



October 19, 2017

Apex Companies, LLC

Chandler Cole

4150 Darley Avenue, Suite 1

Boulder CO 80305

Project Name - KMG - Troutd 44-7 FP

Project Number - 89374932

Attached are your analytical results for KMG - Troutd 44-7 FP received by Origins Laboratory, Inc. October 16, 2017. This project is associated with Origins project number Y710237-01.

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

Apex Companies, LLC

4150 Darley Avenue, Suite 1

Boulder CO 80305

Chandler Cole

Project Number: 89374932

Project: KMG - Troudt 44-7 FP

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	Y710237-01	Water	October 16, 2017 14:46	10/16/2017 17:57
WS01@7'	Y710237-02	Soil	October 16, 2017 14:50	10/16/2017 17:57
WN01@7'	Y710237-03	Soil	October 16, 2017 14:55	10/16/2017 17:57

Origins Laboratory, Inc.



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Chandler Cole  
Project Number: 89374932  
Project: KMG - Troudt 44-7 FP

# ORIGINS

LABORATORY, INC

www.originslaboratory.com

Client:

Apex Companies

Address:

1746 Cole Blvd, Lakewood, CO 80401

Telephone Number:

970-903-1260

Email Address:

Chandler.Cole@apexcos.com

Project Manager:

Chandler Cole

Project Name:

11044E 44-7FP

Project Number:

WO# 8937498 Erik Mickelson

Samples Collected By:

Kennedy Wnawen

Bill to Anadarko

page 1 of 1

1710237

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summary	Other	GRTEX	DRG/RRO	EC, pH	
QW02	10/16/17	1440	3	X				X						X	1
WS01071	10/16/17	1450	1	X					X			X	X	X	2
WN01071	10/16/17	1455	1	X					X			X	X	X	3
															4
															5
															6
															7
															8
															9
															10
Relinquished By:	Date:	Time:	Time:	Received By:	Date:	Time:	Time:	Received By:	Date:	Time:	Time:	Turnaround Time:			
<i>Anthony D.</i>	10/16/17	157	157	<i>[Signature]</i>	10-16-17	157	157	<i>[Signature]</i>	10-16-17	157	157	Same Day: <input checked="" type="checkbox"/> 24 Hr: <input type="checkbox"/> 48 Hr: <input type="checkbox"/> 72 Hr: <input type="checkbox"/>			
Relinquished By:	Date:	Time:	Time:	Received By:	Date:	Time:	Time:	Received By:	Date:	Time:	Time:	Standard: <input checked="" type="checkbox"/>			

10.7

Date Results Needed

7am, 10/17/17

Origins Laboratory, Inc.

Jeff Pellipini

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Project: KMG - Troudt 44-7 FP

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 718237 Client: Apex Co  
Client Project ID: KMG - Troudt 44-7 FP  
Checklist Completed by: HL Shipped Via: HL  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 10-16-12 1809 Airbill #: N/A  
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water ☐ Other: \_\_\_\_\_ (Describe)  
Cooler Number/Temperature: ☒ 10.7 °C ☐ °C ☐ °C ☐ °C  
Thermometer ID: 1003

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"/>		sampled same Day
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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			pH
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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"/>		
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 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) HL

10-16-12 1809  
Date/Time Reviewed

Origins Laboratory, Inc.

*Jefe Pellegrini*

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Apex Companies, LLC  
4150 Darley Avenue, Suite 1  
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Chandler Cole  
Project Number: 89374932  
Project: KMG - Troutdt 44-7 FP

## GW02

10/16/2017 2:46:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y710237-01 (Water)

### BTEX by EPA 8260C

Benzene	74.8	4.00	ug/L	4	B7J1608	10/16/2017	10/16/2017	
Toluene	ND	4.00	"	"	"	"	10/19/2017	U
Ethylbenzene	207	4.00	"	"	"	"	10/16/2017	
Xylenes, total	1770	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.4 %	84-114			"	"	"	

