

ANALYTICAL TABLES

TABLE 1
HSR-HALL 64N66W31NWSW
SOIL SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	EC (mmhos/cm)	pH (units)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	500			4 mmhos/cm or 2x BG	6-9
B02@8'	05/25/16	8.0	0.07	2.6	8.8	140	2,200	1,200	130	0.0551	7.75
S02@10'	05/26/16	10.0	<0.05	<0.05	<0.05	<0.05	<5.0	<25	<100	0.105	8.19
E02@10'	05/26/16	10.0	<0.05	<0.05	<0.05	<0.05	<5.0	<25	<100	0.0216	8.09
W03@10'	05/27/16	10.0	<0.05	<0.05	<0.05	<0.05	<5.0	<25	<100	0.0965	8.47
N03@10'	05/27/16	10.0	<0.05	<0.05	<0.05	<0.05	<5.0	<25	<100	0.0133	8.55
W04@10'	05/31/16	10.0	<0.002	<0.002	<0.002	<0.002	<0.200	<25.0	<100	0.0184	7.45
N04@10'	05/31/16	10.0	<0.002	<0.002	<0.002	<0.002	<0.200	<25.0	<100	0.0354	7.47
E03@10'	05/31/16	10.0	<0.002	<0.002	<0.002	<0.002	<0.200	<25.0	<100	0.0124	7.53
S03@10'	05/31/16	10.0	<0.002	<0.002	<0.002	<0.002	<0.200	<25.0	<100	0.0845	7.61

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.

TABLE 2
HSR-HALL 64N66W31NWSW
GROUNDWATER SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	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	05/26/16	95.9	2,980	552	10,900	~11
GW02	05/31/16	29.0	1,960	495	8,740	~11

Notes:

1. Standards for groundwater 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.

µg/L = Micrograms per liter.

ft. bgs = Feet below ground surface.

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

LABORATORY ANALYTICAL REPORTS



May 26, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR-Hall 12-31

Project Number - [none]

Attached are your analytical results for KMG - HSR-Hall 12-31 received by Origins Laboratory, Inc. May 25, 2016. This project is associated with Origins project number X605318-05.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



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 - HSR-Hall 12-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B02 @ 8	X605318-05	Soil	May 25, 2016 16:42	05/25/2016 17:44

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

www.originslaboratory.com

page 1 of 1

ORIGINS
LABORATORY, INC

Client: Tasman Geosciences for APC

Address: [Redacted]

Telephone Number: (352) 262-9910

Email Address: FORNOELLE@TASMAN-GEOS.COM

Project Manager: Bob Cornez

Project Name: HSR-Hall 12-31

Project Number: [Redacted]

Samples Collected By: KMG FORNOELLE

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summation		
N0126	5/25/16	1632	2	X				X			GIOTEX 8260 TPH DEQBDO 8015 PH EL, SAR (IF EC74.0)	1
S0126	5/25/16	1634	2	X				X				2
E0126	5/25/16	1636	2	X				X				3
W0126	5/25/16	1638	2	X				X				4
B0228	5/25/16	1642	2	X				X				5
												6
												7
												8
												9
												10

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 5/25/16

Date: 5/25/16

Received By: [Signature]

Received By: [Signature]

Date: 5/25/16

Date: 5/25/16

Time: 1744

Time: 1744

Time: 1744

Time: 1744

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

Date Results Needed: [Redacted]

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X605318

Client: Tasman

Client Project ID: HSR Hall 12-31

Checklist Completed by: Jeff Smith

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

Date/time completed: 5/25/12

Airbill #: NH

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

Cooler Number/Temperature: 1 18.9 °C 1 °C 1 °C (Describe) 1 °C

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 ⁽¹⁾ ?		<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 ⁽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 HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by (Project Manager) Jeff Smith

Date/Time Reviewed 5/25/12

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 - HSR-Hall 12-31

B02 @ 8
5/25/2016 4:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605318-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1200	25	mg/kg	1	B6E2502	05/25/2016	05/26/2016
Residual Range Organics (C28-C40)	130	100	"	"	"	"	"

Surrogate: o-Terphenyl	87.3 %	59-131			"	"	"
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	2200	50	mg/kg	250	B6E2506	05/25/2016	05/26/2016
Benzene	0.07	0.05	"	25	"	"	05/25/2016
Toluene	2.6	0.05	"	"	"	"	"
Ethylbenzene	8.8	0.50	"	250	"	"	05/26/2016
Xylenes, total	140	0.50	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	109 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"

pH in Soil by EPA 9045D

pH	7.75		pH Units	1	B6E2507	05/25/2016	05/25/2016
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0551		mmhos/cm	"	B6E2508	05/25/2016	05/25/2016
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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 - HSR-Hall 12-31

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 B6E2506 - EPA 5030 (soil)										
Blank (B6E2506-BLK1)					Prepared: 05/25/2016 Analyzed: 05/25/2016					
Gasoline Range Hydrocarbons	ND	0.20	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	72		ug/kg	62.5		116	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	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 - HSR-Hall 12-31

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 B6E2506 - EPA 5030 (soil)

LCS (B6E2506-BS1)

