



February 17, 2017

Mr. Scot A. Donato  
Great Western Operating Company, LLC  
1801 Broadway, Suite 500  
Denver, Colorado 80202

**RE: Simpson #1 Tank Battery  
No Further Action Request / Quarterly Groundwater Sampling  
Weld County, Colorado  
Olsson Project #015-3445**

Dear Mr. Donato,

Great Western Operating Company, LLC (GWOC) retained Olsson Associates (Olsson) to complete the fourth quarterly groundwater sampling event at the Simpson #1 Tank Battery (Site) located in the northeast quarter of the northeast quarter of Section 15, Township 6 North, Range 67 West. Olsson conducted the groundwater sampling activities on October 26, 2016. The activities were conducted in accordance with the Colorado Oil and Gas Conservation Commission (COGCC) Form 27 Site Investigation and Remediation Workplan approved by Mr. Rick Allison in December 2015. This letter summarizes the project activities and analytical results.

The Site is an active oil and gas production facility located in an agricultural area, approximately 1,000 feet south of the intersection of County Roads 21 and 70 in Weld County, Colorado. Based on local topography groundwater is expected to flow to the southwest toward a ravine located to the south of the Site. According to the Colorado Division of Water Resources, the nearest domestic water well is located a quarter mile northeast and hydraulically up-gradient from the Site. Figure 1 illustrates the general location of the Site.

### **Groundwater Sampling Methods and Analytical Results**

After recording the measured groundwater elevation, Olsson personnel purged approximately 2.0 gallons of groundwater from monitoring well MW-1 by bailing utilizing a dedicated polyethylene bailer and nylon cord. Due to slow groundwater recharge, Olsson was unable to purge three casing volumes of groundwater from the well. Groundwater was encountered at a depth of 14.45 feet below the top of the PVC well casing. During this project, Olsson personnel followed sampling procedures, equipment decontamination methods, and chain-of-custody procedures in accordance with U.S. Environmental Protection Agency (EPA) guidelines.

Following well purging, Olsson collected a groundwater sample from monitoring well MW-1 and delivered the sample to Origins Laboratory, Inc. (Origins) in Denver, Colorado for analysis. Origins analyzed the groundwater sample for BTEX using EPA Method 8260C. The groundwater analytical results are summarized on Figure 2 and are included in Table 1. The laboratory analytical report is included as Appendix A.

**Table 1**  
**Simpson #1 Tank Battery**  
**Groundwater Analytical Summary**  
**Weld County, Colorado**

Sample Number		Sample Date		BTEX (µg/L)			
				Benzene	Toluene	Ethylbenzene	Total Xylenes
COGCC Table 910-1 Concentration Levels				5	1000	700	10,000
MW-1		1/28/2016		ND	ND	ND	ND
MW-1		4/21/2016		ND	ND	ND	ND
MW-1		7/22/2016		ND	ND	ND	ND
MW-1		10/26/2016		ND	ND	ND	ND

Colorado Oil and Gas Conservation Commission (COGCC), 900 Series, Exploration and Production Waste Management, Table 910-1, Concentration Levels, February 1, 2014

BTEX - Benzene, toluene, ethylbenzene, total xylenes

µg/L - Micrograms per liter

**Bold** - Above COGCC Table 910-1 Concentration Levels

ND - Sample not reported above laboratory reporting limit

Based on the analytical results, BTEX concentrations were not detected at or above laboratory reporting limits, and were below their respective COGCC Table 910-1 concentrations in the groundwater sample from monitoring well MW-1.

## Conclusion

Between January 28, 2016 and October 26, 2016, Olsson conducted quarterly groundwater sampling activities at the Simpson #1 Tank Battery. The intent of the project was to assess the presence or absence of petroleum hydrocarbon impacts in groundwater at the Site, above the COGCC Table 910-1 concentration levels.

