

## **ANALYTICAL TABLE**

**TABLE 1**  
**CalLEN-USX N-65N67W/27NWNE**  
**SOIL SAMPLE RESULTS SUMMARY TABLE**  
**KERR-McGEE OIL AND GAS ONSHORE LP**

Sample ID	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)
COGCC standards for soil (mg/kg) <sup>(1)</sup>			0.17	85	100	175	500			4 mmhos/cm or 2x BG	6-9
N01@7'	01/19/16	7	132	787	93.0	923	17000	8000	2300	0.103	8.29
S01@7'	01/19/16	7	<b>0.780</b>	8.02	1.82	25.2	721	<50	<200	0.105	8.46
E01@7'	01/19/16	7	<0.050	0.069	<0.050	<0.050	<5.00	<50	<200	0.102	8.37
W01@7'	01/19/16	7	<0.050	<0.050	<0.050	<0.050	7.88	<50	<200	0.112	8.46
B01@10'	01/19/16	10	113	627	67.6	705	13700	5600	1100	0.105	8.64
B02@17'	01/21/16	17	<0.050	0.209	0.054	0.606	18.1	<50	<200	0.154	8.19
E02@15'	01/21/16	15	0.003	0.006	<0.002	<0.002	<0.200	<50	<200	1.15	7.87
W02@15'	01/22/16	15	<b>0.612</b>	9.94	2.44	20.8	342	<50	<200	1.32	7.60
N02@15'	01/22/16	15	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.226	7.74
S02@13'	01/26/16	13	<0.002	<0.002	<0.002	<0.002	0.205	<50	<200	0.102	8.81
E03@13'	01/26/16	13	0.003	0.004	<0.002	<0.002	<0.200	<50	<200	0.948	8.18
W03@13'	01/26/16	13	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.547	8.00
B03@17'	01/27/16	17	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.244	8.29
S03@15'	01/27/16	15	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.347	8.15
W04@15'	01/27/16	15	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.825	7.70

**Notes:**

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

BG = Background

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.

## **LABORATORY ANALYTICAL REPORTS**



January 20, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

**Project Name - KMG - Callen USX N27-2**

**Project Number - [none]**

Attached are your analytical results for KMG - Callen USX N27-2 received by Origins Laboratory, Inc. January 19, 2016. This project is associated with Origins project number X601181-01.

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 - Callen USX N27-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01 @ 7'	X601181-01	Soil	January 19, 2016 14:22	01/19/2016 17:05
S01 @ 7'	X601181-02	Soil	January 19, 2016 14:16	01/19/2016 17:05
E01 @ 7'	X601181-03	Soil	January 19, 2016 14:26	01/19/2016 17:05
W01 @ 7'	X601181-04	Soil	January 19, 2016 14:20	01/19/2016 17:05
B01 @ 10'	X601181-05	Soil	January 19, 2016 14:18	01/19/2016 17:05

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 - Callen USX N27-2

www.originslaboratory.com

X60181

ORIGINS  
LABORATORY, INC

Project Manager: **Bob Cornez**  
Project Name: **Callen USX N27-2**  
Project Number:  
Samples Collected By: **Kate Farnsworth**

Client: **Tasman Geosciences**  
Address:  
Telephone Number: **352 262 9910**  
Email Address: **Bob.Cornez@tasmangeo.com**

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa		
N0127	11/19/16	1422	2	X				X			ESTEX 8260 TPH, PCBs, PAHs EC, pH, SAR (H <sub>2</sub> O)	1
S0127		1416	1									2
E0127		1426	1									3
W0127		1420	1									4
B0127		1418	1									5
												6
												7
												8
												9
												10

  

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
[Signature]	11/19/16	1600	[Signature]	11/19/16	1705	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>

Date Results Needed

19

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 - Callen USX N27-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X601181

Client: Tasman

Client Project ID: Callen USX N27-2

Checklist Completed by: Jeff Smith

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

Date/time completed: 1/19/16

Airbill #: NA

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

Cooler Number/Temperature: 1 / 1.7 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C (Describe)

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 <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PH
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace (> ¼ 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 <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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	T
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) Jeff Smith

Date/Time Reviewed 1/19/16

Origins Laboratory, Inc.

*Jeff Pellegrini*

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 - Callen USX N27-2

N01 @ 7'  
1/19/2016 2:22:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601181-01 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	8000	250	mg/kg	5	B6A1905	01/19/2016	01/20/2016
Residual Range Organics (C28-C36)	2300	200	"	1	"	"	01/19/2016

Surrogate: o-Terphenyl	115 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	17000	400	mg/kg	2000	B6A1907	01/19/2016	01/20/2016
Benzene	132	3.98	"	"	"	"	"
Toluene	787	3.98	"	"	"	"	"
Ethylbenzene	93.0	3.98	"	"	"	"	"
Xylenes, total	923	3.98	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.5 %	70-130			"	"	"
Surrogate: Toluene-d8	113 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	8.29		pH Units	1	B6A1910	01/19/2016	01/19/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.103		mmhos/cm	"	B6A1911	"	01/19/2016
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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 - Callen USX N27-2

**S01 @ 7'**  
**1/19/2016 2:16:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601181-02 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A1905	01/19/2016	01/19/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 74.1 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	721	50.0	mg/kg	250	B6A1907	01/19/2016	01/19/2016
Benzene	0.780	0.498	"	"	"	"	"
Toluene	8.02	0.498	"	"	"	"	"
Ethylbenzene	1.82	0.498	"	"	"	"	"
Xylenes, total	25.2	0.498	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 87.6 % 70-130 " " "

Surrogate: Toluene-d8 117 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 93.1 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.46		pH Units	1	B6A1910	01/19/2016	01/19/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.105		mmhos/cm	"	B6A1911	"	01/19/2016
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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 - Callen USX N27-2

