

August 08, 2018

Apex Companies, LLC

Chandler Cole

4150 Darley Avenue, Suite 1

Boulder CO 80305

**Project Name - KMG - WCR Properties 41-5/Spaur Project Number - [none]
1-5 Tank Battery**

Attached are your analytical results for KMG - WCR Properties 41-5/Spaur 1-5 Tank Battery received by Origins Laboratory, Inc. August 03, 2018. This project is associated with Origins project number Y808050-01.

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



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

Chandler Cole
Project Number: [none]
Project: KMG - WCR Properties 41-5/Spaur 1-5
Tank Battery

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@12'	Y808050-01	Soil	August 3, 2018 15:03	08/03/2018 17:00
B01@15'	Y808050-05	Soil	August 3, 2018 14:53	08/03/2018 17:00

Origins Laboratory, Inc.



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Apex Companies, LLC
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 Boulder CO 80305

Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y408050

Client: Apex

Client Project ID: _____

Checklist Completed by: JG

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

Date/time completed: 8/3/2018

Airbill #: N/A

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

Cooler Number/Temperature: 1/10.9 °C / _____ °C / _____ °C (Describe) _____ °C

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"/>		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 ⁽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"/>	
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)

8/3/18
 Date/Time Reviewed

Origins Laboratory, Inc.



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Apex Companies, LLC
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 Boulder CO 80305

Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

N01@12'

8/3/2018 3:03:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y808050-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1440	125	mg/kg	10	B8H0303	JMH	08/03/2018	08/03/2018	
Residual Range Organics (C28-C40)	578	500	"	"	"	JMH	"	"	

Surrogate: *o*-Terphenyl 412 % 59-131 " " " S-04

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	2660	50.0	mg/kg	250	B8H0302	ZZZ	08/03/2018	08/04/2018	
Benzene	12.9	0.498	"	"	"	ZZZ	"	"	
Toluene	ND	0.050	"	25	"	ZZZ	"	08/04/2018	U
Ethylbenzene	13.9	0.498	"	250	"	ZZZ	"	08/04/2018	
Xylenes, total	93.9	0.498	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.6 % 70-130 " " "

Surrogate: Toluene-d8 89.7 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 109 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.27		pH Units	1	B8H0304	OLAB	08/03/2018	08/03/2018	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.247	0.00503	mmhos/cm	"	B8H0305	OLAB	08/03/2018	"	
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 Boulder CO 80305

Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

B01@15'

8/3/2018 2:53:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y808050-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	165	12.5	mg/kg	1	B8H0303	JMH	08/03/2018	08/03/2018	
Residual Range Organics (C28-C40)	63.2	50.0	"	"	"	JMH	"	"	

Surrogate: *o*-Terphenyl 80.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	58.8	5.00	mg/kg	25	B8H0302	ZZZ	08/03/2018	08/03/2018	
Benzene	ND	0.050	"	"	"	ZZZ	"	"	U
Toluene	ND	0.050	"	"	"	ZZZ	"	"	U
Ethylbenzene	0.126	0.050	"	"	"	ZZZ	"	"	
Xylenes, total	0.814	0.050	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4 94.7 % 70-130 " " "
 Surrogate: Toluene-d8 99.9 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.40		pH Units	1	B8H0304	OLAB	08/03/2018	08/03/2018	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.116	0.00502	mmhos/cm	"	B8H0305	OLAB	08/03/2018	"	
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Apex Companies, LLC
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 Boulder CO 80305

Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

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 B8H0302 - EPA 5030 (soil)

Blank (B8H0302-BLK1)

Prepared: 08/03/2018 Analyzed: 08/03/2018

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	60		ug/kg	62.5		96.7	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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 Tank Battery

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 B8H0302 - EPA 5030 (soil)

LCS (B8H0302-BS1)

Prepared: 08/03/2018 Analyzed: 08/03/2018

Benzene	0.095	0.002	mg/kg	0.100		95.0	77.1-124			
Toluene	0.102	0.002	"	0.100		102	74.5-128			
Ethylbenzene	0.106	0.002	"	0.100		106	66.4-127			
m,p-Xylene	0.211	0.004	"	0.200		106	76.6-124			
o-Xylene	0.105	0.002	"	0.100		105	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		88.9	70-130			
Surrogate: Toluene-d8	65		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	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 B8H0302 - EPA 5030 (soil)

Matrix Spike (B8H0302-MS1)	Source: Y808034-01			Prepared: 08/03/2018 Analyzed: 08/03/2018						
Benzene	0.095	0.002	mg/kg	0.100	ND	94.6	71.8-126			
Toluene	0.105	0.002	"	0.100	ND	105	65.1-130			
Ethylbenzene	0.106	0.002	"	0.100	ND	106	62.2-130			
m,p-Xylene	0.211	0.004	"	0.200	ND	105	46.5-137			
o-Xylene	0.107	0.002	"	0.100	ND	107	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	62.5		91.8	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