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WS01@7'

10/16/2017 2:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y710237-02 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7J1604	10/16/2017	10/17/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 76.1 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7J1603	10/16/2017	10/17/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	10/19/2017	U
Ethylbenzene	ND	0.002	"	"	"	"	10/17/2017	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 94.9 % 70-130 " " "  
Surrogate: Toluene-d8 101 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 98.3 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.86		pH Units	1	B7J1605	10/16/2017	10/16/2017	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.514		mmhos/cm	"	B7J1606	10/16/2017	"	
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WN01@7'

10/16/2017 2:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y710237-03 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7J1604	10/16/2017	10/17/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 81.4 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7J1603	10/16/2017	10/17/2017	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	10/19/2017	U
Ethylbenzene	ND	0.002	"	"	"	"	10/17/2017	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 94.8 % 70-130 " " "  
Surrogate: Toluene-d8 99.6 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.15		pH Units	1	B7J1605	10/16/2017	10/16/2017	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.463		mmhos/cm	"	B7J1606	10/16/2017	"	
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4150 Darley Avenue, Suite 1  
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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
<b>Batch B7J1603 - EPA 5030 (soil)</b>										
<b>Blank (B7J1603-BLK1)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		102	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1603 - EPA 5030 (soil)</b>										
<b>Blank (B7J1603-BLK2)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	0.008	0.002	"							O-01
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		89.0	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.6	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1603 - EPA 5030 (soil)</b>										
<b>LCS (B7J1603-BS1)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	0.099	0.002	mg/kg	0.100		99.4	77.1-124			
Toluene	0.096	0.002	"	0.100		96.0	74.5-128			
Ethylbenzene	0.094	0.002	"	0.100		93.9	66.4-127			
m,p-Xylene	0.191	0.004	"	0.200		95.5	76.6-124			
o-Xylene	0.095	0.002	"	0.100		95.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1603 - EPA 5030 (soil)</b>										
<b>LCS (B7J1603-BS2)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	0.091	0.002	mg/kg	0.100		91.0	77.1-124			
Toluene	0.096	0.002	"	0.100		96.2	74.5-128			
Ethylbenzene	0.096	0.002	"	0.100		95.5	66.4-127			
m,p-Xylene	0.191	0.004	"	0.200		95.5	76.6-124			
o-Xylene	0.091	0.002	"	0.100		91.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	54		ug/kg	62.5		85.7	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		95.0	70-130			

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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 B7J1603 - EPA 5030 (soil)**

Matrix Spike (B7J1603-MS1)		Source: Y710210-02			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	2.45	0.050	mg/kg	2.50	ND	97.9	71.8-126			
Toluene	2.40	0.050	"	2.50	ND	95.8	65.1-130			
Ethylbenzene	2.36	0.050	"	2.50	ND	94.4	62.2-130			
m,p-Xylene	4.72	0.100	"	5.00	ND	94.3	46.5-137			
o-Xylene	2.38	0.050	"	2.50	ND	95.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.4	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B7J1603 - EPA 5030 (soil)**

Matrix Spike (B7J1603-MS2)		Source: Y710227-01			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	0.095	0.002	mg/kg	0.100	ND	94.9	71.8-126			
Toluene	0.105	0.002	"	0.100	ND	105	65.1-130			
Ethylbenzene	0.100	0.002	"	0.100	ND	99.9	62.2-130			
m,p-Xylene	0.191	0.004	"	0.200	ND	95.7	46.5-137			
o-Xylene	0.088	0.002	"	0.100	ND	87.7	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		89.2	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	51		"	62.5		82.0	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B7J1603 - EPA 5030 (soil)**

