

**ATTACHMENT A  
LABORATORY  
ANALYTICAL REPORTS**



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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 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 Bell 40  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/26/12

Airbill #: NA

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

Cooler Number/Temperature: 1 19.7 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: T203

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		Sampled
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			PS
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>		<input checked="" type="checkbox"/>	<u>5/16/12 / CS</u>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			HCL
Additional Comments (if any):				

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

Jeff Smith  
 Reviewed by (Project Manager)

5/26/12 1948  
 Date/Time Reviewed

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**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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**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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**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			"	"	"	

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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 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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**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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**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)**

<b>Matrix Spike (B6E2601-MS1)</b>	<b>Source: X605312-01</b>			<b>Prepared: 05/26/2016 Analyzed: 05/26/2016</b>						
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			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>71</i>		<i>ug/kg</i>	<i>62.5</i>		<i>114</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>61</i>		<i>"</i>	<i>62.5</i>		<i>97.9</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>64</i>		<i>"</i>	<i>62.5</i>		<i>102</i>	<i>70-130</i>			

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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 B6E2601 - EPA 5030 (soil)**

<b>Matrix Spike Dup (B6E2601-MSD1)</b>	<b>Source: X605312-01</b>			<b>Prepared: 05/26/2016 Analyzed: 05/26/2016</b>						
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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**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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**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			

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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 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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**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			

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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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**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			

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 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
<b>Batch B6E2606 - EPA 3580</b>										
<b>Matrix Spike (B6E2606-MS1)</b>			<b>Source: X605302-06</b>		Prepared: 05/26/2016 Analyzed: 05/26/2016					
Surrogate: o-Terphenyl	42		mg/kg	50.0		83.1	59-131			
<b>Matrix Spike (B6E2606-MS2)</b>			<b>Source: X605335-01</b>		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			
<b>Matrix Spike Dup (B6E2606-MSD1)</b>			<b>Source: X605302-06</b>		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			
<b>Matrix Spike Dup (B6E2606-MSD2)</b>			<b>Source: X605335-01</b>		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
<b>Batch B6E2608 - NO PREP</b>										
<b>Duplicate (B6E2608-DUP1)</b>		<b>Source: X605332-01</b>			Prepared: 05/26/2016 Analyzed: 05/26/2016					
pH	8.23		pH Units		8.22			0.122	25	
<b>Batch B6E2609 - NO PREP</b>										
<b>Blank (B6E2609-BLK1)</b>		Prepared: 05/26/2016 Analyzed: 05/26/2016								
Specific Conductance (EC)	0.00310		mmhos/cm							
<b>Duplicate (B6E2609-DUP1)</b>		<b>Source: X605332-01</b>			Prepared: 05/26/2016 Analyzed: 05/26/2016					
Specific Conductance (EC)	0.207		mmhos/cm		0.209			0.962	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 - 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

December 06, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

**Project Name - KMG - HSR Hall 64N66W/31NWSW Project Number - 89069141**

Attached are your analytical results for KMG - HSR Hall 64N66W/31NWSW received by Origins Laboratory, Inc. November 30, 2016. This project is associated with Origins project number X612012-01.

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: 89069141  
Project: KMG - HSR Hall 64N66W/31NWSW

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01 - 11/30/16	X612012-01	Water	November 30, 2016 11:00	11/30/2016 16:45
BH02 - 11/30/16	X612012-02	Water	November 30, 2016 11:19	11/30/2016 16:45
BH03 - 11/30/16	X612012-03	Water	November 30, 2016 11:10	11/30/2016 16:45
BH04 - 11/30/16	X612012-04	Water	November 30, 2016 11:30	11/30/2016 16:45

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: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

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page | of |

**ORIGINS**  
LABORATORY, INC

Client: ARC / Tomlin - Geo Services

Address: \_\_\_\_\_

Telephone Number: 970 450-7734

Email Address: cornez@tasman-geo.com

**XU12012**

Project Manager: Bob Cornez

Project Name: HSR - Hall 64N66W/31NWSW

Project Number: 89069141

Samples Collected By: MP ES TB

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions		
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summ. #			Other	
BH01 - 11/30/16	11/30/16	11:00	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					1	
BH02 - 11/30/16	11/30/16	11:14	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					2	
BH03 - 11/30/16	11/30/16	11:10	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					3	
BH04 - 11/30/16	11/30/16	11:30	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					4	
													5	
													6	
													7	
													8	
													9	
													10	

Relinquished By: W. K. B...

Relinquished By: \_\_\_\_\_

Date: 11/30/16

Date: \_\_\_\_\_

Time: 1645

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: 11/30/16

Date: 11/30/16

Time: 1645

Time: 1645

Turnaround Time:  Same Day  24 Hr  48 Hr  Standard

Temp Received: \_\_\_\_\_ Date Result Needed: \_\_\_\_\_

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: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XU12012

Client: Tasman

Client Project ID: KMG-ASK-Hall

Checklist Completed by: Jeff Smith

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

Date/time completed: 12-1-12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 3.1 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe)

Thermometer ID: TC05

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

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

Reviewed by: [Signature]  
 (Project Manager)

12-1-12  
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**BH01 - 11/30/16**  
**11/30/2016 11:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X612012-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B6L0201	12/02/2016	12/02/2016	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.9 %	84-114			"	"	"	

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: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**BH02 - 11/30/16**  
**11/30/2016 11:19:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X612012-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B6L0201	12/02/2016	12/02/2016	U
Toluene	8.61	1.00	"	"	"	"	"	
Ethylbenzene	312	20.0	"	20	"	"	12/02/2016	
Xylenes, total	4770	20.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	12/02/2016	
Surrogate: Toluene-d8	113 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**BH03 - 11/30/16**  
**11/30/2016 11:10:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X612012-03 (Water)**

