

received 10/30/2015
Project 9327
Document 200437853
Spill 442684

FIGURE



DATE: October 13, 2015

DESIGNED BY: D. Wade

DRAWN BY: D. Wade



Kerr-McGee Oil and Gas Onshore, LP
Sarchet Unit – 63N66W22SENW
 SENW, Section 22, Township 3 North, Range 66 West
 Weld County, Colorado

Sample Location
 Map

FIGURE
 1

TABLES

TABLE 1
SARCHET UNIT - 63N66W22SENW
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) ⁽¹⁾			0.17	85	100	175	500			4 or 2x BG	6-9
N01@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0752	8.39
N02@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0332	8.04
W01@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0582	8.48
W02@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0299	7.96
S01@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0315	8.16
S02@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0560	8.80
E01@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0532	8.47
E02@5	07/27/15	5.0	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200	0.0557	7.97

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

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.

TABLE 2
SARCHET UNIT - 63N66W22SENW
GROUNDWATER RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth To Water (ft. bgs)
COGCC Standards for groundwater (µg/L) ⁽¹⁾		5	560	700	1,400	
GW01	07/27/15	66.1	263	591	12,800	~6
GW02	07/28/15	24.6	17.8	12.4	526	~6

Notes:

1. Standards for groundwater are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

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

µg/L = Micrograms per liter.

ft. bgs = Feet below ground surface.

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

ATTACHMENT A
LABORATORY ANALYTICAL DATA



July 30, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

**Project Name - KMG - Sarchet
Unit-63N66W22SENW**

Project Number - [none]

Attached are your analytical results for KMG - Sarchet Unit-63N66W22SENW received by Origins Laboratory, Inc. July 27, 2015. This project is associated with Origins project number X507362-01.

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 - Sarchet Unit-63N66W22SENW

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01 @ 5	X507362-01	Soil	July 27, 2015 13:30	07/27/2015 18:10
N02 @ 5	X507362-02	Soil	July 27, 2015 13:35	07/27/2015 18:10
W01 @ 5	X507362-03	Soil	July 27, 2015 13:45	07/27/2015 18:10
W02 @ 5	X507362-04	Soil	July 27, 2015 13:50	07/27/2015 18:10
S01 @ 5	X507362-05	Soil	July 27, 2015 13:55	07/27/2015 18:10
S02 @ 5	X507362-06	Soil	July 27, 2015 14:00	07/27/2015 18:10
E01 @ 5	X507362-07	Soil	July 27, 2015 14:10	07/27/2015 18:10
E02 @ 5	X507362-08	Soil	July 27, 2015 14:20	07/27/2015 18:10
GW01	X507362-09	Water	July 27, 2015 14:30	07/27/2015 18:10

Brock changed the project name to KMG-Sarchet Unit-63N66W22SENW on 07/30/15.

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEnw

ORIGINS

X507362

page 1 of 1

Client: Tasman
 Address: _____
 Telephone Number: _____
 Email Address: BCORNEZ@tasmangeo.com

Project Manager: Bob Cornez
 Project Name: Morning Fresh 21-22
 Project Number: _____
 Samples Collected by: Nath Johnson

1725 Ell Pidge | 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 ₃	Other	Groundwater	Soil	Air	Other					
N0105	7/27/15	1330	1	X				X				X	X	X		
S0209		1335	1	X				X				X	X	X		
S0104		1345	1	X				X				X	X	X		
S0204		1350	1	X				X				X	X	X		
S0105		1355	1	X				X				X	X	X		
S0205		1400	1	X				X				X	X	X		
E0105		1410	1	X				X				X	X	X		
E0205		1420	1	X				X				X	X	X		
GW01		1430	3	X				X				X		NO HCL		

Relinquished By: _____ Date: 7/27/15 Time: 10:10
 Relinquished By: _____ Date: 7/27/15 Time: 18:00

Turnaround Time: Same Day 24 Hr
 48 Hr 72 Hr
 Standard 34

Origins Laboratory, Inc.

