

August 15, 2024

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - State 2,8-16

Project Number - [none]

Attached are your analytical results for KMG - State 2,8-16 received by Origins Laboratory, Inc. July 16, 2024. This project is associated with Origins project number Y407396-01.

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
6855 West 119th Avenue
Broomfield CO 80020

Andy Sagen
Project Number: [none]
Project: KMG - State 2,8-16

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2,8-FL-B02@4'	Y407396-01	Soil	July 16, 2024 13:50	07/16/2024 15:15

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4407396 Client: Tasman
 Client Project ID: State 2,8-16
 Checklist Completed by: EHD Shipped Via: HD
 Date/time completed: 7/16/24 (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, 10 °C / _____ °C / _____ °C (Describe)
 Thermometer ID: 7005

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

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

Reviewed by (Project Manager) EHD Date/Time Reviewed 7/16/24

Origins Laboratory, Inc.



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Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

2.8-FL-B02@4'
7/16/2024 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407396-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.569		0.100	mg/L	1	B4G1718	07/17/2024	07/18/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4G1601	07/16/2024	07/16/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	86.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4G1618	07/16/2024	07/17/2024	Ua
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Benzene	ND		0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND		0.00200	"	"	"	"	"	Ua
Toluene	ND		0.00200	"	"	"	"	"	Ua
Xylenes, total	ND		0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	111 %		70-130			"	"	"	
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Jen Pellegrini, Project Manager

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2.8-FL-B02@4'
7/16/2024 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407396-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.9 %		70-130			B4G16 18	07/16/2024	07/17/2024	
Surrogate: 4-Bromofluorobenzene	106 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.03	0.499	meq/L	10	[CALC]		07/17/2024	07/18/2024	
Magnesium	0.857	0.823	"	"	"		"	"	
Sodium	1.43	0.435	"	"	"		"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4G1623		07/16/2024	07/16/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"		"	"	Ua
Acenaphthene	ND	0.020	"	"	"		"	"	Ua
Anthracene	ND	0.020	"	"	"		"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"		"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"		"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"		"	"	Ua
Chrysene	ND	0.020	"	"	"		"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"		"	"	Ua
Fluoranthene	ND	0.020	"	"	"		"	"	Ua

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2.8-FL-B02@4'
7/16/2024 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407396-01 (Soil)

PAH by EPA 8270E

Fluorene	ND		0.020	mg/kg	1	B4G1623	07/16/2024	07/16/2024	Ua
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	Ua
Naphthalene	ND		0.002	"	"	"	"	"	Ua
Pyrene	ND		0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	97.2 %		60-130			"	"	"	
Surrogate: Anthracene-d10	99.7 %		60-130			"	"	"	
Surrogate: Pyrene-d10	107 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	100 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.40			pH Units	1	B4G1724	07/17/2024	07/17/2024	
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SAR by 20B Saturated Paste

SAR	1.47		0.0100	SAR	1	B4G1711	07/17/2024	07/18/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.342		0.00500	mmhos/cm	1	B4G1724	07/17/2024	07/17/2024	
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Table 915 metals by EPA 6020B

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2.8-FL-B02@4'
7/16/2024 1:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y407396-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	5.79		0.290	mg/kg	10	B4G1625	07/16/2024	07/17/2024	
Barium	186		10.0	"	"	"	"	"	
Cadmium	0.187		0.100	"	"	"	"	"	
Copper	16.4		10.0	"	"	"	"	"	
Lead	13.1		1.00	"	"	"	"	"	
Nickel	18.0		1.00	"	"	"	"	"	
Selenium	ND		0.260	"	"	"	"	"	Ua
Silver	ND		0.100	"	"	"	"	"	Ua
Zinc	61.2		37.0	"	"	"	"	"	

Total Metals by 7196A

Hexavalent Chromium	ND	0.111	0.278	mg/kg dry	1	2653029	08/14/2024	08/14/2024	U
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 Project Number: [none]
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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G1601 - EPA 3550B										
Blank (B4G1601-BLK1)										
					Prepared: 07/16/2024 Analyzed: 07/16/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	23		"	24.9		93.3	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B4G1601 - EPA 3550B