**BTEX by EPA 8260C**

Benzene	24.1	1.00	ug/L	1	B6L0201	12/02/2016	12/02/2016	
Toluene	9530	100	"	100	"	"	12/05/2016	
Ethylbenzene	351	20.0	"	20	"	"	12/02/2016	
Xylenes, total	4940	20.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	12/02/2016	
Surrogate: Toluene-d8	110 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	105 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**BH04 - 11/30/16**  
**11/30/2016 11:30:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X612012-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B6L0201	12/02/2016	12/02/2016	U
Toluene	<b>4.25</b>	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	<b>13.2</b>	1.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	103 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	95.6 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**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 B6L0201 - EPA 5030B (Water)**

**Blank (B6L0201-BLK1)**

Prepared: 12/02/2016 Analyzed: 12/02/2016

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	62		"	62.5		99.4	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.9	85-115			
Surrogate: 4-Bromofluorobenzene	53		"	62.5		84.2	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**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 B6L0201 - EPA 5030B (Water)**

**LCS (B6L0201-BS1)**

Prepared: 12/02/2016 Analyzed: 12/02/2016

Benzene	48.5	1.00	ug/L	50.0		96.9	73.3-129			
Toluene	44.2	1.00	"	50.0		88.3	76.2-123			
Ethylbenzene	48.0	1.00	"	50.0		96.1	73.6-130			
m,p-Xylene	93.6	2.00	"	100		93.6	76.1-126			
o-Xylene	44.8	1.00	"	50.0		89.5	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.3	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.8	85-115			
Surrogate: 4-Bromofluorobenzene	54		"	62.5		86.7	84-114			

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: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**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 B6L0201 - EPA 5030B (Water)**

<b>Matrix Spike (B6L0201-MS1)</b>	<b>Source: X612004-05</b>			<b>Prepared: 12/02/2016 Analyzed: 12/02/2016</b>						
Benzene	59.3	1.00	ug/L	50.0	ND	119	74-130			
Toluene	53.2	1.00	"	50.0	ND	106	73-131			
Ethylbenzene	59.0	1.00	"	50.0	ND	118	76-132			
m,p-Xylene	114	2.00	"	100	0.320	114	69-139			
o-Xylene	54.1	1.00	"	50.0	ND	108	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.2	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	55		"	62.5		88.1	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 64N66W/31NWSW

**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 B6L0201 - EPA 5030B (Water)**

Matrix Spike Dup (B6L0201-MSD1)	Source: X612004-05			Prepared: 12/02/2016 Analyzed: 12/02/2016						
Benzene	57.6	1.00	ug/L	50.0	ND	115	74-130	3.05	20	
Toluene	52.1	1.00	"	50.0	ND	104	73-131	2.01	20	
Ethylbenzene	58.0	1.00	"	50.0	ND	116	76-132	1.66	20	
m,p-Xylene	111	2.00	"	100	0.320	111	69-139	2.26	20	
o-Xylene	53.8	1.00	"	50.0	ND	108	74-131	0.593	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.7	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	54		"	62.5		85.7	84-114			

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: 89069141  
Project: KMG - HSR Hall 64N66W/31NWSW

---

**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

February 24, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR-Hall 12-31

Project Number - 89069141

Attached are your analytical results for KMG - HSR-Hall 12-31 received by Origins Laboratory, Inc. February 16, 2017. This project is associated with Origins project number X702308-01.

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: 89069141  
Project: KMG - HSR-Hall 12-31

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01-2/16/17	X702308-01	Water	February 16, 2017 13:10	02/16/2017 17:17
BH02-2/16/17	X702308-02	Water	February 16, 2017 13:21	02/16/2017 17:17
BH03-2/16/17	X702308-03	Water	February 16, 2017 13:47	02/16/2017 17:17
BH04-2/16/17	X702308-04	Water	February 16, 2017 13:35	02/16/2017 17:17
BH05-2/16/17	X702308-05	Water	February 16, 2017 13:30	02/16/2017 17:17
BH06-2/16/17	X702308-06	Water	February 16, 2017 13:37	02/16/2017 17:17
BH07-2/16/17	X702308-07	Water	February 16, 2017 13:50	02/16/2017 17:17
BH08-2/16/17	X702308-08	Water	February 16, 2017 13:45	02/16/2017 17:17

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: 89069141  
 Project: KMG - HSR-Hall 12-31

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1702308

page 3 of 1

**ORIGINS**  
 LABORATORY, INC

Client: Aspen/Arco/Tasman  
 Address: 6899 Pecos St. Unit C  
Denver, CO, 80221  
 Telephone Number: 979-255-4255  
 Email Address: l.cornez@tasman-geo.com

Project Manager: Bob Cornez  
 Project Name: HSR Hall 12-31  
 Project Number: 89069141  
 Samples Collected By: Max G., Mitch W., Derek C.

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.945

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>		
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #					
BH01-2/16/17	2/16/17	13:10	3	X				X							
BH02-2/16/17		13:21													
BH03-2/16/17		13:47													
BH04-2/16/17		13:35													
BH05-2/16/17		13:30													
BH06-2/16/17		13:37													
BH07-2/16/17		13:50													
BH08-2/16/17		13:45													
Relinquished By: <u>Max Cornez</u>	Date: 2/16/17	Time: 1717	Received By:	Date: 2/16/17	Time: 1717	Received By:	Date: 2/16/17	Time: 1717	Received By:	Date: 2/16/17	Time: 1717	Received By:	Date: 2/16/17	Time: 1717	Received By:

Temp Received: 5.9 Date Results Needed

Origins Laboratory, Inc.

