-d8				*104*	*104*	*90.0-115*				
(S) Dibromofluoromethane				*101*	*98.0*	*79.0-121*				
(S) 4-Bromofluorobenzene				*94.7*	*95.2*	*80.1-120*				

L803986-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 12/09/15 12:59 • (MS) 12/09/15 10:19 • (MSD) 12/09/15 10:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00176	0.0789	0.0700	61.7	54.6	1	25.0-156			11.9	21.5
Benzene	0.0250	ND	0.0287	0.0279	115	112	1	58.6-133			2.77	20
Chloroform	0.0250	ND	0.0271	0.0271	108	108	1	66.1-133			0.0200	20
1,1-Dichloroethane	0.0250	ND	0.0295	0.0291	118	117	1	64.0-134			1.39	20
2-Hexanone	0.125	ND	0.138	0.125	110	100	1	59.4-154			9.73	20.1
2-Butanone (MEK)	0.125	ND	0.140	0.124	112	99.3	1	45.0-156			12.3	20.8
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.166	0.150	133	120	1	60.7-150			9.90	20
Tetrachloroethene	0.0250	ND	0.0251	0.0250	101	100	1	57.4-141			0.510	20
Toluene	0.0250	ND	0.0267	0.0265	107	106	1	67.8-124			1.06	20
Xylenes, Total	0.0750	ND	0.0751	0.0757	100	101	1	65.6-133			0.790	20
(S) Toluene-d8					*103*	*104*		*90.0-115*				
(S) Dibromofluoromethane					*99.8*	*100*		*79.0-121*				
(S) 4-Bromofluorobenzene					*93.8*	*90.3*		*80.1-120*				

Method Blank (MB)

(MB) 12/08/15 15:44

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Isophorone	ND		0.0100
2-Methylnaphthalene	ND		0.00100
Naphthalene	ND		0.00100
3&4-Methyl Phenol	ND		0.0100
2,4-Dichlorophenol	ND		0.0100
2,4-Dinitrophenol	ND		0.0100
2-Nitrophenol	ND		0.0100
4-Nitrophenol	ND		0.0100
Phenol	ND		0.0100
(S) Nitrobenzene-d5	*73.3*		*21.8-123*
(S) 2-Fluorobiphenyl	*72.8*		*29.5-131*
(S) p-Terphenyl-d14	*86.9*		*29.3-137*
(S) Phenol-d5	*33.5*		*5.00-70.1*
(S) 2-Fluorophenol	*42.4*		*10.0-77.9*
(S) 2,4,6-Tribromophenol	*77.0*		*11.2-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 12/08/15 14:58 • (LCSD) 12/08/15 15:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Isophorone	0.0500	0.0446	0.0458	89.2	91.5	35.4-112			2.52	21.5
2-Methylnaphthalene	0.0500	0.0366	0.0373	73.1	74.7	33.8-98.6			2.08	24.2
Naphthalene	0.0500	0.0383	0.0389	76.6	77.7	32.2-101			1.50	23.8
3&4-Methyl Phenol	0.0500	0.0399	0.0401	79.9	80.1	27.9-92.0			0.290	27
2,4-Dichlorophenol	0.0500	0.0435	0.0446	87.0	89.2	31.4-103			2.51	24.9
2,4-Dinitrophenol	0.0500	0.0351	0.0347	70.3	69.3	24.2-128			1.35	20.5
2-Nitrophenol	0.0500	0.0432	0.0424	86.4	84.9	25.9-106			1.79	26.9
4-Nitrophenol	0.0500	0.0222	0.0227	44.3	45.4	10.0-52.7			2.50	40
Phenol	0.0500	0.0216	0.0214	43.2	42.9	10.0-57.9			0.700	35
(S) Nitrobenzene-d5				*83.0*	*78.3*	*21.8-123*				
(S) 2-Fluorobiphenyl				*78.6*	*77.7*	*29.5-131*				
(S) p-Terphenyl-d14				*85.2*	*83.6*	*29.3-137*				
(S) Phenol-d5				*39.6*	*38.9*	*5.00-70.1*				
(S) 2-Fluorophenol				*57.7*	*56.2*	*10.0-77.9*				
(S) 2,4,6-Tribromophenol				*83.9*	*86.3*	*11.2-130*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J4	The associated batch QC was outside the established quality control range for accuracy.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Conneticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia [1]	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky [1]	90010
Kentucky [2]	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey–NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina [1]	DW21704
North Carolina [2]	41
North Dakota	R-140
Ohio–VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee [1 4]	2006
Texas	T 104704245-07-TX
Texas [5]	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