E01 @ 7'  
1/19/2016 2:26:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601181-03 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A1905	01/19/2016	01/19/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	74.9 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B6A1907	01/19/2016	01/19/2016
Benzene	ND	0.050	"	"	"	"	"
Toluene	0.069	0.050	"	"	"	"	"
Ethylbenzene	ND	0.050	"	"	"	"	"
Xylenes, total	ND	0.050	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	90.1 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	8.37		pH Units	1	B6A1910	01/19/2016	01/19/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.102		mmhos/cm	"	B6A1911	"	01/19/2016
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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 - Callen USX N27-2

W01 @ 7'  
1/19/2016 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601181-04 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A1905	01/19/2016	01/19/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	71.1 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	7.88	5.00	mg/kg	25	B6A1907	01/19/2016	01/19/2016
Benzene	ND	0.050	"	"	"	"	"
Toluene	ND	0.050	"	"	"	"	"
Ethylbenzene	ND	0.050	"	"	"	"	"
Xylenes, total	ND	0.050	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	89.8 %	70-130			"	"	"
Surrogate: Toluene-d8	101 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	8.46		pH Units	1	B6A1910	01/19/2016	01/19/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.112		mmhos/cm	"	B6A1911	"	01/19/2016
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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 - Callen USX N27-2

**B01 @ 10'**  
**1/19/2016 2:18:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601181-05 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	<b>5600</b>	50	mg/kg	1	B6A1905	01/19/2016	01/19/2016
Residual Range Organics (C28-C36)	<b>1100</b>	200	"	"	"	"	"

Surrogate: o-Terphenyl	113 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>13700</b>	400	mg/kg	2000	B6A1907	01/19/2016	01/20/2016
Benzene	<b>113</b>	3.98	"	"	"	"	"
Toluene	<b>627</b>	3.98	"	"	"	"	"
Ethylbenzene	<b>67.6</b>	3.98	"	"	"	"	"
Xylenes, total	<b>705</b>	3.98	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	95.6 %	70-130			"	"	"
Surrogate: Toluene-d8	107 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.1 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	<b>8.64</b>		pH Units	1	B6A1910	01/19/2016	01/19/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.105</b>		mmhos/cm	"	B6A1911	"	01/19/2016
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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 - Callen USX N27-2

**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 B6A1907 - EPA 5030 (soil)**

**Blank (B6A1907-BLK1)**

Prepared: 01/19/2016 Analyzed: 01/19/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	63.3		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	60.9		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	58.9		"	62.5		94.2	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A1907 - EPA 5030 (soil)

**LCS (B6A1907-BS1)**

Prepared: 01/19/2016 Analyzed: 01/19/2016

Benzene	0.115	0.002	mg/kg	0.100		115	77.1-124			
Toluene	0.114	0.002	"	0.100		114	74.5-128			
Ethylbenzene	0.111	0.002	"	0.100		111	66.4-127			
m,p-Xylene	0.225	0.004	"	0.200		113	76.6-124			
o-Xylene	0.112	0.002	"	0.100		112	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	61.8		ug/kg	62.5		98.9	70-130			
Surrogate: Toluene-d8	62.5		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	60.0		"	62.5		96.0	70-130			

Origins Laboratory, Inc.



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6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A1907 - EPA 5030 (soil)**

Matrix Spike (B6A1907-MS1)		Source: X601157-01			Prepared: 01/19/2016 Analyzed: 01/19/2016					
Benzene	0.087	0.002	mg/kg	0.100	ND	86.7	71.8-126			
Toluene	0.084	0.002	"	0.100	ND	83.7	65.1-130			
Ethylbenzene	0.082	0.002	"	0.100	ND	82.1	62.2-130			
m,p-Xylene	0.166	0.004	"	0.200	ND	83.0	46.5-137			
o-Xylene	0.084	0.002	"	0.100	ND	83.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	64.3		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	61.2		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	61.2		"	62.5		97.9	70-130			

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 - Callen USX N27-2

**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 B6A1907 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B6A1907-MSD1)</b>		<b>Source: X601157-01</b>			Prepared: 01/19/2016 Analyzed: 01/19/2016					
Benzene	0.102	0.002	mg/kg	0.100	ND	102	71.8-126	16.6	11.3	QR-02
Toluene	0.100	0.002	"	0.100	ND	100	65.1-130	17.8	15.4	QR-02
Ethylbenzene	0.100	0.002	"	0.100	ND	100	62.2-130	20.1	19.6	QR-02
m,p-Xylene	0.204	0.004	"	0.200	ND	102	46.5-137	20.7	19.2	QR-02
o-Xylene	0.101	0.002	"	0.100	ND	101	54.2-134	18.6	17.9	QR-02
Surrogate: 1,2-Dichloroethane-d4	64.4		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	61.9		"	62.5		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	61.3		"	62.5		98.0	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 - Callen USX N27-2

## 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 B6A1905 - EPA 3580

#### Blank (B6A1905-BLK1)

Prepared: 01/19/2016 Analyzed: 01/19/2016

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	48		"	50.0		96.0	59-131			

#### LCS (B6A1905-BS1)

Prepared: 01/19/2016 Analyzed: 01/19/2016

Diesel (C10-C28)	930	50	mg/kg	1000		93.3	64-121			
Residual Range Organics (C28-C36)	1000	200	"	1000		100	58-124			
Surrogate: o-Terphenyl	51		"	50.0		103	59-131			

#### LCS Dup (B6A1905-BSD1)

Prepared: 01/19/2016 Analyzed: 01/19/2016

Diesel (C10-C28)	730	50	mg/kg	1000		73.2	64-121	24.1	20	QR-02
Residual Range Organics (C28-C36)	770	200	"	1000		76.7	58-124	26.8	20	QR-02
Surrogate: o-Terphenyl	41		"	50.0		82.0	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

## 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 B6A1910 - NO PREP</b>										
<b>Duplicate (B6A1910-DUP1)</b>		<b>Source: X601181-01</b>			Prepared: 01/19/2016 Analyzed: 01/19/2016					
pH	8.26		pH Units		8.29			0.363	25	
<b>Batch B6A1911 - NO PREP</b>										
<b>Blank (B6A1911-BLK1)</b>		Prepared: 01/19/2016 Analyzed: 01/19/2016								
Specific Conductance (EC)	0.00230		mmhos/cm							
<b>Duplicate (B6A1911-DUP1)</b>		<b>Source: X601181-01</b>			Prepared: 01/19/2016 Analyzed: 01/19/2016					
Specific Conductance (EC)	0.109		mmhos/cm		0.103			6.03	25	

Origins Laboratory, Inc.



