

September 21, 2017

CGRS, Inc

Steve Hockett

1301 Academy Court

Fort Collins CO 80524

Project Name - Blue Chip Oil - 3 Sites

Project Number - [none]

Attached are your analytical results for Blue Chip Oil - 3 Sites received by Origins Laboratory, Inc. September 14, 2017. This project is associated with Origins project number Y709189-01.

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



CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sloan 1 SS4@1'	Y709189-01	Soil	September 14, 2017 14:40	09/14/2017 17:20
N. Poudre SS3@0'	Y709189-02	Soil	September 14, 2017 13:30	09/14/2017 17:20
Sloan 3 SS3@1'	Y709189-03	Soil	September 14, 2017 11:30	09/14/2017 17:20

Origins Laboratory, Inc.



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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

www.originslaboratory.com

page of

1725 Elk Place
Phone: 303.433.1322
Fax: 303.265.9645

1725 Elk Place
Denver, CO 80211

ORIGINS
LABORATORY, INC

Client: CGRS, Inc.
Address: 1301 Academy Ct
Fort Collins, CO
Telephone Number: 930-824-8716
Email Address: SHockett@CGRS.com

Project Manager: Steve Hockett
Project Name: Blue Chip Oil - 3 sites
Project Number: Steve Hockett
Samples Collected By: Steve Hockett

7709189

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other	Top	Bottom	SEP	
Slown 1 554 @ 1'	9/14	2:40	2						X				X	1	
N. Ridge 53 @ 0'	9/14	1:30	2						X				X	2	
Slown 3 553 @ 1'	9/14	11:30	2						X				X	3	
														4	
														5	
														6	
														7	
														8	
														9	
														10	
Relinquished By: Steve Hockett	Date: 9/14/17	Time: 5:10		Received By: [Signature]	Date: 9-17-17	Time: 17:20		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By:	Date:	Time:		Received By:	Date:	Time:									

Temp Received: 7.8°C Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4709189

Client: CGRS, Inc

Client Project ID: Blue Chip Oil

Checklist Completed by: DM

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

Date/time completed: 9-15-12 1228

Airbill #: NA

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

Cooler Number/Temperature: 1 7.8 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: TC03

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"/>		Sample & some dry
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"/>			pH
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"/>	
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) DM

9-15-12 1229
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Sloan 1 SS4@1'
9/14/2017 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709189-01 (Soil)

BTEX by EPA 8260C

Benzene	1.64	0.498	mg/kg	250	B711502	09/15/2017	09/15/2017	
Toluene	ND	0.498	"	"	"	"	"	U
Ethylbenzene	26.7	0.498	"	"	"	"	"	
Xylenes, total	472	4.98	"	2500	"	"	09/15/2017	

Surrogate: 1,2-Dichloroethane-d4	97.4 %	70-130			"	"	09/15/2017	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	122 %	70-130			"	"	"	

Metals (Saturated Paste Prep)

Calcium	1.36		me/L	1	'[none]'	09/18/2017	09/20/2017	
Magnesium	0.48		"	"	"	"	"	
Sodium	4.68		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	7.92		pH Units	1	B711504	09/15/2017	09/15/2017	
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SAR by 20B Saturated Paste

SAR	4.88			1	'[none]'	09/18/2017	09/20/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.148		mmhos/cm	1	B711505	09/15/2017	09/15/2017	
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Origins Laboratory, Inc.



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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Sloan 1 SS4@1'
9/14/2017 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709189-01 (Soil)

TPH-Carbon Chain by EPA Method 8015C

Gasoline (C6-C10)	7050	50.0	mg/kg	1	B711503	09/15/2017	09/18/2017
Diesel (C10-C28)	2180	50.0	"	"	"	"	"
Residual Range Organics (C28-C40)	275	200	"	"	"	"	"

Surrogate: o-Terphenyl	70.2 %	65-146			"	"	"
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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

N. Poudre SS3@0'
9/14/2017 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709189-02 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.050	mg/kg	25	B711502	09/15/2017	09/15/2017	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	0.778	0.050	"	"	"	"	"	
Xylenes, total	6.11	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	97.6 %	70-130			"	"	"	
Surrogate: Toluene-d8	106 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	109 %	70-130			"	"	"	

Metals (Saturated Paste Prep)

Calcium	1.28		me/L	1	'[none]'	09/18/2017	09/20/2017	
Magnesium	0.76		"	"	"	"	"	
Sodium	10.18		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	7.95		pH Units	1	B711504	09/15/2017	09/15/2017	
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SAR by 20B Saturated Paste

