



March 21, 2024

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - Cheng 3-8A

Project Number - [none]

Attached are your analytical results for KMG - Cheng 3-8A received by Origins Laboratory, Inc. February 28, 2024. This project is associated with Origins project number Y402699-01.

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**CROSS REFERENCE REPORT**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@6'	Y402699-01	Soil	February 28, 2024 11:30	02/28/2024 14:40
FL-B01@4'	Y402699-02	Soil	February 28, 2024 11:32	02/28/2024 14:40
BG-01@3'	Y402699-03	Soil	February 28, 2024 11:50	02/28/2024 14:40
BG-01@6'	Y402699-04	Soil	February 28, 2024 11:52	02/28/2024 14:40
BG-02@3'	Y402699-05	Soil	February 28, 2024 11:54	02/28/2024 14:40
BG-02@6'	Y402699-06	Soil	February 28, 2024 11:56	02/28/2024 14:40
BG-03@3'	Y402699-07	Soil	February 28, 2024 11:58	02/28/2024 14:40
BG-03@6'	Y402699-08	Soil	February 28, 2024 12:00	02/28/2024 14:40
BG-04@3'	Y402699-09	Soil	February 28, 2024 12:02	02/28/2024 14:40
BG-04@6'	Y402699-10	Soil	February 28, 2024 12:04	02/28/2024 14:40
BG-05@3'	Y402699-11	Soil	February 28, 2024 12:06	02/28/2024 14:40
BG-05@6'	Y402699-12	Soil	February 28, 2024 12:08	02/28/2024 14:40
BG-06@3'	Y402699-13	Soil	February 28, 2024 12:10	02/28/2024 14:40
BG-06@6'	Y402699-14	Soil	February 28, 2024 12:12	02/28/2024 14:40

Origins Laboratory, Inc.



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Tasman Geosciences

6855 West 119th Avenue

Broomfield CO 80020

Andy Sagen

Project Number: [none]

Project: KMG - Cheng 3-8A

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

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**ORIGINS**  
LABORATORY, INC

Client: Andy Sagen  
Address: 6855 W 119th Ave  
Broomfield, CO 80020  
Telephone Number: 303.433.1322  
Email Address: Andy.Sagen@originslab.com

Project Manager: Andy Sagen  
Project Name: CHENG 3-8A  
Project Number: KMG-3-8A  
Samples Collected By: Kevin M. Morgan/H  
Method of Delivery (Circle One): Hand Delivered (If not, please provide carrier name and tracking number)

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page 1 of 2

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix	Analysis		Turnaround Time: Some Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>
				Unpreserved	HCl	HNO <sub>3</sub>		Other	Groundwater	
WH-001 @ 6'	2/28	11:30	3	X						PH/EL/SP/EL
FL-001 @ 4'		11:32	3							Brown added
BG-01 @ 3'		11:50	2							X to AW Bt
BG-01 @ 6'		11:52	2							sample per
BG-02 @ 3'		11:54	2							Brown added
BG-02 @ 6'		11:56	2							on 2/28 TPT
BG-03 @ 3'		11:58	2							
BG-03 @ 6'		12:00	2							
BG-04 @ 3'		12:02	2							
BG-04 @ 6'		12:04	2							
Relinquished By: <u>Kevin M. Morgan/H</u>	Date: <u>2/28</u>	Time: <u>1440</u>	Received By: <u>[Signature]</u>	Date: <u>2/28/24</u>	Time: <u>1440</u>					

Date Results Needed: 7

Origins Laboratory, Inc.

*Bynon*

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

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

**Sample Receipt Checklist**

Origins Work Order: 4402699 Client: Tasman  
Client Project ID: Cheng 3-8A

Checklist Completed by: EHS/HUH Shipped Via: HD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 2/28/24 Airbill #: N/A

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

Cooler Number/Temperature: 1/7 °C 1 °C 1 °C 1 °C

Thermometer ID: 1004

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> ?		X		SD
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			X	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			X	
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		X		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> 1/4 inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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) 2/28/24  
Date/Time Reviewed

Origins Laboratory, Inc.

*Byron*

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

WH-B01@6'

2/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.224	0.100	mg/L	1	B4B2910	02/29/2024	03/01/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4B2827	02/28/2024	02/28/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	81.5 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4B2830	02/28/2024	02/28/2024	U
1,3,5-Trimethylbenzene	0.00210	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	92.0 %	70-130	"	"	"
Surrogate: Toluene-d8	96.4 %	70-130	"	"	"

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Project Number: [none]  
Project: KMG - Cheng 3-8A

WH-B01@6'

2/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-01 (Soil)

## GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene	98.1 %	70-130	B4B28 30	02/28/2024	02/28/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	5.65	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.13	0.435	"	"	"	"	"

## PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4B2831	02/28/2024	02/29/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U
Fluorene	ND	0.020	"	"	"	"	"	U

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Project Number: [none]  
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WH-B01@6'

2/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-01 (Soil)**

**PAH by EPA 8270E**

Indeno (1,2,3-cd) pyrene	ND	0.020	mg/kg	1	B4B2831	02/28/2024	02/29/2024	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.9 %	60-130	"	"	"
Surrogate: Anthracene-d10	93.2 %	60-130	"	"	"
Surrogate: Pyrene-d10	92.9 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	11.4	pH Units	1	B4B2919	02/29/2024	03/01/2024
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**SAR by 20B Saturated Paste**

SAR	0.670	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.858	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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**Table 915 metals by EPA 6020B**

Arsenic	1.56	0.263	mg/kg	10	B4B2829	02/28/2024	03/11/2024
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Broomfield CO 80020

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Project Number: [none]  
Project: KMG - Cheng 3-8A

WH-B01@6'

2/28/2024 11:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-01 (Soil)**

**Table 915 metals by EPA 6020B**

Barium	70.0	9.06	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Cadmium	0.126	0.0906	"	"	"	"	"
Copper	16.9	9.06	"	"	"	"	"
Lead	41.9	0.906	"	"	"	"	"
Nickel	9.59	0.906	"	"	"	"	"
Selenium	ND	0.236	"	"	"	"	"
Silver	ND	0.0906	"	"	"	"	"
Zinc	36.7	33.5	"	"	"	"	"

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738418	02/28/2024	03/15/2024
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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B01@4'

2/28/2024 11:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.131	0.0998	mg/L	1	B4B2910	02/29/2024	03/01/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4B2827	02/28/2024	02/29/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	83.5 %	50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4B2830	02/28/2024	02/28/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	91.2 %	70-130			"	"	"	
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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B01@4'

2/28/2024 11:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-02 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	98.5 %	70-130				B4B28 30	02/28/2024	02/28/2024	
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	2.22	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024	
Magnesium	ND	0.823	"	"	"	"	"	
Sodium	0.649	0.435	"	"	"	"	"	

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4B2831	02/28/2024	02/29/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B01@4'

2/28/2024 11:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-02 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B4B2831	02/28/2024	02/29/2024	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	99.9 %	60-130	"	"	"
Surrogate: Anthracene-d10	94.9 %	60-130	"	"	"
Surrogate: Pyrene-d10	88.1 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	8.17	pH Units	1	B4B2919	02/29/2024	03/01/2024
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**SAR by 20B Saturated Paste**

SAR	0.543	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.419	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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**Table 915 metals by EPA 6020B**

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B01@4'

2/28/2024 11:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-02 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	1.34	0.267	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	56.6	9.22	"	"	"	"	"
Cadmium	0.371	0.0922	"	"	"	"	"
Copper	15.0	9.22	"	"	"	"	"
Lead	28.2	0.922	"	"	"	"	"
Nickel	7.89	0.922	"	"	"	"	"
Selenium	ND	0.240	"	"	"	"	"
Silver	ND	0.0922	"	"	"	"	"
Zinc	ND	34.1	"	"	"	"	"

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.252	0.518	mg/Kg	1	L738418	02/28/2024	03/15/2024
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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-01@3'

2/28/2024 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-03 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.0986	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	0.531	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.706	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	7.27		pH Units	1	B4B2919	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.12	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.202	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.42	0.277	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	54.6	9.55	"	"	"	"	"
Cadmium	0.109	0.0955	"	"	"	"	"
Copper	ND	9.55	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-01@3'

2/28/2024 11:50:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-03 (Soil)

## Table 915 metals by EPA 6020B

Lead	6.02		0.955	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	7.73		0.955	"	"	"	"	"	
Selenium	ND		0.248	"	"	"	"	"	
Silver	ND		0.0955	"	"	"	"	"	
Zinc	ND		35.3	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-01@6'

2/28/2024 11:52:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-04 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.131	0.0995	mg/L	1	B4B2910	02/29/2024	03/01/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	2.81	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	0.904	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.21		pH Units	1	B4B2919	02/29/2024	03/01/2024
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**SAR by 20B Saturated Paste**

SAR	0.215	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.426	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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**Table 915 metals by EPA 6020B**

Arsenic	1.51	0.279	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	64.6	9.64	"	"	"	"	"
Cadmium	ND	0.0964	"	"	"	"	"
Copper	ND	9.64	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-01@6'

2/28/2024 11:52:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-04 (Soil)

## Table 915 metals by EPA 6020B

Lead	5.54		0.964	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	9.48		0.964	"	"	"	"	"	
Selenium	ND		0.251	"	"	"	"	"	
Silver	ND		0.0964	"	"	"	"	"	
Zinc	ND		35.7	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-02@3'

2/28/2024 11:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-05 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.0998	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	0.876	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.911	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	7.30		pH Units	1	B4B2919	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.17	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.278	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	2.42	0.272	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	93.3	9.38	"	"	"	"	"
Cadmium	0.0957	0.0938	"	"	"	"	"
Copper	9.57	9.38	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-02@3'

2/28/2024 11:54:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-05 (Soil)

### Table 915 metals by EPA 6020B

Lead	8.49		0.938	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	12.5		0.938	"	"	"	"	"	
Selenium	ND		0.244	"	"	"	"	"	
Silver	ND		0.0938	"	"	"	"	"	
Zinc	45.4		34.7	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.504	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**BG-02@6'**

**2/28/2024 11:56:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-06 (Soil)**

### Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	0.697	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.863	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	7.32		pH Units	1	B4B2919	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.24	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.249	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.75	0.256	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	70.9	8.82	"	"	"	"	"
Cadmium	ND	0.0882	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-02@6'

2/28/2024 11:56:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-06 (Soil)

## Table 915 metals by EPA 6020B

Copper	ND		8.82	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Lead	5.63		0.882	"	"	"	"	"
Nickel	9.62		0.882	"	"	"	"	"
Selenium	ND		0.229	"	"	"	"	"
Silver	ND		0.0882	"	"	"	"	"
Zinc	ND		32.6	"	"	"	"	"

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.247	0.507	mg/Kg	1	L738419	02/28/2024	03/15/2024
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-03@3'

2/28/2024 11:58:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-07 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.113	0.0990	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	1.34	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.532	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	7.02	pH Units	1	B4B2919	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	0.574	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.294	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.41	0.264	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	85.2	9.10	"	"	"	"	"
Cadmium	0.104	0.0910	"	"	"	"	"
Copper	ND	9.10	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-03@3'

2/28/2024 11:58:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-07 (Soil)

## Table 915 metals by EPA 6020B

Lead	6.48		0.910	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	10.1		0.910	"	"	"	"	"	
Selenium	ND		0.237	"	"	"	"	"	
Silver	ND		0.0910	"	"	"	"	"	
Zinc	ND		33.7	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-03@6'

2/28/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-08 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.164	0.102	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	0.928	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	6.98		pH Units	1	B4B2919	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	0.538	0.0100	SAR	1	B4B2912	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.234	0.00500	mmhos/cm	1	B4B2919	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.38	0.251	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	71.4	8.66	"	"	"	"	"
Cadmium	0.0978	0.0866	"	"	"	"	"
Copper	ND	8.66	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-03@6'

2/28/2024 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-08 (Soil)