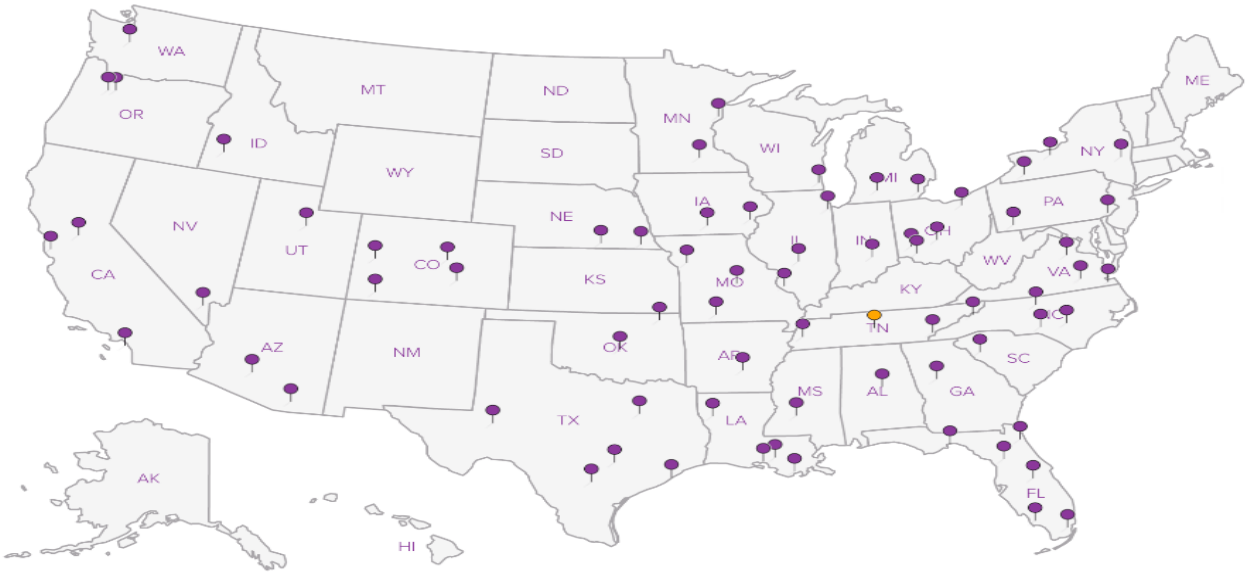
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 [5]	1461.02
Canada	1461.01
EPA–Crypto	TN00003
AIHA	100789
DOD	1461.01
USDA	S-67674

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address:

Ground Water Investigations

18 Bridge Street
Montgomery, NY 12566

Billing Information:

Williams Gas Pipeline-Transco
IBM Tulsa Delivery Center-South 6
Mail Drop 44 AP/ PO Box 21218
Tulsa, OK 74121-1218

Report to: Mr. Lawrence F. Coddington

Email To: lcoddington@hvc.rr.com

Project Description: Transco GW - Station 155

City/State Collected: Lexington, NC

Phone: 845-457-9955
Fax: 845-457-9977

Client Project #: 364-02-00

Lab Project #: TRANSCVA-STATION155

Collected by (print): LFC

Site/Facility ID #: STATION 155

P.O. #:

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L804483
Table #
Acctnum: TRANSCVA
Template: T73149
Prelogin: P532092
TSR: Alan Harvill
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270D 100ml Amb NoPres	Diss. Metals (custom) 500ml HDPE-NoPres	Tot. Metals (custom) 500ml HDPE-HNO3	V8260 40mlAmb-HCL	V8260 Trip Blank 40mlAmb-HCL-Blk	Rem./Contaminant	Sample # (lab only)
MW-3	Grab	GW	48'	12/2/15	9:37	6	X	X	X	X			-03
MW-4	Grab	GW	52'	12/2/15	10:52	6	X	X	X	X			-01
MW-5	Grab	GW	52'	12/2/15	12:12	6	X	X	X	X			-02
DUP-01	Grab	GW	52'	12/2/15	12:17	6	X	X	X	X			-05
EB-01	EQUIP	BLANK	—	12/2/15	9:00	6	X	X	X	X			-04
TB-01	TRIP	BLANK	—	—	—	1					X		-06

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____
Flow _____ Other _____

Remarks:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
	12/2/15	14.00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.4 °C Bottles Received: 31	COC Seal Intact: ___Y ___N ___NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/3/15 Time: 900	pH Checked: 42 NCF:

6529190865 17

APPENDIX B
DATA VALIDATION REPORT

VALIDATA
Chemical Services, Inc.

2634 Nutwood Trace, Duluth, GA 30097

(770) 232-0130
(770) 232-5082 (Fax)
www.datavalidator.com

February 1, 2016

Ground Water Investigations, Inc.
18 Bridge Street
Montgomery, NY 12549

Dear Mr. Coddington,

Please find enclosed the data validation report and qualified Form I's for Williams Gas Pipeline/Transco for SDG L804483.

Please feel free to contact Kevin Harmon at 770-232-0130 if you have any questions.

Sincerely,

Marty McGee

Marty McGee
Data Quality Reviewer

VALIDATA
Chemical Services, Inc.

2634 Nutwood Trace, Duluth, GA 30097

(770) 232-0130
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www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Ground Water Investigations, Inc.
SITE NAME:	Williams Gas Pipeline / Transco
PROJECT NUMBER:	364-02-01
CONTRACTED LAB:	ESC Lab Sciences
QA/QC LEVEL:	EPA Level III
EPA SOW/METHODS:	EPA 1990 SOW / SW-846
VALIDATION GUIDELINES:	*USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* 1999; *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,* 1994
SAMPLE MATRIX:	Water
TYPES OF ANALYSES:	Volatile Organic Compounds (VOA), Semivolatile Organics (SVOA), Total and Dissolved Metals

SDG NUMBER:	L804483
SAMPLE DATE:	December 2, 2015

OVERVIEW

SAMPLES:

Client Sample #	Lab Sample #	Matrix	VOA[1]	SVOA[2]
MW-4	L804483-01	Water	X	X
MW-5	L804483-02	Water	X	X
MW-3	L804483-03	Water	X	X
EB-01	L804483-04	Water	X	X
DUP-01	L804483-05	Water	X	X
TB-01	L804483-06	Water	X	
DUP-01MS	L804483-05MS	Water	X	
DUP-01MSD	L804483-05MSD	Water	X	

Client Sample #	Lab Sample #	Matrix	Total Metals[3]	Dissolved Metals[3]
MW-4	L804483-01	Water	X	X
MW-5	L804483-02	Water	X	X
MW-5DL	L804483-02DL	Water	X	X
MW-3	L804483-03	Water	X	X
EB-01	L804483-04	Water	X	X
DUP-01	L804483-05	Water	X	X
DUP-01DL	L804483-05DL	Water	X	X
MW-4MS	L804483-01MS	Water	X	X
MW-4MSD	L804483-01MSD	Water	X	X
MW-5MS*	L804483-02MS	Water	X	
MW-5MSD*	L804483-02MSD	Water	X	

1 – All samples were analyzed for a total of 10 VOA compounds.
2 – All samples were analyzed for a total of 9 SVOA compounds
3 – All samples were analyzed for total and dissolved As, Cd, Pb, Mn, Ni and Ag by method 6020. and total and dissolved Sb, Ba, Cr, Co, Cu, Fe and Zn by method 6010.
* - Dilution analysis was for one compound for total and dissolved by method 6020.

SUFFIX CODES: EB = EQUIPMENT BLANK, MD = MATRIX DUPLICATE, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, TB = TRIP BLANK

DATA REVIEWER(S): Amy L. Hogan, Marty McGee

RELEASE SIGNATURE: Martha McGee

DATA QUALIFICATION SUMMARY

ESC Lab Sciences – L804483- Organics & Inorganics

VOLATILE ORGANICS

SUMMARY

I.) General:

The analyses for Volatile Organic Compounds were performed using SW-846 8260B methodology for the list of target compounds.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No action was taken.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No action was necessary.

III.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No action was required.

Continuing Calibration:

The Percent Differences (%Ds) for the standards run on 12/9/15 at 07:22 on instrument VOCMS2 exceeded the 25% QC limit for the following compounds:

acetone	42.5%
2-butanone	68%
4-methyl-2-pentanone	35.2%
2-hexanone	38.5%

Since the only associated SDG sample was the trip blank data qualification was not necessary.

IV.) Blanks:

Method Blank:

There were no target compounds detected in the associated method blanks. No action was required.

Equipment Blank:

There were no detections in the equipment blank associated with this SDG. No action was required.

Trip Blank:

There were no detections in the trip blanks associated with this SDG. No action was required.

Tentatively Identified Compounds (TICs):

TIC data were not submitted for this SDG. No action was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met. No action was necessary.

VI.) Laboratory Control Samples (LCS):

Two LCS / LCSD sets were analyzed in this fraction of the SDG. The Percent Recovery (%R) was 158% for 2-butanone in the LCS for 12/9/15, which exceeded the 46.4-155% QC limits. Since the associated SDG sample was the trip blank and the result for this compound was non-detect in this sample, no data qualification was necessary.

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed on SDG sample DUP-01. All MS/ MSD criteria were met. No action was required.

VIII.) Field Duplicates:

One set of field duplicate samples (MW-5 / DUP-01) was identified for this SDG. There were no calculable Relative Percent Differences (RPDs). No action was required.

IX.) Internal Standards Performance (ISTDs):

All Internal Standard Performance criteria were met. No action was taken.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No action was required.

XI.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs):

All CRQL criteria were met. No action was required.

XII.) Tentatively Identified Compounds (TICs):

TIC data were not included with this SDG. No action was required.

XIII.) System Performance:

All System Performance criteria were met. No action was taken.

SEMIVOLATILE ORGANICS

SUMMARY

I.) General:

The analyses for Semivolatile Organic Compounds were performed using SW-846 8270D methodology for the list of target compounds.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No action was taken.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No action was necessary.

III.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No action was necessary.

Continuing Calibration:

The Percent Difference (%D) for the standards run on 12/8/15 at 14:11 on instrument BNAMS20 was 52.0% for 3&4-methylphenol, which exceeded the 25% QC limit. All results for this compound in the SDG samples, which consisted entirely of non-detects, were qualified as estimated (UJ).

IV.) Blanks:

Method Blank:

There were no target compounds detected in the associated method blanks. No action was required.

Equipment Blank:

There were no detections in the equipment blank associated with this SDG. No action was required.

Tentatively Identified Compounds (TICs):

TIC data were not submitted for this SDG. No action was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met. No action was necessary.

VI.) Laboratory Control Samples (LCS):

One LCS / LCSD set was analyzed in this fraction of the SDG. All LCS criteria were met. No action was required.

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were not submitted for this fraction of the SDG. Data qualification based on the absence of MS / MSD data was not required, so no action was taken.

VIII.) Field Duplicates:

One set of field duplicate samples (MW-5 / DUP-01) was identified for this SDG. There were no calculable Relative Percent Differences (RPDs), so no action was required.

IX.) Internal Standards Performance (ISTDs):

All Internal Standard Performance criteria were met. No action was taken.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No action was required.

XI.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs):

All CRQL criteria were met. No action was required.