SAR	10.08			1	'[none]'	09/18/2017	09/20/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.165		mmhos/cm	1	B711505	09/15/2017	09/15/2017	
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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

N. Poudre SS3@0'
9/14/2017 1:30:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y709189-02 (Soil)

TPH-Carbon Chain by EPA Method 8015C

Gasoline (C6-C10)	787	50.0	mg/kg	1	B711503	09/15/2017	09/18/2017
Diesel (C10-C28)	1360	50.0	"	"	"	"	"
Residual Range Organics (C28-C40)	308	200	"	"	"	"	"

Surrogate: o-Terphenyl	135 %	65-146			"	"	"
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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Sloan 3 SS3@1'
9/14/2017 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y709189-03 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.050	mg/kg	25	B711502	09/15/2017	09/15/2017	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	0.096	0.050	"	"	"	"	"	
Xylenes, total	0.355	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130			"	"	"	
Surrogate: Toluene-d8	106 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	126 %	70-130			"	"	"	

Metals (Saturated Paste Prep)

Calcium	1.66		me/L	1	'[none]'	09/18/2017	09/20/2017	
Magnesium	0.85		"	"	"	"	"	
Sodium	1.74		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	7.89		pH Units	1	B711504	09/15/2017	09/15/2017	
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SAR by 20B Saturated Paste

SAR	1.55			1	'[none]'	09/18/2017	09/20/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.165		mmhos/cm	1	B711505	09/15/2017	09/15/2017	
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1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Sloan 3 SS3@1'
9/14/2017 11:30:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y709189-03 (Soil)

TPH-Carbon Chain by EPA Method 8015C

Gasoline (C6-C10)	1670	50.0	mg/kg	1	B711503	09/15/2017	09/18/2017
Diesel (C10-C28)	5460	50.0	"	"	"	"	"
Residual Range Organics (C28-C40)	1640	200	"	"	"	"	"

Surrogate: o-Terphenyl	117 %	65-146			"	"	"
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1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
Blank (B711502-BLK1)					Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.8	70-130			
Surrogate: Toluene-d8	65		"	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
Blank (B711502-BLK2)					Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
Blank (B711502-BLK3)					Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		92.4	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
LCS (B711502-BS1)					Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.103	0.002	mg/kg	0.100		103	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.099	0.002	"	0.100		99.4	66.4-127			
m,p-Xylene	0.199	0.004	"	0.200		99.6	76.6-124			
o-Xylene	0.101	0.002	"	0.100		101	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

LCS (B711502-BS2)

Prepared: 09/15/2017 Analyzed: 09/15/2017

Benzene	0.092	0.002	mg/kg	0.100		92.5	77.1-124			
Toluene	0.094	0.002	"	0.100		94.3	74.5-128			
Ethylbenzene	0.092	0.002	"	0.100		91.8	66.4-127			
m,p-Xylene	0.184	0.004	"	0.200		92.1	76.6-124			
o-Xylene	0.093	0.002	"	0.100		93.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
LCS (B711502-BS3)					Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.093	0.002	mg/kg	0.100		92.7	77.1-124			
Toluene	0.092	0.002	"	0.100		91.8	74.5-128			
Ethylbenzene	0.089	0.002	"	0.100		88.9	66.4-127			
m,p-Xylene	0.171	0.004	"	0.200		85.5	76.6-124			
o-Xylene	0.087	0.002	"	0.100		87.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.9	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.9	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	70-130			

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1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711502 - EPA 5030 (soil)										
Matrix Spike (B711502-MS1)		Source: Y709181-01			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.096	0.002	mg/kg	0.100	ND	96.5	71.8-126			
Toluene	0.097	0.002	"	0.100	ND	97.2	65.1-130			
Ethylbenzene	0.093	0.002	"	0.100	ND	93.3	62.2-130			
m,p-Xylene	0.181	0.004	"	0.200	ND	90.6	46.5-137			
o-Xylene	0.093	0.002	"	0.100	ND	92.5	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		92.1	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.0	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

Matrix Spike (B711502-MS2)		Source: Y709181-02			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.101	0.002	mg/kg	0.100	ND	101	71.8-126			
Toluene	0.102	0.002	"	0.100	ND	102	65.1-130			
Ethylbenzene	0.103	0.002	"	0.100	ND	103	62.2-130			
m,p-Xylene	0.205	0.004	"	0.200	ND	102	46.5-137			
o-Xylene	0.104	0.002	"	0.100	ND	104	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

