



July 17, 2024

**Tasman Geosciences**

**Andy Sagen**

**6855 West 119th Avenue**

**Broomfield CO 80020**

**Project Name - KMG - Tuttle L 16-7**

**Project Number - GS-10048**

Attached are your analytical results for KMG - Tuttle L 16-7 received by Origins Laboratory, Inc. July 09, 2024. This project is associated with Origins project number Y407222-01.

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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: GS-10048  
Project: KMG - Tuttle L 16-7

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH13	Y407222-01	Water	July 9, 2024 10:50	07/09/2024 14:40

Origins Laboratory, Inc.



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

**Sample Receipt Checklist**

Origins Work Order: 4407222 Client: Tasman  
 Checklist Completed by: EHD Client Project ID: Tuttle L16-7  
 Date/time completed: 7/19/24 Shipped Via: HO  
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)  
 Matrix(s) Received: (Check all that apply):  Soil/Solid  Water  Other: \_\_\_\_\_  
 Cooler Number/Temperature: 115 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C  
 Thermometer ID: 1005

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? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>			
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> / (pH > 10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			
Additional Comments (if any):				

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

Reviewed by (Project Manager) AS

7/19/24  
Date/Time Reviewed

Origins Laboratory, Inc.

*J. Bynon*

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Andy Sagen  
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 Project: KMG - Tuttle L 16-7

**BH13**

**7/9/2024 10:50:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y407222-01 (Water)**

**Anions by IC 300.0**

Chloride	63.1	31.2	mg/L	125	B4G1003	DLT	07/10/2024	07/15/2024	
Sulfate	95.1	31.2	"	"	"	DLT	"	"	

**BTEX+N+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	2.00	ug/L	1	B4G1032	JSM	07/10/2024	07/10/2024	U
1,3,5-Trimethylbenzene	ND	2.00	"	"	"	JSM	"	"	U
Benzene	5.18	1.00	"	"	"	JSM	"	"	
Ethylbenzene	ND	1.00	"	"	"	JSM	"	"	U
Naphthalene	ND	2.00	"	"	"	JSM	"	"	U
Toluene	ND	1.00	"	"	"	JSM	"	"	U
Xylenes, total	ND	1.00	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	93.2 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	95.1 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	70-130			"	"	"	"	

**Total Dissolved Solids by 2540C**

Total Dissolved Solids	1160	5.00	mg/L	1	B4G1023	KRM	07/10/2024	07/12/2024	
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**Volatile Organic Compounds by GC/MS SW846 8260D - 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 B4G1032 - EPA 5030B (Water)**

**Blank (B4G1032-BLK1)**

Prepared: 07/10/2024 Analyzed: 07/10/2024

1,2,4-Trimethylbenzene	ND	2.00	ug/L							U
1,3,5-Trimethylbenzene	ND	2.00	"							U
Benzene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Naphthalene	ND	2.00	"							U
Toluene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	74		"	62.5	118		70-130			
Surrogate: Toluene-d8	59		"	62.5	94.1		70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5	96.7		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 B4G1032 - EPA 5030B (Water)**

**LCS (B4G1032-BS1)**

Prepared: 07/10/2024 Analyzed: 07/10/2024

1,2,4-Trimethylbenzene	54.5	2.00	ug/L	50.0		109	70-130			
1,3,5-Trimethylbenzene	56.3	2.00	"	50.0		113	70-130			
Benzene	47.6	1.00	"	50.0		95.3	70-130			
Ethylbenzene	51.4	1.00	"	50.0		103	70-130			
m,p-Xylene	104	2.00	"	100		104	70-130			
Naphthalene	49.8	2.00	"	50.0		99.7	70-130			
o-Xylene	53.2	1.00	"	50.0		106	70-130			
Toluene	45.2	1.00	"	50.0		90.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		113	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.5	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	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 B4G1032 - EPA 5030B (Water)