XII.) Tentatively Identified Compounds (TICs):

TIC data were not included with this SDG. No action was required.

XIII.) System Performance:

All System Performance criteria were met. No action was taken.

TOTAL AND DISSOLVED METALS

SUMMARY

I.) General:

The analyses for total and dissolved metals were performed using SW-846 Methods 6010B and 6020.

II.) Overall Assessment of Data:

Total and dissolved metals analyses in this SDG included thirteen metals for each. All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no major problems observed in this SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No action was taken.

II.) Tuning Criteria:

All Tuning criteria were met for the analyses performed by ICPMS. No action was necessary.

III.) Calibration:

All Initial and Continuing Calibration Verification criteria were met. No action was taken.

IV.) Blanks:

There were no detections for the blanks associated with this SDG. No action was required.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No action was taken.

VI.) ICP Serial Dilution Analysis:

Serial Dilution Analysis data were submitted. All criteria were met. No action was required.

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No action was necessary.

VIII.) Duplicate Sample Analysis:

Duplicate Sample Analysis data was submitted as MS/MSD data. All criteria were met. No action was required.

IX.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses data were performed on client sample MW-05 (total metals by method 6010) and MW-4 (dissolved metals by method 6010 and total and dissolved metals by 6020) with all criteria met. No action was required.

X.) Field Duplicates:

One set of field duplicate samples (MW-5 / Dup-01) was identified for this SDG. The calculable Relative Percent Differences (RPDs) were:

total barium	1.2%
dissolved barium	9.2%
total manganese	7.8%
dissolved manganese	0.7%
total nickel	5.7%
dissolved nickel	28%

All RPD were within the advisory 30% QC limit for water samples. No action was required.

XI.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No action was taken.

XII.) Quarterly Verification of Instrumental Parameters:

All Quarterly Verification criteria were met.

Appendix A

Qualified Form I's

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:51	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Barium	23.2		5.00	1	12/07/2015 09:51	WG833386
Barium,Dissolved	20.5		5.00	1	12/08/2015 02:56	WG833718
Chromium	ND		10.0	1	12/07/2015 09:51	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:51	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Copper	ND		10.0	1	12/07/2015 13:43	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 02:56	WG833718
Iron	173		100	1	12/07/2015 09:51	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 02:56	WG833718
Zinc	ND		50.0	1	12/07/2015 09:51	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 02:56	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:31	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:31	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 17:59	WG833649
Lead	ND		2.00	1	12/07/2015 09:31	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649
Manganese	16.4		5.00	1	12/07/2015 09:31	WG833480
Manganese,Dissolved	13.5		5.00	1	12/07/2015 17:59	WG833649
Nickel	3.43		2.00	1	12/07/2015 09:31	WG833480
Nickel,Dissolved	2.32		2.00	1	12/07/2015 17:59	WG833649
Silver	ND		2.00	1	12/07/2015 09:31	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 17:59	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:02	WG833293
Benzene	ND		1.00	1	12/09/2015 17:02	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:02	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:02	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:02	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:02	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:02	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:02	WG833293
Toluene	ND		5.00	1	12/09/2015 17:02	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:02	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:02*	WG833293
(S) Dibromofluoromethane	*100*		*79.0-121*		*12/09/2015 17:02*	WG833293
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*12/09/2015 17:02*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 16:55	WG833692
Naphthalene	ND		1.00	1	12/08/2015 16:55	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 16:55	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 16:55	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 16:55	WG833692
3&4-Methyl Phenol	ND	UJ	10.0	1	12/08/2015 16:55	WG833692
Phenol	ND		10.0	1	12/08/2015 16:55	WG833692
(S) 2-Fluorophenol	*50.6*		*10.0-77.9*		*12/08/2015 16:55*	WG833692
(S) Phenol-d5	*36.1*		*5.00-70.1*		*12/08/2015 16:55*	WG833692
(S) Nitrobenzene-d5	*71.3*		*21.8-123*		*12/08/2015 16:55*	WG833692
(S) 2-Fluorobiphenyl	*75.8*		*29.5-131*		*12/08/2015 16:55*	WG833692
(S) 2,4,6-Tribromophenol	*78.4*		*11.2-130*		*12/08/2015 16:55*	WG833692
(S) p-Terphenyl-d14	*86.7*		*29.3-137*		*12/08/2015 16:55*	WG833692

Accept 1/25/16

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:12	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Barium	80.3		5.00	1	12/07/2015 09:12	WG833386
Barium,Dissolved	67.2		5.00	1	12/08/2015 03:08	WG833718
Chromium	ND		10.0	1	12/07/2015 09:12	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:12	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Copper	ND		10.0	1	12/07/2015 13:31	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:08	WG833718
Iron	ND		100	1	12/07/2015 09:12	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:08	WG833718
Zinc	ND		50.0	1	12/07/2015 09:12	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:08	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:41	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:41	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:27	WG833649
Lead	ND		2.00	1	12/07/2015 09:41	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649
Manganese	626		25.0	5	12/07/2015 11:12	WG833480
Manganese,Dissolved	453		25.0	5	12/07/2015 22:04	WG833649
Nickel	7.67		2.00	1	12/07/2015 09:41	WG833480
Nickel,Dissolved	5.84		2.00	1	12/07/2015 19:27	WG833649
Silver	ND		2.00	1	12/07/2015 09:41	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:27	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:22	WG833293
Benzene	ND		1.00	1	12/09/2015 17:22	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:22	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:22	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:22	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:22	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:22	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:22	WG833293
Toluene	ND		5.00	1	12/09/2015 17:22	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:22	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:22*	WG833293
(S) Dibromofluoromethane	*102*		*79.0-121*		*12/09/2015 17:22*	WG833293
(S) 4-Bromofluorobenzene	*100*		*80.1-120*		*12/09/2015 17:22*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 17:18	WG833692
Naphthalene	ND		1.00	1	12/08/2015 17:18	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 17:18	WG833692

