



October 26, 2018

Mr. Tim Hager  
Blue Chip Oil, Inc.  
155 E. Boardwalk Drive, Suite 400  
Fort Collins, CO 80525

Via E-Mail: [bluechipoil@msn.com](mailto:bluechipoil@msn.com)

Re: Quarterly Groundwater Monitoring Report  
Blue Chip Oil, Inc. (COGCC Operator #8840)  
Sloan 1 Facility (COGCC Facility ID #326709)  
COGCC Remediation Project #10571

Mr. Hager:

This report documents monitoring activities performed by CGRS, Inc. (CGRS), at the Blue Chip Oil Sloan 1 facility located near Windsor, Colorado, as shown in the Site Location Map. Quarterly groundwater monitoring was performed on September 18, 2018, and consisted of obtaining groundwater levels from all accessible monitoring points and collecting groundwater quality samples for laboratory analyses from all accessible monitoring point locations.

Water quality samples were obtained from six groundwater monitoring points (MP-01, MP-02, MP-03, MP-04, MP-05, MP-06, and MP-07) and submitted to Origins Laboratory in Denver, Colorado for analysis to determine concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX). Water quality analytical results and Chain of Custody documentation are included in Attachment A, summarized with historical data in Table 1, and depicted in the Groundwater Sample Location Map.

A review of groundwater analytical data indicates that BTEX analytes from the groundwater quality samples submitted for analyses were below laboratory method detection limits (MDLs) with the exception of the groundwater sample collected from MP-01. The analytical report indicated a presence of benzene and xylenes in the sample taken from MP-01, with concentrations of 0.00161 mg/L, and 0.116 mg/L, respectively. Although concentrations of benzene and xylenes were above the MDL, they are below the Colorado Oil and Gas Conservation Commission (COGCC) maximum allowable concentrations (MACs)

To calculate groundwater elevation, depth to groundwater was measured in monitoring points MP-01, MP-02, MP-03, MP-05, MP-06, MP-07, and MW-A and subtracted from surveyed reference elevations, as shown in Table 1. Review of the most recent quarterly data shows depth to groundwater varied between 8.05 feet below top of well casing (TOC) in monitoring point MP-02 to 10.28 feet below TOC in well MP-07. The inferred groundwater flow direction is to the southeast at a calculated hydraulic gradient of 0.002 ft/ft as measured between wells MP-02 and MP-07. Inferred water table elevation contours are illustrated in the Groundwater Elevation Map.

CGRS will continue with the quarterly monitoring program, which will consist of obtaining water level measurements and collecting water quality samples from project monitoring points. The next quarterly monitoring event is scheduled for December, 2018.



If you have any questions regarding this report or the project itself, please contact me at [dkinnaid@cgrs.com](mailto:dkinnaid@cgrs.com).

Sincerely,

**Drezden Kinnaid**  
CGRS, Inc.  
Staff Environmental Scientist III

Enclosures:

- Site Location Map
- Groundwater Sample Location Map
- Groundwater Elevation Map
- Table 1 – Groundwater Elevation and Analytical Data
- Attachment A – Laboratory Reports and Chain of Custody Documentation