Prepared: 05/25/2016 Analyzed: 05/25/2016

Benzene	0.09	0.002	mg/kg	0.100		89.6	77.1-124			
Toluene	0.09	0.002	"	0.100		93.4	74.5-128			
Ethylbenzene	0.10	0.002	"	0.100		99.5	66.4-127			
m,p-Xylene	0.20	0.004	"	0.200		102	76.6-124			
o-Xylene	0.10	0.002	"	0.100		101	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	67		"	62.5		107	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	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 - HSR-Hall 12-31

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 B6E2506 - EPA 5030 (soil)

Matrix Spike (B6E2506-MS1)		Source: X605309-03			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Benzene	0.08	0.002	mg/kg	0.100	ND	76.5	71.8-126			
Toluene	0.08	0.002	"	0.100	ND	79.5	65.1-130			
Ethylbenzene	0.08	0.002	"	0.100	ND	83.9	62.2-130			
m,p-Xylene	0.17	0.004	"	0.200	ND	86.4	46.5-137			
o-Xylene	0.09	0.002	"	0.100	ND	85.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	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 - HSR-Hall 12-31

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 B6E2506 - EPA 5030 (soil)

Matrix Spike Dup (B6E2506-MSD1)		Source: X605309-03			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Benzene	0.09	0.002	mg/kg	0.100	ND	87.7	71.8-126	13.7	11.3	QR-02
Toluene	0.10	0.002	"	0.100	ND	95.2	65.1-130	17.9	15.4	QR-02
Ethylbenzene	0.10	0.002	"	0.100	ND	96.7	62.2-130	14.1	19.6	
m,p-Xylene	0.20	0.004	"	0.200	ND	99.4	46.5-137	14.0	19.2	
o-Xylene	0.10	0.002	"	0.100	ND	100	54.2-134	16.3	17.9	
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	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 - HSR-Hall 12-31

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 B6E2502 - EPA 3580

Blank (B6E2502-BLK1)

Prepared: 05/25/2016 Analyzed: 05/25/2016

Diesel (C10-C28)	ND	50	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	43		"	50.0		85.6	59-131			

Blank (B6E2502-BLK2)

Prepared: 05/25/2016 Analyzed: 05/25/2016

Diesel (C10-C28)	ND	50	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	44		"	50.0		87.2	59-131			

LCS (B6E2502-BS1)

Prepared: 05/25/2016 Analyzed: 05/25/2016

Diesel (C10-C28)	990	50	mg/kg	1000		98.9	64-121			
Residual Range Organics (C28-C40)	950	200	"	1000		95.4	58-124			
Surrogate: o-Terphenyl	51		"	50.0		102	59-131			

LCS (B6E2502-BS2)

Prepared: 05/25/2016 Analyzed: 05/25/2016

Diesel (C10-C28)	880	50	mg/kg	1000		88.0	64-121			
Residual Range Organics (C28-C40)	950	200	"	1000		95.5	58-124			
Surrogate: o-Terphenyl	44		"	50.0		88.7	59-131			

Matrix Spike (B6E2502-MS1)

Source: X605309-03

Prepared: 05/25/2016 Analyzed: 05/25/2016

Diesel (C10-C28)	870	50	mg/kg	1000	ND	87.1	53-125			
Residual Range Organics (C28-C40)	830	200	"	1000	17	81.5	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 - HSR-Hall 12-31

Extractable Petroleum Hydrocarbons by 8015C - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6E2502 - EPA 3580										
Matrix Spike (B6E2502-MS1)		Source: X605309-03			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Surrogate: o-Terphenyl	40		mg/kg	50.0		80.2	59-131			
Matrix Spike (B6E2502-MS2)		Source: X605317-01			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Diesel (C10-C28)	850	50	mg/kg	1000	ND	84.9	53-125			
Residual Range Organics (C28-C40)	920	200	"	1000	15	90.4	47-133			
Surrogate: o-Terphenyl	44		"	50.0		88.0	59-131			
Matrix Spike Dup (B6E2502-MSD1)		Source: X605309-03			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	101	53-125	15.2	20	
Residual Range Organics (C28-C40)	980	200	"	1000	17	96.1	47-133	16.5	20	
Surrogate: o-Terphenyl	50		"	50.0		100	59-131			
Matrix Spike Dup (B6E2502-MSD2)		Source: X605317-01			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Diesel (C10-C28)	890	50	mg/kg	1000	ND	89.2	53-125	4.91	20	
Residual Range Organics (C28-C40)	870	200	"	1000	15	85.5	47-133	5.53	20	
Surrogate: o-Terphenyl	42		"	50.0		84.5	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 - HSR-Hall 12-31

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 B6E2507 - NO PREP										
Duplicate (B6E2507-DUP1)		Source: X605309-02			Prepared: 05/25/2016 Analyzed: 05/25/2016					
pH	7.31		pH Units		7.33			0.273	25	
Batch B6E2508 - NO PREP										
Blank (B6E2508-BLK1)		Prepared: 05/25/2016 Analyzed: 05/25/2016								
Specific Conductance (EC)	0.00260		mmhos/cm							
Duplicate (B6E2508-DUP1)		Source: X605309-02			Prepared: 05/25/2016 Analyzed: 05/25/2016					
Specific Conductance (EC)	0.207		mmhos/cm		0.209			0.962	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 - HSR-Hall 12-31

Notes and Definitions

U Sample is Non-Detect.