LCS (B4G1601-BS1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

Diesel (C10-C28)	837	50.0	mg/kg	1000		83.7	70-130			
Residual Range Organics (C28-C40)	921	200	"	1000		92.1	70-130			
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B4G1601 - EPA 3550B

Matrix Spike (B4G1601-MS1)	Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/16/2024						
Diesel (C10-C28)	917	50.0	mg/kg	1000	ND	91.7	70-130			
Residual Range Organics (C28-C40)	1050	200	"	1000	ND	105	70-130			
Surrogate: o-Terphenyl	54		"	49.8		109	50-150			

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 Project Number: [none]
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Extractable Petroleum Hydrocarbons by 8015D - 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 B4G1601 - EPA 3550B

Matrix Spike Dup (B4G1601-MSD1)	Source: Y407393-01		Prepared: 07/16/2024 Analyzed: 07/16/2024							
Diesel (C10-C28)	954	50.0	mg/kg	1000	ND	95.4	70-130	3.96	35	
Residual Range Organics (C28-C40)	1110	200	"	1000	ND	111	70-130	5.75	35	
<i>Surrogate: o-Terphenyl</i>	<i>61</i>		<i>"</i>	<i>49.8</i>		<i>123</i>	<i>50-150</i>			

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Extractable Petroleum Hydrocarbons by 8015D - 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 B4G1618 - EPA 5030 (soil)

Blank (B4G1618-BLK1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	105		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	103		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	106		70-130			

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Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

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 B4G1618 - EPA 5030 (soil)

LCS (B4G1618-BS1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

1,2,4-Trimethylbenzene	0.112	0.00200	mg/kg	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.115	0.00200	"	0.100		115	70-130			
Benzene	0.104	0.00200	"	0.100		104	70-130			
Ethylbenzene	0.109	0.00200	"	0.100		109	70-130			
Naphthalene	0.114	0.00380	"	0.100		114	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.112	0.00200	"	0.100		112	70-130			
m,p-Xylene	0.216	0.00400	"	0.200		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.0	70-130			

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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 B4G1618 - EPA 5030 (soil)

Matrix Spike (B4G1618-MS1)	Source: Y407268-04			Prepared: 07/16/2024 Analyzed: 07/16/2024						
1,2,4-Trimethylbenzene	0.0973	0.00200	mg/kg	0.100	ND	97.3	70-130			
1,3,5-Trimethylbenzene	0.0983	0.00200	"	0.100	ND	98.3	70-130			
Benzene	0.0939	0.00200	"	0.100	0.00108	92.8	70-130			
Ethylbenzene	0.0955	0.00200	"	0.100	ND	95.5	70-130			
Naphthalene	0.111	0.00380	"	0.100	0.000520	111	70-130			
Toluene	0.0958	0.00200	"	0.100	0.00368	92.1	70-130			
o-Xylene	0.0987	0.00200	"	0.100	ND	98.7	70-130			
m,p-Xylene	0.189	0.00400	"	0.200	0.000960	94.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		114	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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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 B4G1618 - EPA 5030 (soil)

Matrix Spike Dup (B4G1618-MSD1)	Source: Y407268-04		Prepared: 07/16/2024 Analyzed: 07/16/2024							
1,2,4-Trimethylbenzene	0.0955	0.00200	mg/kg	0.100	ND	95.5	70-130	1.85	20	
1,3,5-Trimethylbenzene	0.0971	0.00200	"	0.100	ND	97.1	70-130	1.29	20	
Benzene	0.0921	0.00200	"	0.100	0.00108	91.0	70-130	1.91	20	
Ethylbenzene	0.0921	0.00200	"	0.100	ND	92.1	70-130	3.64	20	
Naphthalene	0.108	0.00380	"	0.100	0.000520	108	70-130	2.58	20	
Toluene	0.0960	0.00200	"	0.100	0.00368	92.4	70-130	0.250	20	
o-Xylene	0.0958	0.00200	"	0.100	ND	95.8	70-130	3.00	20	
m,p-Xylene	0.182	0.00400	"	0.200	0.000960	90.5	70-130	3.77	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.4	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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Metals by EPA 6000/7000 Series Methods - 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 B4G1625 - EPA 3050B