*Jefe Pellegrini*

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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR-Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X 702308

Client: Tasman

Client Project ID: KMG - HSR Hall 12-31

Checklist Completed by: Don Lee  
 Date/time completed: 16 2-17-17 1309 or 21717

Shipped Via: Hand Pick up use 2-17-17  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.9 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °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 <sup>(1)?</sup>	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact <sup>(1)?</sup>	/			
Was adequate sample volume provided <sup>(1)?</sup>	/			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)?</sup>		/		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)?</sup>	/			
Does the COC agree with the number and type of sample bottles received <sup>(1)?</sup>	/			
Do the sample IDs on the bottle labels match the COC <sup>(1)?</sup>	/			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)?</sup>	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>		/		
Are samples preserved that require preservation and was it checked <sup>(1)?</sup> (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		/		
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 2/20/17

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 Project: KMG - HSR-Hall 12-31

**BH01-2/16/17**  
**2/16/2017 1:10:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.3 %	84-114			"	"	"	

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Bob Cornez  
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 Project: KMG - HSR-Hall 12-31

**BH02-2/16/17**  
**2/16/2017 1:21:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	U
Toluene	13.9	1.00	"	"	"	"	"	
Ethylbenzene	602	50.0	"	50	"	"	02/24/2017	
Xylenes, total	11100	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	96.9 %	84-121			"	"	02/22/2017	
Surrogate: Toluene-d8	98.1 %	85-115			"	"	02/24/2017	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	02/22/2017	

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Bob Cornez  
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 Project: KMG - HSR-Hall 12-31

**BH03-2/16/17**  
**2/16/2017 1:47:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-03 (Water)**

**BTEX by EPA 8260C**

Benzene	34.4	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	
Toluene	10100	100	"	100	"	"	02/24/2017	
Ethylbenzene	512	50.0	"	50	"	"	02/23/2017	
Xylenes, total	8520	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	02/22/2017	
Surrogate: Toluene-d8	113 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR-Hall 12-31

**BH04-2/16/17**  
**2/16/2017 1:35:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	84-121			"	"	02/22/2017	
<i>Surrogate: Toluene-d8</i>	99.6 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	95.6 %	84-114			"	"	"	

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**BH05-2/16/17**  
**2/16/2017 1:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	

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**BH06-2/16/17**  
**2/16/2017 1:37:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.8 %	84-114			"	"	"	

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**BH07-2/16/17**  
**2/16/2017 1:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-07 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.9 %	84-114			"	"	"	

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**BH08-2/16/17**  
**2/16/2017 1:45:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X702308-08 (Water)**

**BTEX by EPA 8260C**

Benzene	6.58	1.00	ug/L	1	B7B2202	02/22/2017	02/22/2017	
Toluene	1760	100	"	100	"	"	02/24/2017	
Ethylbenzene	284	100	"	"	"	"	"	
Xylenes, total	4180	100	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	107 %	84-121			"	"	02/22/2017	
Surrogate: Toluene-d8	106 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7B2202 - EPA 5030B (Water)**

**Blank (B7B2202-BLK1)**

Prepared: 02/22/2017 Analyzed: 02/22/2017

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	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.4	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		95.1	84-114			

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7B2202 - EPA 5030B (Water)**

**Blank (B7B2202-BLK2)**

Prepared: 02/22/2017 Analyzed: 02/22/2017

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	65		"	62.5		103	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.9	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.3	84-114			

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 Denver CO 80211

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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 B7B2202 - EPA 5030B (Water)

**LCS (B7B2202-BS1)**

Prepared: 02/22/2017 Analyzed: 02/22/2017

Benzene	56.8	1.00	ug/L	50.0		114	73.3-129			
Toluene	57.0	1.00	"	50.0		114	76.2-123			
Ethylbenzene	59.0	1.00	"	50.0		118	73.6-130			
m,p-Xylene	113	2.00	"	100		113	76.1-126			
o-Xylene	55.1	1.00	"	50.0		110	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	84-114			

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7B2202 - EPA 5030B (Water)**

**LCS (B7B2202-BS2)**

Prepared: 02/22/2017 Analyzed: 02/22/2017

Benzene	58.2	1.00	ug/L	50.0		116	73.3-129			
Toluene	58.2	1.00	"	50.0		116	76.2-123			
Ethylbenzene	59.7	1.00	"	50.0		119	73.6-130			
m,p-Xylene	118	2.00	"	100		118	76.1-126			
o-Xylene	56.5	1.00	"	50.0		113	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		100	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.1	84-114			

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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 B7B2202 - EPA 5030B (Water)

Matrix Spike (B7B2202-MS1)	Source: X702286-01			Prepared: 02/22/2017 Analyzed: 02/22/2017						
Benzene	57.9	1.00	ug/L	50.0	ND	116	74-130			
Toluene	57.8	1.00	"	50.0	ND	116	73-131			
Ethylbenzene	61.0	1.00	"	50.0	ND	122	76-132			
m,p-Xylene	121	2.00	"	100	0.960	120	69-139			
o-Xylene	58.1	1.00	"	50.0	ND	116	74-131			
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		100	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.7	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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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 B7B2202 - EPA 5030B (Water)

Matrix Spike (B7B2202-MS2)	Source: X702289-03			Prepared: 02/22/2017 Analyzed: 02/22/2017						
Benzene	53.3	1.00	ug/L	50.0	ND	107	74-130			
Toluene	52.4	1.00	"	50.0	ND	105	73-131			
Ethylbenzene	54.4	1.00	"	50.0	ND	109	76-132			
m,p-Xylene	107	2.00	"	100	ND	107	69-139			
o-Xylene	52.0	1.00	"	50.0	ND	104	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		98.6	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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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 B7B2202 - EPA 5030B (Water)