**Olsson recommends that GWOC request No Further Action for this Site from the COGCC since BTEX concentrations in groundwater were not detected at or above laboratory reporting limits in the samples collected over four consecutive quarters.**

Once a No Further Action status is granted, Olsson plans to abandon monitoring well MW-1 according to State of Colorado, Office of the State Engineer well abandonment procedures.

Olsson Associates appreciates the opportunity to assist GWOC in performing groundwater monitoring at this Site. If you have any questions or require further information, please call us at 303.237.2072.

Sincerely,

**Olsson Associates, Inc.**



Jason E. Davidson, PG  
Project Geologist

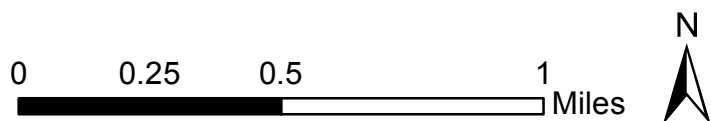
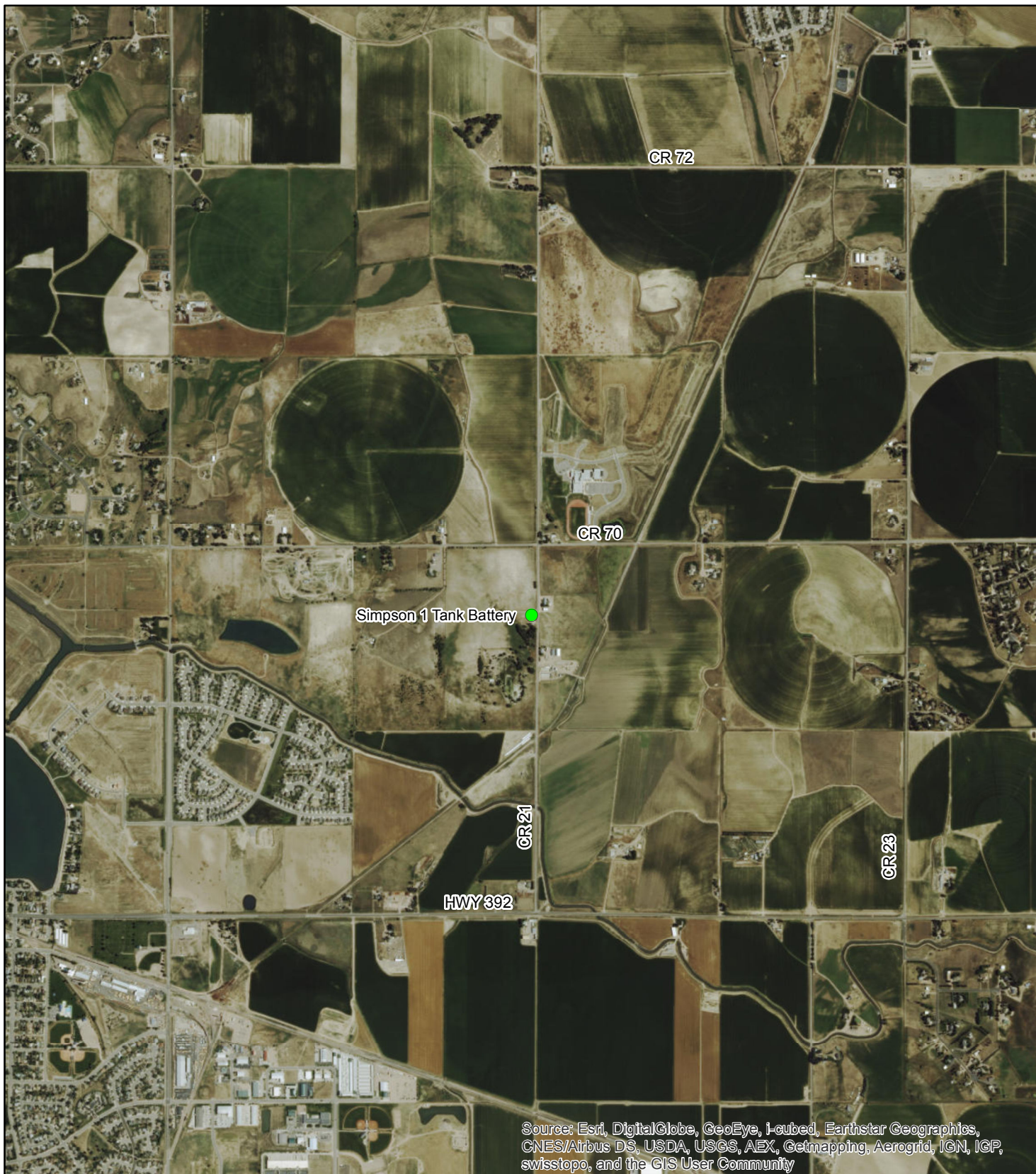


