



March 8, 2019

Mr. Gregory Hamilton  
Senior Staff HSE Representative  
Kerr-McGee Oil & Gas Onshore LP  
1099 18<sup>th</sup> Street, Suite 1800  
Denver, Colorado 80202

**Re: Sump Closure Summary Letter Report  
Acord 29-15L Production Facility  
API: 05-123-17721  
Facility ID: 447591  
Legal: NWSE Sec 29-T3N-R67W  
Remediation Project # 12507**

Dear Mr. Hamilton:

On behalf of Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee), Tasman Geosciences, Inc. (Tasman) has prepared this Sump Closure Summary Letter Report (Report) to document sampling activities and the results of environmental testing at the above-referenced site (Site). This Report is being submitted under Form 27 Site Investigation and Remediation Workplan Remediation # 12507. Tasman provided environmental services at the site that included collection of confirmation samples from the excavation, documentation of field activities, and review of analytical data as described below.

### **Site Assessment Activities**

The field activities described herein were performed with the purpose of assessing potential hydrocarbon impacts at the Site related to the closure of the produced water sump. Soil sampling activities, laboratory analytical results, and conclusions are presented below.

Excavation activities were initiated on October 26, 2017 following removal of the produced water sump. The final extent of the excavation measured approximately 13 feet by 13 feet with an approximate depth of 5 feet below ground surface (bgs). Excavation material was not removed from the site during excavation and closure activities. A liner was not present at the location. Groundwater was not encountered in the excavation area.

Five soil samples were collected from the sidewalls and base of the final extent of the sump excavation area at approximately 4 and 5 feet bgs, respectively. The soil samples were field screened for volatile organic compound (VOC) concentrations using a photoionization detector (PID). Based on the field screening results, the excavation base soil sample (B01@5') was submitted to Origins Laboratory in Denver, Colorado, for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH) – gasoline range organics (GRO) by United States Environmental Protection Agency (USEPA) Method 8260C,

TPH – diesel range and oil range organics (DRO and ORO) by USEPA Method 8015, electrical conductivity (EC), and pH. The remaining samples were placed on hold pending base sample results.

The general Site layout, sample location and approximate final extent of the excavation are illustrated on Figure 1.

## **Results**

Soil analytical results for base soil sample B01@5' indicated that constituent concentrations were in full compliance with State standards. Based on the results, the remaining soil samples were not analyzed. Soil analytical data are provided in Table 1. The laboratory analytical report is provided as Attachment A.

## **Conclusions**

Analytical results described herein confirm that BTEX and TPH impacts are not present at concentrations above applicable regulatory standards at the former produced water sump location. Therefore, no further site assessment or remedial activity is recommended at this time. Following Site assessment activities, the produced water sump was removed and the excavation area was backfilled and contoured to match pre-existing conditions.

Please contact me at (303) 487-1228 if you have any questions regarding this report or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'MJahn', written in a cursive style.

Mike Jahn, PG  
Project Manager

## **Attachments:**

Table 1 – Soil Sample Results Summary Table  
Figure 1 – Sample Location Map  
Attachment A – Laboratory Analytical Report

## **Table**

**TABLE 1**  
**ACORD 29-15L PRODUCTION FACILITY**  
**SOIL SAMPLE RESULTS SUMMARY TABLE**  
**KERR-McGEE OIL AND GAS ONSHORE LP**

Sample Location	Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	EC (mmhos/cm)	pH (units)
<b>COGCC standards for soil (mg/kg) <sup>(1)</sup></b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500</b>			<b>4 mmhos/cm or 2x BG</b>	<b>6-9</b>
B01@5'	10/26/17	5	<0.050	<0.050	<0.050	<0.050	<5.00	104	<100	0.0495	<b>9.90*</b>

**Notes:**

(1) Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective January 30, 2015.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

EC = Electrical conductivity

mmhos/cm = Millimhos per centimeter

mg/kg = Milligrams per kilogram.

ft. bgs = Feet below ground surface.

**BOLD** = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

\* pH sample was collected below the designated root zone (>3' bgs)

**Figure**



**B01@5'**  
**B < 0.050 mg/kg**  
**TPH = 104 mg/kg**

**Legend**

- Final excavation extent
- Earthen berm
- Soil sample location

**Notes**

All locations are approximate unless otherwise noted.

APC infrastructure shown on this map has been removed, and is illustrated for reference only.

B – Benzene  
 TPH – Total petroleum hydrocarbons  
 mg/kg – Milligrams per kilogram

0 ft.                      15 ft.                      30 ft.

Image Source: Google Earth 2017

DATE: August 7, 2018

DESIGNED BY: E. Seigel

DRAWN BY: M. Rianda



**Kerr-McGee Oil and Gas Onshore LP**  
**ACORD 29-15L PRODUCTION FACILITY**  
 NWSE Sec. 29-T3N-R67W  
 Weld County, Colorado

Sample Location  
 Map

FIGURE  
 1

**Attachment A**

October 27, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Accord 29 - 15L

Project Number - [none]

Attached are your analytical results for KMG - Accord 29 - 15L received by Origins Laboratory, Inc. October 26, 2017. This project is associated with Origins project number Y710401-05.