### Table 915 metals by EPA 6020B

Lead	6.26		0.866	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	9.83		0.866	"	"	"	"	"	
Selenium	ND		0.225	"	"	"	"	"	
Silver	ND		0.0866	"	"	"	"	"	
Zinc	33.1		32.0	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-04@3'

2/28/2024 12:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-09 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.0986	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	3.36	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	2.15	0.823	"	"	"	"	"
Sodium	2.70	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.24		pH Units	1	B4B2920	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.63	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.856	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.55	0.266	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	64.8	9.18	"	"	"	"	"
Cadmium	0.0918	0.0918	"	"	"	"	"
Copper	ND	9.18	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-04@3'

2/28/2024 12:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-09 (Soil)

## Table 915 metals by EPA 6020B

Lead	5.80		0.918	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	9.57		0.918	"	"	"	"	"	
Selenium	ND		0.239	"	"	"	"	"	
Silver	ND		0.0918	"	"	"	"	"	
Zinc	ND		34.0	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-04@6'

2/28/2024 12:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-10 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	1.69	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	1.20	0.823	"	"	"	"	"
Sodium	2.07	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.27		pH Units	1	B4B2920	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.72	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.576	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	2.20	0.257	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	80.4	8.85	"	"	"	"	"
Cadmium	0.0894	0.0885	"	"	"	"	"
Copper	ND	8.85	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-04@6'

2/28/2024 12:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-10 (Soil)

### Table 915 metals by EPA 6020B

Lead	6.58		0.885	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	10.3		0.885	"	"	"	"	"	
Selenium	ND		0.230	"	"	"	"	"	
Silver	ND		0.0885	"	"	"	"	"	
Zinc	34.9		32.7	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-05@3'

2/28/2024 12:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-11 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	1.37	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.709	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.32		pH Units	1	B4B2920	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	0.704	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.287	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.52	0.278	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	73.6	9.60	"	"	"	"	"
Cadmium	0.0999	0.0960	"	"	"	"	"
Copper	ND	9.60	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-05@3'

2/28/2024 12:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-11 (Soil)

## Table 915 metals by EPA 6020B

Lead	6.25		0.960	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	9.68		0.960	"	"	"	"	"	
Selenium	ND		0.250	"	"	"	"	"	
Silver	0.614		0.0960	"	"	"	"	"	
Zinc	ND		35.5	"	"	"	"	"	

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.252	0.518	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-05@6'

2/28/2024 12:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-12 (Soil)

### Boron (DTPA Sorbitol)

Boron	ND	0.0998	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	1.91	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	0.913	0.823	"	"	"	"	"
Sodium	1.43	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.24		pH Units	1	B4B2920	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	1.20	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.442	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.41	0.276	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	56.1	9.51	"	"	"	"	"
Cadmium	ND	0.0951	"	"	"	"	"
Copper	ND	9.51	"	"	"	"	"

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-05@6'

2/28/2024 12:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y402699-12 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	5.59		0.951	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	8.40		0.951	"	"	"	"	"	
Selenium	ND		0.247	"	"	"	"	"	
Silver	ND		0.0951	"	"	"	"	"	
Zinc	ND		35.2	"	"	"	"	"	

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.247	0.508	mg/Kg	1	L738419	02/28/2024	03/15/2024	
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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-06@3'

2/28/2024 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-13 (Soil)

## Boron (DTPA Sorbitol)

Boron	ND	0.0994	mg/L	1	B4B2910	02/29/2024	03/01/2024
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## Metals by Saturated Paste by EPA 6010

Calcium	1.26	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.11	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.13		pH Units	1	B4B2920	02/29/2024	03/01/2024
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## SAR by 20B Saturated Paste

SAR	1.14	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.331	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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## Table 915 metals by EPA 6020B

Arsenic	1.18	0.266	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	44.6	9.16	"	"	"	"	"
Cadmium	ND	0.0916	"	"	"	"	"

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-06@3'

2/28/2024 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-13 (Soil)

## Table 915 metals by EPA 6020B

Copper	ND	9.16	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Lead	3.87	0.916	"	"	"	"	"
Nickel	6.30	0.916	"	"	"	"	"
Selenium	ND	0.238	"	"	"	"	"
Silver	ND	0.0916	"	"	"	"	"
Zinc	ND	33.9	"	"	"	"	"

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L738421	02/28/2024	03/15/2024
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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-06@6'

2/28/2024 12:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-14 (Soil)

### Boron (DTPA Sorbitol)

Boron	0.158	0.0989	mg/L	1	B4B2910	02/29/2024	03/01/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	0.839	0.499	meq/L	10	[CALC]	02/29/2024	03/04/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.72	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.35	pH Units	1	B4B2920	02/29/2024	03/01/2024
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### SAR by 20B Saturated Paste

SAR	2.11	0.0100	SAR	1	B4B2913	02/29/2024	03/04/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.336	0.00500	mmhos/cm	1	B4B2920	02/29/2024	03/01/2024
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### Table 915 metals by EPA 6020B

Arsenic	1.68	0.280	mg/kg	10	B4B2829	02/28/2024	03/11/2024
Barium	60.5	9.65	"	"	"	"	"
Cadmium	ND	0.0965	"	"	"	"	"
Copper	ND	9.65	"	"	"	"	"

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

BG-06@6'

2/28/2024 12:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y402699-14 (Soil)

### Table 915 metals by EPA 6020B

Lead	5.49		0.965	mg/kg	10	B4B2829	02/28/2024	03/11/2024	
Nickel	8.93		0.965	"	"	"	"	"	
Selenium	ND		0.251	"	"	"	"	"	
Silver	ND		0.0965	"	"	"	"	"	
Zinc	ND		35.7	"	"	"	"	"	

### Total Metals by 7196A

Chromium, Hexavalent	ND	0.248	0.509	mg/Kg	1	L738421	02/28/2024	03/15/2024	
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2827 - EPA 3550B</b>										
<b>Blank (B4B2827-BLK1)</b>					Prepared: 02/28/2024 Analyzed: 02/28/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	25		"	24.9		101	50-150			

Origins Laboratory, Inc.



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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2827 - EPA 3550B</b>										
<b>LCS (B4B2827-BS1)</b>					Prepared: 02/28/2024 Analyzed: 02/28/2024					
Diesel (C10-C28)	954	50.0	mg/kg	1000		95.4	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000		102	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.1	50-150			

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2827 - EPA 3550B</b>										
<b>Matrix Spike (B4B2827-MS1)</b>		<b>Source: Y402698-01</b>			Prepared: 02/28/2024 Analyzed: 02/28/2024					
Diesel (C10-C28)	818	50.0	mg/kg	1000	ND	81.8	70-130			
Residual Range Organics (C28-C40)	882	200	"	1000	ND	88.2	70-130			
Surrogate: o-Terphenyl	38		"	49.8		76.9	50-150			

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2827 - EPA 3550B</b>										
<b>Matrix Spike Dup (B4B2827-MSD1)</b>										
					<b>Source: Y402698-01</b>					
					Prepared: 02/28/2024		Analyzed: 02/28/2024			
Diesel (C10-C28)	786	50.0	mg/kg	1000	ND	78.6	70-130	3.87	35	
Residual Range Organics (C28-C40)	863	200	"	1000	ND	86.3	70-130	2.19	35	
Surrogate: o-Terphenyl	40		"	49.8		80.9	50-150			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2830 - EPA 5030 (soil)</b>										
<b>Blank (B4B2830-BLK1)</b>					Prepared: 02/28/2024 Analyzed: 02/28/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2830 - EPA 5030 (soil)**

**LCS (B4B2830-BS1)**

Prepared: 02/28/2024 Analyzed: 02/28/2024

1,2,4-Trimethylbenzene	0.101	0.00200	mg/kg	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Benzene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.0984	0.00200	"	0.100		98.4	70-130			
Naphthalene	0.115	0.00380	"	0.100		115	70-130			
Toluene	0.0961	0.00200	"	0.100		96.1	70-130			
o-Xylene	0.0955	0.00200	"	0.100		95.5	70-130			
m,p-Xylene	0.192	0.00400	"	0.200		95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.3	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2830 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B4B2830-MS1)</b>		<b>Source: Y402698-01</b>			Prepared: 02/28/2024 Analyzed: 02/28/2024					
1,2,4-Trimethylbenzene	0.0986	0.00200	mg/kg	0.100	ND	98.6	70-130			
1,3,5-Trimethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130			
Benzene	0.0961	0.00200	"	0.100	ND	96.1	70-130			
Ethylbenzene	0.0969	0.00200	"	0.100	ND	96.9	70-130			
Naphthalene	0.118	0.00380	"	0.100	ND	118	70-130			
Toluene	0.0937	0.00200	"	0.100	ND	93.7	70-130			
o-Xylene	0.102	0.00200	"	0.100	ND	102	70-130			
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4B2830 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B4B2830-MSD1)</b>		<b>Source: Y402698-01</b>			Prepared: 02/28/2024 Analyzed: 02/28/2024					
1,2,4-Trimethylbenzene	0.0987	0.00200	mg/kg	0.100	ND	98.7	70-130	0.122	20	
1,3,5-Trimethylbenzene	0.0990	0.00200	"	0.100	ND	99.0	70-130	1.01	20	
Benzene	0.0974	0.00200	"	0.100	ND	97.4	70-130	1.32	20	
Ethylbenzene	0.0969	0.00200	"	0.100	ND	96.9	70-130	0.0413	20	
Naphthalene	0.118	0.00380	"	0.100	ND	118	70-130	0.491	20	
Toluene	0.0933	0.00200	"	0.100	ND	93.3	70-130	0.406	20	
o-Xylene	0.100	0.00200	"	0.100	ND	100	70-130	1.49	20	
m,p-Xylene	0.194	0.00400	"	0.200	ND	97.2	70-130	1.03	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.2	70-130			

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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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**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 B4B2829 - EPA 3050B**

**Blank (B4B2829-BLK1)**

Prepared: 02/28/2024 Analyzed: 03/11/2024

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

**LCS (B4B2829-BS1)**

Prepared: 02/28/2024 Analyzed: 03/11/2024

Arsenic	5.21	0.290	mg/kg	5.00	104	80-120
Barium	512	10.0	"	500	102	80-120
Cadmium	4.96	0.100	"	5.00	99.1	80-120
Copper	50.8	10.0	"	50.0	102	80-120
Lead	4.88	1.00	"	5.00	97.7	80-120
Nickel	5.18	1.00	"	5.00	104	80-120
Selenium	10.1	0.260	"	9.50	106	80-120
Silver	4.96	0.100	"	5.00	99.2	80-120
Zinc	52.2	37.0	"	50.0	104	80-120

**Matrix Spike (B4B2829-MS1)**

**Source: Y402699-01**

Prepared: 02/28/2024 Analyzed: 03/11/2024

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

## 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
<b>Batch B4B2829 - EPA 3050B</b>										
<b>Matrix Spike (B4B2829-MS1)</b>			<b>Source: Y402699-01</b>		Prepared: 02/28/2024 Analyzed: 03/11/2024					
Arsenic	8.03	0.262	mg/kg	4.52	1.56	143	75-125			QM-07
Barium	528	9.05	"	452	70.0	101	75-125			
Cadmium	4.58	0.0905	"	4.52	0.126	98.5	75-125			
Copper	58.9	9.05	"	45.2	16.9	92.9	75-125			
Lead	35.3	0.905	"	4.52	41.9	NR	75-125			QM-07
Nickel	12.9	0.905	"	4.52	9.59	72.3	75-125			QM-07
Selenium	8.85	0.235	"	8.59	0.0870	102	75-125			
Silver	4.44	0.0905	"	4.52	0.0281	97.5	75-125			
Zinc	78.5	33.5	"	45.2	36.7	92.6	75-125			
<b>Matrix Spike Dup (B4B2829-MSD1)</b>			<b>Source: Y402699-01</b>		Prepared: 02/28/2024 Analyzed: 03/11/2024					
Arsenic	6.84	0.270	mg/kg	4.66	1.56	113	75-125	16.1	20	
Barium	582	9.32	"	466	70.0	110	75-125	9.69	20	
Cadmium	5.15	0.0932	"	4.66	0.126	108	75-125	11.8	20	
Copper	65.6	9.32	"	46.6	16.9	105	75-125	10.7	20	
Lead	38.8	0.932	"	4.66	41.9	NR	75-125	9.62	20	QM-07
Nickel	14.3	0.932	"	4.66	9.59	101	75-125	10.4	20	
Selenium	9.77	0.242	"	8.85	0.0870	109	75-125	9.88	20	
Silver	5.04	0.0932	"	4.66	0.0281	108	75-125	12.8	20	
Zinc	85.7	34.5	"	46.6	36.7	105	75-125	8.75	20	

