

August 01, 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. July 30, 2019. This project is associated with Origins project number Y907462-01.

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



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
SS1@4'	Y907462-01	Soil	July 30, 2019 13:05	07/30/2019 14:23

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager



SRC Energy  
 5400 W 11th Street  
 Greeley CO 80634

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

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: Y907462 Client: SRC  
 Client Project ID: Warren McMillen 2  
 Checklist Completed by: SG Shipped Via: HA  
 Date/time completed: 7/30/19 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: N/A  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1 / 10.9 °C \_\_\_\_\_ / \_\_\_\_\_ °C \_\_\_\_\_ / \_\_\_\_\_ °C \_\_\_\_\_ / \_\_\_\_\_ °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> ?				
Is there ice present (document if blue ice is used)				
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)				
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)				
Were all samples received intact <sup>(1)</sup> ?				
Was adequate sample volume provided <sup>(1)</sup> ?				
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?				
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?				
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?				
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?				
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?				
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>				
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).				
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) SG Date/Time/Reviewed 7/31/19

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SRC Energy  
 5400 W 11th Street  
 Greely CO 80634

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

SS1@4'

7/30/2019 1:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y907462-01 (Soil)

**BTEX/TVPH by EPA 8260D**

Benzene	0.580	0.500	mg/kg	250	B9G3002	KDK	07/30/2019	07/30/2019	
Toluene	0.810	0.500	"	"	"	KDK	"	"	
Ethylbenzene	1.28	0.500	"	"	"	KDK	"	"	
Xylenes, total	19.2	0.500	"	"	"	KDK	"	"	
Gasoline Range Hydrocarbons	482	50.0	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	98.0 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	102 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	"	

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

Diesel (C10-C28)	536	50.0	mg/kg	1	B9G3021	KDK	07/30/2019	07/30/2019	
Surrogate: o-Terphenyl	79.0 %	50-150			"	"	"	"	

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SRC Energy  
 5400 W 11th Street  
 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
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**Batch B9G3002 - EPA 5030 (soil)**

**Blank (B9G3002-BLK1)**

Prepared: 07/30/2019 Analyzed: 07/30/2019

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		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.8	70-130			

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Jen Pellegrini, Project Manager

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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 B9G3002 - EPA 5030 (soil)

**LCS (B9G3002-BS1)**

Prepared: 07/30/2019 Analyzed: 07/30/2019

Benzene	0.0961	0.00200	mg/kg	0.100		96.1	70-130			
Toluene	0.0940	0.00200	"	0.100		94.0	70-130			
Ethylbenzene	0.0957	0.00200	"	0.100		95.7	70-130			
m,p-Xylene	0.196	0.00400	"	0.200		98.2	70-130			
o-Xylene	0.0975	0.00200	"	0.100		97.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.2	70-130			

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 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
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Batch B9G3002 - EPA 5030 (soil)

Matrix Spike (B9G3002-MS1)	Source: Y907362-01			Prepared: 07/30/2019 Analyzed: 07/30/2019						
Benzene	0.101	0.00200	mg/kg	0.100	ND	101	70-130			
Toluene	0.0988	0.00200	"	0.100	ND	98.8	70-130			
Ethylbenzene	0.0998	0.00200	"	0.100	ND	99.8	70-130			
m,p-Xylene	0.205	0.00400	"	0.200	ND	102	70-130			
o-Xylene	0.103	0.00200	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 B9G3002 - EPA 5030 (soil)

Matrix Spike Dup (B9G3002-MSD1)	Source: Y907362-01			Prepared: 07/30/2019 Analyzed: 07/30/2019						
Benzene	0.0979	0.00200	mg/kg	0.100	ND	97.9	70-130	2.64	20	
Toluene	0.0974	0.00200	"	0.100	ND	97.4	70-130	1.45	20	
Ethylbenzene	0.0978	0.00200	"	0.100	ND	97.8	70-130	2.02	20	
m,p-Xylene	0.201	0.00400	"	0.200	ND	100	70-130	1.88	20	
o-Xylene	0.101	0.00200	"	0.100	ND	101	70-130	2.25	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	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
<b>Batch B9G3021 - EPA 3580</b>										
<b>Blank (B9G3021-BLK1)</b>										
					Prepared: 07/30/2019 Analyzed: 07/30/2019					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Surrogate: o-Terphenyl	19		"	25.0		77.6	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 B9G3021 - EPA 3580**

**LCS (B9G3021-BS1)**

Prepared: 07/30/2019 Analyzed: 07/30/2019

Diesel (C10-C28)	1060	50.0	mg/kg	1000		106	70-130			
Surrogate: o-Terphenyl	51		"	50.0		103	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 B9G3021 - EPA 3580

Matrix Spike (B9G3021-MS1)	Source: Y907464-02			Prepared: 07/30/2019 Analyzed: 07/30/2019						
Diesel (C10-C28)	1040	50.0	mg/kg	1000	28.0	101	70-130			
Surrogate: o-Terphenyl	47		"	50.0		94.4	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 B9G3021 - EPA 3580**

<b>Matrix Spike Dup (B9G3021-MSD1)</b>	<b>Source: Y907464-02</b>			Prepared: 07/30/2019 Analyzed: 07/30/2019						
Diesel (C10-C28)	1000	50.0	mg/kg	1000	28.0	97.4	70-130	3.93	35	
Surrogate: o-Terphenyl	47		"	50.0		94.3	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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