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



Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Accord 29 - 15L

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@5'	Y710401-05	Soil	October 26, 2017 13:08	10/26/2017 17:08

Origins Laboratory, Inc.



*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 4770401 Client: Tasman  
 Client Project ID: KMG Accord 29-15L  
 Checklist Completed by: Dale Shipped Via: Pick-up  
 Date/time completed: 10-26-17 1728 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: NA  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 1 / 2.5 °C \_\_\_\_\_ / \_\_\_\_\_ °C \_\_\_\_\_ / \_\_\_\_\_ °C (Describe)  
 Thermometer ID: 1063

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"/>			
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? <b>If yes, contact client and note in narrative.</b>			<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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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) [Signature]

Date/Time Reviewed 10-26-17 1729

Origins Laboratory, Inc.

*Jefe Pellegrini*

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**B01@5'**  
**10/26/2017 1:08:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y710401-05 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	104	25.0	mg/kg	1	B7J2507	10/26/2017	10/27/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 86.8 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B7J2602	10/26/2017	10/27/2017	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 119 % 70-130 " " "  
 Surrogate: Toluene-d8 97.9 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 95.8 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	9.90		pH Units	1	B7J2605	10/26/2017	10/26/2017	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.0495		mmhos/cm	"	B7J2606	10/26/2017	"	
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Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)</b>										
<b>Blank (B7J2602-BLK1)</b>										
					Prepared: 10/26/2017 Analyzed: 10/26/2017					
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	76		ug/kg	62.5		122	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	70-130			

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 Project Number: [none]  
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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 B7J2602 - EPA 5030 (soil)</b>										
<b>Blank (B7J2602-BLK2)</b>										
					Prepared: 10/26/2017 Analyzed: 10/26/2017					
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	70		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.1	70-130			

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**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B7J2602 - EPA 5030 (soil)**

**LCS (B7J2602-BS1)**

Prepared: 10/26/2017 Analyzed: 10/26/2017

Benzene	0.097	0.002	mg/kg	0.100		97.1	77.1-124			
Toluene	0.104	0.002	"	0.100		104	74.5-128			
Ethylbenzene	0.101	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.204	0.004	"	0.200		102	76.6-124			
o-Xylene	0.103	0.002	"	0.100		103	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.1	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		95.1	70-130			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)**

**LCS (B7J2602-BS2)**

Prepared: 10/26/2017 Analyzed: 10/26/2017

Benzene	0.105	0.002	mg/kg	0.100		105	77.1-124			
Toluene	0.104	0.002	"	0.100		104	74.5-128			
Ethylbenzene	0.109	0.002	"	0.100		109	66.4-127			
m,p-Xylene	0.220	0.004	"	0.200		110	76.6-124			
o-Xylene	0.109	0.002	"	0.100		109	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	68		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.8	70-130			

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Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)**

<b>Matrix Spike (B7J2602-MS1)</b>	<b>Source: Y710322-03</b>			<b>Prepared: 10/26/2017 Analyzed: 10/26/2017</b>						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.9	71.8-126			
Toluene	0.084	0.002	"	0.100	ND	83.6	65.1-130			
Ethylbenzene	0.086	0.002	"	0.100	ND	86.4	62.2-130			
m,p-Xylene	0.177	0.004	"	0.200	ND	88.6	46.5-137			
o-Xylene	0.088	0.002	"	0.100	ND	87.7	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.8	70-130			

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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)**

Matrix Spike (B7J2602-MS2)	Source: Y710322-02			Prepared: 10/26/2017 Analyzed: 10/26/2017						
Benzene	0.096	0.002	mg/kg	0.100	ND	96.2	71.8-126			
Toluene	0.095	0.002	"	0.100	ND	94.8	65.1-130			
Ethylbenzene	0.096	0.002	"	0.100	ND	96.4	62.2-130			
m,p-Xylene	0.197	0.004	"	0.200	ND	98.6	46.5-137			
o-Xylene	0.097	0.002	"	0.100	ND	97.0	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	68		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.6	70-130			

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 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)**

Matrix Spike Dup (B7J2602-MSD1)	Source: Y710322-03			Prepared: 10/26/2017 Analyzed: 10/26/2017						
Benzene	0.100	0.002	mg/kg	0.100	ND	100	71.8-126	16.7	11.3	
Toluene	0.098	0.002	"	0.100	ND	97.9	65.1-130	15.7	15.4	
Ethylbenzene	0.102	0.002	"	0.100	ND	102	62.2-130	16.1	19.6	
m,p-Xylene	0.205	0.004	"	0.200	ND	103	46.5-137	14.8	19.2	
o-Xylene	0.103	0.002	"	0.100	ND	103	54.2-134	16.0	17.9	
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.9	70-130			

Origins Laboratory, Inc.