James W. Hix, PG  
Senior Geologist

---

## FIGURES





PROJECT: 015-3445  
 DRAWN BY: BPC  
 DATE: February 24, 2016

Simpson 1 Tank Battery  
 NENE 15 T6N R67W  
 Weld County, Colorado

**OLSSON**  
 ASSOCIATES

FIGURE  
 1





PROJECT NO: 015-3445

DRAWN BY: JED

DATE: 11/09/2016

Simpson #1 Tank Battery, Weld County, Colorado  
Monitoring Well Location and Groundwater Analytical Results  
October 26, 2016  
NENE S15 T6N R67W

**OLSSON**  
ASSOCIATES

4690 Table Mountain Drive  
Suite 200  
Golden, CO 80403  
TEL 303-237-2072  
FAX 303-237-2659

FIGURE

2

---

# **APPENDIX A**

## **LABORATORY ANALYTICAL REPORT**

November 03, 2016

**Olsson Associates****Jason Davidson****4690 Table Mountain Drive****Golden****CO 80403****Project Name - Miller/Simpson Quarterlies****Project Number - [none]**

Attached are your analytical results for Miller/Simpson Quarterlies received by Origins Laboratory, Inc. October 27, 2016. This project is associated with Origins project number X610316-01.

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





Olsson Associates

4690 Table Mountain Drive

Golden CO 80403

Jason Davidson

Project Number: [none]

Project: Miller/Simpson Quarterlies

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Simpson 1	X610316-01	Water	October 26, 2016 8:50	10/27/2016 10:20
Miller 1	X610316-02	Water	October 26, 2016 9:42	10/27/2016 10:20
Miller 2	X610316-03	Water	October 26, 2016 9:24	10/27/2016 10:20
Miller 3	X610316-04	Water	October 26, 2016 10:00	10/27/2016 10:20

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.*

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

www.originslaboratory.com

page | of |

**ORIGINS**  
LABORATORY, INC

1010316

Client: Olsson Associates  
Address: 4240 Table Mountain Drive  
Golden, CO  
Telephone Number:  
Email Address: j.davidson@olssonassociates.com

Project Manager: Jason Davidson  
Project Name: Miller/Simpson Quarterlies  
Project Number:  
Samples Collected By: Paige Koutelos

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	Other			
Simpson 1	10/20/14	0950	3	X				X						1
Miller 1	10/20/14	0942	3	X				X						2
Miller 2	10/20/14	0924	3	X				X						3
Miller 3	10/20/14	1000	3	X				X						4
														5
														6
														7
														8
														9
														10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
<i>[Signature]</i>	10/20/14	7:52	<i>[Signature]</i>	10/20/14	7:52	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/>
<i>[Signature]</i>	10/27/16	10:20	<i>[Signature]</i>	10/27/16	10:20	48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Date Results Needed

Temp Received-41

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.

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X16103116

Client: Olsson Assoc

Client Project ID: Miller/Simpson

Checklist Completed by: Jeff Smith

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

Date/time completed: 10/28/16

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.1 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: TOC2

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> ?	<u>1</u>			
Is there ice present (document if blue ice is used)	<u>1</u>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<u>1</u>		
Were all samples received intact <sup>(1)</sup> ?	<u>1</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>1</u>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<u>1</u>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<u>1</u>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>1</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>1</u>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<u>1</u>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<u>1</u>		
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)	<u>1</u>			
Additional Comments (if any): <u>HCC</u>				

<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) Jeff Smith

Date/Time Reviewed 10/28/16

Origins Laboratory, Inc.