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2831 - EPA 3580**

**Blank (B4B2831-BLK1)**

Prepared: 02/28/2024 Analyzed: 02/28/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		94.1	60-130			
Surrogate: Pyrene-d10	190		"	200		96.5	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

**LCS (B4B2831-BS1)**

Prepared: 02/28/2024 Analyzed: 02/28/2024

1-Methylnaphthalene	0.230	0.002	mg/kg	0.200		115	70-130
2-Methylnaphthalene	0.228	0.002	"	0.200		114	70-130
Acenaphthene	0.230	0.020	"	0.200		115	70-130
Anthracene	0.219	0.020	"	0.200		110	70-130

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2831 - EPA 3580**

**LCS (B4B2831-BS1)**

Prepared: 02/28/2024 Analyzed: 02/28/2024

Benzo (a) anthracene	0.248	0.005	mg/kg	0.200		124	70-130
Benzo (a) pyrene	0.240	0.020	"	0.200		120	70-130
Benzo (b) fluoranthene	0.238	0.020	"	0.200		119	70-130
Benzo (g,h,i) perylene	0.235	0.020	"	0.200		117	70-130
Benzo (k) fluoranthene	0.239	0.020	"	0.200		119	70-130
Chrysene	0.234	0.020	"	0.200		117	70-130
Dibenz (a,h) anthracene	0.234	0.020	"	0.200		117	70-130
Fluoranthene	0.218	0.020	"	0.200		109	70-130
Fluorene	0.233	0.020	"	0.200		117	70-130
Indeno (1,2,3-cd) pyrene	0.235	0.020	"	0.200		118	70-130
Naphthalene	0.235	0.002	"	0.200		118	70-130
Phenanthrene	0.215	0.020	"	0.200		108	70-130
Pyrene	0.220	0.020	"	0.200		110	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130
Surrogate: Anthracene-d10	190		"	200		94.1	60-130
Surrogate: Pyrene-d10	200		"	200		98.9	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130

**Matrix Spike (B4B2831-MS1)**

**Source: Y402616-43**

Prepared: 02/28/2024 Analyzed: 02/28/2024

1-Methylnaphthalene	0.169	0.002	mg/kg	0.200	ND	84.5	70-130
2-Methylnaphthalene	0.167	0.002	"	0.200	ND	83.7	70-130
Acenaphthene	0.169	0.020	"	0.200	ND	84.3	70-130
Anthracene	0.161	0.020	"	0.200	ND	80.3	70-130
Benzo (a) anthracene	0.179	0.005	"	0.200	ND	89.3	70-130
Benzo (a) pyrene	0.183	0.020	"	0.200	ND	91.4	70-130
Benzo (b) fluoranthene	0.175	0.020	"	0.200	ND	87.5	70-130
Benzo (g,h,i) perylene	0.174	0.020	"	0.200	ND	87.2	70-130

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2831 - EPA 3580**

Matrix Spike (B4B2831-MS1)		Source: Y402616-43			Prepared: 02/28/2024 Analyzed: 02/28/2024					
Benzo (k) fluoranthene	0.170	0.020	mg/kg	0.200	ND	84.9	70-130			
Chrysene	0.176	0.020	"	0.200	ND	87.8	70-130			
Dibenz (a,h) anthracene	0.176	0.020	"	0.200	ND	87.9	70-130			
Fluoranthene	0.158	0.020	"	0.200	ND	79.1	70-130			
Fluorene	0.169	0.020	"	0.200	ND	84.6	70-130			
Indeno (1,2,3-cd) pyrene	0.177	0.020	"	0.200	ND	88.6	70-130			
Naphthalene	0.174	0.002	"	0.200	ND	86.9	70-130			
Phenanthrene	0.158	0.020	"	0.200	ND	79.1	70-130			
Pyrene	0.164	0.020	"	0.200	ND	81.9	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		93.8	60-130			
Surrogate: Pyrene-d10	200		"	200		97.8	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

Matrix Spike Dup (B4B2831-MSD1)		Source: Y402616-43			Prepared: 02/28/2024 Analyzed: 02/28/2024					
1-Methylnaphthalene	0.166	0.002	mg/kg	0.200	ND	83.1	70-130	1.64	20	
2-Methylnaphthalene	0.164	0.002	"	0.200	ND	81.8	70-130	2.25	20	
Acenaphthene	0.165	0.020	"	0.200	ND	82.6	70-130	2.07	20	
Anthracene	0.157	0.020	"	0.200	ND	78.7	70-130	1.95	20	
Benzo (a) anthracene	0.171	0.005	"	0.200	ND	85.7	70-130	4.06	20	
Benzo (a) pyrene	0.174	0.020	"	0.200	ND	86.8	70-130	5.20	20	
Benzo (b) fluoranthene	0.162	0.020	"	0.200	ND	80.9	70-130	7.94	20	
Benzo (g,h,i) perylene	0.168	0.020	"	0.200	ND	83.9	70-130	3.84	20	
Benzo (k) fluoranthene	0.164	0.020	"	0.200	ND	81.9	70-130	3.54	20	
Chrysene	0.168	0.020	"	0.200	ND	84.1	70-130	4.26	20	
Dibenz (a,h) anthracene	0.169	0.020	"	0.200	ND	84.6	70-130	3.89	20	
Fluoranthene	0.156	0.020	"	0.200	ND	78.1	70-130	1.29	20	

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2831 - EPA 3580**

Matrix Spike Dup (B4B2831-MSD1)		Source: Y402616-43			Prepared: 02/28/2024 Analyzed: 02/28/2024					
Fluorene	0.169	0.020	mg/kg	0.200	ND	84.3	70-130	0.320	20	
Indeno (1,2,3-cd) pyrene	0.175	0.020	"	0.200	ND	87.7	70-130	1.03	20	
Naphthalene	0.170	0.002	"	0.200	ND	84.9	70-130	2.36	20	
Phenanthrene	0.152	0.020	"	0.200	ND	75.9	70-130	4.13	20	
Pyrene	0.157	0.020	"	0.200	ND	78.6	70-130	4.18	20	
Surrogate: Fluorene-d10	200		ug/kg	200		101	60-130			
Surrogate: Anthracene-d10	190		"	200		95.5	60-130			
Surrogate: Pyrene-d10	190		"	200		96.5	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2910 - DTPA Sorbitol Preparation**

**Blank (B4B2910-BLK1)**

Prepared: 02/29/2024 Analyzed: 03/01/2024

Boron ND 0.100 mg/L

**Duplicate (B4B2910-DUP1)**

**Source: Y402698-10**

Prepared: 02/29/2024 Analyzed: 03/01/2024

Boron 1.42 0.101 mg/L 1.21 15.4 50

**Batch B4B2912 - Saturated Paste Metals**

**Blank (B4B2912-BLK1)**

Prepared: 02/29/2024 Analyzed: 03/04/2024

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

**Duplicate (B4B2912-DUP1)**

**Source: Y402609-02**

Prepared: 02/29/2024 Analyzed: 03/04/2024

Calcium PPM 29.1 10.0 mg/L 31.8 8.78 50  
SAR ND 0.0100 SAR 1.33 200  
Magnesium PPM 12.1 10.0 mg/L 12.8 5.87 50  
Sodium PPM 34.4 10.0 " 35.2 2.41 50

**Batch B4B2913 - Saturated Paste Metals**

**Blank (B4B2913-BLK1)**

Prepared: 02/29/2024 Analyzed: 03/04/2024

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

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4B2913 - Saturated Paste Metals**

Duplicate (B4B2913-DUP1)		Source: Y402699-09			Prepared: 02/29/2024 Analyzed: 03/04/2024					
SAR	ND	0.0100	SAR	1.63					200	
Calcium PPM	71.7	10.0	mg/L	67.4				6.15	50	
Magnesium PPM	28.0	10.0	"	26.1				6.87	50	
Sodium PPM	67.1	10.0	"	62.1				7.65	50	

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Broomfield CO 80020

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Project Number: [none]  
Project: KMG - Cheng 3-8A

**Saturated Paste - 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 B4B2919 - Saturated Paste pH/EC**

**Blank (B4B2919-BLK1)**

Prepared: 02/29/2024 Analyzed: 03/01/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4B2919-DUP1)**

**Source: Y402609-02**

Prepared: 02/29/2024 Analyzed: 03/01/2024

pH	6.94		pH Units	6.80		2.04	25
Specific Conductance (EC)	0.340	0.00500	mmhos/cm	0.394		14.7	25

**Batch B4B2920 - Saturated Paste pH/EC**

**Blank (B4B2920-BLK1)**

Prepared: 02/29/2024 Analyzed: 03/01/2024

Specific Conductance (EC) ND 0.00500 mmhos/cm

**Duplicate (B4B2920-DUP1)**

**Source: Y402699-09**

Prepared: 02/29/2024 Analyzed: 03/01/2024

Specific Conductance (EC)	0.907	0.00500	mmhos/cm	0.856		5.77	25
pH	8.18		pH Units	8.24		0.731	25

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Total Metals by 7196A - Quality Control  
Waypoint Analytical, LLC.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L738419 -</b>										
<b>DUP (L 83996-DUP)</b>	<b>Source: Y402699-12</b>				Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.502	mg/Kg		<0.502		-	1.1	20	
<b>MS (L 83996-MS)</b>	<b>Source: Y402699-12</b>				Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	32.4	2.5	mg/Kg	39.7	< 0.247	82	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	6.07	0.5	mg/Kg	8		76	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Total Metals by 7196A - Quality Control**  
**Waypoint Analytical, LLC.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L738421 -</b>										
<b>DUP (L 83997-DUP)</b>		<b>Source: Y402699-13</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.504	mg/Kg		<0.504		-	0.7	20	
<b>MS (L 83997-MS)</b>		<b>Source: Y402699-13</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	31.1	2.5	mg/Kg	38.7	< 0.244	80	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	6.19	0.5	mg/Kg	8		77	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Tasman Geosciences  
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Total Metals by 7196A - Quality Control  
Waypoint Analytical, LLC.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L738418 -</b>										
<b>DUP (L 83979-DUP)</b>		<b>Source: 83979</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
<b>MS (L 83979-MS)</b>		<b>Source: 83979</b>			Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	30.7	2.5	mg/Kg	39.4	< 0.244	78	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	6.03	0.5	mg/Kg	8		75	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 03/15/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

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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 on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.

A handwritten signature in black ink, appearing to read "Bynon".

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April 16, 2024

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - KMG - Cheng 3-8A**

**Project Number - [none]**

Attached are your analytical results for KMG - Cheng 3-8A received by Origins Laboratory, Inc. March 12, 2024. This project is associated with Origins project number Y403326-01.

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-B08@4'	Y403326-01	Soil	March 12, 2024 11:02	03/12/2024 13:10

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

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

**Sample Receipt Checklist**

Origins Work Order: Y403326 Client: Tasman  
Client Project ID: Cheng 3-8A  
Checklist Completed by: EHS Shipped Via: HO  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 3/12/24 Airbill #: N/A  
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
Cooler Number/Temperature: 114 °C 1 °C 1 °C (Describe) \_\_\_\_\_ °C  
Thermometer ID: 7004

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) [Signature] Date/Time Reviewed 3/12/24

Origins Laboratory, Inc.

