



August 7, 2019

Great Western Operating Company, LLC  
1001 17<sup>th</sup> Street, Suite 2000  
Denver, Colorado 80202

Attention: Ben Huggins, EHS Manager

Subject: Quarterly Groundwater Monitoring  
Mershon Production Battery Site  
Weld County, Colorado  
Project Number E14447.EC

Dear Mr. Huggins,

As requested, A.G. Wassenaar, Inc. (AGW) has conducted quarterly groundwater sampling at the Mershon Production Battery Site in Weld County, Colorado. The sampling activities were completed on July 17, 2019 to comply with a Monitored Natural Attenuation remediation approach which was approved by the Colorado Oil and Gas Conservation Commission (COGCC) on July 10, 2015. This letter summarizes the project activities and analytical results.

## **BACKGROUND**

---

In September 2014, a historical release was discovered in the vicinity of a produced water tank at the facility. Consequently, in October 2014, approximately 350 cubic yards of impacted soil were removed from the release location. To enhance remediation, approximately 250 pounds of an activated carbon and oxygen-releasing remediation compound were placed at the base of the excavation cavity prior to backfilling.

In April 2015, AGW conducted a limited subsurface investigation to further define the extent of contaminated groundwater that had been previously identified in the excavation following the release. Three permanent groundwater monitoring wells were installed south, southeast, and southwest of the release location and former excavation, and one well was installed in the source area.

Based on groundwater analytical results from April 2015, benzene was present in the monitoring well nearest to the release, MW-1, at a concentration greater than COGCC Table 910-1 regulatory concentration.

In July 2015, COGCC approved monitored natural attenuation as an appropriate remediation alternative for this site. Results associated with the fourteenth groundwater sampling round since soil removal and activated carbon installation were conducted at the site are discussed below.

## QUARTERLY GROUNDWATER SAMPLING

AGW conducted quarterly groundwater sampling of the four onsite monitoring wells on July 17, 2019.

### Groundwater Elevation Measurements

During this sampling event, groundwater depths ranged from approximately 13.80 to 14.80 feet below the tops of the well casings. Table 1 summarizes the groundwater depth measurements and elevations.

**Table 1: Groundwater Measurements  
Mershon Production Site  
July 17, 2019**

Well Number	Ground Surface Elevation (ft.) *	Top of Casing (T.O.C.) Elevation (ft.)	Depth to Groundwater (T.O.C.) (ft.)	Groundwater Elevation (ft.)
MW-1	97.29	100.00	12.85	87.15
MW-2	96.08	98.73	11.60	87.13
MW-3	96.27	98.99	11.86	87.13
MW-4	96.27	98.97	11.89	87.08

\* Elevations are in feet, based on a site datum of 100.00 feet. Benchmark is the top of well pipe casing MW-1

To evaluate the groundwater measurements, AGW compared the measured data with surveyed elevations. Based on the results, groundwater flow across the site is generally towards the southwest with a gradient of approximately 0.001 feet per foot. Figure 1 in Attachment A illustrates the groundwater elevations and estimated flow directions.

### Groundwater Sampling Methods

Following water level measurements, AGW collected groundwater samples from each of the four wells for analytical testing on July 17, 2019.

To collect the samples, AGW utilized a dedicated plastic bailer attached to nylon cord at each well. Each sample was transferred into three acid-preserved glass vials supplied by the laboratory for benzene, toluene, ethylbenzene, and total xylenes (BTEX) analysis. The filled sample containers were immediately sealed, labeled, and placed into a cooler with ice (a preservative). On July 17, 2019, AGW delivered the samples to Origins Laboratory, Inc. (Origins) for analytical testing. During this project, AGW followed chain-of-custody procedures in general accordance with U.S. Environmental Protection Agency (EPA) guidelines. Origins analyzed all four groundwater samples for BTEX using EPA Method 8260C.

## Groundwater Analytical Results

Table 2, below, summarizes the groundwater analytical results for each sampling event. A copy of the laboratory report is included in Attachment B. The results are illustrated in Figure 2 in Attachment A.