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 B8H0302 - EPA 5030 (soil)

Matrix Spike Dup (B8H0302-MSD1)	Source: Y808034-01			Prepared: 08/03/2018 Analyzed: 08/03/2018						
Benzene	0.090	0.002	mg/kg	0.100	ND	90.1	71.8-126	4.94	11.3	
Toluene	0.095	0.002	"	0.100	ND	95.3	65.1-130	9.40	15.4	
Ethylbenzene	0.094	0.002	"	0.100	ND	94.1	62.2-130	11.9	19.6	
m,p-Xylene	0.188	0.004	"	0.200	ND	94.2	46.5-137	11.3	19.2	
o-Xylene	0.095	0.002	"	0.100	ND	95.0	54.2-134	11.5	17.9	
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.1	70-130			
Surrogate: Toluene-d8	64		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

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 B8H0303 - EPA 3580

Blank (B8H0303-BLK1)

Prepared: 08/03/2018 Analyzed: 08/03/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	45		"	50.0		89.4	59-131			

Blank (B8H0303-BLK2)

Prepared: 08/03/2018 Analyzed: 08/06/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	38		"	50.0		76.0	59-131			

LCS (B8H0303-BS1)

Prepared: 08/03/2018 Analyzed: 08/03/2018

Diesel (C10-C28)	968	50.0	mg/kg	1000		96.8	64-121			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	58-124			
Surrogate: o-Terphenyl	49		"	50.0		97.9	59-131			

LCS (B8H0303-BS2)

Prepared: 08/03/2018 Analyzed: 08/06/2018

Diesel (C10-C28)	877	50.0	mg/kg	1000		87.7	64-121			
Residual Range Organics (C28-C40)	927	200	"	1000		92.7	58-124			
Surrogate: o-Terphenyl	51		"	50.0		101	59-131			

Matrix Spike (B8H0303-MS1)

Source: Y808034-01

Prepared: 08/03/2018 Analyzed: 08/03/2018

Diesel (C10-C28)	957	50.0	mg/kg	1000	ND	95.7	53-125			
Residual Range Organics (C28-C40)	1030	200	"	1000	15.7	101	47-133			

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Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

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 B8H0303 - EPA 3580										
Matrix Spike (B8H0303-MS1)			Source: Y808034-01		Prepared: 08/03/2018 Analyzed: 08/03/2018					
Surrogate: o-Terphenyl	47		mg/kg	50.0		94.1	59-131			
Matrix Spike (B8H0303-MS2)			Source: Y808040-02		Prepared: 08/03/2018 Analyzed: 08/06/2018					
Diesel (C10-C28)	921	50.0	mg/kg	1000	ND	92.1	53-125			
Residual Range Organics (C28-C40)	979	200	"	1000	29.3	95.0	47-133			
Surrogate: o-Terphenyl	48		"	50.0		96.8	59-131			
Matrix Spike Dup (B8H0303-MSD1)			Source: Y808034-01		Prepared: 08/03/2018 Analyzed: 08/03/2018					
Diesel (C10-C28)	905	50.0	mg/kg	1000	ND	90.5	53-125	5.60	20	
Residual Range Organics (C28-C40)	969	200	"	1000	15.7	95.3	47-133	6.18	20	
Surrogate: o-Terphenyl	44		"	50.0		87.2	59-131			
Matrix Spike Dup (B8H0303-MSD2)			Source: Y808040-02		Prepared: 08/03/2018 Analyzed: 08/06/2018					
Diesel (C10-C28)	945	50.0	mg/kg	1000	ND	94.5	53-125	2.51	20	
Residual Range Organics (C28-C40)	1000	200	"	1000	29.3	97.1	47-133	2.13	20	
Surrogate: o-Terphenyl	49		"	50.0		97.8	59-131			

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Chandler Cole
 Project Number: [none]
 Project: KMG - WCR Properties 41-5/Spaur 1-5
 Tank Battery

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 B8H0304 - NO PREP										
Duplicate (B8H0304-DUP1)		Source: Y808034-01			Prepared: 08/03/2018 Analyzed: 08/03/2018					
pH	7.92		pH Units		8.90			11.7	25	
Batch B8H0305 - NO PREP										
Blank (B8H0305-BLK1)		Prepared: 08/03/2018 Analyzed: 08/03/2018								
Specific Conductance (EC)	0.00450	0.00500	mmhos/cm							
Duplicate (B8H0305-DUP1)		Source: Y808034-01			Prepared: 08/03/2018 Analyzed: 08/03/2018					
Specific Conductance (EC)	0.111	0.00500	mmhos/cm		0.0976			13.2	25	

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4150 Darley Avenue, Suite 1
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Chandler Cole
Project Number: [none]
Project: KMG - WCR Properties 41-5/Spaur 1-5
Tank Battery

Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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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