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEW

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS07362

Client: Tasman

Client Project ID: Morning Fresh 21-22

Checklist Completed by: Jeff Smith

Shipped Via: HD

Date/time completed: 7/27/15

(UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A

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

Cooler Number/Temperature: 1 / 13.8 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>			<u>PH</u>
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

7/27/15
 Date/Time Reviewed

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SENW

N01 @ 5
7/27/2015 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 81.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 112 % 70-130 " " "
Surrogate: Toluene-d8 102 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.39		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0752		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

N02 @ 5
7/27/2015 1:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

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

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 114 % 70-130 " " "
Surrogate: Toluene-d8 101 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.04		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0332		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

W01 @ 5
7/27/2015 1:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 76.0 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 111 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.48		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0582		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

W02 @ 5
7/27/2015 1:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 78.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "
Surrogate: Toluene-d8 98.8 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.96		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0299		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

S01 @ 5
7/27/2015 1:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 74.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 113 % 70-130 " " "
Surrogate: Toluene-d8 102 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 106 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.16		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0315		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

S02 @ 5
7/27/2015 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 78.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 111 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.80		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0560		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SEW

E01 @ 5
7/27/2015 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-07 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 81.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 110 % 70-130 " " "
Surrogate: Toluene-d8 97.3 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.47		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0532		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SEW

E02 @ 5
7/27/2015 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-08 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5G27006	07/27/2015	07/28/2015	
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"	

Surrogate: o-Terphenyl 78.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G27005	07/27/2015	07/27/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 111 % 70-130 " " "
Surrogate: Toluene-d8 99.3 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.97		pH Units	1	5G27007	07/27/2015	07/27/2015	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0557		mmhos/cm	"	5G27008	07/27/2015	07/27/2015	
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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 - Sarchet Unit-63N66W22SENW

GW01

7/27/2015 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507362-09 (Water)

BTEX by EPA 8260C

Benzene	66.1	4.0	ug/L	4	5G27010	07/27/2015	07/28/2015	
Toluene	263	4.0	"	"	"	"	"	
Ethylbenzene	591	4.0	"	"	"	"	"	
Xylenes, total	12800	100	"	100	"	"	07/28/2015	
Surrogate: 1,2-Dichloroethane-d4	108 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	98.0 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	92.5 %	88.6-111			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEW

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 5G27005 - EPA 5030 (soil)

Blank (5G27005-BLK1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

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	70.8		ug/kg	62.5		113	70-130			
Surrogate: Toluene-d8	63.0		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63.2		"	62.5		101	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 - Sarchet Unit-63N66W22SENW

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 5G27005 - EPA 5030 (soil)

LCS (5G27005-BS1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

Benzene	0.096	0.002	mg/kg	0.100		96.1	77.1-124			
Toluene	0.102	0.002	"	0.100		102	74.5-128			
Ethylbenzene	0.098	0.002	"	0.100		98.2	66.4-127			
m,p-Xylene	0.204	0.004	"	0.200		102	76.6-124			
o-Xylene	0.104	0.002	"	0.100		104	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	72.3		ug/kg	62.5		116	70-130			
Surrogate: Toluene-d8	64.4		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	62.7		"	62.5		100	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 - Sarchet Unit-63N66W22SEnw

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 5G27005 - EPA 5030 (soil)

Matrix Spike (5G27005-MS1)	Source: X507351-01			Prepared: 07/27/2015 Analyzed: 07/27/2015						
Benzene	0.085	0.002	mg/kg	0.100	ND	85.3	71.8-126			
Toluene	0.090	0.002	"	0.100	0.002	87.8	65.1-130			
Ethylbenzene	0.084	0.002	"	0.100	ND	84.5	62.2-130			
m,p-Xylene	0.163	0.004	"	0.200	0.002	80.6	46.5-137			
o-Xylene	0.085	0.002	"	0.100	0.0004	84.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	75.6		ug/kg	62.5		121	70-130			
Surrogate: Toluene-d8	64.5		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	65.1		"	62.5		104	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 - Sarchet Unit-63N66W22SEW