Matrix Spike (B711502-MS3)		Source: Y709181-03			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.091	0.002	mg/kg	0.100	ND	90.6	71.8-126			
Toluene	0.095	0.002	"	0.100	ND	94.7	65.1-130			
Ethylbenzene	0.090	0.002	"	0.100	ND	89.2	62.2-130			
m,p-Xylene	0.176	0.004	"	0.200	ND	87.9	46.5-137			
o-Xylene	0.088	0.002	"	0.100	ND	88.5	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

Matrix Spike Dup (B711502-MSD1)		Source: Y709181-01			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.093	0.002	mg/kg	0.100	ND	92.7	71.8-126	4.00	11.3	
Toluene	0.092	0.002	"	0.100	ND	91.8	65.1-130	5.72	15.4	
Ethylbenzene	0.089	0.002	"	0.100	ND	88.9	62.2-130	4.85	19.6	
m,p-Xylene	0.171	0.004	"	0.200	ND	85.5	46.5-137	5.74	19.2	
o-Xylene	0.087	0.002	"	0.100	ND	87.2	54.2-134	5.90	17.9	
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.9	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.9	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

Matrix Spike Dup (B711502-MSD2)		Source: Y709181-02			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.092	0.002	mg/kg	0.100	ND	92.5	71.8-126	8.51	11.3	
Toluene	0.094	0.002	"	0.100	ND	94.3	65.1-130	7.57	15.4	
Ethylbenzene	0.092	0.002	"	0.100	ND	91.8	62.2-130	11.1	19.6	
m,p-Xylene	0.184	0.004	"	0.200	ND	92.1	46.5-137	10.5	19.2	
o-Xylene	0.093	0.002	"	0.100	ND	93.4	54.2-134	10.3	17.9	
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711502 - EPA 5030 (soil)

Matrix Spike Dup (B711502-MSD3)		Source: Y709181-03			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Benzene	0.087	0.002	mg/kg	0.100	ND	86.8	71.8-126	4.26	11.3	
Toluene	0.087	0.002	"	0.100	ND	86.8	65.1-130	8.71	15.4	
Ethylbenzene	0.089	0.002	"	0.100	ND	88.6	62.2-130	0.693	19.6	
m,p-Xylene	0.172	0.004	"	0.200	ND	86.0	46.5-137	2.22	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.1	54.2-134	0.430	17.9	
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		105	70-130			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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 B711503 - EPA 3550B

Blank (B711503-BLK1)

Prepared: 09/15/2017 Analyzed: 09/17/2017

Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Residual Range Organics (C28-C40)	ND	200	"							U

Surrogate: o-Terphenyl 52.4 " 50.0 105 65-146

Blank (B711503-BLK2)

Prepared: 09/15/2017 Analyzed: 09/17/2017

Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Residual Range Organics (C28-C40)	ND	200	"							U

Surrogate: o-Terphenyl 52.3 " 50.0 105 65-146

Blank (B711503-BLK3)

Prepared: 09/15/2017 Analyzed: 09/17/2017

Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Residual Range Organics (C28-C40)	ND	200	"							U

Surrogate: o-Terphenyl 52.1 " 50.0 104 65-146

LCS (B711503-BS1)

Prepared: 09/15/2017 Analyzed: 09/17/2017

Gasoline (C6-C10)	899	50.0	mg/kg	1000		89.9	66.7-119			
Diesel (C10-C28)	1010	50.0	"	1000		101	70.1-127			
Residual Range Organics (C28-C40)	812	200	"	1000		81.2	54.5-139			

Surrogate: o-Terphenyl 48.7 " 50.0 97.5 65-146

Origins Laboratory, Inc.