**Table 2: Groundwater Analytical Results  
Mershon Production Site  
July 17, 2019**

Sample Number	Sampling Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-1	04/09/15	<b>0.118</b>	0.0046	0.0139	0.0532
	08/11/15	<b>0.0064</b>	ND	ND	ND
	10/9/15	<b>0.448</b>	ND	0.0169	0.0501
	1/8/16	<b>0.0748</b>	ND	ND	ND
	4/26/16	<b>0.218</b>	ND	0.0124	0.0621
	7/25/16	<b>0.323</b>	ND	0.0310	0.118
	10/14/16	<b>0.467</b>	ND	0.00996	0.0502
	1/12/17	<b>0.0674</b>	ND	ND	0.00688
	4/12/17	<b>0.142</b>	ND	ND	ND
	7/20/17	<b>0.0614</b>	ND	ND	ND
	3/16/18	<b>0.0662</b>	ND	ND	ND
	7/12/18	<b>0.281</b>	ND	ND	ND
	10/23/18	<b>0.283</b>	ND	0.00319	0.00860
	3/27/19	<b>0.0106</b>	ND	ND	ND
	7/17/19	<b>0.0155</b>	ND	0.00195	ND
MW-2	04/09/15	ND	ND	ND	ND
	08/11/15	ND	ND	ND	ND
	10/9/15	ND	ND	ND	ND
	1/8/16	ND	ND	ND	ND
	4/26/16	ND	ND	ND	ND
	7/25/16	ND	ND	ND	ND
	10/14/16	ND	ND	ND	ND
	1/12/17	ND	ND	ND	ND
	4/12/17	ND	ND	ND	ND
	7/20/17	ND	ND	ND	ND
	3/16/18	ND	ND	ND	ND
	7/12/18	ND	ND	ND	ND
	10/23/18	ND	ND	ND	ND
	3/27/19	ND	ND	ND	ND
	7/17/19	ND	ND	ND	ND
MW-3	04/09/15	ND	ND	ND	ND
	08/11/15	ND	ND	ND	ND
	10/9/15	ND	ND	ND	ND
	1/8/16	ND	ND	ND	ND
	4/26/16	ND	ND	ND	ND
	7/25/16	ND	ND	ND	ND
	10/14/16	ND	ND	ND	ND
	1/12/17	ND	ND	ND	ND
	4/12/17	0.00170	ND	ND	ND
	7/20/17	ND	ND	ND	ND

Sample Number	Sampling Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
	3/16/18	ND	ND	ND	ND
	7/12/18	ND	ND	ND	ND
	10/23/18	ND	ND	ND	ND
	3/27/19	ND	ND	ND	ND
	7/17/19	ND	ND	ND	ND
MW-4	04/09/15	ND	ND	ND	ND
	08/11/15	ND	ND	ND	ND
	10/9/15	0.002	ND	0.0023	ND
	1/8/16	ND	ND	ND	ND
	4/26/16	ND	ND	ND	ND
	7/25/16	ND	ND	ND	ND
	10/14/16	ND	ND	ND	ND
	1/12/17	ND	ND	ND	ND
	4/12/17	ND	ND	ND	ND
	7/20/17	ND	ND	ND	ND
	3/16/18	ND	ND	ND	ND
	7/12/18	ND	ND	ND	ND
	10/23/18	ND	ND	ND	ND
	3/27/19	ND	ND	ND	ND
	7/17/19	ND	ND	ND	ND
COGCC Table 910-1 Concentrations		0.005	1.0	0.70	10.0

All concentrations are in mg/L = Milligrams per liter, parts per million

ND = Not detected at or above laboratory reporting limits

Analytes in **bold** exceed their respective COGCC Table 910-1 concentration

To evaluate the groundwater analytical results, AGW consulted the Table 910-1 Concentration Levels provided within the COGCC 900 Series Rules for Exploration and Production Waste Management. Based on the results, benzene was detected in sample MW-1 at 0.0155 milligrams per liter (mg/L), which is greater than its COGCC Table 910-1 concentration of 0.005 mg/L. BTEX compounds in the samples from MW-2, MW-3, and MW-4 were not detected at concentrations greater than the laboratory reporting limits.

## CONCLUSIONS

On July 17, 2019, AGW conducted quarterly groundwater sampling activities at the Mershon Production Battery Site in Weld County, Colorado. Based on the analytical results, benzene was identified in groundwater from one of the monitoring wells, MW-1, at a concentration of 0.0155 mg/L. BTEX compounds were not identified in the other monitoring wells. The concentration of benzene in groundwater from MW-1 has fluctuated since the original April 2015 sampling event but has decreased overall. The variations in benzene concentrations in this well may be due to seasonal groundwater fluctuations. Impacted groundwater does not extend to the locations of the other monitoring wells.