Matrix Spike Dup (B7J1603-MSD1)		Source: Y710210-02			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	2.56	0.050	mg/kg	2.50	ND	102	71.8-126	4.53	11.3	
Toluene	2.47	0.050	"	2.50	ND	98.7	65.1-130	3.00	15.4	
Ethylbenzene	2.45	0.050	"	2.50	ND	98.1	62.2-130	3.80	19.6	
m,p-Xylene	4.95	0.100	"	5.00	ND	99.0	46.5-137	4.83	19.2	
o-Xylene	2.49	0.050	"	2.50	ND	99.5	54.2-134	4.42	17.9	
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	70-130			

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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 B7J1603 - EPA 5030 (soil)**

Matrix Spike Dup (B7J1603-MSD2)		Source: Y710227-01			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	0.089	0.002	mg/kg	0.100	ND	89.0	71.8-126	6.39	11.3	
Toluene	0.103	0.002	"	0.100	ND	103	65.1-130	2.21	15.4	
Ethylbenzene	0.094	0.002	"	0.100	ND	93.5	62.2-130	6.62	19.6	
m,p-Xylene	0.187	0.004	"	0.200	ND	93.6	46.5-137	2.24	19.2	
o-Xylene	0.090	0.002	"	0.100	ND	90.2	54.2-134	2.86	17.9	
Surrogate: 1,2-Dichloroethane-d4	54		ug/kg	62.5		87.2	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.5	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1608 - EPA 5030B (Water)</b>										
<b>Blank (B7J1608-BLK1)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
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	67		"	62.5	107		84-121			
Surrogate: Toluene-d8	63		"	62.5	101		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.4		84-114			

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Apex Companies, LLC  
4150 Darley Avenue, Suite 1  
Boulder CO 80305

Chandler Cole  
Project Number: 89374932  
Project: KMG - Troutd 44-7 FP

**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 B7J1608 - EPA 5030B (Water)</b>										
<b>LCS (B7J1608-BS1)</b>					Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	55.9	1.00	ug/L	50.0		112	73.3-129			
Toluene	57.5	1.00	"	50.0		115	76.2-123			
Ethylbenzene	53.1	1.00	"	50.0		106	73.6-130			
m,p-Xylene	108	2.00	"	100		108	76.1-126			
o-Xylene	52.1	1.00	"	50.0		104	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.0	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.0	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 B7J1608 - EPA 5030B (Water)**

Matrix Spike (B7J1608-MS1)		Source: Y710227-02			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	53.8	1.00	ug/L	50.0	ND	108	74-130			
Toluene	58.9	1.00	"	50.0	ND	118	73-131			
Ethylbenzene	52.8	1.00	"	50.0	ND	106	76-132			
m,p-Xylene	111	2.00	"	100	3.00	108	69-139			
o-Xylene	51.4	1.00	"	50.0	ND	103	74-131			
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		111	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	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 B7J1608 - EPA 5030B (Water)**

Matrix Spike Dup (B7J1608-MSD1)		Source: Y710227-02			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Benzene	51.7	1.00	ug/L	50.0	ND	103	74-130	4.00	20	
Toluene	55.8	1.00	"	50.0	ND	112	73-131	5.44	20	
Ethylbenzene	49.3	1.00	"	50.0	ND	98.7	76-132	6.79	20	
m,p-Xylene	105	2.00	"	100	3.00	102	69-139	6.06	20	
o-Xylene	49.3	1.00	"	50.0	ND	98.6	74-131	4.23	20	
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		111	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	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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## Extractable Petroleum Hydrocarbons by 8015C - 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 B7J1604 - EPA 3550B

#### Blank (B7J1604-BLK1)

Prepared: 10/16/2017 Analyzed: 10/16/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	39		"	50.0		77.9	59-131			

#### Blank (B7J1604-BLK2)

Prepared: 10/16/2017 Analyzed: 10/16/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	44		"	50.0		87.2	59-131			

#### LCS (B7J1604-BS1)

Prepared: 10/16/2017 Analyzed: 10/16/2017

Diesel (C10-C28)	1080	50.0	mg/kg	1000		108	64-121			
Residual Range Organics (C28-C40)	1110	200	"	1000		111	58-124			
Surrogate: o-Terphenyl	56		"	50.0		111	59-131			