[Signature]

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B08@4'

3/12/2024 11:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y403326-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	ND	0.100	mg/L	1	B4C1315	03/13/2024	03/19/2024	
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4C1228	03/12/2024	03/12/2024	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	109 %	50-150		"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4C1234	03/12/2024	03/13/2024	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		"	"	"
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B08@4'

3/12/2024 11:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y403326-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	98.9 %	70-130	B4C12 34	03/12/2024	03/13/2024
Surrogate: 4-Bromofluorobenzene	98.0 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	ND	0.499	meq/L	10	[CALC]	03/13/2024	03/14/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4C1233	03/12/2024	03/12/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	U

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Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B08@4'

3/12/2024 11:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y403326-01 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B4C1233	03/12/2024	03/12/2024	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	ND	0.002	"	"	"	"	"	U
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	98.1 %	60-130	"	"	"
Surrogate: Anthracene-d10	102 %	60-130	"	"	"
Surrogate: Pyrene-d10	110 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	99.3 %	60-130	"	"	"

**pH in Soil by 9045D**

pH	7.27	pH Units	1	B4C1322	03/13/2024	03/14/2024
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**SAR by 20B Saturated Paste**

SAR	0.160	0.0100	SAR	1	B4C1308	03/13/2024	03/14/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.0676	0.00500	mmhos/cm	1	B4C1322	03/13/2024	03/14/2024
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**Table 915 metals by EPA 6020B**

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Project: KMG - Cheng 3-8A

FL-B08@4'

3/12/2024 11:02:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y403326-01 (Soil)**

**Table 915 metals by EPA 6020B**

Arsenic	1.79	0.290	mg/kg	10	B4C1239	03/12/2024	03/23/2024
Barium	44.7	10.0	"	"	"	"	"
Cadmium	ND	0.100	"	"	"	"	"
Copper	ND	10.0	"	"	"	"	"
Lead	5.30	1.00	"	"	"	"	"
Nickel	6.75	1.00	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"
Silver	ND	0.100	"	"	"	"	"
Zinc	ND	37.0	"	"	"	"	"

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L743340	03/12/2024	04/10/2024
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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1228 - EPA 3550B</b>										
<b>Blank (B4C1228-BLK1)</b>					Prepared: 03/12/2024 Analyzed: 03/12/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	32		"	24.9		129	50-150			

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Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1228 - EPA 3550B</b>										
<b>LCS (B4C1228-BS1)</b>					Prepared: 03/12/2024 Analyzed: 03/13/2024					
Diesel (C10-C28)	999	50.0	mg/kg	1000		99.9	70-130			
Residual Range Organics (C28-C40)	1150	200	"	1000		115	70-130			
Surrogate: o-Terphenyl	51		"	49.8		102	50-150			

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4C1228 - EPA 3550B**

Matrix Spike (B4C1228-MS1)		Source: Y403320-01			Prepared: 03/12/2024 Analyzed: 03/12/2024					
Diesel (C10-C28)	1290	50.0	mg/kg	1000	373	91.3	70-130			
Residual Range Organics (C28-C40)	1240	200	"	1000	ND	124	70-130			
Surrogate: o-Terphenyl	57		"	49.8		115	50-150			

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Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1228 - EPA 3550B</b>										
<b>Matrix Spike Dup (B4C1228-MSD1)</b>	<b>Source: Y403320-01</b>				Prepared: 03/12/2024 Analyzed: 03/12/2024					
Diesel (C10-C28)	1250	50.0	mg/kg	1000	373	87.7	70-130	2.84	35	
Residual Range Organics (C28-C40)	1170	200	"	1000	ND	117	70-130	6.21	35	
Surrogate: o-Terphenyl	61		"	49.8		122	50-150			

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1234 - EPA 5030 (soil)</b>										
<b>Blank (B4C1234-BLK1)</b>					Prepared: 03/12/2024 Analyzed: 03/12/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.8	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.9	70-130			

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1234 - EPA 5030 (soil)</b>										
<b>LCS (B4C1234-BS1)</b>					Prepared: 03/12/2024 Analyzed: 03/12/2024					
1,2,4-Trimethylbenzene	0.107	0.00200	mg/kg	0.100		107	70-130			
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100		109	70-130			
Benzene	0.101	0.00200	"	0.100		101	70-130			
Ethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Naphthalene	0.115	0.00380	"	0.100		115	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.101	0.00200	"	0.100		101	70-130			
m,p-Xylene	0.218	0.00400	"	0.200		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.2	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.5	70-130			

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1234 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B4C1234-MS1)</b>		<b>Source: Y403321-01</b>			Prepared: 03/12/2024 Analyzed: 03/12/2024					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100	ND	110	70-130			
Benzene	0.100	0.00200	"	0.100	ND	100	70-130			
Ethylbenzene	0.112	0.00200	"	0.100	ND	112	70-130			
Naphthalene	0.0995	0.00380	"	0.100	ND	99.5	70-130			
Toluene	0.106	0.00200	"	0.100	ND	106	70-130			
o-Xylene	0.104	0.00200	"	0.100	ND	104	70-130			
m,p-Xylene	0.222	0.00400	"	0.200	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.9	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.2	70-130			

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1234 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B4C1234-MSD1)</b>			<b>Source: Y403321-01</b>		Prepared: 03/12/2024 Analyzed: 03/12/2024					
1,2,4-Trimethylbenzene	0.102	0.00200	mg/kg	0.100	ND	102	70-130	5.41	20	
1,3,5-Trimethylbenzene	0.105	0.00200	"	0.100	ND	105	70-130	5.02	20	
Benzene	0.0978	0.00200	"	0.100	ND	97.8	70-130	2.34	20	
Ethylbenzene	0.107	0.00200	"	0.100	ND	107	70-130	4.94	20	
Naphthalene	0.100	0.00380	"	0.100	ND	100	70-130	0.681	20	
Toluene	0.102	0.00200	"	0.100	ND	102	70-130	4.47	20	
o-Xylene	0.0992	0.00200	"	0.100	ND	99.2	70-130	4.44	20	
m,p-Xylene	0.212	0.00400	"	0.200	ND	106	70-130	4.95	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.2	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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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**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 B4C1239 - EPA 3050B**

**Blank (B4C1239-BLK1)**

Prepared: 03/12/2024 Analyzed: 03/23/2024

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

**LCS (B4C1239-BS1)**

Prepared: 03/12/2024 Analyzed: 03/23/2024

Arsenic	5.56	0.290	mg/kg	5.00	111	80-120
Barium	517	10.0	"	500	103	80-120
Cadmium	5.34	0.100	"	5.00	107	80-120
Copper	58.3	10.0	"	50.0	117	80-120
Lead	5.15	1.00	"	5.00	103	80-120
Nickel	5.43	1.00	"	5.00	109	80-120
Selenium	9.92	0.260	"	9.50	104	80-120
Silver	5.73	0.100	"	5.00	115	80-120
Zinc	52.3	37.0	"	50.0	105	80-120

**Matrix Spike (B4C1239-MS1)**

**Source: Y403323-01**

Prepared: 03/12/2024 Analyzed: 03/23/2024

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1239 - EPA 3050B</b>										
<b>Matrix Spike (B4C1239-MS1)</b>			<b>Source: Y403323-01</b>		Prepared: 03/12/2024 Analyzed: 03/23/2024					
Arsenic	6.49	0.254	mg/kg	4.39	1.84	106	75-125			
Barium	495	8.77	"	439	50.7	101	75-125			
Cadmium	4.60	0.0877	"	4.39	0.0939	103	75-125			
Copper	57.4	8.77	"	43.9	7.93	113	75-125			
Lead	10.2	0.877	"	4.39	5.75	101	75-125			
Nickel	12.4	0.877	"	4.39	7.52	111	75-125			
Selenium	8.12	0.228	"	8.33	0.136	95.8	75-125			
Silver	4.81	0.0877	"	4.39	0.0275	109	75-125			
Zinc	68.7	32.5	"	43.9	24.9	99.9	75-125			
<b>Matrix Spike Dup (B4C1239-MSD1)</b>			<b>Source: Y403323-01</b>		Prepared: 03/12/2024 Analyzed: 03/23/2024					
Arsenic	6.38	0.251	mg/kg	4.33	1.84	105	75-125	1.71	20	
Barium	477	8.66	"	433	50.7	98.5	75-125	3.57	20	
Cadmium	4.59	0.0866	"	4.33	0.0939	104	75-125	0.170	20	
Copper	57.9	8.66	"	43.3	7.93	115	75-125	0.822	20	
Lead	10.2	0.866	"	4.33	5.75	103	75-125	0.539	20	
Nickel	12.3	0.866	"	4.33	7.52	110	75-125	0.654	20	
Selenium	8.20	0.225	"	8.23	0.136	98.0	75-125	0.921	20	
Silver	4.85	0.0866	"	4.33	0.0275	111	75-125	0.768	20	
Zinc	68.1	32.0	"	43.3	24.9	99.8	75-125	0.934	20	

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4C1233 - EPA 3580**

**Blank (B4C1233-BLK1)**

Prepared: 03/12/2024 Analyzed: 03/12/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		99.7	60-130			
Surrogate: Anthracene-d10	200		"	200		99.9	60-130			
Surrogate: Pyrene-d10	210		"	200		104	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

**LCS (B4C1233-BS1)**

Prepared: 03/12/2024 Analyzed: 03/12/2024

1-Methylnaphthalene	0.172	0.002	mg/kg	0.200		86.2	70-130
2-Methylnaphthalene	0.171	0.002	"	0.200		85.4	70-130
Acenaphthene	0.176	0.020	"	0.200		88.1	70-130
Anthracene	0.181	0.020	"	0.200		90.4	70-130

Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4C1233 - EPA 3580**

**LCS (B4C1233-BS1)**

Prepared: 03/12/2024 Analyzed: 03/12/2024

Benzo (a) anthracene	0.176	0.005	mg/kg	0.200		87.8	70-130
Benzo (a) pyrene	0.172	0.020	"	0.200		86.0	70-130
Benzo (b) fluoranthene	0.182	0.020	"	0.200		91.1	70-130
Benzo (g,h,i) perylene	0.171	0.020	"	0.200		85.3	70-130
Benzo (k) fluoranthene	0.167	0.020	"	0.200		83.5	70-130
Chrysene	0.174	0.020	"	0.200		87.0	70-130
Dibenz (a,h) anthracene	0.175	0.020	"	0.200		87.6	70-130
Fluoranthene	0.163	0.020	"	0.200		81.7	70-130
Fluorene	0.177	0.020	"	0.200		88.6	70-130
Indeno (1,2,3-cd) pyrene	0.179	0.020	"	0.200		89.5	70-130
Naphthalene	0.178	0.002	"	0.200		88.9	70-130
Phenanthrene	0.174	0.020	"	0.200		87.2	70-130
Pyrene	0.174	0.020	"	0.200		87.0	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		98.5	60-130
Surrogate: Anthracene-d10	200		"	200		99.8	60-130
Surrogate: Pyrene-d10	200		"	200		99.3	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		107	60-130

**Matrix Spike (B4C1233-MS1)**

**Source: Y403323-01**

Prepared: 03/12/2024 Analyzed: 03/12/2024

1-Methylnaphthalene	0.177	0.002	mg/kg	0.200	ND	88.3	70-130
2-Methylnaphthalene	0.173	0.002	"	0.200	ND	86.6	70-130
Acenaphthene	0.176	0.020	"	0.200	ND	88.0	70-130
Anthracene	0.167	0.020	"	0.200	0.0008	83.1	70-130
Benzo (a) anthracene	0.176	0.005	"	0.200	0.001	87.1	70-130
Benzo (a) pyrene	0.175	0.020	"	0.200	0.003	86.2	70-130
Benzo (b) fluoranthene	0.172	0.020	"	0.200	ND	85.9	70-130
Benzo (g,h,i) perylene	0.159	0.020	"	0.200	0.0004	79.4	70-130