In accordance with the approval of the COGCC, quarterly groundwater monitoring for this site will continue. The next quarterly groundwater sampling event is scheduled for October 2019.

## **LIMITATIONS**

---

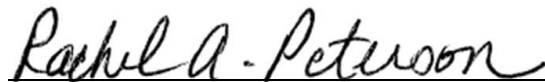
This report summarizes AGW's findings associated with quarterly groundwater sampling at the Mershon Production Site in Weld County, Colorado. Although AGW completes thorough studies, no warranty is made of its accuracy, completeness, and timeliness based on information obtained from third party sources. Findings are a reflection of, and within, the scope-of-work and limitations of the work performed.

Thank you for your review of this report. If you have any questions or require further information, please call us at (303) 759-8373.

Sincerely,  
A. G. Wassenaar, Inc.



Brian L. Lockhart  
Environmental Technician



Rachel A. Peterson, P.G.  
Principal Geologist

Attachments

# **ATTACHMENT A**

## **DIAGRAMS**





Approximate Scale: 1" = 40'

#### LEGEND

- ▲ Groundwater Monitoring Well Location  
Relative Ground Water Elevation in feet (')
- Groundwater Contour - not included, no significant contour present
- - - Direction of Groundwater Flow

**A.G. WASSENAAR** | **INC.**  
GEOTECHNICAL • ENVIRONMENTAL  
CONSULTANTS

July 17, 2019  
Groundwater Elevations and Flow Direction  
Mershon Production Site, Weld County, Colorado  
AGW Project Number: E14447.EC  
Figure 1





Approximate Scale: 1" = 40'

#### LEGEND

- ▲ Groundwater Monitoring Well Location  
 Analytical Results

B: Benzene, T: Toluene, E: Ethylbenzene, X: Total Xylenes  
 ND: Not detected above laboratory detection limits

Groundwater concentrations are in milligrams per liter (mg/L)  
 Concentrations in **BOLD** exceed applicable COGCC Table 910-1 concentrations

**A.G. WASSENAAR** | **INC.**  
 GEOTECHNICAL • ENVIRONMENTAL  
 CONSULTANTS

July 17, 2019  
 Groundwater Analytical Results  
 Mershon Production Site, Weld County, Colorado  
 AGW Project Number: E14447.EC  
 Figure 2



**ATTACHMENT B**  
**LABORATORY ANALYTICAL REPORT**

July 18, 2019

**A.G. Wassenaar**

**Rachel Peterson**

**2180 South Ivanhoe Street - Suite 5**

**Denver**

**CO 80222**

**Project Name - Mershon GW July 2019**

**Project Number - E14447.EC**

Attached are your analytical results for Mershon GW July 2019 received by Origins Laboratory, Inc. July 17, 2019. This project is associated with Origins project number Y907248-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.  
303.433.1322  
o-squad@oelabinc.com



A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	Y907248-01	Water	July 17, 2019 11:04	07/17/2019 13:46
MW-2	Y907248-02	Water	July 17, 2019 10:30	07/17/2019 13:46
MW-3	Y907248-03	Water	July 17, 2019 9:58	07/17/2019 13:46
MW-4	Y907248-04	Water	July 17, 2019 9:32	07/17/2019 13:46

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

www.originslaboratory.com

907248

page 1 of 1

**ORIGINS**  
LABORATORY, INC

Client: AG Wassenaar, Inc.  
Address: 2180 S Ivanhoe St  
Denver, CO 80222  
Telephone Number: 303-759-8373  
Email Address: petersonr@agwco.com

Project Manager: Rachel Peterson  
Project Name: Mershon GW July 2019  
Project Number: E14447.EC  
Samples Collected By: Brian Lockhart

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #		
MW-1	7-17-19	1104	3	X				X			BT EX	1
MW-2		1030	1									2
MW-3		0958	1									3
MW-4		0932	1									4
												5
												6
												7
												8
												9
												10
Relinquished By: <u>Brian Lockhart</u>	Date: <u>7-17-19</u>	Time: <u>1346</u>	Received By: <u>[Signature]</u>	Date: <u>7-17-19</u>	Time: <u>1346</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard						

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Date Results Needed

5/2

Temp Received-

Origins Laboratory, Inc.