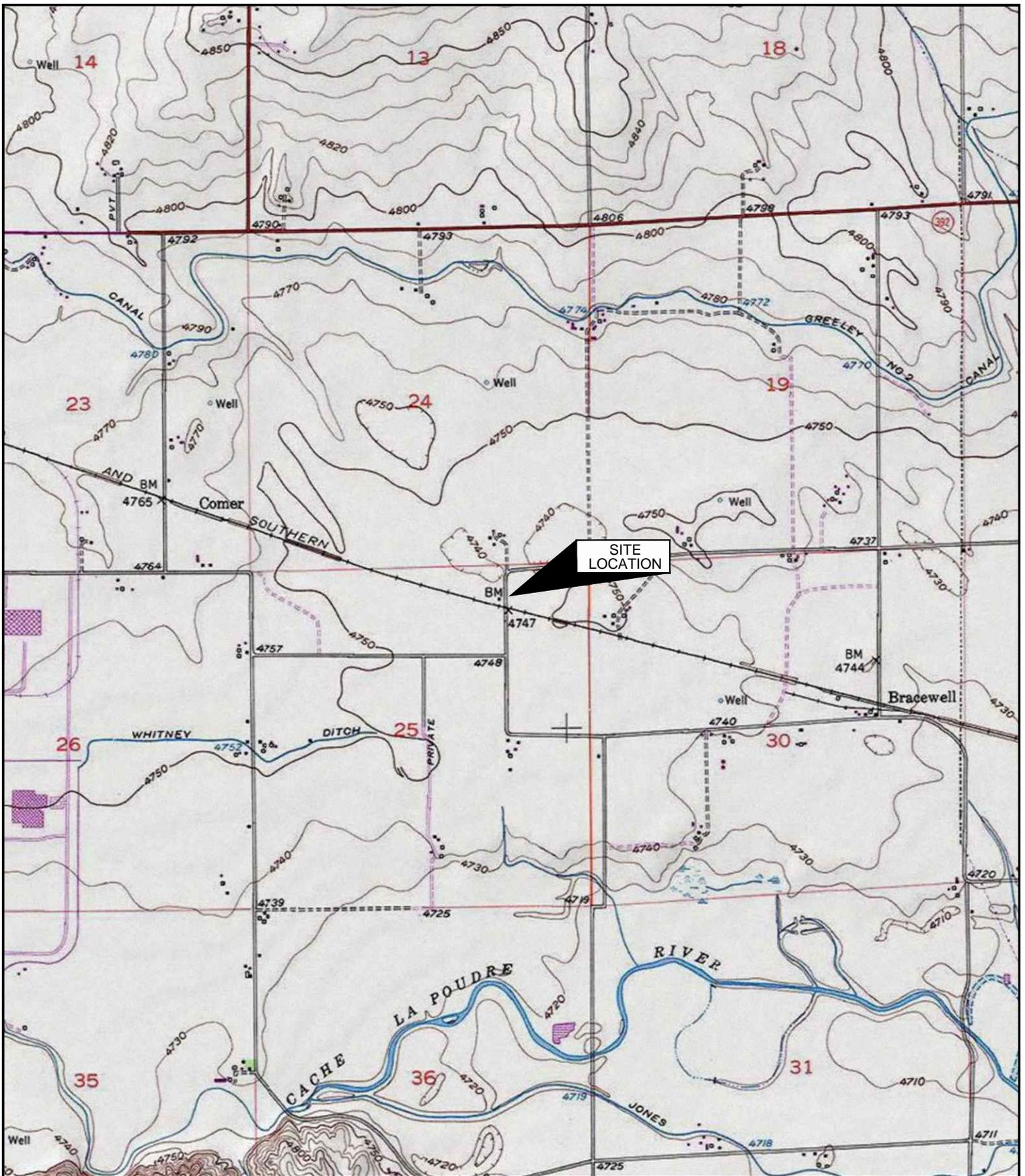
cc: Rick Allison – Colorado Oil & Gas Conservation Commission – [rick.allison@state.com.us](mailto:rick.allison@state.com.us)



## Maps

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Site Location Map  
Groundwater Sample Location Map  
Groundwater Elevation Map