Matrix Spike Dup (B7B2202-MSD1)	Source: X702286-01			Prepared: 02/22/2017 Analyzed: 02/22/2017						
Benzene	56.6	1.00	ug/L	50.0	ND	113	74-130	2.38	20	
Toluene	57.3	1.00	"	50.0	ND	115	73-131	0.834	20	
Ethylbenzene	59.0	1.00	"	50.0	ND	118	76-132	3.37	20	
m,p-Xylene	117	2.00	"	100	0.960	116	69-139	3.70	20	
o-Xylene	56.0	1.00	"	50.0	ND	112	74-131	3.61	20	
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.7	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.8	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

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 Project Number: 89069141  
 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 B7B2202 - EPA 5030B (Water)

Matrix Spike Dup (B7B2202-MSD2)	Source: X702289-03			Prepared: 02/22/2017 Analyzed: 02/22/2017						
Benzene	57.3	1.00	ug/L	50.0	ND	115	74-130	7.18	20	
Toluene	56.9	1.00	"	50.0	ND	114	73-131	8.23	20	
Ethylbenzene	59.0	1.00	"	50.0	ND	118	76-132	8.13	20	
m,p-Xylene	116	2.00	"	100	ND	116	69-139	8.09	20	
o-Xylene	56.6	1.00	"	50.0	ND	113	74-131	8.49	20	
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		103	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	84-114			

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: 89069141  
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 25, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - HSR Hall 12-31

Project Number - 89069141

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. May 18, 2017. This project is associated with Origins project number Y705236-01.

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: 89069141  
Project: KMG - HSR Hall 12-31

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01-5/17/2017	Y705236-01	Water	May 17, 2017 12:45	05/18/2017 09:10
BH02-5/17/2017	Y705236-02	Water	May 17, 2017 13:10	05/18/2017 09:10
BH03-5/17/2017	Y705236-03	Water	May 17, 2017 13:20	05/18/2017 09:10
BH04-5/17/2017	Y705236-04	Water	May 17, 2017 13:00	05/18/2017 09:10
BH05-5/17/2017	Y705236-05	Water	May 17, 2017 12:47	05/18/2017 09:10
BH06-5/17/2017	Y705236-06	Water	May 17, 2017 13:00	05/18/2017 09:10
BH07-5/17/2017	Y705236-07	Water	May 17, 2017 13:15	05/18/2017 09:10
BH08-5/17/2017	Y705236-08	Water	May 17, 2017 13:50	05/18/2017 09:10
BH09-5/17/2017	Y705236-09	Water	May 17, 2017 13:30	05/18/2017 09:10
BH10-5/17/2017	Y705236-10	Water	May 17, 2017 13:45	05/18/2017 09:10
BH11-5/17/2017	Y705236-11	Water	May 17, 2017 13:35	05/18/2017 09:10

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

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page 1 of 2

7105236

**ORIGINS**  
 LABORATORY, INC

Client: Anadarko/Tasman  
 Address: 6899 Pecos St, Denver, CO  
 Telephone Number: 979-255-4235  
 Email Address: rcornez@tasman-geo.com

Project Manager: Bob Cornez  
 Project Name: HSR Hall 12-31  
 Project Number: 89069141  
 Samples Collected By: rcornez@tasman-geo.com  
*Max Garcia, Derek Cavender*

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions			
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #			Other		
BH01-5/17/2017	5/17/17	12:45	3	X				X					1		
BH02-5/17/2017		13:10											2		
BH03-5/17/2017		13:20											3		
BH04-5/17/2017		13:00											4		
BH05-5/17/2017		12:47											5		
BH06-5/17/2017		13:00											6		
BH07-5/17/2017		13:15											7		
BH08-5/17/2017		13:50											8		
BH09-5/17/2017		13:30											9		
BH10-5/17/2017		13:45											10		
Relinquished By: <i>Max Garcia</i>	Date: 5/18/17	Time: 09:10	Received By: <i>Max Garcia</i>	Date: 5/18/17	Time: 09:10	Received By: <i>Max Garcia</i>	Date: 5/18/17	Time: 09:10	Turnaround Time: 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:	Received By:	Date:	Time:							

Date Results Needed

3:10

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: 89069141  
 Project: KMG - HSR Hall 12-31

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: Y705236

Client: Tasman

Client Project ID: KMG - HSR Hall 12-31

Checklist Completed by: Joe Pellegrini

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

Date/time completed: 5-8-17 11:34

Airbill #: 8A

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

Cooler Number/Temperature: 1 / 3.1 °C 1 °C 1 °C (Describe) 1 °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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / ( pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by (Signature) (Project Manager)

5/19/17  
 Date/Time Reviewed

Origins Laboratory, Inc.

*Joe Pellegrini*

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH01-5/17/2017**  
**5/17/2017 12:45:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	117 %	84-121			"	"	05/23/2017	
<i>Surrogate: Toluene-d8</i>	102 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	94.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH02-5/17/2017**  
**5/17/2017 1:10:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	5.95	1.00	"	"	"	"	"	
Ethylbenzene	99.7	1.00	"	"	"	"	"	
Xylenes, total	3100	50.0	"	50	"	"	05/23/2017	
Surrogate: 1,2-Dichloroethane-d4	121 %	84-121			"	"	05/23/2017	
Surrogate: Toluene-d8	110 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH03-5/17/2017**

**5/17/2017 1:20:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-03 (Water)**

**BTEX by EPA 8260C**

Benzene	20.9	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	
Toluene	5290	50.0	"	50	"	"	05/23/2017	
Ethylbenzene	62.8	1.00	"	1	"	"	05/23/2017	
Xylenes, total	5190	50.0	"	50	"	"	05/23/2017	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.0 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.0 %	84-114			"	"	05/23/2017	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH04-5/17/2017**  
**5/17/2017 1:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	115 %	84-121			"	"	05/23/2017	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH05-5/17/2017**

**5/17/2017 12:47:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	116 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.9 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH06-5/17/2017**  
**5/17/2017 1:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	114 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH07-5/17/2017**  
**5/17/2017 1:15:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-07 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	117 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH08-5/17/2017**