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.



May 27, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR-Hall 12-31

Project Number - [none]

Attached are your analytical results for KMG - HSR-Hall 12-31 received by Origins Laboratory, Inc. May 26, 2016. This project is associated with Origins project number X605337-01.

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 - HSR-Hall 12-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02 @ 10'	X605337-01	Soil	May 26, 2016 15:15	05/26/2016 17:15
E02 @ 10'	X605337-02	Soil	May 26, 2016 15:04	05/26/2016 17:15
GW01	X605337-03	Water	May 26, 2016 14:58	05/26/2016 17:15

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Tasman Geosciences
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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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page 1 of 1

ORIGINS
LABORATORY, INC

Client: Tasman Geosciences for APC
Address: [blank]
Telephone Number: (352) 262-9910
Email Address: [blank]

Project Manager: Bob Cornez
Project Name: HSR Hall 12-31
Project Number: [blank]
Samples Collected By: [blank]

Sample ID Description

Time Sampled

Date Sampled

Sample Instructions

Sample ID Description	Time Sampled	Date Sampled	Preservative				Matrix			Analysis	Sample Instructions
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	As Sampled		
S02010'	5/24/16 1515	2	X				X			GUTEX 82760 TPH DRO/200 8015 PH EL, SARL (F EC 74.0)	1
E02010'	5/24/16 1504	2	X				X				2
EW01	5/24/16 1458	3	X					X		BTX 8260	3
											4
											5
											6
											7
											8
											9
											10

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 5/24/16

Date: 5/24/16

Time: 1701

Time: 1715

Received By: [Signature]

Received By: [Signature]

Date: 5-26-16

Date: [blank]

Time: [blank]

Time: [blank]

Turnaround Time: 97 24 Hr ☒ 48 Hr ☐ 72 Hr ☐

Standard ☒

Date Results Needed: [blank]

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4605337

Client: Tasman

Client Project ID: HSR Hall 12-31

Checklist Completed by: Jeff Smith

Shipped Via: STTD Bulk 40
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/26/12

Airbill #: N/A

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

Cooler Number/Temperature: 1 19.7 °C 1 °C 1 °C (Describe) 1 °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 ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Sampled</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 ⁽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>PA</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"/>	<u>5/16/12</u> <u>TCB</u>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			<u>HCL</u>
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)

5/26/12 1948
Date/Time Reviewed

Origins Laboratory, Inc.

Jefi Pellegrini

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

S02 @ 10'
5/26/2016 3:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605337-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25	mg/kg	1	B6E2606	05/26/2016	05/27/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 63.0 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.0	mg/kg	25	B6E2601	05/26/2016	05/26/2016	U
Benzene	ND	0.05	"	"	"	"	"	U
Toluene	ND	0.05	"	"	"	"	"	U
Ethylbenzene	ND	0.05	"	"	"	"	"	U
Xylenes, total	ND	0.05	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 100 % 70-130 " " "
Surrogate: Toluene-d8 106 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.19	pH Units	1	B6E2608	05/26/2016	05/26/2016
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.105	mmhos/cm	"	B6E2609	"	"
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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 - HSR-Hall 12-31

E02 @ 10'
5/26/2016 3:04:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605337-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25	mg/kg	1	B6E2606	05/26/2016	05/27/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 65.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.0	mg/kg	25	B6E2601	05/26/2016	05/26/2016	U
Benzene	ND	0.05	"	"	"	"	"	U
Toluene	ND	0.05	"	"	"	"	"	U
Ethylbenzene	ND	0.05	"	"	"	"	"	U
Xylenes, total	ND	0.05	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 104 % 70-130 " " "
Surrogate: Toluene-d8 103 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.2 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.09		pH Units	1	B6E2608	05/26/2016	05/26/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0216		mmhos/cm	"	B6E2609	"	"	
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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

GW01

5/26/2016 2:58:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605337-03 (Water)

BTEX by EPA 8260C

Benzene	95.9	4.0	ug/L	4	B6E2603	05/26/2016	05/26/2016
Toluene	2980	50.0	"	50	"	"	05/26/2016
Ethylbenzene	552	50.0	"	"	"	"	"
Xylenes, total	10900	50.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"
Surrogate: Toluene-d8	99.3 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	98.5 %	84-114			"	"	"

Origins Laboratory, Inc.



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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2601 - EPA 5030 (soil)										
Blank (B6E2601-BLK1)					Prepared: 05/26/2016 Analyzed: 05/26/2016					
Gasoline Range Hydrocarbons	ND	0.20	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	67		"	62.5		108	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2601 - EPA 5030 (soil)

LCS (B6E2601-BS1)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Benzene	0.10	0.002	mg/kg	0.100		100	77.1-124			
Toluene	0.10	0.002	"	0.100		97.7	74.5-128			
Ethylbenzene	0.10	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.21	0.004	"	0.200		105	76.6-124			
o-Xylene	0.10	0.002	"	0.100		103	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2601 - EPA 5030 (soil)

