



August 12, 2019

**SRC Energy**

**Dave Castro**

**5400 W 11th Street**

**Greely**

**CO 80634**

**Project Name - Warren McMillen 2 Investigation**

**Project Number - [none]**

Attached are your analytical results for Warren McMillen 2 Investigation received by Origins Laboratory, Inc. August 08, 2019. This project is associated with Origins project number Y908131-01.

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

SRC Energy

5400 W 11th Street

Greely CO 80634

Dave Castro

Project Number: [none]

Project: Warren McMillen 2 Investigation

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ESS1@8'	Y908131-01	Soil	August 8, 2019 10:30	08/08/2019 16:40

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

SRC Energy  
5400 W 11th Street  
Greely CO 80634

Dave Castro  
Project Number: [none]  
Project: Warren McMillan 2 Investigation

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1908131

# ORIGINS

LABORATORY, INC

Client: SRC Energy, Inc.  
Address: 5400 W. 11th St., Ste. C, Greeley, CO 80634  
Telephone Number: 970-475-5245  
Email Address: dcastro@srcenergy.com

Project Manager: Dave Castro  
Project Name: Warren McMillan 2 Investigation  
Project Number:  
Samples Collected By: dcastro@srcenergy.com

1725 Elk 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 Canister #		
ESS1 @ 8'	8/8/19	10:30	2	X				X			SRD VRO GTX Other	1
												2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By:	Date: 8/8/19	Time: 16:40		Received By:	Date: 8/8/19	Time: 16:40		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>				
Relinquished By:	Date:	Time:		Received By:	Date:	Time:						

Date Results Needed

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SRC Energy  
5400 W 11th Street  
Greely CO 80634

Dave Castro  
Project Number: [none]  
Project: Warren McMillan 2 Investigation

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: Y908131 Client: SRC  
Client Project ID: McMillan 2 Investigation  
Checklist Completed by: JG Shipped Via: HS  
Date/time completed: 8/19/19 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Airbill #: N/A  
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)  
Cooler Number/Temperature: 1 / 34 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C  
Thermometer ID: 7007

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? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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, 2NaAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 8/12/19

Origins Laboratory, Inc.

*Jen Pellegrini*

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SRC Energy  
5400 W 11th Street  
Greely CO 80634

Dave Castro  
Project Number: [none]  
Project: Warren McMillen 2 Investigation

ESS1@8'

8/8/2019 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y908131-01 (Soil)**

**BTEX/TVPH by EPA 8260D**

Benzene	ND	0.0500	mg/kg	25	B9H0902	KDK	08/09/2019	08/09/2019	U
Toluene	ND	0.0500	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.0500	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"
Surrogate: Toluene-d8	99.0 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130			"	"	"

**Diesel Range Organics (DRO/TEPH) by EPA 8015D**

Diesel (C10-C28)	ND	50.0	mg/kg	1	B9H0903	KDK	08/09/2019	08/09/2019	U
Surrogate: o-Terphenyl	68.2 %	50-150			"	"	"		

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SRC Energy  
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Greely CO 80634

Dave Castro  
Project Number: [none]  
Project: Warren McMillen 2 Investigation

**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
<b>Batch B9H0902 - EPA 5030 (soil)</b>										
<b>Blank (B9H0902-BLK1)</b>					Prepared: 08/09/2019 Analyzed: 08/09/2019					
Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.5	70-130			

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Dave Castro  
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Project: Warren McMillen 2 Investigation

**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
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Batch B9H0902 - EPA 5030 (soil)

**LCS (B9H0902-BS1)**

Prepared: 08/09/2019 Analyzed: 08/09/2019

Benzene	0.0926	0.00200	mg/kg	0.100		92.6	70-130			
Toluene	0.0980	0.00200	"	0.100		98.0	70-130			
Ethylbenzene	0.105	0.00200	"	0.100		105	70-130			
m,p-Xylene	0.207	0.00400	"	0.200		103	70-130			
o-Xylene	0.100	0.00200	"	0.100		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.9	70-130			

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**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
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**Batch B9H0902 - EPA 5030 (soil)**

Matrix Spike (B9H0902-MS1)		Source: Y908131-01			Prepared: 08/09/2019 Analyzed: 08/09/2019					
Benzene	0.0831	0.00200	mg/kg	0.100	ND	83.1	70-130			
Toluene	0.0829	0.00200	"	0.100	ND	82.9	70-130			
Ethylbenzene	0.0843	0.00200	"	0.100	ND	84.3	70-130			
m,p-Xylene	0.171	0.00400	"	0.200	ND	85.5	70-130			
o-Xylene	0.0914	0.00200	"	0.100	ND	91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	70-130			

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**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
<b>Batch B9H0902 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B9H0902-MSD1)</b>					<b>Source: Y908131-01</b>					Prepared: 08/09/2019 Analyzed: 08/09/2019
Benzene	0.0958	0.00200	mg/kg	0.100	ND	95.8	70-130	14.1	20	
Toluene	0.0972	0.00200	"	0.100	ND	97.2	70-130	15.9	20	
Ethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130	17.7	20	
m,p-Xylene	0.203	0.00400	"	0.200	ND	101	70-130	17.0	20	
o-Xylene	0.109	0.00200	"	0.100	ND	109	70-130	17.5	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.1	70-130			

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**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
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Batch B9H0903 - EPA 3580

Blank (B9H0903-BLK1)

Prepared: 08/09/2019 Analyzed: 08/09/2019

Diesel (C10-C28)	ND	25.0	mg/kg							U
Surrogate: o-Terphenyl	18		"	25.0		71.7	50-150			

Origins Laboratory, Inc.



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Extractable Petroleum Hydrocarbons by 8015D - 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 B9H0903 - EPA 3580

LCS (B9H0903-BS1)

Prepared: 08/09/2019 Analyzed: 08/09/2019

Diesel (C10-C28)	928	50.0	mg/kg	1000		92.8	70-130			
Surrogate: o-Terphenyl	45		"	50.0		89.4	50-150			

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**Extractable Petroleum Hydrocarbons by 8015D - 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 B9H0903 - EPA 3580

Matrix Spike (B9H0903-MS1)		Source: Y908131-01			Prepared: 08/09/2019 Analyzed: 08/09/2019					
Diesel (C10-C28)	930	50.0	mg/kg	1000	ND	93.0	70-130			
Surrogate: o-Terphenyl	46		"	50.0		91.5	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B9H0903 - EPA 3580

Matrix Spike Dup (B9H0903-MSD1)		Source: Y908131-01			Prepared: 08/09/2019 Analyzed: 08/09/2019					
Diesel (C10-C28)	881	50.0	mg/kg	1000	ND	88.1	70-130	5.40	35	
Surrogate: o-Terphenyl	39		"	50.0		77.8	50-150			

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### 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.

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