MW-5
Collected date/time: 12/02/15 12:12

SAMPLE RESULTS - 02

L804483

ONE LAB. NATIONWIDE.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 17:18	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 17:18	WG833692
3&4-Methyl Phenol	ND	UJ	10.0	1	12/08/2015 17:18	WG833692
Phenol	ND		10.0	1	12/08/2015 17:18	WG833692
(S) 2-Fluorophenol	*30.4*		*10.0-77.9*		*12/08/2015 17:18*	WG833692
(S) Phenol-d5	*16.9*		*5.00-70.1*		*12/08/2015 17:18*	WG833692
(S) Nitrobenzene-d5	*81.7*		*21.8-123*		*12/08/2015 17:18*	WG833692
(S) 2-Fluorobiphenyl	*81.5*		*29.5-131*		*12/08/2015 17:18*	WG833692
(S) 2,4,6-Tribromophenol	*84.5*		*11.2-130*		*12/08/2015 17:18*	WG833692
(S) p-Terphenyl-d14	*89.0*		*29.3-137*		*12/08/2015 17:18*	WG833692

Acceptable 1/25/16

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:54	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Barium	35.9		5.00	1	12/07/2015 09:54	WG833386
Barium,Dissolved	35.7		5.00	1	12/08/2015 03:12	WG833718
Chromium	ND		10.0	1	12/07/2015 09:54	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:54	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Copper	ND		10.0	1	12/07/2015 13:46	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:12	WG833718
Iron	1190		100	1	12/07/2015 09:54	WG833386
Iron,Dissolved	626		100	1	12/08/2015 03:12	WG833718
Zinc	ND		50.0	1	12/07/2015 09:54	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:12	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:43	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:43	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:32	WG833649
Lead	ND		2.00	1	12/07/2015 09:43	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649
Manganese	203		5.00	1	12/07/2015 09:43	WG833480
Manganese,Dissolved	182		5.00	1	12/07/2015 19:32	WG833649
Nickel	4.25		2.00	1	12/07/2015 09:43	WG833480
Nickel,Dissolved	3.08		2.00	1	12/07/2015 19:32	WG833649
Silver	ND		2.00	1	12/07/2015 09:43	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:32	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 17:42	WG833293
Benzene	ND		1.00	1	12/09/2015 17:42	WG833293
Chloroform	ND		5.00	1	12/09/2015 17:42	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 17:42	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 17:42	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 17:42	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 17:42	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 17:42	WG833293
Toluene	ND		5.00	1	12/09/2015 17:42	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 17:42	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 17:42*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 17:42*	WG833293
(S) 4-Bromofluorobenzene	*100*		*80.1-120*		*12/09/2015 17:42*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 17:41	WG833692
Naphthalene	ND		1.00	1	12/08/2015 17:41	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 17:41	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 17:41	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 17:41	WG833692
3&4-Methyl Phenol	ND	UJ	10.0	1	12/08/2015 17:41	WG833692
Phenol	ND		10.0	1	12/08/2015 17:41	WG833692
(S) 2-Fluorophenol	*51.5*		*10.0-77.9*		*12/08/2015 17:41*	WG833692
(S) Phenol-d5	*34.2*		*5.00-70.1*		*12/08/2015 17:41*	WG833692
(S) Nitrobenzene-d5	*76.3*		*21.8-123*		*12/08/2015 17:41*	WG833692
(S) 2-Fluorobiphenyl	*78.8*		*29.5-131*		*12/08/2015 17:41*	WG833692
(S) 2,4,6-Tribromophenol	*93.4*		*11.2-130*		*12/08/2015 17:41*	WG833692
(S) p-Terphenyl-d14	*77.6*		*29.3-137*		*12/08/2015 17:41*	WG833692