Blank (B4G1625-BLK1)

Prepared: 07/16/2024 Analyzed: 07/17/2024

Arsenic	ND	0.290	mg/kg							Ua
Barium	ND	10.0	"							Ua
Cadmium	ND	0.100	"							Ua
Copper	ND	10.0	"							Ua
Lead	ND	1.00	"							Ua
Nickel	ND	1.00	"							Ua
Selenium	ND	0.260	"							Ua
Silver	ND	0.100	"							Ua
Zinc	ND	37.0	"							Ua

LCS (B4G1625-BS1)

Prepared: 07/16/2024 Analyzed: 07/17/2024

Arsenic	5.58	0.290	mg/kg	5.00		112	80-120			
Barium	526	10.0	"	500		105	80-120			
Cadmium	5.19	0.100	"	5.00		104	80-120			
Copper	56.5	10.0	"	50.0		113	80-120			
Lead	5.14	1.00	"	5.00		103	80-120			
Nickel	5.50	1.00	"	5.00		110	80-120			
Selenium	5.23	0.260	"	5.00		105	80-120			
Silver	5.10	0.100	"	5.00		102	80-120			
Zinc	56.6	37.0	"	50.0		113	80-120			

Matrix Spike (B4G1625-MS1)

Source: Y407393-01

Prepared: 07/16/2024 Analyzed: 07/17/2024

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

Metals by EPA 6000/7000 Series Methods - 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 B4G1625 - EPA 3050B

Matrix Spike (B4G1625-MS1)		Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/17/2024					
Arsenic	8.74	0.273	mg/kg	4.70	3.56	110	75-125			
Barium	606	9.41	"	470	83.5	111	75-125			
Cadmium	5.33	0.0941	"	4.70	0.214	109	75-125			
Copper	63.4	9.41	"	47.0	8.64	117	75-125			
Lead	13.7	0.941	"	4.70	8.71	106	75-125			
Nickel	14.1	0.941	"	4.70	9.69	94.1	75-125			
Selenium	4.77	0.245	"	4.70	0.159	97.9	75-125			
Silver	5.02	0.0941	"	4.70	0.0134	107	75-125			
Zinc	92.2	34.8	"	47.0	38.4	114	75-125			

Matrix Spike Dup (B4G1625-MSD1)		Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/17/2024					
Arsenic	8.13	0.263	mg/kg	4.54	3.56	101	75-125	7.25	20	
Barium	610	9.08	"	454	83.5	116	75-125	0.584	20	
Cadmium	5.22	0.0908	"	4.54	0.214	110	75-125	2.04	20	
Copper	60.0	9.08	"	45.4	8.64	113	75-125	5.52	20	
Lead	13.7	0.908	"	4.54	8.71	110	75-125	0.255	20	
Nickel	13.9	0.908	"	4.54	9.69	92.8	75-125	1.52	20	
Selenium	4.73	0.236	"	4.54	0.159	101	75-125	0.669	20	
Silver	4.95	0.0908	"	4.54	0.0134	109	75-125	1.58	20	
Zinc	88.1	33.6	"	45.4	38.4	110	75-125	4.57	20	

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4G1623 - EPA 3580

Blank (B4G1623-BLK1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua
Surrogate: Fluorene-d10	190		ug/kg	200		97.4	60-130			
Surrogate: Anthracene-d10	200		"	200		102	60-130			
Surrogate: Pyrene-d10	210		"	200		106	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

LCS (B4G1623-BS1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

1-Methylnaphthalene	0.182	0.002	mg/kg	0.200		91.2	70-130			
2-Methylnaphthalene	0.181	0.002	"	0.200		90.7	70-130			
Acenaphthene	0.182	0.020	"	0.200		90.9	70-130			
Anthracene	0.181	0.020	"	0.200		90.4	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4G1623 - EPA 3580

LCS (B4G1623-BS1)

