



January 24, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Kern L 4-14

Project Number - [none]

Attached are your analytical results for KMG - Kern L 4-14 received by Origins Laboratory, Inc. January 23, 2019. This project is associated with Origins project number Y901300-01.

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

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Kern L 4-14

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E02@3.5'	Y901300-01	Soil	January 23, 2019 12:00	01/23/2019 16:05

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

ORIGINS
LABORATORY, INC

www.originslaboratory.com

page 1 of 1

7961300

Client: APC

Project Manager/Send Report To: Robert Garcia




Address: _____

Email Address: carner@originslab.com

Project Name/Number: Ken 6-4-14

Telephone Number: _____

Samples Collected By: BDL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative						Matrix				Analyst/Method	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Alt. Summa Continer #	Other					
F02S3.5'	1-23-14	1200	2	X					X				GETE X 6346 D8010/020 5015	X	1	
															2	
															3	
															4	
															5	
															6	
															7	
															8	
															9	
															10	
Relinquished By: 	Date: 1-23-14	Time: 1605											Received By: 	Date: 1/23/14	Time: 1605	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr 48 Hr <input type="checkbox"/> 72 Hr Standard <input type="checkbox"/>
Relinquished By: 	Date:	Time:											Received By:	Date:	Time:	

Comments:

45 Date Results Needed:

Jeff Pellgrini

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y901300

Client: Tasman

Client Project ID: KMG - Kern L 4-14

Checklist Completed by: JG

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

Date/time completed: 1/23/2019

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.6 °C 1 / _____ °C 1 / _____ °C 1 / _____ °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> 1/4 inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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: [Signature] (Project Manager)

1/23/19
Date/Time Reviewed

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 - Kern L 4-14

E02@3.5'

1/23/2019 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y901300-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9A2302	KDK	01/23/2019	01/23/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl 84.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B9A2301	KDK	"	01/23/2019	U
Benzene	ND	0.002	"	"	"	KDK	"	"	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4 96.7 % 70-130 " " "
Surrogate: Toluene-d8 96.0 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.2 % 70-130 " " "

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

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 B9A2301 - EPA 5030 (soil)										
Blank (B9A2301-BLK1)					Prepared: 01/23/2019 Analyzed: 01/23/2019					
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	0.12		"	0.125		93.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.1	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

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 B9A2301 - EPA 5030 (soil)										
LCS (B9A2301-BS1)					Prepared: 01/23/2019 Analyzed: 01/23/2019					
Benzene	0.110	0.002	mg/kg	0.100		110	77.1-124			
Toluene	0.108	0.002	"	0.100		108	74.5-128			
Ethylbenzene	0.111	0.002	"	0.100		111	66.4-127			
m,p-Xylene	0.224	0.004	"	0.200		112	76.6-124			
o-Xylene	0.112	0.002	"	0.100		112	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	70-130			

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Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

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 B9A2301 - EPA 5030 (soil)

Matrix Spike (B9A2301-MS1)		Source: Y901298-01			Prepared: 01/23/2019 Analyzed: 01/23/2019					
Benzene	0.095	0.002	mg/kg	0.100	ND	94.8	71.8-126			
Toluene	0.091	0.002	"	0.100	ND	90.6	65.1-130			
Ethylbenzene	0.092	0.002	"	0.100	ND	92.3	62.2-130			
m,p-Xylene	0.187	0.004	"	0.200	0.0009	92.9	46.5-137			
o-Xylene	0.095	0.002	"	0.100	0.0004	94.8	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

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 B9A2301 - EPA 5030 (soil)

Matrix Spike Dup (B9A2301-MSD1)		Source: Y901298-01			Prepared: 01/23/2019 Analyzed: 01/23/2019					
Benzene	0.099	0.002	mg/kg	0.100	ND	99.4	71.8-126	4.70	11.3	
Toluene	0.095	0.002	"	0.100	ND	95.1	65.1-130	4.87	15.4	
Ethylbenzene	0.096	0.002	"	0.100	ND	95.7	62.2-130	3.70	19.6	
m,p-Xylene	0.192	0.004	"	0.200	0.0009	95.8	46.5-137	3.07	19.2	
o-Xylene	0.098	0.002	"	0.100	0.0004	97.2	54.2-134	2.45	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.9	70-130			

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Bob Cornez
Project Number: [none]
Project: KMG - Kern L 4-14

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 B9A2302 - EPA 3580

Blank (B9A2302-BLK1)

Prepared: 01/23/2019 Analyzed: 01/23/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	42		"	50.0		83.5	59-131			

LCS (B9A2302-BS1)

Prepared: 01/23/2019 Analyzed: 01/23/2019

Diesel (C10-C28)	920	50.0	mg/kg	1000		92.0	64-121			
Residual Range Organics (C28-C40)	867	200	"	1000		86.7	58-124			
Surrogate: o-Terphenyl	45		"	50.0		90.7	59-131			

Matrix Spike (B9A2302-MS1)

Source: Y901283-01

Prepared: 01/23/2019 Analyzed: 01/23/2019

Diesel (C10-C28)	921	50.0	mg/kg	1000	21.6	89.9	53-125			
Residual Range Organics (C28-C40)	919	200	"	1000	7.30	91.2	47-133			
Surrogate: o-Terphenyl	45		"	50.0		89.6	59-131			

Matrix Spike Dup (B9A2302-MSD1)

Source: Y901283-01

Prepared: 01/23/2019 Analyzed: 01/23/2019

Diesel (C10-C28)	972	50.0	mg/kg	1000	21.6	95.0	53-125	5.57	20	
Residual Range Organics (C28-C40)	946	200	"	1000	7.30	93.9	47-133	2.89	20	
Surrogate: o-Terphenyl	47		"	50.0		93.6	59-131			

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6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Kern L 4-14

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.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President