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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Callen USX N27-2

### Notes and Definitions

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.

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.



*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.*

Jen Pellegrini For Noelle Doyle Mathis, President



January 22, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

**Project Name - KMG - Callen USX N27-2**

**Project Number - [none]**

Attached are your analytical results for KMG - Callen USX N27-2 received by Origins Laboratory, Inc. January 21, 2016. This project is associated with Origins project number X601206-01.

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 - Callen USX N27-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B02 @ 17'	X601206-01	Soil	January 21, 2016 13:30	01/21/2016 16:57
E02 @ 15'	X601206-02	Soil	January 21, 2016 13:43	01/21/2016 16:57

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

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page 1 of 1

**ORIGINS**  
LABORATORY, INC

**X601206**

Client: Tasman Geosciences

Address: [blank]

Telephone Number: 352 262 9910

Email Address: for net@tasman-geo.com

Project Manager: Bob Cornez

Project Name: Callen USX N27-2

Project Number: [blank]

Samples Collected By: Kate Forsmark

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #	Other		
B02A17	11/21/16	1330	2	X					X			GIBTEX824.0 TPH-DRO/DO/8015 EC, pH, SAR (1EC)	1
B02A15	11/21/16	1343	2	X					X				2
													3
													4
													5
													6
													7
													8
													9
													10

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 11/21/16

Date: 11/21/16

Time: 1505

Time: 1657

Turnaround Time: Same Day

24 Hr

48 Hr

Standard

Date Results Needed: 11/21/16

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 1601206

Client: Tasman Geosciences

Client Project ID: Callen USX N27-2

Checklist Completed by: Jef Pellegri

Shipped Via: Pickup

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/21/12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 10 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C (Describe)

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 <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>pH</u>
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace (> ¼ 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 <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 type="checkbox"/>	<input type="checkbox"/>	<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) Jef Pellegri

Date/Time Reviewed 1/21/12

Origins Laboratory, Inc.

*Jef Pellegri*

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**B02 @ 17'**  
**1/21/2016 1:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601206-01 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2108	01/21/2016	01/22/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

*Surrogate: o-Terphenyl* 84.9 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>18.1</b>	5.00	mg/kg	25	B6A2109	01/21/2016	01/21/2016
Benzene	ND	0.050	"	"	"	"	"
Toluene	<b>0.209</b>	0.050	"	"	"	"	"
Ethylbenzene	<b>0.054</b>	0.050	"	"	"	"	"
Xylenes, total	<b>0.606</b>	0.050	"	"	"	"	"

*Surrogate: 1,2-Dichloroethane-d4* 95.2 % 70-130 " " "  
*Surrogate: Toluene-d8* 105 % 70-130 " " "  
*Surrogate: 4-Bromofluorobenzene* 101 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	<b>8.19</b>		pH Units	1	B6A2106	01/21/2016	01/21/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.154</b>		mmhos/cm	"	B6A2107	01/21/2016	01/21/2016
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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 - Callen USX N27-2

**E02 @ 15'**  
**1/21/2016 1:43:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601206-02 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2108	01/21/2016	01/22/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	64.0 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2109	01/21/2016	01/21/2016
Benzene	<b>0.003</b>	0.002	"	"	"	"	"
Toluene	<b>0.006</b>	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130			"	"	"
Surrogate: Toluene-d8	96.5 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.2 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	7.87		pH Units	1	B6A2106	01/21/2016	01/21/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	1.15		mmhos/cm	"	B6A2107	01/21/2016	01/21/2016
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Origins Laboratory, Inc.



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6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)**

**Blank (B6A2109-BLK1)**

Prepared: 01/21/2016 Analyzed: 01/21/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	63.1		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	58.6		"	62.5		93.8	70-130			
Surrogate: 4-Bromofluorobenzene	60.0		"	62.5		96.0	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)**

**Blank (B6A2109-BLK2)**

Prepared: 01/21/2016 Analyzed: 01/21/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	66.8		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	58.8		"	62.5		94.2	70-130			
Surrogate: 4-Bromofluorobenzene	58.6		"	62.5		93.8	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)										
LCS (B6A2109-BS1)					Prepared: 01/21/2016 Analyzed: 01/21/2016					
Benzene	0.082	0.002	mg/kg	0.100		81.6	77.1-124			
Toluene	0.088	0.002	"	0.100		87.6	74.5-128			
Ethylbenzene	0.112	0.002	"	0.100		112	66.4-127			
m,p-Xylene	0.221	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	60.2		ug/kg	62.5		96.3	70-130			
Surrogate: Toluene-d8	54.0		"	62.5		86.5	70-130			
Surrogate: 4-Bromofluorobenzene	61.4		"	62.5		98.3	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 - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)</b>										
<b>LCS (B6A2109-BS2)</b>					Prepared: 01/21/2016 Analyzed: 01/22/2016					
Benzene	0.084	0.002	mg/kg	0.100		84.5	77.1-124			
Toluene	0.095	0.002	"	0.100		94.8	74.5-128			
Ethylbenzene	0.116	0.002	"	0.100		116	66.4-127			
m,p-Xylene	0.225	0.004	"	0.200		112	76.6-124			
o-Xylene	0.114	0.002	"	0.100		114	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63.1		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	55.9		"	62.5		89.4	70-130			
Surrogate: 4-Bromofluorobenzene	61.3		"	62.5		98.1	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 - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)</b>										
<b>LCS Dup (B6A2109-BSD1)</b>					Prepared: 01/21/2016 Analyzed: 01/22/2016					
Benzene	0.101	0.002	mg/kg	0.100		101	77.1-124	21.6	20	QR-02
Toluene	0.100	0.002	"	0.100		99.6	74.5-128	12.8	20	
Ethylbenzene	0.092	0.002	"	0.100		92.2	66.4-127	19.4	20	
m,p-Xylene	0.193	0.004	"	0.200		96.6	76.6-124	13.3	20	
o-Xylene	0.098	0.002	"	0.100		97.7	76.6-124	11.0	20	
Surrogate: 1,2-Dichloroethane-d4	63.4		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	62.0		"	62.5		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	56.7		"	62.5		90.7	70-130			