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 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2602 - EPA 5030 (soil)**

<b>Matrix Spike Dup (B7J2602-MSD2)</b>	<b>Source: Y710322-02</b>			<b>Prepared: 10/26/2017 Analyzed: 10/26/2017</b>						
Benzene	0.102	0.002	mg/kg	0.100	ND	102	71.8-126	5.54	11.3	
Toluene	0.101	0.002	"	0.100	ND	101	65.1-130	6.06	15.4	
Ethylbenzene	0.103	0.002	"	0.100	ND	103	62.2-130	6.46	19.6	
m,p-Xylene	0.210	0.004	"	0.200	ND	105	46.5-137	6.35	19.2	
o-Xylene	0.105	0.002	"	0.100	ND	105	54.2-134	7.59	17.9	
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		114	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.1	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.3	70-130			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2507 - EPA 3550B**

**Blank (B7J2507-BLK1)**

Prepared: 10/25/2017 Analyzed: 10/27/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	42		"	50.0		84.9	59-131			

**Blank (B7J2507-BLK2)**

Prepared: 10/25/2017 Analyzed: 10/27/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	43		"	50.0		85.6	59-131			

**LCS (B7J2507-BS1)**

Prepared: 10/25/2017 Analyzed: 10/27/2017

Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	64-121			
Residual Range Organics (C28-C40)	1040	200	"	1000		104	58-124			
Surrogate: o-Terphenyl	45		"	50.0		90.2	59-131			

**LCS (B7J2507-BS2)**

Prepared: 10/25/2017 Analyzed: 10/27/2017

Diesel (C10-C28)	960	50.0	mg/kg	1000		96.0	64-121			
Residual Range Organics (C28-C40)	993	200	"	1000		99.3	58-124			
Surrogate: o-Terphenyl	49		"	50.0		98.3	59-131			

**Matrix Spike (B7J2507-MS1)**

Source: Y710368-01

Prepared: 10/25/2017 Analyzed: 10/27/2017

Diesel (C10-C28)	989	50.0	mg/kg	1000	44.2	94.4	53-125			
Residual Range Organics (C28-C40)	1010	200	"	1000	69.5	94.4	47-133			

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2507 - EPA 3550B</b>										
<b>Matrix Spike (B7J2507-MS1)</b>		<b>Source: Y710368-01</b>			Prepared: 10/25/2017 Analyzed: 10/27/2017					
Surrogate: o-Terphenyl	46		mg/kg	50.0		91.4	59-131			
<b>Matrix Spike (B7J2507-MS2)</b>		<b>Source: Y710368-02</b>			Prepared: 10/25/2017 Analyzed: 10/27/2017					
Diesel (C10-C28)	968	50.0	mg/kg	1000	47.8	92.0	53-125			
Residual Range Organics (C28-C40)	1000	200	"	1000	56.1	94.6	47-133			
Surrogate: o-Terphenyl	46		"	50.0		92.2	59-131			
<b>Matrix Spike Dup (B7J2507-MSD1)</b>		<b>Source: Y710368-01</b>			Prepared: 10/25/2017 Analyzed: 10/27/2017					
Diesel (C10-C28)	972	50.0	mg/kg	1000	44.2	92.7	53-125	1.83	20	
Residual Range Organics (C28-C40)	1030	200	"	1000	69.5	96.4	47-133	2.06	20	
Surrogate: o-Terphenyl	47		"	50.0		94.1	59-131			
<b>Matrix Spike Dup (B7J2507-MSD2)</b>		<b>Source: Y710368-02</b>			Prepared: 10/25/2017 Analyzed: 10/27/2017					
Diesel (C10-C28)	892	50.0	mg/kg	1000	47.8	84.4	53-125	8.62	20	
Residual Range Organics (C28-C40)	931	200	"	1000	56.1	87.5	47-133	7.81	20	
Surrogate: o-Terphenyl	43		"	50.0		86.2	59-131			

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 Denver CO 80211

Bob Cornez  
 Project Number: [none]  
 Project: KMG - Accord 29 - 15L

**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 B7J2605 - NO PREP</b>										
<b>Duplicate (B7J2605-DUP1)</b>		<b>Source: Y710401-05</b>			Prepared: 10/26/2017 Analyzed: 10/26/2017					
pH	9.82		pH Units		9.90			0.811	25	
<b>Batch B7J2606 - NO PREP</b>										
<b>Blank (B7J2606-BLK1)</b>		Prepared: 10/26/2017 Analyzed: 10/26/2017								
Specific Conductance (EC)	0.00520		mmhos/cm							
<b>Duplicate (B7J2606-DUP1)</b>		<b>Source: Y710401-05</b>			Prepared: 10/26/2017 Analyzed: 10/26/2017					
Specific Conductance (EC)	0.0492		mmhos/cm		0.0495			0.608	25	

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Accord 29 - 15L

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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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Jen Pellegrini For Noelle Doyle Mathis, President