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4C1233 - EPA 3580**

Matrix Spike (B4C1233-MS1)		Source: Y403323-01			Prepared: 03/12/2024 Analyzed: 03/12/2024					
Benzo (k) fluoranthene	0.158	0.020	mg/kg	0.200	0.001	78.6	70-130			
Chrysene	0.178	0.020	"	0.200	0.0003	88.7	70-130			
Dibenz (a,h) anthracene	0.181	0.020	"	0.200	ND	90.5	70-130			
Fluoranthene	0.187	0.020	"	0.200	ND	93.7	70-130			
Fluorene	0.179	0.020	"	0.200	0.0004	89.3	70-130			
Indeno (1,2,3-cd) pyrene	0.181	0.020	"	0.200	ND	90.5	70-130			
Naphthalene	0.179	0.002	"	0.200	ND	89.5	70-130			
Phenanthrene	0.176	0.020	"	0.200	ND	88.1	70-130			
Pyrene	0.195	0.020	"	0.200	ND	97.4	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		97.5	60-130			
Surrogate: Pyrene-d10	220		"	200		110	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

Matrix Spike Dup (B4C1233-MSD1)		Source: Y403323-01			Prepared: 03/12/2024 Analyzed: 03/12/2024					
1-Methylnaphthalene	0.179	0.002	mg/kg	0.200	ND	89.6	70-130	1.37	20	
2-Methylnaphthalene	0.177	0.002	"	0.200	ND	88.5	70-130	2.17	20	
Acenaphthene	0.177	0.020	"	0.200	ND	88.3	70-130	0.361	20	
Anthracene	0.192	0.020	"	0.200	0.0008	95.8	70-130	14.1	20	
Benzo (a) anthracene	0.177	0.005	"	0.200	0.001	87.9	70-130	0.887	20	
Benzo (a) pyrene	0.172	0.020	"	0.200	0.003	84.7	70-130	1.64	20	
Benzo (b) fluoranthene	0.184	0.020	"	0.200	ND	92.2	70-130	7.09	20	
Benzo (g,h,i) perylene	0.176	0.020	"	0.200	0.0004	87.8	70-130	10.0	20	
Benzo (k) fluoranthene	0.188	0.020	"	0.200	0.001	93.6	70-130	17.4	20	
Chrysene	0.187	0.020	"	0.200	0.0003	93.3	70-130	5.05	20	
Dibenz (a,h) anthracene	0.196	0.020	"	0.200	ND	97.8	70-130	7.77	20	
Fluoranthene	0.178	0.020	"	0.200	ND	88.8	70-130	5.30	20	

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4C1233 - EPA 3580</b>										
<b>Matrix Spike Dup (B4C1233-MSD1)</b>		<b>Source: Y403323-01</b>			Prepared: 03/12/2024 Analyzed: 03/12/2024					
Fluorene	0.182	0.020	mg/kg	0.200	0.0004	90.9	70-130	1.70	20	
Indeno (1,2,3-cd) pyrene	0.187	0.020	"	0.200	ND	93.4	70-130	3.17	20	
Naphthalene	0.181	0.002	"	0.200	ND	90.7	70-130	1.29	20	
Phenanthrene	0.177	0.020	"	0.200	ND	88.7	70-130	0.741	20	
Pyrene	0.190	0.020	"	0.200	ND	95.0	70-130	2.48	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	200		"	200		98.3	60-130			
Surrogate: Pyrene-d10	220		"	200		109	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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 B4C1308 - Saturated Paste Metals**

**Blank (B4C1308-BLK1)**

Prepared: 03/13/2024 Analyzed: 03/14/2024

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

**Duplicate (B4C1308-DUP1)**

**Source: Y403323-01**

Prepared: 03/13/2024 Analyzed: 03/14/2024

Calcium PPM	12.8	10.0	mg/L	13.3	4.45	50
SAR	ND	0.0100	SAR	0.323		200
Magnesium PPM	3.78	10.0	mg/L	4.09	7.88	50
Sodium PPM	5.12	10.0	"	5.26	2.70	50

**Batch B4C1315 - DTPA Sorbitol Preparation**

**Blank (B4C1315-BLK1)**

Prepared: 03/13/2024 Analyzed: 03/19/2024

Boron	ND	0.100	mg/L
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**Duplicate (B4C1315-DUP1)**

**Source: Y403323-01**

Prepared: 03/13/2024 Analyzed: 03/19/2024

Boron	0.190	0.0988	mg/L	0.140	30.2	50
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4C1322 - Saturated Paste pH/EC</b>										
<b>Blank (B4C1322-BLK1)</b>					Prepared: 03/13/2024 Analyzed: 03/14/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4C1322-DUP1)</b>					<b>Source: Y403323-01</b> Prepared: 03/13/2024 Analyzed: 03/14/2024					
pH	7.01		pH Units		7.12			1.56	25	
Specific Conductance (EC)	0.238	0.00500	mmhos/cm		0.238			0.0841	25	

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Total Metals by 7196A - Quality Control  
Waypoint Analytical, LLC.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L743340 -</b>										
<b>DUP (L 93009-DUP)</b>	<b>Source: 93009</b>				Prepared: Analyzed: 04/10/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
<b>MS (L 93009-MS)</b>	<b>Source: 93009</b>				Prepared: Analyzed: 04/10/2024					
Chromium, Hexavalent	35.4	2.5	mg/Kg	39.4	< 0.244	90	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 04/10/2024					
Chromium, Hexavalent	6.68	0.5	mg/Kg	8		84	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 04/10/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

### 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 on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.

A handwritten signature in black ink, appearing to read "Bynon".

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April 17, 2024

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

**Project Name - KMG - Cheng 3-8A**

**Project Number - [none]**

Attached are your analytical results for KMG - Cheng 3-8A received by Origins Laboratory, Inc. April 09, 2024. This project is associated with Origins project number Y404249-01.

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01R@6'	Y404249-01	Soil	April 9, 2024 9:30	04/09/2024 14:10
FL-B01R@4'	Y404249-02	Soil	April 9, 2024 9:32	04/09/2024 14:10

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.*



Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

[illegible]

Origins Laboratory, Inc.

Byron

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

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

**Sample Receipt Checklist**

Origins Work Order: 4404249 Client: Tasman  
Client Project ID: Cheng 3-8A

Checklist Completed by: JAB Shipped Via: 4XP  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 4/9/24 Airbill #: N/A

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

Cooler Number/Temperature: 1, 10 °C ☐ °C ☐ °C ☐ °C

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 <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) JAB Date/Time Reviewed 4/9/24

Origins Laboratory, Inc.

*J. Bynon*

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

WH-B01R@6'

4/9/2024 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404249-01 (Soil)**

**pH in Soil by 9045D**

pH	8.17		pH Units	1	B4D1020	EAL	04/10/2024	04/11/2024
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**Table 915 metals by EPA 6020B**

Lead	17.6	0.980	mg/kg	10	B4D0923	HJD	04/09/2024	04/10/2024
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Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

FL-B01R@4'

4/9/2024 9:32:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.  
Y404249-02 (Soil)

**Table 915 metals by EPA 6020B**

Lead	28.5	0.842	mg/kg	10	B4D0923	HJD	04/09/2024	04/10/2024
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Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**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
<b>Batch B4D0923 - EPA 3050B</b>										
<b>Blank (B4D0923-BLK1)</b>					Prepared: 04/09/2024 Analyzed: 04/10/2024					
Lead	ND	1.00	mg/kg							
<b>LCS (B4D0923-BS1)</b>					Prepared: 04/09/2024 Analyzed: 04/10/2024					
Lead	5.41	1.00	mg/kg	5.00		108	80-120			
<b>Matrix Spike (B4D0923-MS1)</b>		<b>Source: Y404248-01</b>			Prepared: 04/09/2024 Analyzed: 04/10/2024					
Lead	13.6	0.868	mg/kg	4.34	6.72	159	75-125			QM-07
<b>Matrix Spike Dup (B4D0923-MSD1)</b>		<b>Source: Y404248-01</b>			Prepared: 04/09/2024 Analyzed: 04/10/2024					
Lead	15.5	0.989	mg/kg	4.94	6.72	177	75-125	12.7	20	QM-07

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

**Saturated Paste - 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 B4D1020 - Saturated Paste pH/EC**

<b>Duplicate (B4D1020-DUP1)</b>		<b>Source: Y403236-02</b>			Prepared: 04/10/2024 Analyzed: 04/11/2024					
pH	8.38		pH Units		8.56			2.13	25	

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - Cheng 3-8A

---

### Notes and Definitions

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.

A handwritten signature in black ink, appearing to read "J. Bynon".

*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.*



July 10, 2023

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - VOGL 5-8A

Project Number - [none]

Attached are your analytical results for KMG - VOGL 5-8A received by Origins Laboratory, Inc. June 21, 2023. This project is associated with Origins project number Y306555-01.

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**CROSS REFERENCE REPORT**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@6'	Y306555-01	Soil	June 21, 2023 13:53	06/21/2023 17:15
FL-B01@4'	Y306555-02	Soil	June 21, 2023 14:21	06/21/2023 17:15
FL-B02@4'	Y306555-03	Soil	June 21, 2023 14:23	06/21/2023 17:15
BG01@3'	Y306555-04	Soil	June 21, 2023 14:11	06/21/2023 17:15
BG01@6'	Y306555-05	Soil	June 21, 2023 14:13	06/21/2023 17:15
BG02@3'	Y306555-06	Soil	June 21, 2023 14:15	06/21/2023 17:15
BG02@6'	Y306555-07	Soil	June 21, 2023 14:17	06/21/2023 17:15

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

*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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 4306555

Client: Tasman

Client Project ID: VOGL 5-8A

Checklist Completed by: EHS

Shipped Via: 4D  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 6/21/23

Airbill #: N/A

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

Cooler Number/Temperature: 1, 10 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 7004

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.

EHS  
Reviewed by (Project Manager)

6/21/23  
Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

Jen Pellegrini, Project Manager

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-B01@6'  
6/21/2023 1:53:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-01 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.369	0.0995	mg/L	1	B3F2213	06/22/2023	06/23/2023
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	119	25.0	mg/kg	1	B3F2137	06/21/2023	06/21/2023
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	" U

Surrogate: o-Terphenyl	77.8 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	0.0770	0.00200	mg/kg	1	B3F2135	06/21/2023	06/22/2023
1,3,5-Trimethylbenzene	0.0180	0.00200	"	"	"	"	"
Benzene	ND	0.00200	"	"	"	"	" U
Ethylbenzene	ND	0.00200	"	"	"	"	" U
Naphthalene	0.00788	0.00380	"	"	"	"	"
Toluene	ND	0.00200	"	"	"	"	" U
Xylenes, total	0.0120	0.00200	"	"	"	"	"
Gasoline Range Hydrocarbons	10.9	0.200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	87.9 %	70-130	"	"	"
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Origins Laboratory, Inc.