*Jeff 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.

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

**Simpson 1**  
**10/26/2016 8:50:00AM**

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

**Origins Laboratory, Inc.**  
**X610316-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B6K0111	11/01/2016	11/02/2016	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.0 %	84-114			"	"	"	

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.*

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

Miller 1

10/26/2016 9:42:00AM

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

Origins Laboratory, Inc.  
X610316-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B6K0111	11/01/2016	11/02/2016	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4  
Surrogate: Toluene-d8  
Surrogate: 4-Bromofluorobenzene

103 % 84-121  
99.7 % 85-115  
103 % 84-114

" " "  
" " "  
" " "

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.



Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

## Miller 2

10/26/2016 9:24:00AM

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

## Origins Laboratory, Inc. X610316-03 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B6K0111	11/01/2016	11/02/2016	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

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.

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

Miller 3  
10/26/2016 10:00:00AM

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

Origins Laboratory, Inc.  
X610316-04 (Water)

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B6K0111	11/01/2016	11/02/2016	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.7 %	84-114			"	"	"	

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.

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

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

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

**Batch B6K0111 - EPA 5030B (Water)**

**Blank (B6K0111-BLK1)**

Prepared: 11/01/2016 Analyzed: 11/01/2016

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	63		"	62.5	101		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.9		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	100		84-114			

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.*

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B6K0111 - EPA 5030B (Water)</b>										
<b>LCS (B6K0111-BS1)</b>					Prepared: 11/01/2016 Analyzed: 11/01/2016					
Benzene	44.7	1.00	ug/L	50.0		89.4	73.3-129			
Toluene	47.9	1.00	"	50.0		95.9	76.2-123			
Ethylbenzene	46.4	1.00	"	50.0		92.9	73.6-130			
m,p-Xylene	94.6	2.00	"	100		94.6	76.1-126			
o-Xylene	49.3	1.00	"	50.0		98.5	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.7	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.2	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.1	84-114			

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.*

Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

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

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

**Batch B6K0111 - EPA 5030B (Water)**

Matrix Spike (B6K0111-MS1)		Source: X610304-01			Prepared: 11/01/2016 Analyzed: 11/01/2016					
Benzene	48.5	1.00	ug/L	50.0	ND	96.9	74-130			
Toluene	53.2	1.00	"	50.0	ND	106	73-131			
Ethylbenzene	53.1	1.00	"	50.0	ND	106	76-132			
m,p-Xylene	105	2.00	"	100	ND	105	69-139			
o-Xylene	52.2	1.00	"	50.0	ND	104	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.0	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.5	84-114			

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.*



Olsson Associates  
4690 Table Mountain Drive  
Golden CO 80403

Jason Davidson  
Project Number: [none]  
Project: Miller/Simpson Quarterlies

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

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

**Batch B6K0111 - EPA 5030B (Water)**

Matrix Spike Dup (B6K0111-MSD1)		Source: X610304-01			Prepared: 11/01/2016 Analyzed: 11/01/2016					
Benzene	52.1	1.00	ug/L	50.0	ND	104	74-130	7.16	20	
Toluene	56.5	1.00	"	50.0	ND	113	73-131	6.00	20	
Ethylbenzene	56.4	1.00	"	50.0	ND	113	76-132	6.05	20	
m,p-Xylene	112	2.00	"	100	ND	112	69-139	5.61	20	
o-Xylene	55.2	1.00	"	50.0	ND	110	74-131	5.65	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.0	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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.*

Olsson Associates

4690 Table Mountain Drive

Golden CO 80403

Jason Davidson

Project Number: [none]

Project: Miller/Simpson Quarterlies

### 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