Matrix Spike (B6E2601-MS1)		Source: X605312-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Benzene	0.10	0.002	mg/kg	0.100	ND	105	71.8-126			
Toluene	0.10	0.002	"	0.100	ND	101	65.1-130			
Ethylbenzene	0.11	0.002	"	0.100	ND	107	62.2-130			
m,p-Xylene	0.22	0.004	"	0.200	ND	111	46.5-137			
o-Xylene	0.11	0.002	"	0.100	ND	107	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		114	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2601 - EPA 5030 (soil)

Matrix Spike Dup (B6E2601-MSD1)		Source: X605312-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Benzene	0.10	0.002	mg/kg	0.100	ND	102	71.8-126	2.15	11.3	
Toluene	0.10	0.002	"	0.100	ND	99.8	65.1-130	1.63	15.4	
Ethylbenzene	0.10	0.002	"	0.100	ND	105	62.2-130	2.35	19.6	
m,p-Xylene	0.22	0.004	"	0.200	ND	108	46.5-137	2.40	19.2	
o-Xylene	0.11	0.002	"	0.100	ND	106	54.2-134	1.26	17.9	
Surrogate: 1,2-Dichloroethane-d4	72		ug/kg	62.5		115	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2603 - EPA 5030B (Water)

Blank (B6E2603-BLK1)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	106		84-121			
Surrogate: Toluene-d8	63		"	62.5	100		85-115			
Surrogate: 4-Bromofluorobenzene	68		"	62.5	109		84-114			

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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2603 - EPA 5030B (Water)

LCS (B6E2603-BS1)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Benzene	47.2	1.0	ug/L	50.0		94.5	73.3-129			
Toluene	46.5	1.0	"	50.0		93.0	76.2-123			
Ethylbenzene	50.2	1.0	"	50.0		100	73.6-130			
m,p-Xylene	105	2.0	"	100		105	76.1-126			
o-Xylene	51.5	1.0	"	50.0		103	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.2	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2603 - EPA 5030B (Water)

Matrix Spike (B6E2603-MS1)		Source: X605319-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Benzene	54.9	1.0	ug/L	50.0	0.1	110	74-130			
Toluene	54.1	1.0	"	50.0	0.1	108	73-131			
Ethylbenzene	57.1	1.0	"	50.0	ND	114	76-132			
m,p-Xylene	118	2.0	"	100	ND	118	69-139			
o-Xylene	57.9	1.0	"	50.0	ND	116	74-131			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.3	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	84-114			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2603 - EPA 5030B (Water)

Matrix Spike Dup (B6E2603-MSD1)		Source: X605319-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Benzene	50.9	1.0	ug/L	50.0	0.1	102	74-130	7.54	20	
Toluene	51.2	1.0	"	50.0	0.1	102	73-131	5.41	20	
Ethylbenzene	53.2	1.0	"	50.0	ND	106	76-132	7.04	20	
m,p-Xylene	111	2.0	"	100	ND	111	69-139	5.99	20	
o-Xylene	53.5	1.0	"	50.0	ND	107	74-131	7.99	20	
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5		113	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.0	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR-Hall 12-31

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 B6E2606 - EPA 3580

Blank (B6E2606-BLK1)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Diesel (C10-C28)	ND	50	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	42		"	50.0		83.5	59-131			

Blank (B6E2606-BLK2)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Diesel (C10-C28)	ND	50	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	42		"	50.0		84.3	59-131			

LCS (B6E2606-BS1)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Diesel (C10-C28)	910	50	mg/kg	1000		91.2	64-121			
Residual Range Organics (C28-C40)	920	200	"	1000		91.9	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.1	59-131			

LCS (B6E2606-BS2)

Prepared: 05/26/2016 Analyzed: 05/26/2016

Diesel (C10-C28)	910	50	mg/kg	1000		91.2	64-121			
Residual Range Organics (C28-C40)	920	200	"	1000		91.9	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.1	59-131			

Matrix Spike (B6E2606-MS1)

Source: X605302-06

Prepared: 05/26/2016 Analyzed: 05/26/2016

Diesel (C10-C28)	840	50	mg/kg	1000	ND	84.5	53-125			
Residual Range Organics (C28-C40)	930	200	"	1000	48	88.6	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 - HSR-Hall 12-31

Extractable Petroleum Hydrocarbons by 8015C - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6E2606 - EPA 3580										
Matrix Spike (B6E2606-MS1)		Source: X605302-06			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Surrogate: o-Terphenyl	42		mg/kg	50.0		83.1	59-131			
Matrix Spike (B6E2606-MS2)		Source: X605335-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Diesel (C10-C28)	880	50	mg/kg	1000	ND	87.6	53-125			
Residual Range Organics (C28-C40)	930	200	"	1000	22	90.4	47-133			
Surrogate: o-Terphenyl	42		"	50.0		84.2	59-131			
Matrix Spike Dup (B6E2606-MSD1)		Source: X605302-06			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Diesel (C10-C28)	890	50	mg/kg	1000	ND	88.7	53-125	4.82	20	
Residual Range Organics (C28-C40)	1000	200	"	1000	48	95.2	47-133	7.20	20	
Surrogate: o-Terphenyl	44		"	50.0		87.8	59-131			
Matrix Spike Dup (B6E2606-MSD2)		Source: X605335-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Diesel (C10-C28)	1000	50	mg/kg	1000	ND	101	53-125	14.1	20	
Residual Range Organics (C28-C40)	1000	200	"	1000	22	98.2	47-133	8.28	20	
Surrogate: o-Terphenyl	52		"	50.0		103	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 - HSR-Hall 12-31