COLORADO

■ QUADRANGLE LOCATION



NORTH



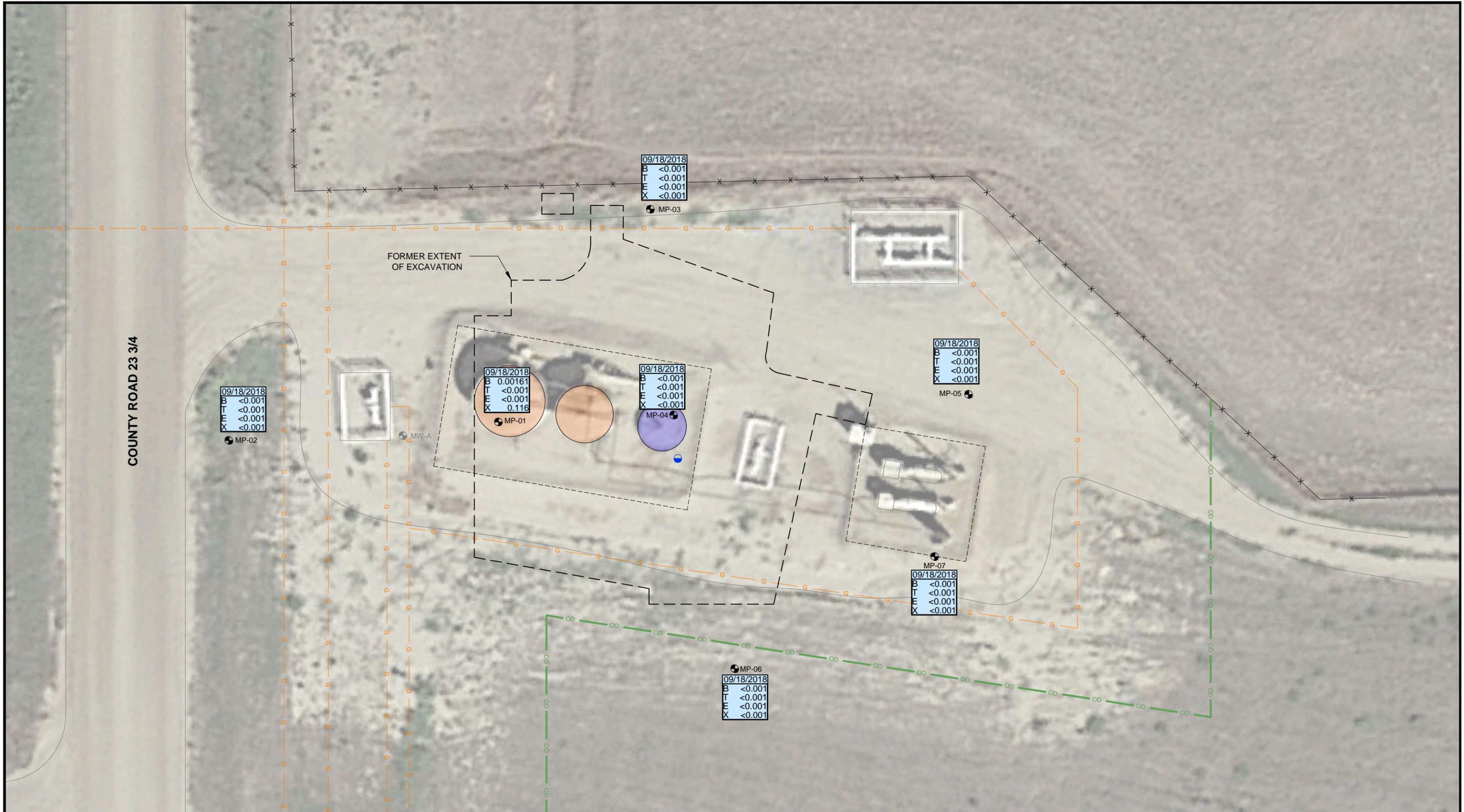
SITE LOCATION MAP

BLUE CHIP OIL  
SLOAN 1  
NENE, SEC. 25, T6N, R67W  
GREELEY, COLORADO 80631

PROJECT:  
1-12696-16926aa  
DATE:  
7/20/2018

DRAFT:  
TJQ  
REVIEW:





**LEGEND**

	MP-01 MONITORING POINT		FORMER SEPARATOR
	12" OIL LINE		REMOVED OIL TANK
	NATURAL GAS LINE		REMOVED PRODUCED WATER TANK
	FORMER SOIL SECONDARY CONTAINMENT BERM		
	FENCE LINE		

<b>SAMPLE DATE</b>
B BENZENE (mg/L)
T TOLUENE (mg/L)
E ETHYLBENZENE (mg/L)
X TOTAL XYLENES (mg/L)

09/18/2018	B	<0.001
	T	<0.001
	E	<0.001
	X	<0.001

09/18/2018	B	0.00161
	T	<0.001
	E	<0.001
	X	0.116

09/18/2018	B	<0.001
	T	<0.001
	E	<0.001
	X	<0.001

**NORTH**  
  
 SCALE IN FEET

<b>GROUNDWATER SAMPLE MAP</b> September 18, 2018 BLUE CHIP OIL SLOAN 1 NENE, SEC. 25, T6N, R67W GREELEY, COLORADO 80631		 <b>CGRS</b> SOLUTIONS DELIVERED
PROJECT: 1-12696-16926aa	DRAFT: CLB	
DATE: 10/2/2018	REVIEW:	



**LEGEND**

MP-01 MONITORING POINT	FORMER SEPARATOR
INFERRED GROUNDWATER CONTOUR	REMOVED OIL TANK
(90.93) GROUNDWATER ELEVATION (FEET)	REMOVED PRODUCED WATER TANK
INFERRED FLOW DIRECTION	
FORMER SOIL SECONDARY CONTAINMENT BERM	
FENCE LINE	