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 - Callen USX N27-2

**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 B6A2109 - EPA 5030 (soil)</b>										
<b>LCS Dup (B6A2109-BSD2)</b>					Prepared: 01/21/2016 Analyzed: 01/22/2016					
Benzene	0.103	0.002	mg/kg	0.100		103	77.1-124	19.7	20	
Toluene	0.102	0.002	"	0.100		102	74.5-128	7.37	20	
Ethylbenzene	0.096	0.002	"	0.100		95.8	66.4-127	19.0	20	
m,p-Xylene	0.200	0.004	"	0.200		100	76.6-124	11.5	20	
o-Xylene	0.101	0.002	"	0.100		101	76.6-124	11.6	20	
Surrogate: 1,2-Dichloroethane-d4	60.8		ug/kg	62.5		97.2	70-130			
Surrogate: Toluene-d8	62.4		"	62.5		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	58.5		"	62.5		93.6	70-130			

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 - Callen USX N27-2

## 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 B6A2108 - EPA 3580

#### Blank (B6A2108-BLK1)

Prepared: 01/21/2016 Analyzed: 01/21/2016

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	41		"	50.0		82.4	59-131			

#### Blank (B6A2108-BLK2)

Prepared: 01/21/2016 Analyzed: 01/21/2016

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	40		"	50.0		79.4	59-131			

#### LCS (B6A2108-BS1)

Prepared: 01/21/2016 Analyzed: 01/21/2016

Diesel (C10-C28)	920	50	mg/kg				64-121			
Residual Range Organics (C28-C36)	930	200	"				58-124			
Surrogate: o-Terphenyl	48		"	50.0		96.3	59-131			

#### LCS (B6A2108-BS2)

Prepared: 01/21/2016 Analyzed: 01/21/2016

Diesel (C10-C28)	760	50	mg/kg				64-121			
Residual Range Organics (C28-C36)	730	200	"				58-124			
Surrogate: o-Terphenyl	41		"	50.0		81.1	59-131			

#### Matrix Spike (B6A2108-MS1)

Source: X601205-01

Prepared: 01/21/2016 Analyzed: 01/21/2016

Diesel (C10-C28)	800	50	mg/kg				53-125			
Residual Range Organics (C28-C36)	760	200	"				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 - Callen USX N27-2

## 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 B6A2108 - EPA 3580</b>										
<b>Matrix Spike (B6A2108-MS1)</b>		<b>Source: X601205-01</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
Surrogate: o-Terphenyl	40		mg/kg	50.0		80.3	59-131			
<b>Matrix Spike (B6A2108-MS2)</b>		<b>Source: X601205-02</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
Diesel (C10-C28)	760	50	mg/kg				53-125			
Residual Range Organics (C28-C36)	740	200	"				47-133			
Surrogate: o-Terphenyl	39		"	50.0		77.8	59-131			
<b>Matrix Spike Dup (B6A2108-MSD1)</b>		<b>Source: X601205-01</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
Diesel (C10-C28)	800	50	mg/kg				53-125	0.00714	20	
Residual Range Organics (C28-C36)	740	200	"				47-133	1.88	20	
Surrogate: o-Terphenyl	41		"	50.0		81.3	59-131			
<b>Matrix Spike Dup (B6A2108-MSD2)</b>		<b>Source: X601205-02</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
Diesel (C10-C28)	720	50	mg/kg				53-125	5.43	20	
Residual Range Organics (C28-C36)	680	200	"				47-133	7.69	20	
Surrogate: o-Terphenyl	38		"	50.0		75.4	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

## 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 B6A2106 - NO PREP</b>										
<b>Duplicate (B6A2106-DUP1)</b>		<b>Source: X601202-01</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
pH	8.48		pH Units		8.29			2.27	25	
<b>Batch B6A2107 - NO PREP</b>										
<b>Blank (B6A2107-BLK1)</b>		Prepared: 01/21/2016 Analyzed: 01/21/2016								
Specific Conductance (EC)	0.00270		mmhos/cm							
<b>Duplicate (B6A2107-DUP1)</b>		<b>Source: X601202-01</b>			Prepared: 01/21/2016 Analyzed: 01/21/2016					
Specific Conductance (EC)	0.0483		mmhos/cm		0.0506			4.65	25	

Origins Laboratory, Inc.



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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Callen USX N27-2

### Notes and Definitions

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.

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.



*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.*

Jen Pellegrini For Noelle Doyle Mathis, President



January 25, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

**Project Name - KMG - Callen USX N27-2**

**Project Number - [none]**

Attached are your analytical results for KMG - Callen USX N27-2 received by Origins Laboratory, Inc. January 22, 2016. This project is associated with Origins project number X601229-01.

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 - Callen USX N27-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W02 @ 15'	X601229-01	Soil	January 22, 2016 14:25	01/22/2016 16:14
N02 @ 15'	X601229-02	Soil	January 22, 2016 14:30	01/22/2016 16:14

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

www.originslaboratory.com

page 1 of 1

**ORIGINS** LABORATORY, INC

**X601229**

Client: Tasman Geosciences

Address:

Telephone Number: 352 262 9910

Email Address: bob@tasmangeo.com

Project Manager: Bob Cornez

Project Name: Callen USX N27-2

Project Number:

Samples Collected By: Kate Forsmark

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #		
N02015	1/22/16	1425	2	X				X			GI BTEX 8260 TPH 800008015 pH, EC, SAR (15 EC) (5/10)	1
N02015	1/22/16	1430	2	X				X				2
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished By: [Signature]

Date: 1/22/16

Time: 1530

Received By: [Signature]

Date: 1/22/16

Time: 1614

Turnaround Time:

Same Day ☒ 24 Hr ☐

48 Hr ☐ 72 Hr ☐

Standard ☐

1725 Elk Place

Denver, CO 80211

Phone: 303.433.1322

Fax: 303.265.9645

Origins Laboratory, Inc.