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 B6E2608 - NO PREP										
Duplicate (B6E2608-DUP1)		Source: X605332-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
pH	8.23		pH Units		8.22			0.122	25	
Batch B6E2609 - NO PREP										
Blank (B6E2609-BLK1)		Prepared: 05/26/2016 Analyzed: 05/26/2016								
Specific Conductance (EC)	0.00310		mmhos/cm							
Duplicate (B6E2609-DUP1)		Source: X605332-01			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Specific Conductance (EC)	0.207		mmhos/cm		0.209			0.962	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 - HSR-Hall 12-31

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

May 31, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR Hall 12-31

Project Number - [none]

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. May 27, 2016. This project is associated with Origins project number X605348-01.

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 - HSR Hall 12-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W03@10'	X605348-01	Soil	May 27, 2016 13:01	05/27/2016 15:40
N03@10'	X605348-02	Soil	May 27, 2016 13:13	05/27/2016 15:40

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

www.originslaboratory.com page 1 of 1

X605348

ORIGINS LABORATORY, INC

Client: APC
Address: _____
Telephone Number: 303-889-1525
Email Address: YCornez@hsr.hall-12-31.com

Project Manager: Robert Cornez
Project Name: HSR Hall 12-31
Project Number: _____
Samples Collected By: Zachary Murphy

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other	EC	pH	TOC/POC	
W03e10'	5/27/16	1301	2	X				X				X	X	X	Today by 7AM
N03e10'	5/27/16	1313	2	X				X				X	X	X	Today by 7AM
Relinquished By: <u>Zachary Murphy</u>	Date: <u>5/27/16</u>	Time: <u>1540</u>						Received By: <u>[Signature]</u>	Date: <u>5-27-16</u>	Time: <u>1540</u>				Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard	
Relinquished By: _____	Date: _____	Time: _____						Received By: _____	Date: _____	Time: _____					

Temp Received: 4.7 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 - HSR Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1605348

Client: Tasman Geosciences

Client Project ID: HSR Hall 12-31

Checklist Completed by: Joe Henderson

Shipped Via: Hand Pick up 5/27

Date/time completed: 5/27/12 1624

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

Airbill #: _____

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

Cooler Number/Temperature: 1 / 6.7 °C _____ / _____ °C _____ / _____ °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 ⁽¹⁾ ?		<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 ⁽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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) Joe Henderson

Date/Time Reviewed 5/27/12

Origins Laboratory, Inc.

Joe 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 - HSR Hall 12-31

W03@10'
5/27/2016 1:01:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605348-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25	mg/kg	1	B6E2704	05/27/2016	05/27/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 75.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.0	mg/kg	25	B6E2702	05/27/2016	05/27/2016	U
Benzene	ND	0.05	"	"	"	"	"	U
Toluene	ND	0.05	"	"	"	"	"	U
Ethylbenzene	ND	0.05	"	"	"	"	"	U
Xylenes, total	ND	0.05	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.8 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.1 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.47		pH Units	1	B6E2703	05/27/2016	05/27/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0965		mmhos/cm	"	B6E2709	05/27/2016	05/27/2016	
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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 - HSR Hall 12-31

N03@10'
5/27/2016 1:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605348-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25	mg/kg	1	B6E2704	05/27/2016	05/27/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 74.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.0	mg/kg	25	B6E2702	05/27/2016	05/27/2016	U
Benzene	ND	0.05	"	"	"	"	"	U
Toluene	ND	0.05	"	"	"	"	"	U
Ethylbenzene	ND	0.05	"	"	"	"	"	U
Xylenes, total	ND	0.05	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.2 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 99.7 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.55		pH Units	1	B6E2703	05/27/2016	05/27/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0133		mmhos/cm	"	B6E2709	05/27/2016	05/27/2016	
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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 - HSR Hall 12-31

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 B6E2702 - EPA 5030 (soil)										
Blank (B6E2702-BLK1)					Prepared: 05/27/2016 Analyzed: 05/27/2016					
Gasoline Range Hydrocarbons	ND	0.20	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.5	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	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 - HSR Hall 12-31

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 B6E2702 - EPA 5030 (soil)										
LCS (B6E2702-BS1)					Prepared: 05/27/2016 Analyzed: 05/27/2016					
Benzene	0.12	0.002	mg/kg	0.100		120	77.1-124			
Toluene	0.12	0.002	"	0.100		116	74.5-128			
Ethylbenzene	0.12	0.002	"	0.100		115	66.4-127			
m,p-Xylene	0.23	0.004	"	0.200		116	76.6-124			
o-Xylene	0.11	0.002	"	0.100		112	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	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 - HSR Hall 12-31

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 B6E2702 - EPA 5030 (soil)