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

Jen Pellegrini, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-B01@6'  
6/21/2023 1:53:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-01 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	96.0 %	70-130				B3F21 35	06/21/2023	06/22/2023	
Surrogate: 4-Bromofluorobenzene	84.7 %	70-130				"	"	"	

**Metals by Saturated Paste by EPA 6010**

Calcium	5.17	0.499	meq/L	10	[CALC]		06/22/2023	06/23/2023	
Magnesium	ND	0.823	"	"	"		"	"	
Sodium	1.21	0.435	"	"	"		"	"	

**pH in Soil by 9045D**

pH	11.0		pH Units	1	B3F2217		06/22/2023	06/23/2023	
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**SAR by 20B Saturated Paste**

SAR	0.750		SAR	1	B3F2210		06/22/2023	06/23/2023	
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.846	0.00500	mmhos/cm	1	B3F2217		06/22/2023	06/23/2023	
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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 - VOGL 5-8A

FL-B01@4'

6/21/2023 2:21:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-02 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.460	0.0981	mg/L	1	B3F2213	06/22/2023	06/23/2023
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**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	798	25.0	mg/kg	1	B3F2137	06/21/2023	06/22/2023
Residual Range Organics (C28-C40)	1430	100	"	"	"	"	"

Surrogate: o-Terphenyl	68.3 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3F2135	06/21/2023	06/22/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Naphthalene	0.314	0.00380	"	"	"	"	"	
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	2.77	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	94.0 %	70-130	"	"	"
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager



Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

FL-B01@4'

6/21/2023 2:21:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-02 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: Toluene-d8	97.1 %	70-130	B3F21 35	06/21/2023	06/22/2023
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.33	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.584	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	0.029	0.002	mg/kg	1	B3F2306	06/23/2023	06/27/2023
2-Methylnaphthalene	0.070	0.002	"	"	"	"	"
Acenaphthene	ND	0.020	"	"	"	"	" U
Anthracene	ND	0.020	"	"	"	"	" U
Benzo (a) anthracene	ND	0.010	"	2	"	"	06/27/2023 U
Benzo (a) pyrene	ND	0.040	"	"	"	"	" U
Benzo (b) fluoranthene	ND	0.040	"	"	"	"	" U
Benzo (k) fluoranthene	ND	0.040	"	"	"	"	" U
Chrysene	ND	0.040	"	"	"	"	" U
Dibenz (a,h) anthracene	ND	0.040	"	"	"	"	" U
Fluoranthene	ND	0.020	"	1	"	"	06/27/2023 U

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 - VOGL 5-8A

FL-B01@4'

6/21/2023 2:21:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-02 (Soil)**

**PAH by EPA 8270E**

Fluorene	ND	0.020	mg/kg	1	B3F2306	06/23/2023	06/27/2023	U
Indeno (1,2,3-cd) pyrene	ND	0.040	"	2	"	"	06/27/2023	U
Naphthalene	0.137	0.002	"	1	"	"	06/27/2023	
Pyrene	ND	0.040	"	2	"	"	06/27/2023	U

Surrogate: Nitrobenzene-d5	78.8 %	60-130	"	"	06/27/2023
Surrogate: 2-Fluorobiphenyl	98.3 %	60-130	"	"	"
Surrogate: Terphenyl-d14	76.5 %	60-130	"	"	06/27/2023

**pH in Soil by 9045D**

pH	8.35	pH Units	1	B3F2217	06/22/2023	06/23/2023
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**SAR by 20B Saturated Paste**

SAR	0.650	SAR	1	B3F2210	06/22/2023	06/23/2023
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	0.449	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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**Table 915 metals by EPA 6020B**

Arsenic	2.84	0.0961	mg/kg	10	B3F2619	06/26/2023	06/27/2023
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

FL-B01@4'

6/21/2023 2:21:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-02 (Soil)

## Table 915 metals by EPA 6020B

Barium	495	9.61	mg/kg	10	B3F2619	06/26/2023	06/27/2023	
Cadmium	0.161	0.0961	"	"	"	"	"	
Copper	11.5	9.61	"	"	"	"	"	
Lead	25.8	9.61	"	"	"	"	"	
Nickel	ND	9.61	"	"	"	"	"	U
Selenium	0.108	0.0961	"	"	"	"	"	
Silver	ND	0.0961	"	"	"	"	"	U
Zinc	ND	96.1	"	"	"	"	"	U

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.248	0.51	mg/Kg	1	L691255	06/21/2023	07/06/2023
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager



Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

FL-B02@4'

6/21/2023 2:23:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-03 (Soil)

## Boron (DTPA Sorbitol)

Boron	ND	0.0980	mg/L	1	B3F2213	06/22/2023	06/23/2023	U
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## DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3F2137	06/21/2023	06/22/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	71.8 %	50-150	"	"	"	"	"	"
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## GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3F2135	06/21/2023	06/22/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	U
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Naphthalene	0.0148	0.00380	"	"	"	"	"	
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	ND	0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	U

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, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

FL-B02@4'

6/21/2023 2:23:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-03 (Soil)**

**GBTEX+TMBs by 8260D**

Surrogate: 1,2-Dichloroethane-d4	85.3 %	70-130	B3F21 35	06/21/2023	06/22/2023
Surrogate: Toluene-d8	95.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	83.7 %	70-130	"	"	"

**Metals by Saturated Paste by EPA 6010**

Calcium	1.25	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

**PAH by EPA 8270E**

1-Methylnaphthalene	0.005	0.002	mg/kg	1	B3F2306	06/23/2023	06/26/2023	
2-Methylnaphthalene	0.010	0.002	"	"	"	"	"	
Acenaphthene	ND	0.020	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	U

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 - VOGL 5-8A

FL-B02@4'

6/21/2023 2:23:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-03 (Soil)

### PAH by EPA 8270E

Fluoranthene	ND	0.020	mg/kg	1	B3F2306	06/23/2023	06/26/2023	U
Fluorene	ND	0.020	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	U
Naphthalene	0.028	0.002	"	"	"	"	"	
Pyrene	ND	0.020	"	"	"	"	"	U

Surrogate: Nitrobenzene-d5	80.7 %	60-130	"	"	"
Surrogate: 2-Fluorobiphenyl	113 %	60-130	"	"	"
Surrogate: Terphenyl-d14	95.4 %	60-130	"	"	"

### pH in Soil by 9045D

pH	9.10	pH Units	1	B3F2217	06/22/2023	06/23/2023
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### SAR by 20B Saturated Paste

SAR	0.136	SAR	1	B3F2210	06/22/2023	06/23/2023
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.216	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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### Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

FL-B02@4'

6/21/2023 2:23:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-03 (Soil)

## Table 915 metals by EPA 6020B

Arsenic	2.00	0.0958	mg/kg	10	B3F2619	06/26/2023	06/27/2023	
Barium	56.7	9.58	"	"	"	"	"	
Cadmium	ND	0.0958	"	"	"	"	"	U
Copper	ND	9.58	"	"	"	"	"	U
Lead	ND	9.58	"	"	"	"	"	U
Nickel	ND	9.58	"	"	"	"	"	U
Selenium	ND	0.0958	"	"	"	"	"	U
Silver	ND	0.0958	"	"	"	"	"	U
Zinc	ND	95.8	"	"	"	"	"	U

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L691255	06/21/2023	07/06/2023
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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG01@3'  
6/21/2023 2:11:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-04 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.203	0.0992	mg/L	1	B3F2213	06/22/2023	06/23/2023
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## Metals by Saturated Paste by EPA 6010

Calcium	31.8	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	12.8	0.823	"	"	"	"	"
Sodium	15.2	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	7.98		pH Units	1	B3F2217	06/22/2023	06/23/2023
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## SAR by 20B Saturated Paste

SAR	3.21		SAR	1	B3F2210	06/22/2023	06/23/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	5.34	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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## Table 915 metals by EPA 6020B

Arsenic	2.51	0.0877	mg/kg	10	B3F2619	06/26/2023	06/27/2023
Barium	80.8	8.77	"	"	"	"	"
Cadmium	0.107	0.0877	"	"	"	"	"
Copper	ND	8.77	"	"	"	"	" U

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 - VOGL 5-8A

BG01@3'

6/21/2023 2:11:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y306555-04 (Soil)

**Table 915 metals by EPA 6020B**

Lead	ND		8.77	mg/kg	10	B3F2619	06/26/2023	06/27/2023	U
Nickel	ND		8.77	"	"	"	"	"	U
Selenium	0.151		0.0877	"	"	"	"	"	
Silver	ND		0.0877	"	"	"	"	"	U
Zinc	ND		87.7	"	"	"	"	"	U

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.248	0.51	mg/Kg	1	L690474	06/21/2023	07/03/2023	
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Jen Pellegrini, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG01@6'  
6/21/2023 2:13:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-05 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.760	0.101	mg/L	1	B3F2213	06/22/2023	06/23/2023
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## Metals by Saturated Paste by EPA 6010

Calcium	4.60	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	11.1	0.823	"	"	"	"	"
Sodium	27.9	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.22		pH Units	1	B3F2217	06/22/2023	06/23/2023
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## SAR by 20B Saturated Paste

SAR	9.95		SAR	1	B3F2210	06/22/2023	06/23/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	4.62	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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## Table 915 metals by EPA 6020B

Arsenic	2.67	0.0874	mg/kg	10	B3F2619	06/26/2023	06/27/2023
Barium	148	8.74	"	"	"	"	"
Cadmium	0.460	0.0874	"	"	"	"	"
Copper	10.2	8.74	"	"	"	"	"

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG01@6'  
6/21/2023 2:13:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
Y306555-05 (Soil)

**Table 915 metals by EPA 6020B**

Lead	8.85	8.74	mg/kg	10	B3F2619	06/26/2023	06/27/2023	
Nickel	11.1	8.74	"	"	"	"	"	
Selenium	0.117	0.0874	"	"	"	"	"	
Silver	ND	0.0874	"	"	"	"	"	U
Zinc	ND	87.4	"	"	"	"	"	U

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.501	mg/Kg	1	L690474	06/21/2023	07/03/2023
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Jen Pellegrini, Project Manager



Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**BG02@3'**  
**6/21/2023 2:15:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-06 (Soil)**

### Boron (DTPA Sorbitol)

Boron	0.511	0.100	mg/L	1	B3F2213	06/22/2023	06/23/2023
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### Metals by Saturated Paste by EPA 6010

Calcium	5.99	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	4.23	0.823	"	"	"	"	"
Sodium	33.1	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.27		pH Units	1	B3F2217	06/22/2023	06/23/2023
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### SAR by 20B Saturated Paste

SAR	14.7		SAR	1	B3F2210	06/22/2023	06/23/2023
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	4.49	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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### Table 915 metals by EPA 6020B

Arsenic	2.40	0.0875	mg/kg	10	B3F2619	06/26/2023	06/27/2023
Barium	64.3	8.75	"	"	"	"	"
Cadmium	ND	0.0875	"	"	"	"	" U
Copper	ND	8.75	"	"	"	"	" U

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 - VOGL 5-8A

BG02@3'

6/21/2023 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-06 (Soil)

## Table 915 metals by EPA 6020B

Lead	ND		8.75	mg/kg	10	B3F2619	06/26/2023	06/27/2023	U
Nickel	ND		8.75	"	"	"	"	"	U
Selenium	ND		0.0875	"	"	"	"	"	U
Silver	ND		0.0875	"	"	"	"	"	U
Zinc	ND		87.5	"	"	"	"	"	U

## Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L690474	06/21/2023	07/03/2023	
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Jen Pellegrini, Project Manager

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG02@6'  
6/21/2023 2:17:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y306555-07 (Soil)

## Boron (DTPA Sorbitol)

Boron	0.397	0.100	mg/L	1	B3F2213	06/22/2023	06/23/2023
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## Metals by Saturated Paste by EPA 6010

Calcium	2.09	0.499	meq/L	10	[CALC]	06/22/2023	06/23/2023
Magnesium	3.02	0.823	"	"	"	"	"
Sodium	13.7	0.435	"	"	"	"	"

## pH in Soil by 9045D

pH	8.68		pH Units	1	B3F2217	06/22/2023	06/23/2023
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## SAR by 20B Saturated Paste

SAR	8.56		SAR	1	B3F2210	06/22/2023	06/23/2023
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## Specific Conductance Mod. 9050A

Specific Conductance (EC)	2.25	0.00500	mmhos/cm	1	B3F2217	06/22/2023	06/23/2023
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## Table 915 metals by EPA 6020B

Arsenic	3.32	0.0981	mg/kg	10	B3F2619	06/26/2023	06/27/2023
Barium	108	9.81	"	"	"	"	"
Cadmium	0.153	0.0981	"	"	"	"	"
Copper	11.8	9.81	"	"	"	"	"

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 - VOGL 5-8A

**BG02@6'**

**6/21/2023 2:17:00PM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y306555-07 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	ND		9.81	mg/kg	10	B3F2619	06/26/2023	06/27/2023	U
Nickel	<b>12.8</b>		9.81	"	"	"	"	"	
Selenium	ND		0.0981	"	"	"	"	"	U
Silver	ND		0.0981	"	"	"	"	"	U
Zinc	ND		98.1	"	"	"	"	"	U

**Total Metals by 7196A**

Chromium, Hexavalent	ND	0.244	0.502	mg/Kg	1	L690474	06/21/2023	07/03/2023	
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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B3F2135 - EPA 5030 (soil)</b>										
<b>Blank (B3F2135-BLK1)</b>					Prepared: 06/21/2023 Analyzed: 06/21/2023					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		85.0	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 - VOGL 5-8A