**5/17/2017 1:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y705236-08 (Water)

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	<b>36.9</b>	1.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	118 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH09-5/17/2017**  
**5/17/2017 1:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-09 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	118 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH10-5/17/2017**  
**5/17/2017 1:45:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y705236-10 (Water)**

**BTEX by EPA 8260C**

Benzene	9.18	1.00	ug/L	1	B7E2206	05/22/2017	05/23/2017	
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	598	4.00	"	4	"	"	05/23/2017	
Surrogate: 1,2-Dichloroethane-d4	118 %	84-121			"	"	05/23/2017	
Surrogate: Toluene-d8	99.9 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.0 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

BH11-5/17/2017  
 5/17/2017 1:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y705236-11 (Water)

**BTEX by EPA 8260C**

Benzene	15.6	4.00	ug/L	4	B7E2206	05/22/2017	05/23/2017	
Toluene	3620	20.0	"	20	"	"	05/23/2017	
Ethylbenzene	72.8	4.00	"	4	"	"	05/23/2017	
Xylenes, total	5730	20.0	"	20	"	"	05/23/2017	
Surrogate: 1,2-Dichloroethane-d4	117 %	84-121			"	"	05/23/2017	
Surrogate: Toluene-d8	99.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

**Blank (B7E2206-BLK1)**

Prepared: 05/22/2017 Analyzed: 05/22/2017

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	72		"	62.5	114		84-121			
Surrogate: Toluene-d8	63		"	62.5	100		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.2		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

**Blank (B7E2206-BLK2)**

Prepared: 05/22/2017 Analyzed: 05/22/2017

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	73		"	62.5	116		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.6		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.9		84-114			

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: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

**LCS (B7E2206-BS1)**

Prepared: 05/22/2017 Analyzed: 05/22/2017

Benzene	53.6	1.00	ug/L	50.0		107	73.3-129			
Toluene	50.6	1.00	"	50.0		101	76.2-123			
Ethylbenzene	50.3	1.00	"	50.0		101	73.6-130			
m,p-Xylene	105	2.00	"	100		105	76.1-126			
o-Xylene	54.2	1.00	"	50.0		108	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.8	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

**LCS (B7E2206-BS2)**

Prepared: 05/22/2017 Analyzed: 05/22/2017

Benzene	54.7	1.00	ug/L	50.0		109	73.3-129			
Toluene	52.4	1.00	"	50.0		105	76.2-123			
Ethylbenzene	52.5	1.00	"	50.0		105	73.6-130			
m,p-Xylene	108	2.00	"	100		108	76.1-126			
o-Xylene	55.5	1.00	"	50.0		111	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		111	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.3	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	84-114			

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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)

Matrix Spike (B7E2206-MS1)	Source: Y705236-01			Prepared: 05/22/2017 Analyzed: 05/22/2017						
Benzene	52.1	1.00	ug/L	50.0	ND	104	74-130			
Toluene	49.5	1.00	"	50.0	ND	99.1	73-131			
Ethylbenzene	48.9	1.00	"	50.0	ND	97.7	76-132			
m,p-Xylene	102	2.00	"	100	ND	102	69-139			
o-Xylene	53.7	1.00	"	50.0	ND	107	74-131			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

<b>Matrix Spike (B7E2206-MS2)</b>	<b>Source: Y705236-04</b>			<b>Prepared: 05/22/2017 Analyzed: 05/24/2017</b>						
Benzene	50.4	1.00	ug/L	50.0	ND	101	74-130			
Toluene	51.6	1.00	"	50.0	ND	103	73-131			
Ethylbenzene	53.3	1.00	"	50.0	ND	107	76-132			QM-07
m,p-Xylene	107	2.00	"	100	ND	107	69-139			QM-07
o-Xylene	51.9	1.00	"	50.0	ND	104	74-131			QM-07
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5		100	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.9	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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 B7E2206 - EPA 5030B (Water)**

Matrix Spike Dup (B7E2206-MSD1)	Source: Y705236-01			Prepared: 05/22/2017 Analyzed: 05/22/2017						
Benzene	53.2	1.00	ug/L	50.0	ND	106	74-130	2.22	20	
Toluene	49.4	1.00	"	50.0	ND	98.7	73-131	0.344	20	
Ethylbenzene	48.9	1.00	"	50.0	ND	97.8	76-132	0.0409	20	
m,p-Xylene	104	2.00	"	100	ND	104	69-139	1.76	20	
o-Xylene	54.9	1.00	"	50.0	ND	110	74-131	2.08	20	
Surrogate: 1,2-Dichloroethane-d4	72		"	62.5		115	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 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
<b>Batch B7E2206 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B7E2206-MSD2)</b>			<b>Source: Y705236-04</b>		Prepared: 05/22/2017 Analyzed: 05/24/2017					
Benzene	53.5	1.00	ug/L	50.0	ND	107	74-130	6.10	20	
Toluene	55.5	1.00	"	50.0	ND	111	73-131	7.26	20	
Ethylbenzene	58.6	1.00	"	50.0	ND	117	76-132	9.42	20	QM-07, QR-03
m,p-Xylene	117	2.00	"	100	ND	117	69-139	9.53	20	QM-4X, QR-03
o-Xylene	57.2	1.00	"	50.0	ND	114	74-131	9.61	20	QM-4X, QR-03
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: 89069141  
Project: KMG - HSR Hall 12-31

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### Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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August 09, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

**Project Name - KMG - HSR Hall 12-31**

**Project Number - 89069141**

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. August 02, 2017. This project is associated with Origins project number Y708034-01.