Matrix Spike (B6E2702-MS1)		Source: X605285-01			Prepared: 05/27/2016 Analyzed: 05/27/2016					
Benzene	0.11	0.002	mg/kg	0.100	ND	114	71.8-126			
Toluene	0.11	0.002	"	0.100	ND	112	65.1-130			
Ethylbenzene	0.11	0.002	"	0.100	0.0007	112	62.2-130			
m,p-Xylene	0.23	0.004	"	0.200	0.002	114	46.5-137			
o-Xylene	0.11	0.002	"	0.100	0.0003	110	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	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 - HSR Hall 12-31

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 B6E2702 - EPA 5030 (soil)

Matrix Spike Dup (B6E2702-MSD1)		Source: X605285-01			Prepared: 05/27/2016 Analyzed: 05/27/2016					
Benzene	0.11	0.002	mg/kg	0.100	ND	106	71.8-126	7.38	11.3	
Toluene	0.10	0.002	"	0.100	ND	103	65.1-130	8.71	15.4	
Ethylbenzene	0.10	0.002	"	0.100	0.0007	99.2	62.2-130	12.3	19.6	
m,p-Xylene	0.20	0.004	"	0.200	0.002	101	46.5-137	11.8	19.2	
o-Xylene	0.10	0.002	"	0.100	0.0003	98.9	54.2-134	11.0	17.9	
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		112	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	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.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E2704 - EPA 3580

Blank (B6E2704-BLK1)

Prepared: 05/27/2016 Analyzed: 05/27/2016

Diesel (C10-C28)	ND	50	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	42		"	50.0		84.1	59-131			

LCS (B6E2704-BS1)

Prepared: 05/27/2016 Analyzed: 05/27/2016

Diesel (C10-C28)	750	50	mg/kg	1000		75.1	64-121			
Residual Range Organics (C28-C40)	860	200	"	1000		86.5	58-124			
Surrogate: o-Terphenyl	43		"	50.0		85.7	59-131			

Matrix Spike (B6E2704-MS1)

Source: X605320-01

Prepared: 05/27/2016 Analyzed: 05/27/2016

Diesel (C10-C28)	960	50	mg/kg	1000	ND	96.3	53-125			
Residual Range Organics (C28-C40)	1000	200	"	1000	14	99.7	47-133			
Surrogate: o-Terphenyl	47		"	50.0		93.0	59-131			

Matrix Spike Dup (B6E2704-MSD1)

Source: X605320-01

Prepared: 05/27/2016 Analyzed: 05/27/2016

Diesel (C10-C28)	840	50	mg/kg	1000	ND	84.2	53-125	13.5	20	
Residual Range Organics (C28-C40)	850	200	"	1000	14	83.7	47-133	17.4	20	
Surrogate: o-Terphenyl	42		"	50.0		84.0	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 - HSR Hall 12-31

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 B6E2703 - NO PREP										
Duplicate (B6E2703-DUP1)		Source: X605302-05			Prepared: 05/27/2016 Analyzed: 05/27/2016					
pH	7.57		pH Units		7.81			3.12	25	
Batch B6E2709 - NO PREP										
Blank (B6E2709-BLK1)		Prepared: 05/27/2016 Analyzed: 05/27/2016								
Specific Conductance (EC)	0.00230		mmhos/cm							
Duplicate (B6E2709-DUP1)		Source: X605302-05			Prepared: 05/27/2016 Analyzed: 05/27/2016					
Specific Conductance (EC)	0.0212		mmhos/cm		0.0199			6.33	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 - HSR Hall 12-31

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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



June 01, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR Hall 12-31

Project Number - [none]

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. May 31, 2016. This project is associated with Origins project number X605367-01.

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 - HSR Hall 12-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W04@10'	X605367-01	Soil	May 31, 2016 10:15	05/31/2016 17:00
N04@10'	X605367-02	Soil	May 31, 2016 11:05	05/31/2016 17:00
E03@10'	X605367-03	Soil	May 31, 2016 10:21	05/31/2016 17:00
S03@10'	X605367-04	Soil	May 31, 2016 10:27	05/31/2016 17:00

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

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

ORIGINS

LABORATORY, INC.

www.originslaboratory.com

Client: T. Simon Co

Address:

Telephone Number: 912 230 2807

Email Address: (cornetz@tsm-n-gco.com)

X605367

page 1 of 1

Project Manager: Bob Cornetz

Project Name: HSE-11-11 12-31

Project Number: 246141

Samples Collected By: Bob Cornetz

All Inside Sim Lake

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
W04C10'	5/31/14	1015	2	X				X			COSTX 82CLV R4 DETECTED EC/RH	1
K04C10'	5/31/14	1015	2	X				X			X +	2
E03C10'	5/31/14	1014	2	X							X X	3
S03C10'	5/31/14	1027	2	X				X			X X	4
												5
												6
												7
												8
												9
												10
Relinquished To:	Date: 5/31/14	Time:		Received By: [Signature]	Date: 5/31/14	Time: 1700						Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard
Relinquished By:	Date:	Time:		Received By:	Date:	Time:						

Temp Received: 8.9

Date Results Needed

Origins Laboratory, Inc.