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 5G27005 - EPA 5030 (soil)

Matrix Spike Dup (5G27005-MSD1)	Source: X507351-01			Prepared: 07/27/2015 Analyzed: 07/27/2015						
Benzene	0.099	0.002	mg/kg	0.100	ND	99.0	71.8-126	14.9	11.3	QR-02
Toluene	0.101	0.002	"	0.100	0.002	99.5	65.1-130	12.2	15.4	
Ethylbenzene	0.091	0.002	"	0.100	ND	91.4	62.2-130	7.87	19.6	
m,p-Xylene	0.190	0.004	"	0.200	0.002	94.5	46.5-137	15.7	19.2	
o-Xylene	0.096	0.002	"	0.100	0.0004	95.6	54.2-134	12.5	17.9	
Surrogate: 1,2-Dichloroethane-d4	77.0		ug/kg	62.5		123	70-130			
Surrogate: Toluene-d8	62.7		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	62.4		"	62.5		99.9	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 - Sarchet Unit-63N66W22SENW

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 5G27010 - EPA 5030B (Water)

Blank (5G27010-BLK1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	105		87.3-113			
Surrogate: Toluene-d8	63		"	62.5	101		90.9-108			
Surrogate: 4-Bromofluorobenzene	59		"	62.5	94.0		88.6-111			

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 - Sarchet Unit-63N66W22SENW

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 5G27010 - EPA 5030B (Water)

LCS (5G27010-BS1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

Benzene	46.6	1.0	ug/L	50.0		93.2	75-126			
Toluene	44.5	1.0	"	50.0		89.1	78.7-126			
Ethylbenzene	48.1	1.0	"	50.0		96.2	80-130			
m,p-Xylene	98.2	2.0	"	100		98.2	77.2-133			
o-Xylene	46.5	1.0	"	50.0		93.1	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.0	88.6-111			

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 - Sarchet Unit-63N66W22SEW

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 5G27010 - EPA 5030B (Water)

Matrix Spike (5G27010-MS1)	Source: X507319-02			Prepared: 07/27/2015 Analyzed: 07/27/2015						
Benzene	56.4	1.0	ug/L	50.0	ND	113	74-130			
Toluene	55.3	1.0	"	50.0	ND	111	73-131			
Ethylbenzene	56.5	1.0	"	50.0	ND	113	76-132			
m,p-Xylene	116	2.0	"	100	ND	116	69-139			
o-Xylene	53.8	1.0	"	50.0	ND	108	74-131			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		103	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		98.1	90.9-108			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.8	88.6-111			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEnw

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 5G27010 - EPA 5030B (Water)

Matrix Spike Dup (5G27010-MSD1)	Source: X507319-02			Prepared: 07/27/2015 Analyzed: 07/27/2015						
Benzene	53.6	1.0	ug/L	50.0	ND	107	74-130	5.11	20	
Toluene	50.5	1.0	"	50.0	ND	101	73-131	9.05	20	
Ethylbenzene	53.9	1.0	"	50.0	ND	108	76-132	4.78	20	
m,p-Xylene	111	2.0	"	100	ND	111	69-139	3.97	20	
o-Xylene	52.9	1.0	"	50.0	ND	106	74-131	1.69	20	
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.7	90.9-108			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.7	88.6-111			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEW

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 5G27006 - EPA 3580

Blank (5G27006-BLK1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	44		"	50.0		87.7	59-131			

LCS (5G27006-BS1)

Prepared: 07/27/2015 Analyzed: 07/27/2015

Diesel (C10-C28)	850	50	mg/kg				64-121			
Residual Range Organics (C28-C36)	990	200	"	1000		99.3	58-124			
Surrogate: o-Terphenyl	48		"	50.0		95.1	59-131			

Matrix Spike (5G27006-MS1)

Source: X507351-01

Prepared: 07/27/2015 Analyzed: 07/27/2015

Diesel (C10-C28)	780	50	mg/kg		21		53-125			
Residual Range Organics (C28-C36)	900	200	"	1000	ND	90.1	47-133			
Surrogate: o-Terphenyl	44		"	50.0		88.8	59-131			