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 09:58	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Barium	ND		5.00	1	12/07/2015 09:58	WG833386
Barium,Dissolved	ND		5.00	1	12/08/2015 03:15	WG833718
Chromium	ND		10.0	1	12/07/2015 09:58	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Cobalt	ND		10.0	1	12/07/2015 09:58	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Copper	ND		10.0	1	12/07/2015 13:50	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:15	WG833718
Iron	ND		100	1	12/07/2015 09:58	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:15	WG833718
Zinc	ND		50.0	1	12/07/2015 09:58	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:15	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 09:45	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Cadmium	ND		1.00	1	12/07/2015 09:45	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:37	WG833649
Lead	ND		2.00	1	12/07/2015 09:45	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Manganese	ND		5.00	1	12/07/2015 09:45	WG833480
Manganese,Dissolved	ND		5.00	1	12/07/2015 19:37	WG833649
Nickel	ND		2.00	1	12/07/2015 09:45	WG833480
Nickel,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649
Silver	ND		2.00	1	12/07/2015 09:45	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:37	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 18:01	WG833293
Benzene	ND		1.00	1	12/09/2015 18:01	WG833293
Chloroform	ND		5.00	1	12/09/2015 18:01	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 18:01	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 18:01	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 18:01	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 18:01	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 18:01	WG833293
Toluene	ND		5.00	1	12/09/2015 18:01	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 18:01	WG833293
(S) Toluene-d8	*104*		*90.0-115*		*12/09/2015 18:01*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 18:01*	WG833293
(S) 4-Bromofluorobenzene	*101*		*80.1-120*		*12/09/2015 18:01*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 18:05	WG833692
Naphthalene	ND		1.00	1	12/08/2015 18:05	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 18:05	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 18:05	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 18:05	WG833692
3&4-Methyl Phenol	ND		10.0	1	12/08/2015 18:05	WG833692
Phenol	ND		10.0	1	12/08/2015 18:05	WG833692
(S) 2-Fluorophenol	*53.5*		*10.0-77.9*		*12/08/2015 18:05*	WG833692
(S) Phenol-d5	*38.9*		*5.00-70.1*		*12/08/2015 18:05*	WG833692
(S) Nitrobenzene-d5	*76.1*		*21.8-123*		*12/08/2015 18:05*	WG833692
(S) 2-Fluorobiphenyl	*77.2*		*29.5-131*		*12/08/2015 18:05*	WG833692
(S) 2,4,6-Tribromophenol	*88.4*		*11.2-130*		*12/08/2015 18:05*	WG833692
(S) p-Terphenyl-d14	*86.2*		*29.3-137*		*12/08/2015 18:05*	WG833692

Metals (ICP) by Method 6010C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Antimony	ND		10.0	1	12/07/2015 10:01	WG833386
Antimony,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Barium	81.3		5.00	1	12/07/2015 10:01	WG833386
Barium,Dissolved	68.1		5.00	1	12/08/2015 03:24	WG833718
Chromium	ND		10.0	1	12/07/2015 10:01	WG833386
Chromium,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Cobalt	ND		10.0	1	12/07/2015 10:01	WG833386
Cobalt,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Copper	ND		10.0	1	12/07/2015 14:05	WG833386
Copper,Dissolved	ND		10.0	1	12/08/2015 03:24	WG833718
Iron	ND		100	1	12/07/2015 10:01	WG833386
Iron,Dissolved	ND		100	1	12/08/2015 03:24	WG833718
Zinc	ND		50.0	1	12/07/2015 10:01	WG833386
Zinc,Dissolved	ND		50.0	1	12/08/2015 03:24	WG833718

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	12/07/2015 11:00	WG833480
Arsenic,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649
Cadmium	ND		1.00	1	12/07/2015 11:00	WG833480
Cadmium,Dissolved	ND		1.00	1	12/07/2015 19:42	WG833649
Lead	ND		2.00	1	12/07/2015 11:00	WG833480
Lead,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649
Manganese	579		25.0	5	12/07/2015 11:14	WG833480
Manganese,Dissolved	450		25.0	5	12/07/2015 22:09	WG833649
Nickel	8.12		2.00	1	12/07/2015 11:00	WG833480
Nickel,Dissolved	7.74		2.00	1	12/07/2015 19:42	WG833649
Silver	ND		2.00	1	12/07/2015 11:00	WG833480
Silver,Dissolved	ND		2.00	1	12/07/2015 19:42	WG833649

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 18:21	WG833293
Benzene	ND		1.00	1	12/09/2015 18:21	WG833293
Chloroform	ND		5.00	1	12/09/2015 18:21	WG833293
1,1-Dichloroethane	ND		1.00	1	12/09/2015 18:21	WG833293
2-Butanone (MEK)	ND		10.0	1	12/09/2015 18:21	WG833293
2-Hexanone	ND		10.0	1	12/09/2015 18:21	WG833293
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 18:21	WG833293
Tetrachloroethene	ND		1.00	1	12/09/2015 18:21	WG833293
Toluene	ND		5.00	1	12/09/2015 18:21	WG833293
Xylenes, Total	ND		3.00	1	12/09/2015 18:21	WG833293
(S) Toluene-d8	*103*		*90.0-115*		*12/09/2015 18:21*	WG833293
(S) Dibromofluoromethane	*101*		*79.0-121*		*12/09/2015 18:21*	WG833293
(S) 4-Bromofluorobenzene	*102*		*80.1-120*		*12/09/2015 18:21*	WG833293

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Isophorone	ND		10.0	1	12/08/2015 18:28	WG833692
Naphthalene	ND		1.00	1	12/08/2015 18:28	WG833692
2-Methylnaphthalene	ND		1.00	1	12/08/2015 18:28	WG833692

