

December 16, 2019

SRC Energy

Dave Castro

5400 W 11th Street

Greely

CO 80634

Project Name - Warren McMillan 2 Investigation Project Number - [none]

Attached are your analytical results for Warren McMillan 2 Investigation received by Origins Laboratory, Inc. December 12, 2019. This project is associated with Origins project number Y912200-01.

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 McMillan 2 Investigation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NWSS4@8'	Y912200-01	Soil	December 12, 2019 13:15	12/12/2019 16:28

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 McMillan 2 Investigation

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y912200

Client: SRC Energy
 Client Project ID: Warren McMillan 2 Investigation

Checklist Completed by: JBE

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

Date/time completed: 12-12-11 1741

Airbill #: _____

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

Cooler Number/Temperature: 1 / 1.4 °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 ^{(1)?}	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" 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"/>		
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"/>		
Were all samples received intact ^{(1)?}	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ^{(1)?}	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ^{(1)?}		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ^{(1)?}	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ^{(1)?}	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ^{(1)?}	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ^{(1)?}	<input checked="" 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"/>	Soil
Are samples preserved that require preservation and was it checked ^{(1)?} (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 ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾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) OP

Date/Time Reviewed 12/16/11

Origins Laboratory, Inc.



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SRC Energy
 5400 W 11th Street
 Greely CO 80634

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

NWSS4@8'

12/12/2019 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y912200-01 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9L1304	ZZZ	12/13/2019	12/13/2019	U
Toluene	ND	0.0500	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.0500	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	115 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	84.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	96.6 %	70-130			"	"	"	"	

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B9L1305	KDK	12/13/2019	12/13/2019	U
Surrogate: o-Terphenyl	74.6 %	50-150			"	"	"	"	

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SRC Energy
 5400 W 11th Street
 Greely CO 80634

Dave Castro
 Project Number: [none]
 Project: Warren McMillan 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 B9L1304 - EPA 5030 (soil)

Blank (B9L1304-BLK1)

Prepared: 12/13/2019 Analyzed: 12/13/2019

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	0.15		"	0.125		119	70-130			
Surrogate: Toluene-d8	0.10		"	0.125		82.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.8	70-130			

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Dave Castro
 Project Number: [none]
 Project: Warren McMillan 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 B9L1304 - EPA 5030 (soil)

LCS (B9L1304-BS1)

Prepared: 12/13/2019 Analyzed: 12/13/2019

Benzene	0.120	0.00200	mg/kg	0.100		120	70-130			
Toluene	0.0959	0.00200	"	0.100		95.9	70-130			
Ethylbenzene	0.0885	0.00200	"	0.100		88.5	70-130			
m,p-Xylene	0.177	0.00400	"	0.200		88.3	70-130			
o-Xylene	0.0854	0.00200	"	0.100		85.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		84.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		92.5	70-130			

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Dave Castro
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 Project: Warren McMillan 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 B9L1304 - EPA 5030 (soil)

Matrix Spike (B9L1304-MS1)	Source: Y912198-01			Prepared: 12/13/2019 Analyzed: 12/13/2019						
Benzene	0.141	0.00200	mg/kg	0.100	0.00284	138	70-130			QM-07
Toluene	0.0965	0.00200	"	0.100	0.00208	94.4	70-130			
Ethylbenzene	0.0835	0.00200	"	0.100	ND	83.5	70-130			
m,p-Xylene	0.173	0.00400	"	0.200	0.00326	85.0	70-130			
o-Xylene	0.0853	0.00200	"	0.100	0.00118	84.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.16		"	0.125		127	70-130			
Surrogate: Toluene-d8	0.10		"	0.125		82.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.5	70-130			

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Dave Castro
 Project Number: [none]
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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 B9L1304 - EPA 5030 (soil)

Matrix Spike Dup (B9L1304-MSD1)	Source: Y912198-01			Prepared: 12/13/2019 Analyzed: 12/13/2019						
Benzene	0.141	0.00200	mg/kg	0.100	0.00284	139	70-130	0.638	20	QM-07
Toluene	0.0990	0.00200	"	0.100	0.00208	96.9	70-130	2.54	20	
Ethylbenzene	0.0867	0.00200	"	0.100	ND	86.7	70-130	3.76	20	
m,p-Xylene	0.178	0.00400	"	0.200	0.00326	87.4	70-130	2.74	20	
o-Xylene	0.0885	0.00200	"	0.100	0.00118	87.3	70-130	3.68	20	
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		121	70-130			
Surrogate: Toluene-d8	0.10		"	0.125		83.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.5	70-130			

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Dave Castro
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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
Batch B9L1305 - EPA 3580										
Blank (B9L1305-BLK1)										
					Prepared: 12/13/2019 Analyzed: 12/13/2019					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Surrogate: o-Terphenyl	19		"	25.0		76.7	50-150			

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Jen Pellegrini, Project Manager

SRC Energy
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Dave Castro
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 Project: Warren McMillan 2 Investigation

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 B9L1305 - EPA 3580

LCS (B9L1305-BS1)

Prepared: 12/13/2019 Analyzed: 12/13/2019

Diesel (C10-C28)	1040	50.0	mg/kg	1000		104	70-130			
Surrogate: o-Terphenyl	51		"	50.0		101	50-150			

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Dave Castro
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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 B9L1305 - EPA 3580

Matrix Spike (B9L1305-MS1)	Source: Y912198-01			Prepared: 12/13/2019 Analyzed: 12/13/2019						
Diesel (C10-C28)	942	50.0	mg/kg	1000	ND	94.2	70-130			
Surrogate: o-Terphenyl	42		"	50.0		84.6	50-150			

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

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
Batch B9L1305 - EPA 3580										
Matrix Spike Dup (B9L1305-MSD1)		Source: Y912198-01			Prepared: 12/13/2019 Analyzed: 12/13/2019					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130	10.5	35	
Surrogate: o-Terphenyl	48		"	50.0		95.7	50-150			

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Notes and Definitions

U Sample is Non-Detect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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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