*Jefe Pellegrini*

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 - Callen USX N27-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X60229

Client: Tasman

Client Project ID: Callen USX N27-2

Checklist Completed by: [Signature]

Shipped Via: HL 1/22 Pickup

Date/time completed: 1/22/16

Airbill #: \_\_\_\_\_

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

Cooler Number/Temperature: 1 105 °C \_\_\_\_\_ °C \_\_\_\_\_ °C \_\_\_\_\_ °C

Thermometer ID: T203

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? 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) [Signature]

Date/Time Reviewed 1/22/16

Origins Laboratory, Inc.

[Signature]

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

W02 @ 15'  
1/22/2016 2:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601229-01 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2203	01/22/2016	01/22/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 66.4 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	342	5.00	mg/kg	25	B6A2208	01/22/2016	01/22/2016
Benzene	0.612	0.050	"	"	"	"	"
Toluene	9.94	0.050	"	"	"	"	"
Ethylbenzene	2.44	0.050	"	"	"	"	"
Xylenes, total	20.8	0.050	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 116 % 70-130 " " "  
Surrogate: Toluene-d8 118 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 109 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.60		pH Units	1	B6A2209	01/22/2016	01/22/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	1.32		mmhos/cm	"	B6A2210	01/22/2016	01/22/2016
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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 - Callen USX N27-2

**N02 @ 15'**  
**1/22/2016 2:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601229-02 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2203	01/22/2016	01/22/2016
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 140 % 59-131 " " S-07

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2208	01/22/2016	01/22/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 " " "

Surrogate: Toluene-d8 104 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 95.7 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.74		pH Units	1	B6A2209	01/22/2016	01/22/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.226		mmhos/cm	"	B6A2210	01/22/2016	01/22/2016
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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 - Callen USX N27-2

**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 B6A2208 - EPA 5030 (soil)**

**Blank (B6A2208-BLK1)**

Prepared: 01/22/2016 Analyzed: 01/22/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	66.9		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	58.8		"	62.5		94.1	70-130			
Surrogate: 4-Bromofluorobenzene	54.5		"	62.5		87.2	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2208 - EPA 5030 (soil)</b>										
<b>LCS (B6A2208-BS1)</b>					Prepared: 01/22/2016 Analyzed: 01/22/2016					
Benzene	0.096	0.002	mg/kg	0.100		95.9	77.1-124			
Toluene	0.098	0.002	"	0.100		98.5	74.5-128			
Ethylbenzene	0.114	0.002	"	0.100		114	66.4-127			
m,p-Xylene	0.223	0.004	"	0.200		112	76.6-124			
o-Xylene	0.113	0.002	"	0.100		113	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	66.6		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	57.8		"	62.5		92.6	70-130			
Surrogate: 4-Bromofluorobenzene	59.4		"	62.5		95.0	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 - Callen USX N27-2

**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 B6A2208 - EPA 5030 (soil)**

Matrix Spike (B6A2208-MS1)		Source: X601229-02			Prepared: 01/22/2016 Analyzed: 01/22/2016					
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	0.121	0.002	"	0.100	ND	121	62.2-130			
m,p-Xylene	0.228	0.004	"	0.200	ND	114	46.5-137			
o-Xylene	0.113	0.002	"	0.100	ND	113	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	67.6		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	56.9		"	62.5		91.0	70-130			
Surrogate: 4-Bromofluorobenzene	57.2		"	62.5		91.4	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 - Callen USX N27-2

**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 B6A2208 - EPA 5030 (soil)**

Matrix Spike Dup (B6A2208-MSD1)		Source: X601229-02			Prepared: 01/22/2016 Analyzed: 01/22/2016					
Benzene	0.098	0.002	mg/kg	0.100	ND	98.1	71.8-126	3.39	11.3	
Toluene	0.102	0.002	"	0.100	ND	102	65.1-130	0.0392	15.4	
Ethylbenzene	0.123	0.002	"	0.100	ND	123	62.2-130	1.70	19.6	
m,p-Xylene	0.238	0.004	"	0.200	ND	119	46.5-137	4.12	19.2	
o-Xylene	0.131	0.002	"	0.100	ND	131	54.2-134	15.0	17.9	
Surrogate: 1,2-Dichloroethane-d4	65.0		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	58.2		"	62.5		93.1	70-130			
Surrogate: 4-Bromofluorobenzene	68.0		"	62.5		109	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 - Callen USX N27-2

## 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 B6A2203 - EPA 3580

#### Blank (B6A2203-BLK1)

Prepared: 01/22/2016 Analyzed: 01/22/2016

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	37		"	50.0		74.4	59-131			

#### LCS (B6A2203-BS1)

Prepared: 01/22/2016 Analyzed: 01/22/2016

Diesel (C10-C28)	710	50	mg/kg	1000		71.3	64-121			
Residual Range Organics (C28-C36)	660	200	"	1000		65.6	58-124			
Surrogate: o-Terphenyl	39		"	50.0		78.9	59-131			

#### Matrix Spike (B6A2203-MS1)

Source: X601215-01

Prepared: 01/22/2016 Analyzed: 01/22/2016

Diesel (C10-C28)	1100	50	mg/kg	1000	1100	NR	53-125			QM-07
Residual Range Organics (C28-C36)	630	200	"	1000	210	42.0	47-133			QM-07
Surrogate: o-Terphenyl	29		"	50.0		57.3	59-131			S-04