Matrix Spike (B4G1032-MS1)	Source: Y407222-01			Prepared: 07/10/2024 Analyzed: 07/10/2024						
1,2,4-Trimethylbenzene	62.8	2.00	ug/L	50.0	ND	126	70-130			
1,3,5-Trimethylbenzene	66.8	2.00	"	50.0	ND	134	70-130			QM-07
Benzene	61.5	1.00	"	50.0	5.18	113	70-130			
Ethylbenzene	59.8	1.00	"	50.0	ND	120	70-130			
m,p-Xylene	121	2.00	"	100	ND	121	70-130			
Naphthalene	53.3	2.00	"	50.0	ND	107	70-130			
o-Xylene	61.5	1.00	"	50.0	ND	123	70-130			
Toluene	50.9	1.00	"	50.0	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130			
Surrogate: Toluene-d8	57		"	62.5		91.7	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4G1032 - EPA 5030B (Water)**

Matrix Spike Dup (B4G1032-MSD1)	Source: Y407222-01			Prepared: 07/10/2024 Analyzed: 07/10/2024						
1,2,4-Trimethylbenzene	62.3	2.00	ug/L	50.0	ND	125	70-130	0.736	20	
1,3,5-Trimethylbenzene	65.2	2.00	"	50.0	ND	130	70-130	2.36	20	
Benzene	61.4	1.00	"	50.0	5.18	112	70-130	0.0977	20	
Ethylbenzene	59.7	1.00	"	50.0	ND	119	70-130	0.234	20	
m,p-Xylene	122	2.00	"	100	ND	122	70-130	0.824	20	
Naphthalene	59.5	2.00	"	50.0	ND	119	70-130	11.1	20	
o-Xylene	62.4	1.00	"	50.0	ND	125	70-130	1.47	20	
Toluene	51.5	1.00	"	50.0	ND	103	70-130	1.17	20	
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		109	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.2	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Classical Chemistry Parameters - 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 B4G1003 - Filter .45um non acidified**

**Blank (B4G1003-BLK1)**

Prepared: 07/10/2024 Analyzed: 07/15/2024

Chloride	ND	0.250	mg/L							
Sulfate	ND	0.250	"							

**LCS (B4G1003-BS1)**

Prepared: 07/10/2024 Analyzed: 07/15/2024

Chloride	4.00	0.250	mg/L	4.00		99.9	90-110			
Sulfate	4.11	0.250	"	4.00		103	90-110			

**Matrix Spike (B4G1003-MS1)**

**Source: Y407220-01**

Prepared: 07/10/2024 Analyzed: 07/15/2024

Chloride	2340		mg/L	500	1760	117	90-110			QM-07
Sulfate	8830		"	500	7730	220	90-110			QM-07

**Matrix Spike Dup (B4G1003-MSD1)**

**Source: Y407220-01**

Prepared: 07/10/2024 Analyzed: 07/15/2024

Chloride	2360		mg/L	500	1760	121	90-110	0.876	5	QM-07
Sulfate	8920		"	500	7730	238	90-110	0.997	5	QM-07

**Batch B4G1023 - NO PREP**

**Blank (B4G1023-BLK1)**

Prepared: 07/10/2024 Analyzed: 07/12/2024

Total Dissolved Solids	ND	5.00	mg/L							
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**LCS (B4G1023-BS1)**

Prepared: 07/10/2024 Analyzed: 07/12/2024

Total Dissolved Solids	1040	5.00	mg/L	1040		100	90-110			
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**Duplicate (B4G1023-DUP1)**

**Source: Y407220-01**

Prepared: 07/10/2024 Analyzed: 07/12/2024

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**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 B4G1023 - NO PREP</b>										
Total Dissolved Solids	16800	5.00	mg/L		15800			5.85	10	

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**Notes and Definitions**

U Sample is Non-Detect.

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.

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Jordan A. Bynon, Project Manager