Semi Volatile Organic Compounds (GC/MS) by Method 8270D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
2,4-Dichlorophenol	ND		10.0	1	12/08/2015 18:28	WG833692
2,4-Dinitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
2-Nitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
4-Nitrophenol	ND		10.0	1	12/08/2015 18:28	WG833692
3&4-Methyl Phenol	ND	UJ	10.0	1	12/08/2015 18:28	WG833692
Phenol	ND		10.0	1	12/08/2015 18:28	WG833692
(S) 2-Fluorophenol	*28.1*		*10.0-77.9*		*12/08/2015 18:28*	WG833692
(S) Phenol-d5	*13.6*		*5.00-70.1*		*12/08/2015 18:28*	WG833692
(S) Nitrobenzene-d5	*71.4*		*21.8-123*		*12/08/2015 18:28*	WG833692
(S) 2-Fluorobiphenyl	*76.5*		*29.5-131*		*12/08/2015 18:28*	WG833692
(S) 2,4,6-Tribromophenol	*76.6*		*11.2-130*		*12/08/2015 18:28*	WG833692
(S) p-Terphenyl-d14	*77.7*		*29.3-137*		*12/08/2015 18:28*	WG833692

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/09/2015 11:13	WG833295
Benzene	ND		1.00	1	12/09/2015 11:13	WG833295
Chloroform	ND		5.00	1	12/09/2015 11:13	WG833295
1,1-Dichloroethane	ND		1.00	1	12/09/2015 11:13	WG833295
2-Butanone (MEK)	ND	J4	10.0	1	12/09/2015 11:13	WG833295
2-Hexanone	ND		10.0	1	12/09/2015 11:13	WG833295
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/09/2015 11:13	WG833295
Tetrachloroethene	ND		1.00	1	12/09/2015 11:13	WG833295
Toluene	ND		5.00	1	12/09/2015 11:13	WG833295
Xylenes, Total	ND		3.00	1	12/09/2015 11:13	WG833295
(S) Toluene-d8	*101*		*90.0-115*		*12/09/2015 11:13*	WG833295
(S) Dibromofluoromethane	*102*		*79.0-121*		*12/09/2015 11:13*	WG833295
(S) 4-Bromofluorobenzene	*89.7*		*80.1-120*		*12/09/2015 11:13*	WG833295

APPENDIX C
FIELD DATA SAMPLING SHEETS

18 Bridge Street
Montgomery, New York 12549
(845) 457-9955

Ground Water Investigations, Inc.

Field Data Sampling Sheet

Sample ID	MW-3	Sample date/time	12/2/15 - 09:37
Bottle set (lab)	NA	Field personnel	LFC
Project location	Transco - Station 155		
Project Number	364-02-00		
Weather conditions (estimate wind, cloud, precip, humidity, temp)		Observer	

Overcast/Fog; Temp in 50's, Rain Showers

SAMPLE TYPE

- [ ] composite
- [ ] grab
- [X] groundwater
- [ ] surface water
- [ ] soil
- [ ] sediment
- [ ] leachate
- [ ] industrial
- [ ] storm sewer
- [ ] gas
- [ ] other

MONITORING WELL DATA

Casing diameter	2"	[X] PVC		[ ] steel	[ ] other
Static water level	44.73	from [X] inner casing		from [ ] protective casing	
Bottom depth	49.60	from [X] inner casing		from [ ] protective casing	
static water level indicator type		[ ] steel/PVC tape		[X] electronic	[ ] other
Linear conversion	0.16			water volume in well (in gallons)	0.78
Well condition	Good				

MONITORING WELL PURGE DATA

- [X] submersible pump
- [ ] peristaltic pump
- [ ] suction pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] other (diaphragm)

dedicated purge equipment ? [ ] yes [X] no

Pumping rate	500 ml/min.	Elapsed time	
Bail volume		Number of bails	
Volume purged (gal.)	5.00	Well volumes	6.42
Time purge complete	9:35	Well evacuated ?	[ ] yes [X] no

SAMPLING DATA

- [X] pump
- [ ] PVC bailer
- [ ] poly bailer
- [ ] teflon bailer
- [ ] stainless bucket
- [ ] poly cup
- [ ] tedlar bag
- [ ] direct
- [ ] hand corer
- [ ] hand auger
- [ ] stainless spoon
- [ ] split spoon
- [ ] other

dedicated sampling equipment ? [ ] yes [X] no

metals field filtered ? [X] yes* [ ] no

depth of sample (ft.) ~48.00

sample containers 2-40 ml voas (HCL); 2-100 ml glass (unp.); 1-1l plas. (HNO3); 1-1l plas. (unp.)

FIELD PARAMETER MONITORING - (Last three measurements)

pH (SU)	5.37	pH (SU)	5.37	pH (SU)	5.37
temp (C)	19.97	temp (C)	19.97	temp (C)	19.97
cond (ms/cm)	66	cond (ms/cm)	66	cond (ms/cm)	65
turb (NTU)	4.52	turb (NTU)	3.99	turb (NTU)	2.96
Diss. O2 (mg/l)	0.44	Diss. O2 (mg/l)	0.44	Diss. O2 (mg/l)	0.44

Comments/remarks

*Diss. metals field-filtered

clear, no odor, no sheen

Equipment Blank (EB-01) performed at 09:00

18 Bridge Street
Montgomery, New York 12549
(845) 457-9955

Ground Water Investigations, Inc.