Prepared: 07/16/2024 Analyzed: 07/16/2024

Benzo (a) anthracene	0.173	0.005	mg/kg	0.200		86.4	70-130			
Benzo (a) pyrene	0.183	0.020	"	0.200		91.3	70-130			
Benzo (b) fluoranthene	0.185	0.020	"	0.200		92.4	70-130			
Benzo (g,h,i) perylene	0.180	0.020	"	0.200		89.8	70-130			
Benzo (k) fluoranthene	0.180	0.020	"	0.200		90.2	70-130			
Chrysene	0.177	0.020	"	0.200		88.4	70-130			
Dibenz (a,h) anthracene	0.180	0.020	"	0.200		89.8	70-130			
Fluoranthene	0.163	0.020	"	0.200		81.5	70-130			
Fluorene	0.175	0.020	"	0.200		87.4	70-130			
Indeno (1,2,3-cd) pyrene	0.180	0.020	"	0.200		90.1	70-130			
Naphthalene	0.182	0.002	"	0.200		90.8	70-130			
Phenanthrene	0.182	0.020	"	0.200		90.9	70-130			
Pyrene	0.199	0.020	"	0.200		99.5	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		96.0	60-130			
Surrogate: Anthracene-d10	200		"	200		98.7	60-130			
Surrogate: Pyrene-d10	220		"	200		109	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Matrix Spike (B4G1623-MS1)

Source: Y407393-01

Prepared: 07/16/2024 Analyzed: 07/16/2024

1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	ND	96.9	70-130			
2-Methylnaphthalene	0.194	0.002	"	0.200	ND	96.9	70-130			
Acenaphthene	0.192	0.020	"	0.200	ND	96.2	70-130			
Anthracene	0.195	0.020	"	0.200	ND	97.3	70-130			
Benzo (a) anthracene	0.192	0.005	"	0.200	0.0009	95.4	70-130			
Benzo (a) pyrene	0.215	0.020	"	0.200	ND	107	70-130			
Benzo (b) fluoranthene	0.210	0.020	"	0.200	0.0008	105	70-130			
Benzo (g,h,i) perylene	0.202	0.020	"	0.200	0.001	100	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4G1623 - EPA 3580

Matrix Spike (B4G1623-MS1)		Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/16/2024					
Benzo (k) fluoranthene	0.187	0.020	mg/kg	0.200	0.0005	93.0	70-130			
Chrysene	0.184	0.020	"	0.200	0.001	91.5	70-130			
Dibenz (a,h) anthracene	0.195	0.020	"	0.200	ND	97.3	70-130			
Fluoranthene	0.181	0.020	"	0.200	0.0003	90.3	70-130			
Fluorene	0.186	0.020	"	0.200	ND	93.1	70-130			
Indeno (1,2,3-cd) pyrene	0.205	0.020	"	0.200	ND	102	70-130			
Naphthalene	0.205	0.002	"	0.200	ND	103	70-130			
Phenanthrene	0.194	0.020	"	0.200	ND	96.8	70-130			
Pyrene	0.202	0.020	"	0.200	ND	101	70-130			
Surrogate: Fluorene-d10	190		ug/kg	200		96.8	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	210		"	200		104	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		100	60-130			

Matrix Spike Dup (B4G1623-MSD1)		Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/16/2024					
1-Methylnaphthalene	0.201	0.002	mg/kg	0.200	ND	101	70-130	3.75	20	
2-Methylnaphthalene	0.201	0.002	"	0.200	ND	100	70-130	3.49	20	
Acenaphthene	0.199	0.020	"	0.200	ND	99.3	70-130	3.15	20	
Anthracene	0.191	0.020	"	0.200	ND	95.5	70-130	1.77	20	
Benzo (a) anthracene	0.194	0.005	"	0.200	0.0009	96.5	70-130	1.16	20	
Benzo (a) pyrene	0.211	0.020	"	0.200	ND	106	70-130	1.51	20	
Benzo (b) fluoranthene	0.205	0.020	"	0.200	0.0008	102	70-130	2.45	20	
Benzo (g,h,i) perylene	0.205	0.020	"	0.200	0.001	102	70-130	1.29	20	
Benzo (k) fluoranthene	0.191	0.020	"	0.200	0.0005	95.3	70-130	2.35	20	
Chrysene	0.196	0.020	"	0.200	0.001	97.5	70-130	6.28	20	
Dibenz (a,h) anthracene	0.209	0.020	"	0.200	ND	104	70-130	7.02	20	
Fluoranthene	0.198	0.020	"	0.200	0.0003	98.7	70-130	8.85	20	

Origins Laboratory, Inc.