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: 89069141  
Project: KMG - HSR Hall 12-31

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01-8/2/2017	Y708034-01	Water	August 2, 2017 10:26	08/02/2017 15:47
BH02-8/2/2017	Y708034-02	Water	August 2, 2017 10:45	08/02/2017 15:47
BH03-8/2/2017	Y708034-03	Water	August 2, 2017 11:20	08/02/2017 15:47
BH04-8/2/2017	Y708034-04	Water	August 2, 2017 11:05	08/02/2017 15:47
BH05-8/2/2017	Y708034-05	Water	August 2, 2017 11:25	08/02/2017 15:47
BH06-8/2/2017	Y708034-06	Water	August 2, 2017 11:40	08/02/2017 15:47
BH07-8/2/2017	Y708034-07	Water	August 2, 2017 11:33	08/02/2017 15:47
BH08-8/2/2017	Y708034-08	Water	August 2, 2017 11:10	08/02/2017 15:47
BH09-8/2/2017	Y708034-09	Water	August 2, 2017 10:50	08/02/2017 15:47
BH10-8/2/2017	Y708034-10	Water	August 2, 2017 10:35	08/02/2017 15:47
BH11-8/2/2017	Y708034-11	Water	August 2, 2017 10:15	08/02/2017 15:47

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

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page 1 of 2



Y708034

Client: Tasman Geosciences for ARC Project Manager: Bob Cornez  
 Address: 6899 Pecos St, Unit C Project Name: HSR Hall 12-31  
Denver, CO 80221 Project Number: 89069141  
 Telephone Number: \_\_\_\_\_ Samples Collected By: Mitch Weller  
 Email Address: rcornez@tasman-geo.com

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions		
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #			Other	
BH01 - 8/2/17	8-2-17	1026	3	X				X					1	
BH02 - 8/2/17		1045											2	
BH03 - 8/2/17		1120											3	
BH04 - 8/2/17		1105	1										4	
BH05 - 8/2/17		1125	3										5	
BH06 - 8/2/17		1140											6	
BH07 - 8/2/17		1133											7	
BH08 - 8/2/17		1110											8	
BH09 - 8/2/17		1050											9	
BH10 - 8/2/17		1035											10	
Relinquished By: <u>Mitch Weller</u>		Date: <u>8-2-17</u>	Time: <u>1547</u>	Received By: <u>[Signature]</u>		Date: <u>8-2-17</u>	Time: <u>1547</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>						

Temp Received: 49 Date Results Needed

Origins Laboratory, Inc.

*Jefe Pellegrini*

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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4708034 Client: Tasman  
 Client Project ID: KMG-HSK Hall 12-31  
 Checklist Completed by: D. L. Shipped Via: HD  
 Date/time completed: 6-3-12 1129 (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 / 4.9 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C  
 Thermometer ID: T02B

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

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

Reviewed by D. L. (Project Manager) Date/Time Reviewed 6-3-12 1130

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH01-8/2/2017**  
**8/2/2017 10:26:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	96.7 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.9 %	84-114			"	"	"	

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 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH02-8/2/2017**  
**8/2/2017 10:45:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	177	4.00	"	"	"	"	"	
Xylenes, total	2390	20.0	"	20	"	"	08/07/2017	
Surrogate: 1,2-Dichloroethane-d4	96.3 %	84-121			"	"	08/04/2017	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.8 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH03-8/2/2017**  
**8/2/2017 11:20:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7H0405	08/04/2017	08/04/2017	U
Toluene	<b>3460</b>	50.0	"	50	"	"	08/07/2017	
Ethylbenzene	<b>215</b>	4.00	"	4	"	"	08/04/2017	
Xylenes, total	<b>2800</b>	50.0	"	50	"	"	08/07/2017	
Surrogate: 1,2-Dichloroethane-d4	96.7 %	84-121			"	"	08/04/2017	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.8 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH04-8/2/2017**  
**8/2/2017 11:05:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Xylenes, total	ND	4.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	97.0 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.3 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH05-8/2/2017**  
**8/2/2017 11:25:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	98.7 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.3 %	84-114			"	"	"	

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Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH06-8/2/2017**  
**8/2/2017 11:40:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	97.2 %	84-121			"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.6 %	84-114			"	"	"	

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: 89069141  
 Project: KMG - HSR Hall 12-31

**BH07-8/2/2017**  
**8/2/2017 11:33:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-07 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	97.5 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	92.3 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH08-8/2/2017**  
**8/2/2017 11:10:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-08 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	71.5	1.00	"	"	"	"	"	
Ethylbenzene	77.8	1.00	"	"	"	"	"	
Xylenes, total	1080	10.0	"	10	"	"	08/07/2017	
Surrogate: 1,2-Dichloroethane-d4	98.2 %	84-121			"	"	08/04/2017	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH09-8/2/2017**  
**8/2/2017 10:50:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-09 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	98.2 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH10-8/2/2017**  
**8/2/2017 10:35:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y708034-10 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7H0405	08/04/2017	08/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	<b>144</b>	1.00	"	"	"	"	"	
Xylenes, total	<b>772</b>	10.0	"	10	"	"	08/07/2017	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.5 %	84-121			"	"	08/04/2017	
<i>Surrogate: Toluene-d8</i>	102 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	93.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

BH11-8/2/2017  
 8/2/2017 10:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y708034-11 (Water)

**BTEX by EPA 8260C**

Benzene	16.9	4.00	ug/L	4	B7H0405	08/04/2017	08/04/2017	
Toluene	3970	50.0	"	50	"	"	08/07/2017	
Ethylbenzene	236	4.00	"	4	"	"	08/04/2017	
Xylenes, total	4330	50.0	"	50	"	"	08/07/2017	
Surrogate: 1,2-Dichloroethane-d4	97.9 %	84-121			"	"	08/04/2017	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.8 %	84-114			"	"	"	

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: 89069141  
 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 B7H0405 - EPA 5030B (Water)**