**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
<b>Batch B3F2135 - EPA 5030 (soil)</b>										
<b>LCS (B3F2135-BS1)</b>					Prepared: 06/21/2023 Analyzed: 06/21/2023					
1,2,4-Trimethylbenzene	0.0975	0.00200	mg/kg	0.100		97.5	70-130			
1,3,5-Trimethylbenzene	0.0985	0.00200	"	0.100		98.5	70-130			
Benzene	0.111	0.00200	"	0.100		111	70-130			
Ethylbenzene	0.0983	0.00200	"	0.100		98.3	70-130			
Naphthalene	0.0929	0.00380	"	0.100		92.9	70-130			
Toluene	0.0975	0.00200	"	0.100		97.5	70-130			
o-Xylene	0.0981	0.00200	"	0.100		98.1	70-130			
m,p-Xylene	0.206	0.00400	"	0.200		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		86.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.2	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 - VOGL 5-8A

**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
<b>Batch B3F2135 - EPA 5030 (soil)</b>										
<b>Matrix Spike (B3F2135-MS1)</b>		<b>Source: Y306541-01</b>			Prepared: 06/21/2023 Analyzed: 06/21/2023					
1,2,4-Trimethylbenzene	0.0873	0.00200	mg/kg	0.100	ND	87.3	70-130			
1,3,5-Trimethylbenzene	0.0867	0.00200	"	0.100	ND	86.7	70-130			
Benzene	0.0983	0.00200	"	0.100	ND	98.3	70-130			
Ethylbenzene	0.0873	0.00200	"	0.100	ND	87.3	70-130			
Naphthalene	0.0848	0.00380	"	0.100	ND	84.8	70-130			
Toluene	0.0875	0.00200	"	0.100	ND	87.5	70-130			
o-Xylene	0.0874	0.00200	"	0.100	ND	87.4	70-130			
m,p-Xylene	0.183	0.00400	"	0.200	ND	91.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.8	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B3F2135 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B3F2135-MSD1)</b>		<b>Source: Y306541-01</b>			Prepared: 06/21/2023 Analyzed: 06/21/2023					
1,2,4-Trimethylbenzene	0.0981	0.00200	mg/kg	0.100	ND	98.1	70-130	11.6	20	
1,3,5-Trimethylbenzene	0.0983	0.00200	"	0.100	ND	98.3	70-130	12.5	20	
Benzene	0.106	0.00200	"	0.100	ND	106	70-130	7.67	20	
Ethylbenzene	0.0950	0.00200	"	0.100	ND	95.0	70-130	8.40	20	
Naphthalene	0.0964	0.00380	"	0.100	ND	96.4	70-130	12.8	20	
Toluene	0.0959	0.00200	"	0.100	ND	95.9	70-130	9.25	20	
o-Xylene	0.0957	0.00200	"	0.100	ND	95.7	70-130	9.00	20	
m,p-Xylene	0.199	0.00400	"	0.200	ND	99.7	70-130	8.78	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.11		"	0.125		89.0	70-130			

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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 - VOGL 5-8A

**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
<b>Batch B3F2137 - EPA 3550B</b>										
<b>Blank (B3F2137-BLK1)</b>					Prepared: 06/21/2023 Analyzed: 06/21/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	19		"	24.9		75.3	50-150			

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 - VOGL 5-8A

**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 B3F2137 - EPA 3550B**

**LCS (B3F2137-BS1)**

Prepared: 06/21/2023 Analyzed: 06/21/2023

Diesel (C10-C28)	833	50.0	mg/kg	1000		83.3	70-130			
Residual Range Organics (C28-C40)	913	200	"	1000		91.3	70-130			
Surrogate: o-Terphenyl	44		"	49.8		88.4	50-150			

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 - VOGL 5-8A

**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 B3F2137 - EPA 3550B**

<b>Matrix Spike (B3F2137-MS1)</b>		<b>Source: Y306554-01</b>			Prepared: 06/21/2023 Analyzed: 06/21/2023					
Diesel (C10-C28)	850	50.0	mg/kg	1000	ND	85.0	70-130			
Residual Range Organics (C28-C40)	922	200	"	1000	ND	92.2	70-130			
Surrogate: o-Terphenyl	43		"	49.8		85.5	50-150			

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Tasman Geosciences  
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2137 - EPA 3550B**

<b>Matrix Spike Dup (B3F2137-MSD1)</b>		<b>Source: Y306554-01</b>			Prepared: 06/21/2023 Analyzed: 06/21/2023					
Diesel (C10-C28)	842	50.0	mg/kg	1000	ND	84.2	70-130	0.927	35	
Residual Range Organics (C28-C40)	915	200	"	1000	ND	91.5	70-130	0.778	35	
Surrogate: o-Terphenyl	41		"	49.8		82.5	50-150			

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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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**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 B3F2619 - EPA 3050B**

**Blank (B3F2619-BLK1)**

Prepared: 06/26/2023 Analyzed: 06/27/2023

Arsenic	ND	0.000100	mg/kg							U
Barium	ND	0.0100	"							U
Cadmium	ND	0.000100	"							U
Copper	ND	0.0100	"							U
Lead	ND	0.0100	"							U
Nickel	ND	0.0100	"							U
Selenium	ND	0.000100	"							U
Silver	ND	0.000100	"							U
Zinc	ND	0.100	"							U

**LCS (B3F2619-BS1)**

Prepared: 06/26/2023 Analyzed: 06/27/2023

Arsenic	0.0544	0.000100	mg/kg	0.0500		109	80-120
Barium	5.37	0.0100	"	5.00		107	80-120
Cadmium	0.0559	0.000100	"	0.0500		112	80-120
Copper	0.556	0.0100	"	0.500		111	80-120
Lead	0.0527	0.0100	"	0.0500		105	80-120
Nickel	0.0557	0.0100	"	0.0500		111	80-120
Selenium	0.0526	0.000100	"	0.0500		105	80-120
Silver	0.0487	0.000100	"	0.0500		97.3	80-120
Zinc	0.535	0.100	"	0.500		107	80-120

**Matrix Spike (B3F2619-MS1)**

**Source: Y306277-01**

Prepared: 06/26/2023 Analyzed: 06/27/2023

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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 - VOGL 5-8A

**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
<b>Batch B3F2619 - EPA 3050B</b>										
<b>Matrix Spike (B3F2619-MS1)</b>		<b>Source: Y306277-01</b>			Prepared: 06/26/2023 Analyzed: 06/27/2023					
Arsenic	6.87	0.0854	mg/kg	4.27	2.68	98.3	75-125			
Barium	648	8.54	"	427	195	106	75-125			
Cadmium	4.78	0.0854	"	4.27	0.131	109	75-125			
Copper	51.1	8.54	"	42.7	6.77	104	75-125			
Lead	11.2	8.54	"	4.27	6.68	106	75-125			
Nickel	10.3	8.54	"	4.27	6.37	93.3	75-125			
Selenium	4.23	0.0854	"	4.27	0.171	95.1	75-125			
Silver	4.17	0.0854	"	4.27	0.0367	96.9	75-125			
Zinc	69.9	85.4	"	42.7	27.1	100	75-125			U
<b>Matrix Spike Dup (B3F2619-MSD1)</b>		<b>Source: Y306277-01</b>			Prepared: 06/26/2023 Analyzed: 06/27/2023					
Arsenic	8.11	0.0951	mg/kg	4.75	2.68	114	75-125	16.5	20	
Barium	708	9.51	"	475	195	108	75-125	8.83	20	
Cadmium	5.18	0.0951	"	4.75	0.131	106	75-125	8.01	20	
Copper	55.7	9.51	"	47.5	6.77	103	75-125	8.66	20	
Lead	12.9	9.51	"	4.75	6.68	130	75-125	13.8	20	QM-07
Nickel	12.7	9.51	"	4.75	6.37	133	75-125	20.2	20	QM-07, QR-DUP
Selenium	4.58	0.0951	"	4.75	0.171	92.7	75-125	7.90	20	
Silver	4.48	0.0951	"	4.75	0.0367	93.5	75-125	7.12	20	
Zinc	78.7	95.1	"	47.5	27.1	109	75-125	11.8	20	U

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2306 - EPA 3580**

**Blank (B3F2306-BLK1)**

Prepared: 06/23/2023 Analyzed: 06/23/2023

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Nitrobenzene-d5	180		ug/kg	200		92.1	60-130			
Surrogate: 2-Fluorobiphenyl	200		"	200		100	60-130			
Surrogate: Terphenyl-d14	210		"	200		103	60-130			

**LCS (B3F2306-BS1)**

Prepared: 06/23/2023 Analyzed: 06/23/2023

1-Methylnaphthalene	0.208	0.002	mg/kg	0.200		104	70-130			
2-Methylnaphthalene	0.218	0.002	"	0.200		109	70-130			
Acenaphthene	0.202	0.020	"	0.200		101	70-130			
Anthracene	0.207	0.020	"	0.200		104	70-130			
Benzo (a) anthracene	0.211	0.005	"	0.200		106	70-130			

Origins Laboratory, Inc.



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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2306 - EPA 3580**

**LCS (B3F2306-BS1)**

Prepared: 06/23/2023 Analyzed: 06/23/2023

Benzo (a) pyrene	0.204	0.020	mg/kg	0.200		102	70-130
Benzo (b) fluoranthene	0.198	0.020	"	0.200		99.2	70-130
Benzo (g,h,i) perylene	0.192	0.020	"	0.200		95.8	70-130
Benzo (k) fluoranthene	0.221	0.020	"	0.200		110	70-130
Chrysene	0.198	0.020	"	0.200		99.0	70-130
Dibenz (a,h) anthracene	0.188	0.020	"	0.200		94.1	70-130
Fluoranthene	0.234	0.020	"	0.200		117	70-130
Fluorene	0.210	0.020	"	0.200		105	70-130
Indeno (1,2,3-cd) pyrene	0.201	0.020	"	0.200		100	70-130
Naphthalene	0.203	0.002	"	0.200		102	70-130
Phenanthrene	0.216	0.020	"	0.200		108	70-130
Pyrene	0.193	0.020	"	0.200		96.4	70-130
Surrogate: Nitrobenzene-d5	170		ug/kg	200		87.0	60-130
Surrogate: 2-Fluorobiphenyl	210		"	200		103	60-130
Surrogate: Terphenyl-dl4	190		"	200		95.4	60-130

**Matrix Spike (B3F2306-MS1)**

**Source: Y306584-01**

Prepared: 06/23/2023 Analyzed: 06/23/2023

1-Methylnaphthalene	0.206	0.002	mg/kg	0.200	ND	103	70-130
2-Methylnaphthalene	0.215	0.002	"	0.200	ND	107	70-130
Acenaphthene	0.215	0.020	"	0.200	0.003	106	70-130
Anthracene	0.202	0.020	"	0.200	ND	101	70-130
Benzo (a) anthracene	0.205	0.005	"	0.200	0.006	99.7	70-130
Benzo (a) pyrene	0.199	0.020	"	0.200	ND	99.6	70-130
Benzo (b) fluoranthene	0.206	0.020	"	0.200	0.006	99.8	70-130
Benzo (g,h,i) perylene	0.202	0.020	"	0.200	ND	101	70-130
Benzo (k) fluoranthene	0.224	0.020	"	0.200	ND	112	70-130
Chrysene	0.193	0.020	"	0.200	0.007	92.9	70-130

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2306 - EPA 3580**

Matrix Spike (B3F2306-MS1)		Source: Y306584-01			Prepared: 06/23/2023 Analyzed: 06/23/2023					
Dibenz (a,h) anthracene	0.200	0.020	mg/kg	0.200	ND	99.9	70-130			
Fluoranthene	0.242	0.020	"	0.200	0.019	112	70-130			
Fluorene	0.208	0.020	"	0.200	0.002	103	70-130			
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200	0.005	100	70-130			
Naphthalene	0.202	0.002	"	0.200	0.002	100	70-130			
Phenanthrene	0.217	0.020	"	0.200	0.017	99.8	70-130			
Pyrene	0.197	0.020	"	0.200	0.013	91.9	70-130			
Surrogate: Nitrobenzene-d5	180		ug/kg	200		88.2	60-130			
Surrogate: 2-Fluorobiphenyl	210		"	200		105	60-130			
Surrogate: Terphenyl-dl4	190		"	200		96.5	60-130			