Jeff Pellipini

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 - HSR Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X605367

Client: Tasman Geosciences

Client Project ID: HSR-Hall 12-31

Checklist Completed by: J. Pellegrini

Shipped Via: 2 Day

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

Date/time completed: 5/31/12 1749

Airbill #: NA

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

Cooler Number/Temperature: 1 / 18.9 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: TC03

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"/>		<u>Sampled Successfully</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 ⁽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>pit</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 HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager)

Date/Time Reviewed

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 - HSR Hall 12-31

W04@10'

5/31/2016 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605367-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B6E3104	05/31/2016	05/31/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 68.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6E3103	05/31/2016	05/31/2016	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 99.1 % 70-130 " " "
Surrogate: Toluene-d8 99.2 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.45		pH Units	1	B6E3106	05/31/2016	05/31/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0184		mmhos/cm	"	B6E3107	"	05/31/2016	
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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 - HSR Hall 12-31

N04@10'

5/31/2016 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605367-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B6E3104	05/31/2016	06/01/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 44.7 % 59-131 " " " S-DUP

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6E3103	05/31/2016	05/31/2016	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "

Surrogate: Toluene-d8 95.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.47		pH Units	1	B6E3106	05/31/2016	05/31/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0354		mmhos/cm	"	B6E3107	"	05/31/2016	
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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 - HSR Hall 12-31

E03@10'

5/31/2016 10:21:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605367-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B6E3104	05/31/2016	05/31/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 65.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6E3103	05/31/2016	06/01/2016	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 98.1 % 70-130 " " "
Surrogate: Toluene-d8 99.0 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.53	pH Units	1	B6E3106	05/31/2016	05/31/2016
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0124	mmhos/cm	"	B6E3107	"	05/31/2016
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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 - HSR Hall 12-31

S03@10'

5/31/2016 10:27:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X605367-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B6E3104	05/31/2016	06/01/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 67.6 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B6E3103	05/31/2016	06/01/2016	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 99.6 % 70-130 " " "
Surrogate: Toluene-d8 99.0 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.61		pH Units	1	B6E3106	05/31/2016	05/31/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0845		mmhos/cm	"	B6E3107	"	05/31/2016	
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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 - HSR Hall 12-31

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 B6E3103 - EPA 5030 (soil)										
Blank (B6E3103-BLK1)					Prepared: 05/31/2016 Analyzed: 05/31/2016					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	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 - HSR Hall 12-31

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 B6E3103 - EPA 5030 (soil)

LCS (B6E3103-BS1)

Prepared: 05/31/2016 Analyzed: 05/31/2016

Benzene	0.110	0.002	mg/kg	0.100		110	77.1-124			
Toluene	0.105	0.002	"	0.100		105	74.5-128			
Ethylbenzene	0.104	0.002	"	0.100		104	66.4-127			
m,p-Xylene	0.207	0.004	"	0.200		103	76.6-124			
o-Xylene	0.101	0.002	"	0.100		101	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	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.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3103 - EPA 5030 (soil)

Matrix Spike (B6E3103-MS1)		Source: X605346-25			Prepared: 05/31/2016 Analyzed: 05/31/2016					
Benzene	0.118	0.002	mg/kg	0.100	ND	118	71.8-126			
Toluene	0.112	0.002	"	0.100	ND	112	65.1-130			
Ethylbenzene	0.111	0.002	"	0.100	ND	111	62.2-130			
m,p-Xylene	0.222	0.004	"	0.200	ND	111	46.5-137			
o-Xylene	0.108	0.002	"	0.100	ND	108	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	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.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3103 - EPA 5030 (soil)										
Matrix Spike Dup (B6E3103-MSD1)		Source: X605346-25			Prepared: 05/31/2016 Analyzed: 05/31/2016					
Benzene	0.111	0.002	mg/kg	0.100	ND	111	71.8-126	6.38	11.3	
Toluene	0.105	0.002	"	0.100	ND	105	65.1-130	6.15	15.4	
Ethylbenzene	0.102	0.002	"	0.100	ND	102	62.2-130	8.71	19.6	
m,p-Xylene	0.205	0.004	"	0.200	ND	103	46.5-137	7.72	19.2	
o-Xylene	0.100	0.002	"	0.100	ND	100	54.2-134	7.62	17.9	
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		112	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.7	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 - HSR Hall 12-31

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 B6E3104 - EPA 3580

Blank (B6E3104-BLK1)

Prepared: 05/31/2016 Analyzed: 05/31/2016

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	35		"	50.0		69.0	59-131			

LCS (B6E3104-BS1)

Prepared: 05/31/2016 Analyzed: 05/31/2016

Diesel (C10-C28)	808	50.0	mg/kg	1000		80.8	64-121			
Residual Range Organics (C28-C40)	772	200	"	1000		77.2	58-124			
Surrogate: o-Terphenyl	39		"	50.0		77.3	59-131			

Matrix Spike (B6E3104-MS1)

Source: X605346-25

Prepared: 05/31/2016 Analyzed: 05/31/2016

Diesel (C10-C28)	771	50.0	mg/kg	1000	ND	77.1	53-125			
Residual Range Organics (C28-C40)	759	200	"	1000	14.9	74.4	47-133			
Surrogate: o-Terphenyl	37		"	50.0		73.3	59-131			

Matrix Spike Dup (B6E3104-MSD1)