*Jefe Pellegrini*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

Origins Laboratory

F-012207-01-R1  
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y907248 Client: AGW

Client Project ID: Mershon GW

Checklist Completed by: JG Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/17/19 Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid ☒ Water ☐ Other: ☐

Cooler Number/Temperature: 1 / 5.2 °C 1 / 1 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: TC03

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup>If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JG

Date/Time Reviewed 7/18/19

Origins Laboratory, Inc.

*Jefe Pellegrini*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

## MW-1

7/17/2019 11:04:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

## Origins Laboratory, Inc.

Y907248-01 (Water)

### BTEX by EPA 8260D

Benzene	15.5	1.00	ug/L	1	B9G1707	KDK	07/17/2019	07/17/2019	
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	1.95	1.00	"	"	"	KDK	"	"	
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

102 % 70-130

"

"

"

Surrogate: Toluene-d8

104 % 70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

97.7 % 70-130

"

"

"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

## MW-2

7/17/2019 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

## Origins Laboratory, Inc. Y907248-02 (Water)

### BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B9G1707	KDK	07/17/2019	07/17/2019	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130	"	"	"
Surrogate: Toluene-d8	103 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.2 %	70-130	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**MW-3**

**7/17/2019 9:58:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

**Origins Laboratory, Inc.**  
**Y907248-03 (Water)**

**BTEX by EPA 8260D**

Benzene	ND	1.00	ug/L	1	B9G1707	KDK	07/17/2019	07/18/2019	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	"	"	"
Surrogate: Toluene-d8	104 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**MW-4**

**7/17/2019 9:32:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

**Origins Laboratory, Inc.**  
**Y907248-04 (Water)**

**BTEX by EPA 8260D**

Benzene	ND	1.00	ug/L	1	B9G1707	KDK	07/17/2019	07/18/2019	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	101 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B9G1707 - EPA 5030B (Water)**

**Blank (B9G1707-BLK1)**

Prepared: 07/17/2019 Analyzed: 07/17/2019

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	105		70-130			
Surrogate: Toluene-d8	63		"	62.5	101		70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.7		70-130			

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Jen Pellegrini For Noelle Doyle Mathis, President



A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B9G1707 - EPA 5030B (Water)**

**LCS (B9G1707-BS1)**

Prepared: 07/17/2019 Analyzed: 07/17/2019

Benzene	48.6	1.00	ug/L	50.0		97.3	70-130			
Toluene	48.9	1.00	"	50.0		97.9	70-130			
Ethylbenzene	47.6	1.00	"	50.0		95.1	70-130			
m,p-Xylene	94.1	2.00	"	100		94.1	70-130			
o-Xylene	46.8	1.00	"	50.0		93.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.2	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		102	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B9G1707 - EPA 5030B (Water)**

Matrix Spike (B9G1707-MS1)		Source: Y907251-01			Prepared: 07/17/2019 Analyzed: 07/17/2019					
Benzene	46.9	1.00	ug/L	50.0	ND	93.7	70-130			
Toluene	61.4	1.00	"	50.0	17.7	87.4	70-130			
Ethylbenzene	46.1	1.00	"	50.0	ND	92.2	70-130			
m,p-Xylene	92.2	2.00	"	100	ND	92.2	70-130			
o-Xylene	46.1	1.00	"	50.0	ND	92.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

**Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch B9G1707 - EPA 5030B (Water)**

Matrix Spike Dup (B9G1707-MSD1)		Source: Y907251-01			Prepared: 07/17/2019 Analyzed: 07/17/2019					
Benzene	45.1	1.00	ug/L	50.0	ND	90.2	70-130	3.89	20	
Toluene	60.5	1.00	"	50.0	17.7	85.6	70-130	1.44	20	
Ethylbenzene	43.9	1.00	"	50.0	ND	87.7	70-130	5.00	20	
m,p-Xylene	87.5	2.00	"	100	ND	87.5	70-130	5.20	20	
o-Xylene	44.5	1.00	"	50.0	ND	89.1	70-130	3.51	20	
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		98.6	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A.G. Wassenaar

2180 South Ivanhoe Street - Suite 5

Denver CO 80222

Rachel Peterson

Project Number: E14447.EC

Project: Mershon GW July 2019

### Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Jen Pellegrini For Noelle Doyle Mathis, President