#### Matrix Spike Dup (B6A2203-MSD1)

Source: X601215-01

Prepared: 01/22/2016 Analyzed: 01/22/2016

Diesel (C10-C28)	1300	50	mg/kg	1000	1100	16.4	53-125	18.6	20	QM-07
Residual Range Organics (C28-C36)	690	200	"	1000	210	48.4	47-133	9.69	20	
Surrogate: o-Terphenyl	34		"	50.0		67.6	59-131			

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

## 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 B6A2209 - NO PREP</b>										
<b>Duplicate (B6A2209-DUP1)</b>		<b>Source: X601229-01</b>			Prepared: 01/22/2016 Analyzed: 01/22/2016					
pH	7.55		pH Units		7.60			0.660	25	
<b>Batch B6A2210 - NO PREP</b>										
<b>Blank (B6A2210-BLK1)</b>		Prepared: 01/22/2016 Analyzed: 01/22/2016								
Specific Conductance (EC)	0.00380		mmhos/cm							
<b>Duplicate (B6A2210-DUP1)</b>		<b>Source: X601229-01</b>			Prepared: 01/22/2016 Analyzed: 01/22/2016					
Specific Conductance (EC)	1.29		mmhos/cm		1.32			2.14	25	

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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 - Callen USX N27-2

## Notes and Definitions

S-07 High surrogate in sample, however sample is non-detect. High surrogate indicates result values are biased high.

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

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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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January 27, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Callen USX N27-2

Project Number - [none]

Attached are your analytical results for KMG - Callen USX N27-2 received by Origins Laboratory, Inc. January 26, 2016. This project is associated with Origins project number X601254-01.

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 - Callen USX N27-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02 @ 13'	X601254-01	Soil	January 26, 2016 14:14	01/26/2016 16:15
E03 @ 13'	X601254-02	Soil	January 26, 2016 14:16	01/26/2016 16:15
W03 @ 13'	X601254-03	Soil	January 26, 2016 14:22	01/26/2016 16:15

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 - Callen USX N27-2

www.originslaboratory.com

X601254

ORIGINS  
LABORATORY, INC

page 1 of 1

Client: Tasman Geosciences  
Address: [blank]  
Project Manager: Bob Cornez  
Project Name: Callen USX N27-2  
Project Number: [blank]  
Samples Collected By: Kate Forsmark  
Telephone Number: 352 262 9910  
Email Address: bcornez@tasman-geo.com

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summ #		
S02013'	1/26/16	1414	2	X				X			GISTEX 8200 TPH DROGOSUS EC pH SAR (1:1)	1
E03013'	1/16	1416	2	X				X				2
W03013'	1/22	1422	2	X				X				3
												4
												5
												6
												7
												8
												9
												10

  

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
[Signature]	1/26/16	1800	[Signature]	1/26/16	1615	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>

Date Results Needed

7.1

Origins Laboratory, Inc.

Jefe Pellegrini

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 - Callen USX N27-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X601254

Client: Tasman

Client Project ID: Callen USX N27-2

Checklist Completed by: J. C. Smith

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

Date/time completed: 1/26/12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 7.1 °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 <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		<u>Sampled Same Day</u>
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"/>			<u>PH</u>
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.

J. C. Smith  
Reviewed by (Project Manager)

1/26/12  
Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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 - Callen USX N27-2

**S02 @ 13'**  
**1/26/2016 2:14:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601254-01 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2605	01/26/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	71.5 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>0.205</b>	0.200	mg/kg	1	B6A2606	"	01/26/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"
Surrogate: Toluene-d8	91.5 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	<b>8.81</b>		pH Units	1	B6A2608	01/26/2016	01/26/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.102</b>		mmhos/cm	"	B6A2607	"	01/26/2016
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Origins Laboratory, Inc.



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6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**E03 @ 13'**  
**1/26/2016 2:16:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601254-02 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2605	01/26/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	73.0 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2606	"	01/26/2016
Benzene	<b>0.003</b>	0.002	"	"	"	"	"
Toluene	<b>0.004</b>	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.0 %	70-130			"	"	"
Surrogate: Toluene-d8	92.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.6 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	<b>8.18</b>		pH Units	1	B6A2608	01/26/2016	01/26/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.948</b>		mmhos/cm	"	B6A2607	"	01/26/2016
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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 - Callen USX N27-2

W03 @ 13'  
1/26/2016 2:22:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X601254-03 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2605	01/26/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	81.6 %	59-131			"	"	"
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**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2606	"	01/26/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.6 %	70-130			"	"	"
Surrogate: Toluene-d8	92.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	95.8 %	70-130			"	"	"

**pH in Soil by EPA 9045D**

pH	8.00		pH Units	1	B6A2608	01/26/2016	01/26/2016
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.574		mmhos/cm	"	B6A2607	"	01/26/2016
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6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2606 - EPA 5030 (soil)**

**Blank (B6A2606-BLK1)**

Prepared: 01/26/2016 Analyzed: 01/26/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	58.2		ug/kg	62.5		93.2	70-130			
Surrogate: Toluene-d8	59.3		"	62.5		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	61.6		"	62.5		98.6	70-130			

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2606 - EPA 5030 (soil)										
LCS (B6A2606-BS1)					Prepared: 01/26/2016 Analyzed: 01/26/2016					
Benzene	0.119	0.002	mg/kg	0.100		119	77.1-124			
Toluene	0.106	0.002	"	0.100		106	74.5-128			
Ethylbenzene	0.082	0.002	"	0.100		81.5	66.4-127			
m,p-Xylene	0.165	0.004	"	0.200		82.7	76.6-124			
o-Xylene	0.086	0.002	"	0.100		85.7	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59.1		ug/kg	62.5		94.5	70-130			
Surrogate: Toluene-d8	63.7		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	55.9		"	62.5		89.5	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 - Callen USX N27-2