**Blank (B7H0405-BLK1)**

Prepared: 08/04/2017 Analyzed: 08/04/2017

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	61		"	62.5		97.2	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.8	84-114			

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: 89069141  
 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 B7H0405 - EPA 5030B (Water)**

**LCS (B7H0405-BS1)**

Prepared: 08/04/2017 Analyzed: 08/04/2017

Benzene	50.7	1.00	ug/L	50.0		101	73.3-129			
Toluene	50.8	1.00	"	50.0		102	76.2-123			
Ethylbenzene	52.3	1.00	"	50.0		105	73.6-130			
m,p-Xylene	104	2.00	"	100		104	76.1-126			
o-Xylene	50.0	1.00	"	50.0		100	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.9	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.3	84-114			

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: 89069141  
 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 B7H0405 - EPA 5030B (Water)**

<b>Matrix Spike (B7H0405-MS1)</b>	<b>Source: Y708034-01</b>			<b>Prepared: 08/04/2017 Analyzed: 08/04/2017</b>						
Benzene	50.8	1.00	ug/L	50.0	ND	102	74-130			
Toluene	51.1	1.00	"	50.0	ND	102	73-131			
Ethylbenzene	52.5	1.00	"	50.0	ND	105	76-132			
m,p-Xylene	103	2.00	"	100	ND	103	69-139			
o-Xylene	49.9	1.00	"	50.0	ND	99.8	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.7	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	84-114			

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: 89069141  
 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 B7H0405 - EPA 5030B (Water)**

Matrix Spike Dup (B7H0405-MSD1)	Source: Y708034-01			Prepared: 08/04/2017 Analyzed: 08/04/2017						
Benzene	48.4	1.00	ug/L	50.0	ND	96.8	74-130	4.94	20	
Toluene	48.1	1.00	"	50.0	ND	96.2	73-131	5.95	20	
Ethylbenzene	50.0	1.00	"	50.0	ND	99.9	76-132	4.86	20	
m,p-Xylene	98.4	2.00	"	100	ND	98.4	69-139	4.64	20	
o-Xylene	48.1	1.00	"	50.0	ND	96.1	74-131	3.72	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.6	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.2	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences  
6899 Pecos Street, Unit C  
Denver CO 80211

Bob Cornez  
Project Number: 89069141  
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

November 09, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

**Project Name - KMG - HSR Hall 12-31**

**Project Number - 89069141**

Attached are your analytical results for KMG - HSR Hall 12-31 received by Origins Laboratory, Inc. November 02, 2017. This project is associated with Origins project number Y711043-01.

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: 89069141  
Project: KMG - HSR Hall 12-31

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01-11/2/2017	Y711043-01	Water	November 2, 2017 12:50	11/02/2017 17:05
BH02-11/2/2017	Y711043-02	Water	November 2, 2017 13:20	11/02/2017 17:05
BH03-11/2/2017	Y711043-03	Water	November 2, 2017 13:25	11/02/2017 17:05
BH04-11/2/2017	Y711043-04	Water	November 2, 2017 12:40	11/02/2017 17:05
BH05-11/2/2017	Y711043-05	Water	November 2, 2017 13:00	11/02/2017 17:05
BH06-11/2/2017	Y711043-06	Water	November 2, 2017 13:10	11/02/2017 17:05
BH07-11/2/2017	Y711043-07	Water	November 2, 2017 13:05	11/02/2017 17:05
BH08-11/2/2017	Y711043-08	Water	November 2, 2017 13:00	11/02/2017 17:05
BH09-11/2/2017	Y711043-09	Water	November 2, 2017 12:50	11/02/2017 17:05
BH10-11/2/2017	Y711043-10	Water	November 2, 2017 12:40	11/02/2017 17:05
BH11-11/2/2017	Y711043-11	Water	November 2, 2017 13:15	11/02/2017 17:05

Origins Laboratory, Inc.



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

Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

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page 1 of 2

**ORIGINS**  
LABORATORY, INC **Y711043**

Client: Andres / Noelle Project Manager / Send Report To: Bob Cornez  
 Address: 6899 N Pecos St Email Address: bcornez@tasman-geo.com  
 Telephone Number: 970 481 6108 Project Name / Number: HSR Hall 12-31 / 89069141  
 Samples Collected By: Mike Galza

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis/Method	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air / Surface	Other			
BH01 11/2/2017	11/2/2017	1250	3	X					X					
BH02 11/2/2017		1320												
BH03 11/2/2017		1225												
BH04 11/2/2017		1240												
BH05 11/2/2017		1300												
BH06 11/2/2017		1310												
BH07 11/2/2017		1305												
BH08 11/2/2017		1300												
BH09 11/2/2017		1250												
BH10 11/2/2017		1240												
Relinquished By: <u>[Signature]</u>	Date: <u>11/2/2017</u>	Time: <u>115</u>	Received By: <u>[Signature]</u>	Date: <u>11/2/17</u>	Time: <u>17:05</u>	Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard	Relinquished By: <u>[Signature]</u>	Date: <u>11/2/2017</u>	Time: <u>17:05</u>	Turnaround Time: <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard				

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: 89069141  
 Project: KMG - HSR Hall 12-31

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page 2 of 2

**ORIGINS**  
LABORATORY, INC

**Y711043**

Client: Andrew Lo/Tasman Project Manager/Send Report To: \_\_\_\_\_  
 Address: \_\_\_\_\_ Email Address: \_\_\_\_\_  
 Telephone Number: \_\_\_\_\_ Project Name/Number: HSR Hall 12-31/89069141  
 Samples Collected By: \_\_\_\_\_