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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4G1623 - EPA 3580

Matrix Spike Dup (B4G1623-MSD1)	Source: Y407393-01			Prepared: 07/16/2024 Analyzed: 07/16/2024						
Fluorene	0.193	0.020	mg/kg	0.200	ND	96.4	70-130	3.50	20	
Indeno (1,2,3-cd) pyrene	0.207	0.020	"	0.200	ND	104	70-130	1.14	20	
Naphthalene	0.199	0.002	"	0.200	ND	99.4	70-130	3.16	20	
Phenanthrene	0.200	0.020	"	0.200	ND	100	70-130	3.40	20	
Pyrene	0.205	0.020	"	0.200	ND	103	70-130	1.82	20	
Surrogate: Fluorene-d10	190		ug/kg	200		97.0	60-130			
Surrogate: Anthracene-d10	200		"	200		99.7	60-130			
Surrogate: Pyrene-d10	200		"	200		102	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		99.2	60-130			

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Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

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 B4G1711 - Saturated Paste Metals

Blank (B4G1711-BLK1)

Prepared: 07/17/2024 Analyzed: 07/18/2024

SAR	ND	0.0100	SAR							Ua
Calcium PPM	ND	10.0	mg/L							Ua
Magnesium PPM	ND	10.0	"							Ua
Sodium PPM	ND	10.0	"							Ua

Duplicate (B4G1711-DUP1)

Source: Y407373-12

Prepared: 07/17/2024 Analyzed: 07/18/2024

SAR	ND	0.0100	SAR		3.00				200	Ua
Calcium PPM	35.8	10.0	mg/L		36.6			2.04	50	
Magnesium PPM	16.8	10.0	"		16.7			0.894	50	
Sodium PPM	92.4	10.0	"		87.3			5.66	50	

Batch B4G1718 - DTPA Sorbitol Preparation

Blank (B4G1718-BLK1)

Prepared: 07/17/2024 Analyzed: 07/18/2024

Boron	ND	0.100	mg/L							Ua
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Duplicate (B4G1718-DUP1)

Source: Y407373-12

Prepared: 07/17/2024 Analyzed: 07/18/2024

Boron	0.435	0.100	mg/L		0.433			0.469	50	
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Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4G1724 - Saturated Paste pH/EC										
Blank (B4G1724-BLK1)					Prepared: 07/17/2024 Analyzed: 07/17/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							Ua
Duplicate (B4G1724-DUP1)					Source: Y407373-12 Prepared: 07/17/2024 Analyzed: 07/17/2024					
pH	6.85		pH Units		8.02			15.7	25	
Specific Conductance (EC)	0.678	0.00500	mmhos/cm		0.678			0.118	25	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
 6855 West 119th Avenue
 Broomfield CO 80020

Andy Sagen
 Project Number: [none]
 Project: KMG - State 2,8-16

Total Metals by 7196A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2653029 - SW846 3060A										
BLANK (1205814716-BLK)					Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	ND	0.348	mg/kg				-			U
LCS (1205814717-BKS)					Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	2.68	0.273	mg/kg	2.73		97.9	80-120			
DUP (1205814718 D)					Source: 676059001 Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	ND	0.314	mg/kg dry		<0.126		0-50	N/A	50	U
MS (1205814719 S)					Source: 676059001 Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	1.91	0.315	mg/kg dry	3.15	<0.126	59.2	75-125			
DUP (1205814720 D)					Source: 676059002 Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	ND	0.520	mg/kg dry		<0.208		0-50	N/A	50	U
MS (1205814721 S)					Source: 676059002 Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	2.81	0.520	mg/kg dry	5.20	<0.208	53.7	75-125			
ILCS (1205814722-ILCS)					Prepared: 08/14/2024 Analyzed: 08/14/2024					
Hexavalent Chromium	6.47	0.319	mg/kg	6.49		99.8	80-120			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Andy Sagen
Project Number: [none]
Project: KMG - State 2,8-16

Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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