Matrix Spike Dup (5G27006-MSD1)

Source: X507351-01

Prepared: 07/27/2015 Analyzed: 07/27/2015

Diesel (C10-C28)	830	50	mg/kg		21		53-125	7.06	20	
Residual Range Organics (C28-C36)	950	200	"	1000	ND	94.8	47-133	5.09	20	
Surrogate: o-Terphenyl	47		"	50.0		93.0	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 - Sarchet Unit-63N66W22SEW

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 5G27007 - NO PREP										
Duplicate (5G27007-DUP1)		Source: X507321-01			Prepared: 07/27/2015 Analyzed: 07/27/2015					
pH	7.98		pH Units		7.96			0.251	25	
Batch 5G27008 - NO PREP										
Blank (5G27008-BLK1)		Prepared: 07/27/2015 Analyzed: 07/27/2015								
Specific Conductance (EC)	0.00360		mmhos/cm							
Duplicate (5G27008-DUP1)		Source: X507321-01			Prepared: 07/27/2015 Analyzed: 07/27/2015					
Specific Conductance (EC)	0.171		mmhos/cm		0.180			4.84	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 - Sarchet Unit-63N66W22SEW

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

July 29, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

**Project Name - KMG - Sarchet
Unit-63N66W22SENW**

Project Number - [none]

Attached are your analytical results for KMG - Sarchet Unit-63N66W22SENW received by Origins Laboratory, Inc. July 28, 2015. This project is associated with Origins project number X507378-01.

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



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Sarchet Unit-63N66W22SEW

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	X507378-01	Water	July 28, 2015 10:30	07/28/2015 16:38

Brock changed the project name to Sarchet Unit-63N66W22SEW on 07/29/15.

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 - Sarchet Unit-63N66W22SEW

www.originslaboratory.com
 X507378
 ORIGINS LABORATORY, INC
 page 1 of 1
 Client: Tasman
 Project Manager: Bob Cornez
 Address: _____
 Project Name: Morning Fresh 21-02
 Project Number: _____
 Telephone Number: _____
 Samples Collected By: Matt Petersen
 Email Address: cornez@tasman-geo.com
 Sarchet Unit
 63N66W22SEW
 QP 7-29-15

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions		
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other				
6W02	7/28/15	1030	3	<input checked="" type="checkbox"/>		1									
															2
															3
															4
															5
															6
															7
															8
															9
															10

Relinquished By: [Signature] Date: 7/28/15 Time: 1615
 Relinquished By: [Signature] Date: 7/28/15 Time: 1638

Temp Received: 5.0° Date Results Needed

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 - Sarchet Unit-63N66W22SEnw

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS07378

Client: Tasman

Client Project ID: Morning Earth 2+22

Searched
 Unit
 90729

Checklist Completed by: Jeff Smith

Shipped Via: 01/23/12 Pick up
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7/23/12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.9 °C 1 / °C 1 / °C (Describe) 1 / °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	X			HCL
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Jeff Smith
 Reviewed by (Project Manager)

7/23/12
 Date/Time Reviewed

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 - Sarchet Unit-63N66W22SENW

GW02
7/28/2015 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507378-01 (Water)

BTEX by EPA 8260C

Benzene	24.6	1.0	ug/L	1	5G28004	07/28/2015	07/28/2015	
Toluene	17.8	1.0	"	"	"	"	"	
Ethylbenzene	12.4	1.0	"	"	"	"	"	
Xylenes, total	526	10.0	"	10	"	"	07/28/2015	
Surrogate: 1,2-Dichloroethane-d4	109 %	87.3-113			"	"	07/28/2015	
Surrogate: Toluene-d8	105 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.6 %	88.6-111			"	"	"	

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 - Sarchet Unit-63N66W22SENW

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 5G28004 - EPA 5030B (Water)

Blank (5G28004-BLK2)