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CGRS, Inc
1301 Academy Court
Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711503 - EPA 3550B										
LCS (B711503-BS2)					Prepared: 09/15/2017 Analyzed: 09/17/2017					
Gasoline (C6-C10)	971	50.0	mg/kg	1000		97.1	66.7-119			
Diesel (C10-C28)	1080	50.0	"	1000		108	70.1-127			
Residual Range Organics (C28-C40)	953	200	"	1000		95.3	54.5-139			
Surrogate: o-Terphenyl	56.1		"	50.0		112	65-146			
LCS (B711503-BS3)					Prepared: 09/15/2017 Analyzed: 09/17/2017					
Gasoline (C6-C10)	947	50.0	mg/kg	1000		94.7	66.7-119			
Diesel (C10-C28)	1060	50.0	"	1000		106	70.1-127			
Residual Range Organics (C28-C40)	920	200	"	1000		92.0	54.5-139			
Surrogate: o-Terphenyl	59.6		"	50.0		119	65-146			
Matrix Spike (B711503-MS1)					Source: Y709181-01	Prepared: 09/15/2017 Analyzed: 09/17/2017				
Gasoline (C6-C10)	992	50.0	mg/kg	1000	30.1	96.2	56.4-132			
Diesel (C10-C28)	1090	50.0	"	1000	14.4	107	57.4-138			
Residual Range Organics (C28-C40)	936	200	"	1000	50.7	88.6	47.7-129			
Surrogate: o-Terphenyl	53.2		"	50.0		106	65-146			
Matrix Spike (B711503-MS2)					Source: Y709181-02	Prepared: 09/15/2017 Analyzed: 09/17/2017				
Gasoline (C6-C10)	936	50.0	mg/kg	1000	36.8	89.9	56.4-132			
Diesel (C10-C28)	1070	50.0	"	1000	17.5	106	57.4-138			
Residual Range Organics (C28-C40)	888	200	"	1000	44.4	84.4	47.7-129			
Surrogate: o-Terphenyl	54.3		"	50.0		109	65-146			
Matrix Spike (B711503-MS3)					Source: Y709181-03	Prepared: 09/15/2017 Analyzed: 09/17/2017				
Gasoline (C6-C10)	931	50.0	mg/kg	1000	42.1	88.9	56.4-132			
Diesel (C10-C28)	1060	50.0	"	1000	23.8	104	57.4-138			
Residual Range Organics (C28-C40)	860	200	"	1000	37.1	82.3	47.7-129			

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Fort Collins CO 80524

Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

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
Batch B711503 - EPA 3550B										
Matrix Spike (B711503-MS3)		Source: Y709181-03			Prepared: 09/15/2017 Analyzed: 09/17/2017					
Surrogate: o-Terphenyl	51.2		mg/kg	50.0		102	65-146			
Matrix Spike Dup (B711503-MSD1)		Source: Y709181-01			Prepared: 09/15/2017 Analyzed: 09/17/2017					
Gasoline (C6-C10)	1040	50.0	mg/kg	1000	30.1	101	56.4-132	4.82	22	
Diesel (C10-C28)	1130	50.0	"	1000	14.4	112	57.4-138	4.02	18.3	
Residual Range Organics (C28-C40)	976	200	"	1000	50.7	92.5	47.7-129	4.12	30.1	
Surrogate: o-Terphenyl	57.7		"	50.0		115	65-146			
Matrix Spike Dup (B711503-MSD2)		Source: Y709181-02			Prepared: 09/15/2017 Analyzed: 09/17/2017					
Gasoline (C6-C10)	865	50.0	mg/kg	1000	36.8	82.8	56.4-132	7.86	22	
Diesel (C10-C28)	958	50.0	"	1000	17.5	94.1	57.4-138	11.4	18.3	
Residual Range Organics (C28-C40)	801	200	"	1000	44.4	75.6	47.7-129	10.4	30.1	
Surrogate: o-Terphenyl	49.0		"	50.0		97.9	65-146			
Matrix Spike Dup (B711503-MSD3)		Source: Y709181-03			Prepared: 09/15/2017 Analyzed: 09/17/2017					
Gasoline (C6-C10)	920	50.0	mg/kg	1000	42.1	87.8	56.4-132	1.17	22	
Diesel (C10-C28)	1050	50.0	"	1000	23.8	103	57.4-138	0.763	18.3	
Residual Range Organics (C28-C40)	861	200	"	1000	37.1	82.4	47.7-129	0.119	30.1	
Surrogate: o-Terphenyl	51.3		"	50.0		103	65-146			

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Steve Hockett
Project Number: [none]
Project: Blue Chip Oil - 3 Sites

Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B7I1504 - NO PREP										
Duplicate (B7I1504-DUP1)		Source: Y709189-01			Prepared: 09/15/2017 Analyzed: 09/15/2017					
pH	7.31		pH Units		7.92			8.01	25	
Batch B7I1505 - NO PREP										
Blank (B7I1505-BLK1)		Prepared: 09/15/2017 Analyzed: 09/15/2017								
Specific Conductance (EC)	0.00690		mmhos/cm							
Duplicate (B7I1505-DUP1)		Source: Y709189-01			Prepared: 09/15/2017 Analyzed: 09/15/2017					
Specific Conductance (EC)	0.144		mmhos/cm		0.148			3.02	25	

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1301 Academy Court

Fort Collins CO 80524

Steve Hockett

Project Number: [none]

Project: Blue Chip Oil - 3 Sites

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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