Source: X605346-25

Prepared: 05/31/2016 Analyzed: 05/31/2016

Diesel (C10-C28)	765	50.0	mg/kg	1000	ND	76.5	53-125	0.858	20	
Residual Range Organics (C28-C40)	736	200	"	1000	14.9	72.1	47-133	3.11	20	
Surrogate: o-Terphenyl	32		"	50.0		64.9	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 - HSR Hall 12-31

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 B6E3106 - NO PREP										
Duplicate (B6E3106-DUP1)		Source: X605363-01			Prepared: 05/31/2016 Analyzed: 05/31/2016					
pH	7.20		pH Units		7.13			0.977	25	
Batch B6E3107 - NO PREP										
Blank (B6E3107-BLK1)		Prepared: 05/31/2016 Analyzed: 05/31/2016								
Specific Conductance (EC)	0.00300		mmhos/cm							
Duplicate (B6E3107-DUP1)		Source: X605363-01			Prepared: 05/31/2016 Analyzed: 05/31/2016					
Specific Conductance (EC)	0.0264		mmhos/cm		0.0212			21.8	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 - HSR Hall 12-31

Notes and Definitions

U Sample is Non-Detect.

S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.

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



June 01, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - HSR Hall 12-31

Project Number - [none]

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. May 31, 2016. This project is associated with Origins project number X605368-01.

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 - HSR Hall 12-31

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	X605368-01	Water	May 31, 2016 14:30	05/31/2016 17:00

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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page 1 of 1
X655368

Project Manager: Bob Cornez
Project Name: HSR Hall 12-31
Project Number:
Samples Collected By: Kate Forman

Client: Tasman Geosciences for APC
Address:
Telephone Number: (352) 262-9910
Email Address: noelle@tasman-geo.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix				Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ. #	Other		
C1W02	5/21/16	1430	3	X	X			X				BEX 8260	1
													2
													3
													4
													5
													6
													7
													8
													9
													10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
Kate Forman	5/21/16	1640	Kate Forman	5-31-16	1700	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"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

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

Date Results Needed: 5/31/16

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 - HSR Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XL05368

Client: Tasman Geosciences

Client Project ID: HSR-Hall12-31

Checklist Completed by: J. Henderson

Shipped Via: Pickup

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

Date/time completed: 5/31/16 1756

Airbill #: NA

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

Cooler Number/Temperature: 1 / 18.9 °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 ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Sampled Sunday</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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			<u>HCL</u>
Additional Comments (if any):				

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

Reviewed by (Project Manager)

5/31/16
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

GW02

5/31/2016 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. X605368-01 (Water)

BTEX by EPA 8260C

Benzene	29.0	4.00	ug/L	4	B6E3101	05/31/2016	05/31/2016
Toluene	1960	50.0	"	50	"	"	05/31/2016
Ethylbenzene	495	4.00	"	4	"	"	05/31/2016
Xylenes, total	8740	50.0	"	50	"	"	05/31/2016

Surrogate: 1,2-Dichloroethane-d4	91.4 %	84-121			"	"	"
Surrogate: Toluene-d8	101 %	85-115			"	"	05/31/2016
Surrogate: 4-Bromofluorobenzene	97.0 %	84-114			"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3101 - EPA 5030B (Water)										
Blank (B6E3101-BLK1)					Prepared: 05/31/2016 Analyzed: 05/31/2016					
Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5	106		84-121			
Surrogate: Toluene-d8	62		"	62.5	98.7		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.1		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3101 - EPA 5030B (Water)

LCS (B6E3101-BS1)

Prepared: 05/31/2016 Analyzed: 05/31/2016

Benzene	48.7	1.00	ug/L	50.0		97.4	73.3-129			
Toluene	47.4	1.00	"	50.0		94.8	76.2-123			
Ethylbenzene	45.2	1.00	"	50.0		90.5	73.6-130			
m,p-Xylene	91.5	2.00	"	100		91.5	76.1-126			
o-Xylene	44.1	1.00	"	50.0		88.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.7	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3101 - EPA 5030B (Water)

Matrix Spike (B6E3101-MS1)		Source: X605344-01			Prepared: 05/31/2016 Analyzed: 05/31/2016					
Benzene	52.2	1.00	ug/L	50.0	ND	104	74-130			
Toluene	51.5	1.00	"	50.0	ND	103	73-131			
Ethylbenzene	51.1	1.00	"	50.0	ND	102	76-132			
m,p-Xylene	102	2.00	"	100	ND	102	69-139			
o-Xylene	49.6	1.00	"	50.0	ND	99.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.7	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - HSR Hall 12-31

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 B6E3101 - EPA 5030B (Water)										
Matrix Spike Dup (B6E3101-MSD1)	Source: X605344-01				Prepared: 05/31/2016 Analyzed: 05/31/2016					
Benzene	51.6	1.00	ug/L	50.0	ND	103	74-130	1.16	20	
Toluene	50.8	1.00	"	50.0	ND	102	73-131	1.35	20	
Ethylbenzene	50.3	1.00	"	50.0	ND	101	76-132	1.64	20	
m,p-Xylene	101	2.00	"	100	ND	101	69-139	1.59	20	
o-Xylene	49.4	1.00	"	50.0	ND	98.9	74-131	0.383	20	
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.6	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.3	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - HSR Hall 12-31

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President