**NORTH**  
  
 SCALE IN FEET

**GROUNDWATER ELEVATION MAP**  
 September 18, 2018  
 BLUE CHIP OIL  
 SLOAN 1  
 NENE, SEC. 25, T6N, R67W  
 GREELEY, COLORADO 80631

<b>PROJECT:</b> 1-12696-16926aa	<b>DRAFT:</b> CLB
<b>DATE:</b> 10/2/2018	<b>REVIEW:</b> 

**CGRS**  
 SOLUTIONS DELIVERED



**Table 1**

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Groundwater Elevation and Analytical Data

**Table 1**  
**Groundwater Elevation and Analytical Data**  
 Groundwater Monitoring Report  
 Blue Chip Oil, Inc - Sloan 1  
 NESE, Sec. 25, T6N, R67W  
 Greeley, Colorado

Sample ID	Sample Date	Reference Elevation (ft)	Depth To Water ** (ft)	Groundwater Elevation (ft)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)
MAC		-	-	-	0.005	1	0.7	10	500	500	1.25 x BG	1.25 x BG	1.25 x BG
MDL		-	-	-	<0.001	<0.001	<0.001	<0.001	10.0	50.0	2	20	14.3
SLOAN 1*	10/18/17		~ 8		2.320	0.181	1.790	10.200	152	600			
MP-01	12/19/17	100.00	9.02	90.98	< 0.001	< 0.001	0.0162	0.168			71.4	679	1410
MP-01	01/17/18	100.00	9.20	90.80									
MP-01	03/12/18	100.00	10.47	89.53	< 0.001	< 0.001	< 0.001	< 0.001					1260
MP-01	06/29/18	100.00	9.26	90.74	< 0.001	< 0.001	< 0.001	< 0.001					
MP-01	09/18/18	100.00	9.07	90.93	0.00161	< 0.001	< 0.001	0.116					
MP-02	12/19/17	99.08	8.00	91.08	< 0.001	< 0.001	< 0.001	< 0.001			58.3	670	1360
MP-02	01/17/18	99.08	8.20	90.88									
MP-02	03/12/18	99.08	8.46	90.62	< 0.001	< 0.001	< 0.001	< 0.001					1220
MP-02	06/29/18	99.08	8.22	90.86	< 0.001	< 0.001	< 0.001	< 0.001					
MP-02	09/18/18	99.08	8.05	91.03	< 0.001	< 0.001	< 0.001	< 0.001					
MP-03	12/19/17	100.57	9.59	90.98	< 0.001	< 0.001	< 0.001	0.00228			108	726	1480
MP-03	01/17/18	100.57	9.73	90.84									
MP-03	03/12/18	100.57	10.01	90.56	< 0.001	< 0.001	< 0.001	< 0.001					1440
MP-03	06/29/18	100.57	9.78	90.79	< 0.001	< 0.001	< 0.001	< 0.001					
MP-03	09/18/18	100.57	9.60	90.97	< 0.001	< 0.001	< 0.001	< 0.001					
MP-04	12/19/17	100.47	9.55	90.92	0.00149	< 0.001	0.0182	0.115			93.4	613	1440
MP-04	01/17/18	100.47	9.75	90.72									
MP-04 <sub>-1</sub>	03/12/18	100.47	8.96	91.51	< 0.001	< 0.001	< 0.001	< 0.001					1240
MP-04 <sub>-2</sub>	06/29/18	100.47	-										
MP-04 <sub>-3</sub>	09/18/18	99.22	8.3	90.92	< 0.001	< 0.001	< 0.001	< 0.001					
MP-05	12/19/17	100.91	10.12	90.79	< 0.001	< 0.001	< 0.001	< 0.001			53.0	650	1360
MP-05	01/17/18	100.91	10.30	90.61									
MP-05	03/12/18	100.91	10.59	90.32	< 0.001	< 0.001	< 0.001	< 0.001					1360
MP-05	06/29/18	100.91	10.35	90.56	< 0.001	< 0.001	< 0.001	< 0.001					
MP-05	09/18/18	100.91	10.14	90.77	< 0.001	< 0.001	< 0.001	< 0.001					
MP-06	12/19/17	101.06	10.21	90.85	< 0.001	< 0.001	< 0.001	< 0.001			122	649	1440
MP-06	01/17/18	101.06	10.39	90.67									
MP-06	03/12/18	101.06	10.68	90.38	< 0.001	< 0.001	< 0.001	< 0.001					1370
MP-06	06/29/18	101.06	10.43	90.63	< 0.001	< 0.001	< 0.001	< 0.001					
MP-06	09/18/18	101.06	10.22	90.84	< 0.001	< 0.001	< 0.001	< 0.001					