#### LCS (B7J1604-BS2)

Prepared: 10/16/2017 Analyzed: 10/16/2017

Diesel (C10-C28)	897	50.0	mg/kg	1000		89.7	64-121			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	58-124			
Surrogate: o-Terphenyl	48		"	50.0		95.5	59-131			

#### Matrix Spike (B7J1604-MS1)

Source: Y710210-02

Prepared: 10/16/2017 Analyzed: 10/16/2017

Diesel (C10-C28)	1040	50.0	mg/kg	1000	ND	104	53-125			
Residual Range Organics (C28-C40)	1010	200	"	1000	ND	101	47-133			

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## Extractable Petroleum Hydrocarbons by 8015C - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1604 - EPA 3550B</b>										
<b>Matrix Spike (B7J1604-MS1)</b>		<b>Source: Y710210-02</b>			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Surrogate: o-Terphenyl	55		mg/kg	50.0		109	59-131			
<b>Matrix Spike (B7J1604-MS2)</b>		<b>Source: Y710134-01</b>			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Diesel (C10-C28)	945	50.0	mg/kg	1000	19.8	92.6	53-125			
Residual Range Organics (C28-C40)	887	200	"	1000	ND	88.7	47-133			
Surrogate: o-Terphenyl	45		"	50.0		90.1	59-131			
<b>Matrix Spike Dup (B7J1604-MSD1)</b>		<b>Source: Y710210-02</b>			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Diesel (C10-C28)	801	50.0	mg/kg	1000	ND	80.1	53-125	26.2	20	QR-02
Residual Range Organics (C28-C40)	597	200	"	1000	ND	59.7	47-133	51.4	20	QR-02
Surrogate: o-Terphenyl	41		"	50.0		81.2	59-131			
<b>Matrix Spike Dup (B7J1604-MSD2)</b>		<b>Source: Y710134-01</b>			Prepared: 10/16/2017 Analyzed: 10/16/2017					
Diesel (C10-C28)	881	50.0	mg/kg	1000	19.8	86.1	53-125	7.17	20	
Residual Range Organics (C28-C40)	928	200	"	1000	ND	92.8	47-133	4.54	20	
Surrogate: o-Terphenyl	46		"	50.0		92.5	59-131			

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## Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B7J1605 - NO PREP</b>										
<b>Duplicate (B7J1605-DUP1)</b>	<b>Source: Y710210-02</b>				Prepared: 10/16/2017 Analyzed: 10/16/2017					
pH	7.73		pH Units		8.02			3.68	25	
<b>Duplicate (B7J1605-DUP2)</b>	<b>Source: Y710227-01</b>				Prepared: 10/16/2017 Analyzed: 10/16/2017					
pH	7.36		pH Units		7.47			1.48	25	
<b>Batch B7J1606 - NO PREP</b>										
<b>Blank (B7J1606-BLK1)</b>	Prepared: 10/16/2017 Analyzed: 10/16/2017									
Specific Conductance (EC)	0.00420		mmhos/cm							
<b>Blank (B7J1606-BLK2)</b>	Prepared: 10/16/2017 Analyzed: 10/16/2017									
Specific Conductance (EC)	0.00230		mmhos/cm							
<b>Duplicate (B7J1606-DUP1)</b>	<b>Source: Y710210-02</b>				Prepared: 10/16/2017 Analyzed: 10/16/2017					
Specific Conductance (EC)	0.149		mmhos/cm		0.146			2.10	25	
<b>Duplicate (B7J1606-DUP2)</b>	<b>Source: Y710227-01</b>				Prepared: 10/16/2017 Analyzed: 10/16/2017					
Specific Conductance (EC)	0.398		mmhos/cm		0.393			1.29	25	

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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.

O-01 This compound is a common laboratory contaminant.

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.



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Jen Pellegrini For Noelle Doyle Mathis, President