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #			Other
BH11 11/2/2017	11/2/2017	13:15	3	X				X				BTEX	1
													2
													3
													4
													5
													6
													7
													8
													9
													10
Relinquished By: <u>[Signature]</u>	Date: <u>11/2/2017</u>	Time: <u>1705</u>	Received By: <u>[Signature]</u>	Date: <u>11/2/17</u>	Time: <u>1705</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____								

Comments: \_\_\_\_\_  
 Pub. Result. Method: \_\_\_\_\_

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: 89069141  
 Project: KMG - HSR Hall 12-31

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4711043

Client: Tasman

Client Project ID: KMG-HSR Hall

Checklist Completed by: Jan Lu

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

Date/time completed: 11-3-12 11:24

Airbill #: UA

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

Cooler Number/Temperature: 1, 0.5 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by: [Signature] (Project Manager)

Date/Time Reviewed: 11-3-12 11:24

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: 89069141  
 Project: KMG - HSR Hall 12-31

**BH01-11/2/2017**

**11/2/2017 12:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y711043-01 (Water)

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez  
 Project Number: 89069141  
 Project: KMG - HSR Hall 12-31

**BH02-11/2/2017**  
**11/2/2017 1:20:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	<b>76.3</b>	1.00	"	"	"	"	"	
Xylenes, total	<b>1130</b>	10.0	"	10	"	"	11/07/2017	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.5 %	84-121			"	"	11/07/2017	
<i>Surrogate: Toluene-d8</i>	103 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	101 %	84-114			"	"	"	

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**BH03-11/2/2017**  
**11/2/2017 1:25:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7K0702	11/07/2017	11/07/2017	U
Toluene	<b>3320</b>	50.0	"	50	"	"	11/07/2017	
Ethylbenzene	<b>137</b>	4.00	"	4	"	"	11/07/2017	
Xylenes, total	<b>2160</b>	50.0	"	50	"	"	11/07/2017	
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	11/07/2017	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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**BH04-11/2/2017**

**11/2/2017 12:40:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	100 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.1 %	84-114			"	"	"	

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**BH05-11/2/2017**  
**11/2/2017 1:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	100 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.1 %	84-114			"	"	"	

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**BH06-11/2/2017**  
**11/2/2017 1:10:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	100 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.1 %	84-114			"	"	"	

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**BH07-11/2/2017**  
**11/2/2017 1:05:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-07 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.8 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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**BH08-11/2/2017**  
**11/2/2017 1:00:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-08 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	<b>34.2</b>	4.00	"	"	"	"	"	
Xylenes, total	<b>431</b>	4.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	102 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.1 %	84-114			"	"	"	

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**BH09-11/2/2017**

**11/2/2017 12:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-09 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.00	ug/L	1	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.9 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	84-114			"	"	"	

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 Project: KMG - HSR Hall 12-31

**BH10-11/2/2017**

**11/2/2017 12:40:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-10 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	4.00	ug/L	4	B7K0702	11/07/2017	11/07/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	<b>61.2</b>	4.00	"	"	"	"	"	
Xylenes, total	<b>872</b>	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.6 %	84-114			"	"	"	

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**BH11-11/2/2017**  
**11/2/2017 1:15:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y711043-11 (Water)**

**BTEX by EPA 8260C**

Benzene	5.08	4.00	ug/L	4	B7K0702	11/07/2017	11/07/2017	
Toluene	3490	50.0	"	50	"	"	11/07/2017	
Ethylbenzene	175	4.00	"	4	"	"	11/07/2017	
Xylenes, total	2350	50.0	"	50	"	"	11/07/2017	
Surrogate: 1,2-Dichloroethane-d4	99.5 %	84-121			"	"	11/07/2017	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	

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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 B7K0702 - EPA 5030B (Water)**

**Blank (B7K0702-BLK1)**

Prepared: 11/07/2017 Analyzed: 11/07/2017

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Bob Cornez  
 Project Number: 89069141  
 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 B7K0702 - EPA 5030B (Water)**

**LCS (B7K0702-BS1)**

Prepared: 11/07/2017 Analyzed: 11/07/2017

Benzene	43.1	1.00	ug/L	50.0		86.2	73.3-129			
Toluene	42.2	1.00	"	50.0		84.5	76.2-123			
Ethylbenzene	45.1	1.00	"	50.0		90.3	73.6-130			
m,p-Xylene	80.9	2.00	"	100		80.9	76.1-126			
o-Xylene	46.1	1.00	"	50.0		92.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.8	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Bob Cornez  
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 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 B7K0702 - EPA 5030B (Water)**

<b>Matrix Spike (B7K0702-MS1)</b>	<b>Source: Y711043-01</b>			<b>Prepared: 11/07/2017 Analyzed: 11/07/2017</b>						
Benzene	53.3	1.00	ug/L	50.0	ND	107	74-130			
Toluene	53.1	1.00	"	50.0	ND	106	73-131			
Ethylbenzene	56.6	1.00	"	50.0	ND	113	76-132			
m,p-Xylene	99.5	2.00	"	100	ND	99.5	69-139			
o-Xylene	54.4	1.00	"	50.0	ND	109	74-131			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.1	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.3	84-114			

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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 B7K0702 - EPA 5030B (Water)**

Matrix Spike Dup (B7K0702-MSD1)	Source: Y711043-01			Prepared: 11/07/2017 Analyzed: 11/07/2017						
Benzene	58.6	1.00	ug/L	50.0	ND	117	74-130	9.47	20	
Toluene	58.3	1.00	"	50.0	ND	117	73-131	9.38	20	
Ethylbenzene	61.8	1.00	"	50.0	ND	124	76-132	8.81	20	
m,p-Xylene	110	2.00	"	100	ND	110	69-139	10.4	20	
o-Xylene	61.2	1.00	"	50.0	ND	122	74-131	11.9	20	
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Project: KMG - HSR Hall 12-31

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**Notes and Definitions**

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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Jen Pellegrini For Noelle Doyle Mathis, President