**Table 1**  
**Groundwater Elevation and Analytical Data**

Groundwater Monitoring Report  
 Blue Chip Oil, Inc - Sloan 1  
 NESE, Sec. 25, T6N, R67W  
 Greeley, Colorado

Sample ID	Sample Date	Reference Elevation (ft)	Depth To Water ** (ft)	Groundwater Elevation (ft)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-Benzene (mg/L)	Xylenes (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)
<b>MAC</b>		-	-	-	<b>0.005</b>	<b>1</b>	<b>0.7</b>	<b>10</b>	<b>500</b>	<b>500</b>	<b>1.25 x BG</b>	<b>1.25 x BG</b>	<b>1.25 x BG</b>
<b>MDL</b>		-	-	-	<0.001	<0.001	<0.001	<0.001	<b>10.0</b>	<b>50.0</b>	<b>2</b>	<b>20</b>	<b>14.3</b>
MP-07	01/17/18	100.99	10.46	90.53	< 0.001	< 0.001	< 0.001	< 0.001			77.8	559	1370
MP-07	03/12/18	100.99	10.73	90.26	< 0.001	< 0.001	< 0.001	< 0.001					1220
MP-07	06/29/18	100.99	10.50	90.49	< 0.001	< 0.001	< 0.001	< 0.001					
MP-07	09/18/18	100.99	10.28	90.71	< 0.001	< 0.001	< 0.001	< 0.001					
MW-A	12/19/17	99.33	8.30	91.03									
MW-A	01/17/18	99.33	8.51	90.82									
MW-A	03/12/18	99.33	8.79	90.54									
MW-A	06/29/18	99.33	8.52	90.81									
MW-A	09/18/18	99.33	8.34	90.99									

**Notes:**

A blank data box indicates that the analysis or measurement was not completed during the specified monitoring event

Organic data in bold text indicate concentrations at or in excess of COGCC MACs

Monitoring points MP-01 through MP-07 include an estimated two-foot PVC stick-up above the ground surface. Depth to water includes the measured depth below the top of well casing.

\*Grab water sample collected from the bottom of the excavation area; not sampled from an established monitoring point

\*1 MP-4 damaged 1st Quarter 2018 and needs to be resurveyed.

\*2 Not sampled due to wasp nest on MP casing

\*3 Well resurveyed during Q3 monitoring

MP = Monitoring Point

TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

MAC = COGCC Maximum Allowable Concentration; as indicated, or 1.25 times background concentration levels

MDL = Laboratory Method Detection Limit

TDS = Total Dissolved Solids



## Attachment A

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### Laboratory Reports and Chain of Custody Documentation



September 21, 2018

**CGRS, Inc**

**Drezden Kinnaird**

**1301 Academy Court**

**Fort Collins CO 80524**

**Project Name - Sloan 1**

**Project Number - 16926aa**

Attached are your analytical results for Sloan 1 received by Origins Laboratory, Inc. September 19, 2018. This project is associated with Origins project number Y809240-01.

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



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

CGRS, Inc  
1301 Academy Court  
Fort Collins CO 80524

Drezden Kinnaird  
Project Number: 16926aa  
Project: Sloan 1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MP-1	Y809240-01	Water	September 18, 2018 15:50	09/19/2018 09:00
MP-2	Y809240-02	Water	September 18, 2018 15:40	09/19/2018 09:00
MP-3	Y809240-03	Water	September 18, 2018 15:00	09/19/2018 09:00
MP-4	Y809240-04	Water	September 18, 2018 16:00	09/19/2018 09:00
MP-5	Y809240-05	Water	September 18, 2018 15:10	09/19/2018 09:00
MP-6	Y809240-06	Water	September 18, 2018 15:30	09/19/2018 09:00
MP-7	Y809240-07	Water	September 18, 2018 15:20	09/19/2018 09:00

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.*

CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

7809240

page 1 of 1

Client: CGRS  
 Address: 1301 Academy Ct, Fort Collins  
 Telephone Number: 970-631-1876  
 Email Address: dkinnaird@cgrs.com, ewilson@cgrs.com