Prepared: 07/28/2015 Analyzed: 07/28/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5	108		87.3-113			
Surrogate: Toluene-d8	62		"	62.5	99.4		90.9-108			
Surrogate: 4-Bromofluorobenzene	59		"	62.5	94.6		88.6-111			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SENW

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 5G28004 - EPA 5030B (Water)

LCS (5G28004-BS2)

Prepared: 07/28/2015 Analyzed: 07/28/2015

Benzene	47.9	1.0	ug/L	50.0		95.8	75-126			
Toluene	45.6	1.0	"	50.0		91.3	78.7-126			
Ethylbenzene	52.6	1.0	"	50.0		105	80-130			
m,p-Xylene	107	2.0	"	100		107	77.2-133			
o-Xylene	51.0	1.0	"	50.0		102	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		107	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.4	90.9-108			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.3	88.6-111			

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Bob Cornez
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Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 5G28004 - EPA 5030B (Water)

Matrix Spike (5G28004-MS1)	Source: X507370-01			Prepared: 07/28/2015 Analyzed: 07/28/2015						
Benzene	46.8	1.0	ug/L	50.0	ND	93.5	74-130			
Toluene	44.7	1.0	"	50.0	ND	89.3	73-131			
Ethylbenzene	48.6	1.0	"	50.0	ND	97.1	76-132			
m,p-Xylene	98.6	2.0	"	100	ND	98.6	69-139			
o-Xylene	49.2	1.0	"	50.0	ND	98.4	74-131			
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	87.3-113			
Surrogate: Toluene-d8	62		"	62.5		99.6	90.9-108			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		92.7	88.6-111			

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Bob Cornez
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 Project: KMG - Sarchet Unit-63N66W22SENW

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 5G28004 - EPA 5030B (Water)

Matrix Spike (5G28004-MS2)	Source: X507370-02			Prepared: 07/28/2015 Analyzed: 07/28/2015						
Benzene	51.8	1.0	ug/L	50.0	ND	104	74-130			
Toluene	49.7	1.0	"	50.0	ND	99.3	73-131			
Ethylbenzene	51.0	1.0	"	50.0	ND	102	76-132			
m,p-Xylene	103	2.0	"	100	ND	103	69-139			
o-Xylene	50.8	1.0	"	50.0	ND	102	74-131			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		113	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		102	90.9-108			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		95.1	88.6-111			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SEnw

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 5G28004 - EPA 5030B (Water)

Matrix Spike Dup (5G28004-MSD1)	Source: X507370-01			Prepared: 07/28/2015 Analyzed: 07/28/2015						
Benzene	52.6	1.0	ug/L	50.0	ND	105	74-130	11.8	20	
Toluene	50.1	1.0	"	50.0	ND	100	73-131	11.5	20	
Ethylbenzene	53.3	1.0	"	50.0	ND	107	76-132	9.38	20	
m,p-Xylene	110	2.0	"	100	ND	110	69-139	11.2	20	
o-Xylene	52.7	1.0	"	50.0	ND	105	74-131	6.77	20	
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	87.3-113			
Surrogate: Toluene-d8	61		"	62.5		98.0	90.9-108			
Surrogate: 4-Bromofluorobenzene	56		"	62.5		90.4	88.6-111			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Sarchet Unit-63N66W22SENW

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 5G28004 - EPA 5030B (Water)

Matrix Spike Dup (5G28004-MSD2)	Source: X507370-02			Prepared: 07/28/2015 Analyzed: 07/28/2015						
Benzene	52.3	1.0	ug/L	50.0	ND	105	74-130	0.980	20	
Toluene	49.3	1.0	"	50.0	ND	98.6	73-131	0.728	20	
Ethylbenzene	51.1	1.0	"	50.0	ND	102	76-132	0.255	20	
m,p-Xylene	107	2.0	"	100	ND	107	69-139	3.95	20	
o-Xylene	53.5	1.0	"	50.0	ND	107	74-131	5.24	20	
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.1	88.6-111			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Sarchet Unit-63N66W22SEW

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.

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