**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 B6A2606 - EPA 5030 (soil)**

Matrix Spike (B6A2606-MS1)		Source: X601254-01			Prepared: 01/26/2016 Analyzed: 01/26/2016					
Benzene	0.123	0.002	mg/kg	0.100	ND	123	71.8-126			
Toluene	0.120	0.002	"	0.100	ND	120	65.1-130			
Ethylbenzene	0.107	0.002	"	0.100	ND	107	62.2-130			
m,p-Xylene	0.222	0.004	"	0.200	ND	111	46.5-137			
o-Xylene	0.111	0.002	"	0.100	ND	111	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	60.0		ug/kg	62.5		96.0	70-130			
Surrogate: Toluene-d8	62.0		"	62.5		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	57.7		"	62.5		92.3	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 - Callen USX N27-2

**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 B6A2606 - EPA 5030 (soil)**

Matrix Spike Dup (B6A2606-MSD1)		Source: X601254-01			Prepared: 01/26/2016 Analyzed: 01/26/2016					
Benzene	0.123	0.002	mg/kg	0.100	ND	123	71.8-126	0.439	11.3	
Toluene	0.117	0.002	"	0.100	ND	117	65.1-130	2.43	15.4	
Ethylbenzene	0.103	0.002	"	0.100	ND	103	62.2-130	3.37	19.6	
m,p-Xylene	0.217	0.004	"	0.200	ND	108	46.5-137	2.26	19.2	
o-Xylene	0.110	0.002	"	0.100	ND	110	54.2-134	1.05	17.9	
Surrogate: 1,2-Dichloroethane-d4	63.2		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	61.6		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	58.8		"	62.5		94.1	70-130			

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 - Callen USX N27-2

## 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 B6A2605 - EPA 3580

#### Blank (B6A2605-BLK1)

Prepared: 01/26/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C40)	ND	200	"							
Surrogate: o-Terphenyl	49		"	50.0		98.4	59-131			

#### LCS (B6A2605-BS1)

Prepared: 01/26/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	950	50	mg/kg				64-121			
Residual Range Organics (C28-C40)	930	200	"				58-124			
Surrogate: o-Terphenyl	52		"	50.0		104	59-131			

#### Matrix Spike (B6A2605-MS1)

Source: X601254-01

Prepared: 01/26/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	710	50	mg/kg		ND		53-125			
Residual Range Organics (C28-C40)	660	200	"		23		47-133			
Surrogate: o-Terphenyl	37		"	50.0		74.8	59-131			

#### Matrix Spike Dup (B6A2605-MSD1)

Source: X601254-01

Prepared: 01/26/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	980	50	mg/kg		ND		53-125	32.0	20	QR-02
Residual Range Organics (C28-C40)	960	200	"		23		47-133	36.5	20	QR-02
Surrogate: o-Terphenyl	48		"	50.0		96.0	59-131			

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 - Callen USX N27-2

## 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 B6A2607 - NO PREP</b>										
<b>Blank (B6A2607-BLK1)</b>					Prepared: 01/26/2016 Analyzed: 01/26/2016					
Specific Conductance (EC)	0.00290		mmhos/cm							
<b>Duplicate (B6A2607-DUP1)</b>					<b>Source: X601254-01</b> Prepared: 01/26/2016 Analyzed: 01/26/2016					
Specific Conductance (EC)	0.108		mmhos/cm		0.102			4.95	25	
<b>Batch B6A2608 - NO PREP</b>										
<b>Duplicate (B6A2608-DUP1)</b>					<b>Source: X601254-01</b> Prepared: 01/26/2016 Analyzed: 01/26/2016					
pH	8.80		pH Units		8.81			0.114	25	

Origins Laboratory, Inc.



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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Callen USX N27-2

### Notes and Definitions

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.

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



January 28, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Callen USX N27-2

Project Number - [none]

Attached are your analytical results for KMG - Callen USX N27-2 received by Origins Laboratory, Inc. January 27, 2016. This project is associated with Origins project number X601262-01.

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 - Callen USX N27-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B03 @ 17'	X601262-01	Soil	January 27, 2016 8:57	01/27/2016 10:53
S03 @ 15'	X601262-02	Soil	January 27, 2016 9:00	01/27/2016 10:53
W04 @ 15'	X601262-03	Soil	January 27, 2016 9:02	01/27/2016 10:53

K. Forsmark asked that S04@15' be changed to S03@15'. ndm 1.28.16

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

X601262

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page 1 of 1

Client: Tasman Geosciences  
Address:  
Telephone Number: 352 262 9910  
Email Address: bcornez@tasmangeo.com

Project Manager: Bob Cornez  
Project Name: Callen USX N27-2  
Project Number:  
Samples Collected By: Kate Forshaw

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other			
B03017	1/27/16	857	2	X									1	
S04015	↓	900	2	X									2	
W04015	↓	902	2	X									3	
													4	
													5	
													6	
													7	
													8	
													9	
													10	

Analysis: GISTEX 8200, TPA DQ080, EQ pH SAL (540)

Relinquished By: [Signature] Date: 1/27/16 Time: 1657

Relinquished By: [Signature] Date: 1/27/16 Time: 1853

Turnaround Time: Same Day ☒ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☐

Date Results Needed

Origins Laboratory, Inc.

[Signature]

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X601262

Client: Tasman

Client Project ID: Callen USX N27-2

Checklist Completed by: J-EE Smith

Shipped Via: H/D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/27/16

Airbill #: NA

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

Cooler Number/Temperature: 1/12.3 °C 1/ °C 1/ °C 1/ °C (Describe)

Thermometer ID: T603

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"/>		<u>Sampled Some Dry</u>
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"/>	<input checked="" type="checkbox"/>		<u>PH</u>
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: [Signature] (Project Manager)

Date/Time Reviewed: 01/27/16

Origins Laboratory, Inc.