Field Data Sampling Sheet

Sample ID	MW-4	Sample date/time	12/2/15 - 10:52
Bottle set (lab)	NA	Field personnel	LFC
Project location	Transco - Station 155		
Project Number	364-02-00		
Weather conditions (estimate wind, cloud, precip, humidity, temp)		Observer	

Overcast/Fog; Temp in 50's, Rain Showers

SAMPLE TYPE

[ ] composite	[ ] grab		
[X] groundwater	[ ] surface water	[ ] soil	[ ] sediment
[ ] leachate	[ ] industrial	[ ] storm sewer	[ ] gas
[ ] other			

MONITORING WELL DATA

Casing diameter	2"	[X] PVC		[ ] steel	[ ] other
Static water level	46.55	from [X] inner casing		from [ ] protective casing	
Bottom depth	52.97	from [X] inner casing		from [ ] protective casing	
static water level indicator type		[ ] steel/PVC tape		[X] electronic	[ ] other
Linear conversion	0.16			water volume in well (in gallons)	1.03
Well condition	Good				

MONITORING WELL PURGE DATA

[X] submersible pump	[ ] peristaltic pump	[ ] suction pump	[ ] PVC bailer	
[ ] poly bailer	[ ] teflon bailer	[ ] other (diaphragm)		
dedicated purge equipment ?	[ ] yes	[X] no		

Pumping rate	500 ml/min.	Elapsed time	
Bail volume		Number of bails	
Volume purged (gal.)	4.50	Well volumes	4.38
Time purge complete	10:50	Well evacuated ?	[ ] yes [X] no

SAMPLING DATA

[X] pump	[ ] PVC bailer	[ ] poly bailer	[ ] teflon bailer
[ ] stainless bucket	[ ] poly cup	[ ] tedlar bag	[ ] direct
[ ] hand corer	[ ] hand auger	[ ] stainless spoon	[ ] split spoon
[ ] other			

dedicated sampling equipment ?	[ ] yes	[X] no
metals field filtered ?	[X] yes*	[ ] no

depth of sample (ft.) ~52.00

sample containers 2-40 ml voas (HCL); 2-100ml glass (unp.); 1-1l plas. (HNO3); 1-1l plas. (unp.)

FIELD PARAMETER MONITORING - (Last three measurements)

pH (SU)	5.78	pH (SU)	5.78	pH (SU)	5.78
temp (C)	21.30	temp (C)	21.31	temp (C)	21.22
cond (ms/cm)	109	cond (ms/cm)	109	cond (ms/cm)	109
turb (NTU)	4.83	turb (NTU)	4.21	turb (NTU)	4.19
Diss. O2 (mg/l)	0.77	Diss. O2 (mg/l)	0.76	Diss. O2 (mg/l)	0.72

Comments/remarks *Diss. metals field-filtered

Clear, no odor, no sheen

18 Bridge Street
Montgomery, New York12549
(845) 457-9955

Ground Water Investigations, Inc.

Field Data Sampling Sheet

Sample ID	MW-5	Sample date/time	12/2/15 - 12:12
Bottle set (lab)	NA	Field personnel	LFC
Project location	Transco - Station 155		
Project Number	364-02-00		
Weather conditions (estimate wind, cloud, precip, humidity, temp)		Observer	

Overcast/Fog; Temp in 50's, Rain Showers

SAMPLE TYPE

[ ] composite	[ ] grab		
[X] groundwater	[ ] surface water	[ ] soil	[ ] sediment
[ ] leachate	[ ] industrial	[ ] storm sewer	[ ] gas
[ ] other			

MONITORING WELL DATA

Casing diameter	2"	[X] PVC		[ ] steel	[ ] other
Static water level	47.31	from [X] inner casing		from [ ] protective casing	
Bottom depth	53.50	from [X] inner casing		from [ ] protective casing	
static water level indicator type		[ ] steel/PVC tape		[X] electronic	[ ] other
Linear conversion	0.16			water volume in well (in gallons)	0.99
Well condition	Good				

MONITORING WELL PURGE DATA

[X] submersible pump	[ ] peristaltic pump	[ ] suction pump	[ ] PVC bailer
[ ] poly bailer	[ ] teflon bailer	[ ] other (diaphragm)	
dedicated purge equipment ?	[ ] yes	[X] no	

Pumping rate	500 ml/min.	Elapsed time	
Bail volume		Number of bails	
Volume purged (gal.)	4.00	Well volumes	4.04
Time purge complete	12:10	Well evacuated ?	[ ] yes [X] no

SAMPLING DATA

[X] pump	[ ] PVC bailer	[ ] poly bailer	[ ] teflon bailer
[ ] stainless bucket	[ ] poly cup	[ ] tedlar bag	[ ] direct
[ ] hand corer	[ ] hand auger	[ ] stainless spoon	[ ] split spoon
[ ] other			

dedicated sampling equipment ?	[ ] yes	[X] no
metals field filtered ?	[X] yes*	[ ] no

depth of sample (ft.) ~52.00

sample containers 2-40 ml voas (HCL); 2-100 ml glass (unp.); 1-1l plas. (HNO3); 1-1l plas. (unp.)

FIELD PARAMETER MONITORING - (Last three measurements)

pH (SU)	5.42	pH (SU)	5.42	pH (SU)	5.42
temp (C)	20.97	temp (C)	20.97	temp (C)	20.97
cond (ms/cm)	58	cond (ms/cm)	58	cond (ms/cm)	58
turb (NTU)	2.22	turb (NTU)	2.13	turb (NTU)	1.59
Diss. O2 (mg/l)	6.26	Diss. O2 (mg/l)	6.16	Diss. O2 (mg/l)	6.18

Comments/remarks

*Diss. metals field-filtered

Clear, no odor or sheen

Duplicate Sample (DUP-01) collected at 12:17