Project Manager: Drezden Kinnaird  
 Project Name: Sloan 1  
 Project Number: 16926aa  
 Samples Collected By: dkinnaird@cgrs.com, ewilson@cgrs.com

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

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 #		
MP-1	9/18/10	15:50	3	X				X			BTEX	1
MP-2		15:46	3	X				X			BTEX	2
MP-3		15:45	3	X				X			BTEX	3
MP-4		16:00	3	X				X			BTEX	4
MP-5		16:10	3	X				X			BTEX	5
MP-6		16:30	3	X				X			BTEX	6
MP-7		16:20	3	X				X			BTEX	7
DATA NOT SAMPLED												8
												9
												10
Relinquished by: <i>Stephane Wilson</i>	Date: 9/19/10	Time: 9:00	Received by: <i>[Signature]</i>	Date: 9-19-10	Time: 9:00	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>						
Relinquished by:	Date:	Time:	Received by:	Date:	Time:							

Drezden Kinnaird

Origins Laboratory, Inc.

*Jefe Pellegrini*

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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 1609240

Client: CGRS Inc.

Client Project ID: Sloan 1

Checklist Completed by: JG

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

Date/time completed: 9/19/2018

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.4 °C 1 / 1 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: T003

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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 9/20/18

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.

CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

**MP-1**

**9/18/2018 3:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-01 (Water)**

**BTEX by EPA 8260C**

Benzene	0.00161	0.00100	mg/L	1	B81906	JTD	09/19/2018	09/20/2018	
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	0.116	0.00100	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	94.8 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	105 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.5 %	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.*

CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

**MP-2**

**9/18/2018 3:40:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B811906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	96.6 %	84-121			"	"	"		
Surrogate: Toluene-d8	105 %	85-115			"	"	"		
Surrogate: 4-Bromofluorobenzene	94.4 %	84-114			"	"	"		

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

**MP-3**

**9/18/2018 3:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B811906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.7 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	96.8 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	84-114			"	"	"	"	

Origins Laboratory, Inc.



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CGRS, Inc  
 1301 Academy Court  
 Fort Collins CO 80524

Drezden Kinnaird  
 Project Number: 16926aa  
 Project: Sloan 1

**MP-4**

**9/18/2018 4:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B811906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	95.9 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	96.7 %	84-114			"	"	"	"	

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 Project: Sloan 1

**MP-5**

**9/18/2018 3:10:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B811906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.8 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.9 %	84-114			"	"	"	"	

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**MP-6**

**9/18/2018 3:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B811906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	96.4 %	84-121			"	"	"	"	
Surrogate: Toluene-d8	108 %	85-115			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.2 %	84-114			"	"	"	"	

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**MP-7**

**9/18/2018 3:20:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y809240-07 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	0.00100	mg/L	1	B81906	JTD	09/19/2018	09/20/2018	U
Toluene	ND	0.00100	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00100	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00100	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.6 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.5 %	84-114			"	"	"	

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**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
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**Batch B811906 - EPA 5030B (Water)**

**Blank (B811906-BLK1)**

Prepared: 09/19/2018 Analyzed: 09/19/2018

Benzene	ND	0.00100	mg/L							U
Toluene	ND	0.00100	"							U
Ethylbenzene	ND	0.00100	"							U
Xylenes, total	ND	0.00100	"							U
Surrogate: 1,2-Dichloroethane-d4	60		ug/L	62.5		96.2	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.9	84-114			

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**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
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**Batch B811906 - EPA 5030B (Water)**

**Blank (B811906-BLK2)**

Prepared: 09/19/2018 Analyzed: 09/19/2018

Benzene	ND	0.00100	mg/L							U
Toluene	ND	0.00100	"							U
Ethylbenzene	ND	0.00100	"							U
Xylenes, total	ND	0.00100	"							U
Surrogate: 1,2-Dichloroethane-d4	59		ug/L	62.5	95.2		84-121			
Surrogate: Toluene-d8	66		"	62.5	106		85-115			
Surrogate: 4-Bromofluorobenzene	58		"	62.5	93.1		84-114			

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**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B811906 - EPA 5030B (Water)**

**LCS (B811906-BS1)**

Prepared: 09/19/2018 Analyzed: 09/19/2018

Benzene	0.0473	0.00100	mg/L	0.0500		94.7	73.3-129			
Toluene	0.0487	0.00100	"	0.0500		97.4	76.2-123			
Ethylbenzene	0.0504	0.00100	"	0.0500		101	73.6-130			
m,p-Xylene	0.100	0.00200	"	0.100		100	76.1-126			
o-Xylene	0.0486	0.00100	"	0.0500		97.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63		ug/L	62.5		100	84-121			
Surrogate: Toluene-d8	66		"	62.5		105	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.5	84-114			