[Signature]

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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

B03 @ 17'  
1/27/2016 8:57:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X601262-01 (Soil)

### DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2702	01/27/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 90.0 % 59-131 " " "

### GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2703	01/27/2016	01/27/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 97.4 % 70-130 " " "  
Surrogate: Toluene-d8 93.7 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 99.1 % 70-130 " " "

### pH in Soil by EPA 9045D

pH	8.29		pH Units	1	B6A2704	"	01/27/2016
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### Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.244		mmhos/cm	"	B6A2705	01/27/2016	"
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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 - Callen USX N27-2

S03 @ 15'  
1/27/2016 9:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X601262-02 (Soil)

## DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2702	01/27/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 102 % 59-131 " " "

## GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2703	01/27/2016	01/27/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 97.6 % 70-130 " " "

Surrogate: Toluene-d8 91.2 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 96.7 % 70-130 " " "

## pH in Soil by EPA 9045D

pH	8.15		pH Units	1	B6A2704	"	01/27/2016
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## Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.347		mmhos/cm	"	B6A2705	01/27/2016	"
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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

W04 @ 15'  
1/27/2016 9:02:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X601262-03 (Soil)

### DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	B6A2702	01/27/2016	01/27/2016
Residual Range Organics (C28-C40)	ND	200	"	"	"	"	"

<i>Surrogate: o-Terphenyl</i>	72.5 %	59-131			"	"	"
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### GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6A2703	01/27/2016	01/27/2016
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

<i>Surrogate: 1,2-Dichloroethane-d4</i>	95.4 %	70-130			"	"	"
<i>Surrogate: Toluene-d8</i>	93.0 %	70-130			"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	97.0 %	70-130			"	"	"

### pH in Soil by EPA 9045D

pH	7.70		pH Units	1	B6A2704	"	01/27/2016
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### Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.825		mmhos/cm	"	B6A2705	01/27/2016	"
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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 - Callen USX N27-2

**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 B6A2703 - EPA 5030 (soil)

Blank (B6A2703-BLK1)

Prepared: 01/27/2016 Analyzed: 01/27/2016

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	58.7		ug/kg	62.5		93.9	70-130			
Surrogate: Toluene-d8	58.2		"	62.5		93.2	70-130			
Surrogate: 4-Bromofluorobenzene	60.8		"	62.5		97.3	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2703 - EPA 5030 (soil)										
LCS (B6A2703-BS1)					Prepared: 01/27/2016 Analyzed: 01/27/2016					
Benzene	0.102	0.002	mg/kg	0.100		102	77.1-124			
Toluene	0.100	0.002	"	0.100		100	74.5-128			
Ethylbenzene	0.089	0.002	"	0.100		89.0	66.4-127			
m,p-Xylene	0.186	0.004	"	0.200		92.9	76.6-124			
o-Xylene	0.094	0.002	"	0.100		94.5	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59.8		ug/kg	62.5		95.7	70-130			
Surrogate: Toluene-d8	62.6		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	57.0		"	62.5		91.2	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 - Callen USX N27-2

**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 B6A2703 - EPA 5030 (soil)

Matrix Spike (B6A2703-MS1)		Source: X601262-01			Prepared: 01/27/2016 Analyzed: 01/27/2016					
Benzene	0.107	0.002	mg/kg	0.100	ND	107	71.8-126			
Toluene	0.104	0.002	"	0.100	ND	104	65.1-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	94.8	62.2-130			
m,p-Xylene	0.197	0.004	"	0.200	ND	98.4	46.5-137			
o-Xylene	0.098	0.002	"	0.100	ND	98.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	60.0		ug/kg	62.5		96.0	70-130			
Surrogate: Toluene-d8	62.4		"	62.5		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	58.7		"	62.5		94.0	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President



Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

**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 B6A2703 - EPA 5030 (soil)

Matrix Spike Dup (B6A2703-MSD1)		Source: X601262-01			Prepared: 01/27/2016 Analyzed: 01/27/2016					
Benzene	0.104	0.002	mg/kg	0.100	ND	104	71.8-126	2.89	11.3	
Toluene	0.101	0.002	"	0.100	ND	101	65.1-130	2.72	15.4	
Ethylbenzene	0.090	0.002	"	0.100	ND	90.4	62.2-130	4.71	19.6	
m,p-Xylene	0.188	0.004	"	0.200	ND	93.9	46.5-137	4.72	19.2	
o-Xylene	0.095	0.002	"	0.100	ND	94.7	54.2-134	3.75	17.9	
Surrogate: 1,2-Dichloroethane-d4	60.2		ug/kg	62.5		96.3	70-130			
Surrogate: Toluene-d8	63.3		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	58.9		"	62.5		94.2	70-130			

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.*

Noelle Doyle Mathis, President

Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: [none]  
Project: KMG - Callen USX N27-2

## 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 B6A2702 - EPA 3580

#### Blank (B6A2702-BLK1)

Prepared: 01/27/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	ND	50	mg/kg
Residual Range Organics (C28-C40)	ND	200	"

Surrogate: o-Terphenyl	43	"	50.0	86.2	59-131
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#### LCS (B6A2702-BS1)

Prepared: 01/27/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	970	50	mg/kg	1000	97.0	64-121
Residual Range Organics (C28-C40)	990	200	"	1000	98.8	58-124

Surrogate: o-Terphenyl	52	"	50.0	103	59-131
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#### LCS Dup (B6A2702-BSD1)

Prepared: 01/27/2016 Analyzed: 01/27/2016

Diesel (C10-C28)	990	50	mg/kg	1000	99.4	64-121	2.46	20
Residual Range Organics (C28-C40)	930	200	"	1000	93.5	58-124	5.51	20

Surrogate: o-Terphenyl	51	"	50.0	103	59-131
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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 - Callen USX N27-2

## 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 B6A2704 - NO PREP										
Duplicate (B6A2704-DUP1)		Source: X601262-01			Prepared: 01/27/2016 Analyzed: 01/27/2016					
pH	8.28		pH Units		8.29			0.121	25	
Batch B6A2705 - NO PREP										
Blank (B6A2705-BLK1)		Prepared: 01/27/2016 Analyzed: 01/27/2016								
Specific Conductance (EC)	0.00270		mmhos/cm							
Duplicate (B6A2705-DUP1)		Source: X601262-01			Prepared: 01/27/2016 Analyzed: 01/27/2016					
Specific Conductance (EC)	0.210		mmhos/cm		0.244			15.0	25	

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 - Callen USX N27-2

### Notes and Definitions

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.



*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.*

Noelle Doyle Mathis, President