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 Project: Sloan 1

**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
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**Batch B811906 - EPA 5030B (Water)**

**LCS (B811906-BS2)**

Prepared: 09/19/2018 Analyzed: 09/19/2018

Benzene	0.0477	0.00100	mg/L	0.0500		95.4	73.3-129			
Toluene	0.0461	0.00100	"	0.0500		92.1	76.2-123			
Ethylbenzene	0.0497	0.00100	"	0.0500		99.3	73.6-130			
m,p-Xylene	0.0994	0.00200	"	0.100		99.4	76.1-126			
o-Xylene	0.0486	0.00100	"	0.0500		97.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	62		ug/L	62.5		99.5	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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**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
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**Batch B811906 - EPA 5030B (Water)**

Matrix Spike (B811906-MS1)	Source: Y809233-01			Prepared: 09/19/2018 Analyzed: 09/19/2018						
Benzene	0.0523	0.00100	mg/L	0.0500	ND	105	74-130			
Toluene	0.0499	0.00100	"	0.0500	ND	99.9	73-131			
Ethylbenzene	0.0561	0.00100	"	0.0500	0.000100	112	76-132			
m,p-Xylene	0.112	0.00200	"	0.100	ND	112	69-139			
o-Xylene	0.0537	0.00100	"	0.0500	ND	107	74-131			
Surrogate: 1,2-Dichloroethane-d4	63		ug/L	62.5		101	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.0	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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**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
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**Batch B811906 - EPA 5030B (Water)**

Matrix Spike (B811906-MS2)	Source: Y809233-02			Prepared: 09/19/2018 Analyzed: 09/19/2018						
Benzene	0.0442	0.00100	mg/L	0.0500	ND	88.4	74-130			
Toluene	0.0389	0.00100	"	0.0500	ND	77.9	73-131			
Ethylbenzene	0.0471	0.00100	"	0.0500	0.000100	94.0	76-132			
m,p-Xylene	0.0935	0.00200	"	0.100	ND	93.5	69-139			
o-Xylene	0.0476	0.00100	"	0.0500	ND	95.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		ug/L	62.5		99.8	84-121			
Surrogate: Toluene-d8	56		"	62.5		90.4	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

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**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
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**Batch B811906 - EPA 5030B (Water)**

Matrix Spike Dup (B811906-MSD1)	Source: Y809233-01			Prepared: 09/19/2018 Analyzed: 09/19/2018						
Benzene	0.0480	0.00100	mg/L	0.0500	ND	96.0	74-130	8.56	20	
Toluene	0.0504	0.00100	"	0.0500	ND	101	73-131	1.04	20	
Ethylbenzene	0.0486	0.00100	"	0.0500	0.000100	97.0	76-132	14.2	20	
m,p-Xylene	0.0976	0.00200	"	0.100	ND	97.6	69-139	13.6	20	
o-Xylene	0.0480	0.00100	"	0.0500	ND	95.9	74-131	11.3	20	
Surrogate: 1,2-Dichloroethane-d4	62		ug/L	62.5		98.4	84-121			
Surrogate: Toluene-d8	66		"	62.5		106	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.9	84-114			

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**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
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**Batch B811906 - EPA 5030B (Water)**

Matrix Spike Dup (B811906-MSD2)	Source: Y809233-02			Prepared: 09/19/2018 Analyzed: 09/19/2018						
Benzene	0.0506	0.00100	mg/L	0.0500	ND	101	74-130	13.6	20	
Toluene	0.0477	0.00100	"	0.0500	ND	95.5	73-131	20.3	20	QR-02
Ethylbenzene	0.0548	0.00100	"	0.0500	0.000100	109	76-132	15.2	20	
m,p-Xylene	0.110	0.00200	"	0.100	ND	110	69-139	15.9	20	
o-Xylene	0.0522	0.00100	"	0.0500	ND	104	74-131	9.10	20	
Surrogate: 1,2-Dichloroethane-d4	63		ug/L	62.5		101	84-121			
Surrogate: Toluene-d8	60		"	62.5		95.9	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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### Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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Jen Pellegrini For Noelle Doyle Mathis, President