Matrix Spike Dup (B3F2306-MSD1)		Source: Y306584-01			Prepared: 06/23/2023 Analyzed: 06/23/2023					
1-Methylnaphthalene	0.203	0.002	mg/kg	0.200	ND	102	70-130	1.41	20	
2-Methylnaphthalene	0.215	0.002	"	0.200	ND	107	70-130	0.0693	20	
Acenaphthene	0.213	0.020	"	0.200	0.003	105	70-130	1.02	20	
Anthracene	0.200	0.020	"	0.200	ND	99.9	70-130	1.33	20	
Benzo (a) anthracene	0.235	0.005	"	0.200	0.006	115	70-130	13.4	20	
Benzo (a) pyrene	0.203	0.020	"	0.200	ND	101	70-130	1.68	20	
Benzo (b) fluoranthene	0.200	0.020	"	0.200	0.006	97.2	70-130	2.62	20	
Benzo (g,h,i) perylene	0.200	0.020	"	0.200	ND	100	70-130	0.812	20	
Benzo (k) fluoranthene	0.214	0.020	"	0.200	ND	107	70-130	4.77	20	
Chrysene	0.220	0.020	"	0.200	0.007	106	70-130	13.1	20	
Dibenz (a,h) anthracene	0.183	0.020	"	0.200	ND	91.3	70-130	9.02	20	
Fluoranthene	0.262	0.020	"	0.200	0.019	122	70-130	8.01	20	
Fluorene	0.217	0.020	"	0.200	0.002	107	70-130	3.99	20	
Indeno (1,2,3-cd) pyrene	0.191	0.020	"	0.200	0.005	92.9	70-130	7.47	20	
Naphthalene	0.201	0.002	"	0.200	0.002	99.8	70-130	0.308	20	

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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2306 - EPA 3580**

Matrix Spike Dup (B3F2306-MSD1)		Source: Y306584-01			Prepared: 06/23/2023 Analyzed: 06/23/2023					
Phenanthrene	0.243	0.020	mg/kg	0.200	0.017	113	70-130	11.3	20	
Pyrene	0.222	0.020	"	0.200	0.013	105	70-130	12.2	20	
Surrogate: Nitrobenzene-d5	170		ug/kg	200		85.6	60-130			
Surrogate: 2-Fluorobiphenyl	210		"	200		103	60-130			
Surrogate: Terphenyl-dl4	190		"	200		95.5	60-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences  
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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B3F2210 - Saturated Paste Metals**

**Blank (B3F2210-BLK1)**

Prepared: 06/22/2023 Analyzed: 06/23/2023

SAR	0.00		SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U

**Duplicate (B3F2210-DUP1)**

**Source: Y306546-01**

Prepared: 06/22/2023 Analyzed: 06/23/2023

Calcium PPM	28.9	10.0	mg/L		28.3			2.20	50	
SAR	0.00		SAR		0.340			200	200	U
Magnesium PPM	5.41	10.0	mg/L		5.36			0.928	50	U
Sodium PPM	7.80	10.0	"		7.52			3.66	50	U

**Batch B3F2213 - DTPA Sorbitol Preparation**

**Blank (B3F2213-BLK1)**

Prepared: 06/22/2023 Analyzed: 06/23/2023

Boron	ND	0.100	mg/L							U
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**Duplicate (B3F2213-DUP1)**

**Source: Y306546-01**

Prepared: 06/22/2023 Analyzed: 06/23/2023

Boron	0.160	0.101	mg/L		0.167			3.88	50	
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Jen Pellegrini, Project Manager

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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B3F2217 - Saturated Paste pH/EC</b>										
<b>Blank (B3F2217-BLK1)</b>					Prepared: 06/22/2023 Analyzed: 06/23/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
<b>Duplicate (B3F2217-DUP1)</b>					<b>Source: Y306546-01</b> Prepared: 06/22/2023 Analyzed: 06/23/2023					
pH	8.24		pH Units		8.35			1.33	25	
Specific Conductance (EC)	0.286	0.00500	mmhos/cm		0.269			6.13	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 - VOGL 5-8A

## Total Metals by 7196A - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch L690474 -</b>										
<b>DUP (L 94306-DUP)</b>		<b>Source: Y306555-06</b>			Prepared: Analyzed: 07/03/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500	-		0	20	
<b>MS (L 94306-MS)</b>		<b>Source: Y306555-06</b>			Prepared: Analyzed: 07/03/2023					
Chromium, Hexavalent	34.4	2.5	mg/Kg	39	<1.22	88	75-125			
<b>Batch L691255 -</b>										
<b>DUP (L 95387-DUP)</b>		<b>Source: 95387</b>			Prepared: Analyzed: 07/06/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500	-		0	20	
<b>MS (L 95387-MS)</b>		<b>Source: 95387</b>			Prepared: Analyzed: 07/06/2023					
Chromium, Hexavalent	35.8	2.51	mg/Kg	40.2	<1.22	89	75-125			
<b>LCS (LCS)</b>					Prepared: Analyzed: 07/06/2023					
Chromium, Hexavalent	7.09	0.5	mg/Kg	8		89	75-125			
<b>LRB (LRB)</b>					Prepared: Analyzed: 07/06/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg			-				

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

## Notes and Definitions

U Sample is Non-Detect.

QR-DUP RPD exceeds QC acceptance criteria, this indicates source sample is not homogenous.

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 on a wet weight basis.

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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April 17, 2024

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - VOGL 5-8A

Project Number - [none]

Attached are your analytical results for KMG - VOGL 5-8A received by Origins Laboratory, Inc. April 09, 2024. This project is associated with Origins project number Y404248-01.

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B03@9'	Y404248-01	Soil	April 9, 2024 8:30	04/09/2024 14:10
WH-N03@8'	Y404248-02	Soil	April 9, 2024 8:32	04/09/2024 14:10
WH-S03@8'	Y404248-03	Soil	April 9, 2024 8:34	04/09/2024 14:10
WH-E03@8'	Y404248-04	Soil	April 9, 2024 8:36	04/09/2024 14:10
WH-W03@8'	Y404248-05	Soil	April 9, 2024 8:38	04/09/2024 14:10
BG-03@8'	Y404248-06	Soil	April 9, 2024 8:40	04/09/2024 14:10
BG-04@8'	Y404248-07	Soil	April 9, 2024 0:00	04/09/2024 14:10
BG-05@8'	Y404248-08	Soil	April 9, 2024 8:44	04/09/2024 14:10
WH-GW01	Y404248-09	Water	April 9, 2024 8:46	04/09/2024 14:10

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.*

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

[illegible]

Origins Laboratory, Inc.

Byron

*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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

Origins Laboratory

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

**Sample Receipt Checklist**

Origins Work Order: 4404248 Client: Tasman  
Client Project ID: VOGL 5-8A

Checklist Completed by: JST Shipped Via: TUD  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 4/9/12 Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☒ Water Other: \_\_\_\_\_  
Cooler Number/Temperature: 1, 10 °C / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C  
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 <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"/>	<input checked="" type="checkbox"/>	<u>JST</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 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) JST Date/Time Reviewed 4/9/12

Origins Laboratory, Inc.

*J Byron*

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-B03@9'

4/9/2024 8:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-01 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4D0901	04/09/2024	04/10/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	107 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4D0924	04/09/2024	04/10/2024	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	95.9 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	123 %	70-130	"	"	"

**PAH by EPA 8270E**

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-B03@9'

4/9/2024 8:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-01 (Soil)**

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4D0929	04/09/2024	04/10/2024	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
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	109 %	60-130	"	"	"
Surrogate: Pyrene-d10	93.3 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	92.3 %	60-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-B03@9'

4/9/2024 8:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-01 (Soil)

### pH in Soil by 9045D

pH	8.50		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### Table 915 metals by EPA 6020B

Arsenic	3.58	0.250	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	70.7	8.64	"	"	"	"	"
Cadmium	0.174	0.0864	"	"	"	"	"
Copper	ND	8.64	"	"	"	"	"
Lead	6.72	0.864	"	"	"	"	"
Selenium	ND	0.225	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-N03@8'

4/9/2024 8:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-02 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4D0901	04/09/2024	04/10/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	104 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4D0924	04/09/2024	04/10/2024	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	96.3 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	122 %	70-130	"	"	"

**PAH by EPA 8270E**

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-N03@8'

4/9/2024 8:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-02 (Soil)**

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4D0929	04/09/2024	04/10/2024	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
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.7 %	60-130	"	"	"
Surrogate: Anthracene-d10	105 %	60-130	"	"	"
Surrogate: Pyrene-d10	90.1 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	98.2 %	60-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-N03@8'

4/9/2024 8:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-02 (Soil)

### pH in Soil by 9045D

pH	8.43		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### Table 915 metals by EPA 6020B

Arsenic	2.35	0.280	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	73.5	9.66	"	"	"	"	"
Cadmium	ND	0.0966	"	"	"	"	"
Copper	ND	9.66	"	"	"	"	"
Lead	6.05	0.966	"	"	"	"	"
Selenium	ND	0.251	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-S03@8'

4/9/2024 8:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-03 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0901	04/09/2024	04/10/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	102 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4D0924	04/09/2024	04/10/2024	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	98.2 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	125 %	70-130	"	"	"

**PAH by EPA 8270E**

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-S03@8'

4/9/2024 8:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-03 (Soil)**

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4D0929	04/09/2024	04/10/2024	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
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	98.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	107 %	60-130	"	"	"
Surrogate: Pyrene-d10	93.5 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	89.1 %	60-130	"	"	"

Origins Laboratory, Inc.



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

Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-S03@8'

4/9/2024 8:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-03 (Soil)

### pH in Soil by 9045D

pH	8.44		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### Table 915 metals by EPA 6020B

Arsenic	3.04	0.264	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	91.6	9.10	"	"	"	"	"
Cadmium	0.155	0.0910	"	"	"	"	"
Copper	12.7	9.10	"	"	"	"	"
Lead	9.52	0.910	"	"	"	"	"
Selenium	ND	0.237	"	"	"	"	"

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  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-E03@8'

4/9/2024 8:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-04 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4D0901	04/09/2024	04/10/2024	Ua
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	107 %		50-150			"	"	"	
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4D0924	04/09/2024	04/10/2024	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	96.5 %		70-130			"	"	"	
Surrogate: Toluene-d8	108 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	123 %		70-130			"	"	"	

**PAH by EPA 8270E**

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-E03@8'

4/9/2024 8:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-04 (Soil)**

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4D0929	04/09/2024	04/10/2024	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
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	106 %	60-130	"	"	"
Surrogate: Pyrene-d10	91.1 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	94.6 %	60-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-E03@8'

4/9/2024 8:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-04 (Soil)

### pH in Soil by 9045D

pH	8.32		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### Table 915 metals by EPA 6020B

Arsenic	2.97	0.255	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	100	8.78	"	"	"	"	"
Cadmium	0.126	0.0878	"	"	"	"	"
Copper	11.9	8.78	"	"	"	"	"
Lead	8.70	0.878	"	"	"	"	"
Selenium	ND	0.228	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-W03@8'  
4/9/2024 8:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-05 (Soil)**

**DRO/ORO by EPA 8015D**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4D0901	04/09/2024	04/10/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	106 %	50-150	"	"	"
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**GBTEX+TMBs by 8260D**

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4D0924	04/09/2024	04/10/2024	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	96.1 %	70-130	"	"	"
Surrogate: Toluene-d8	108 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	124 %	70-130	"	"	"

**PAH by EPA 8270E**

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-W03@8'

4/9/2024 8:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-05 (Soil)**

**PAH by EPA 8270E**

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4D0929	04/09/2024	04/10/2024	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
Fluorene	ND	0.020	"	"	"	"	"	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	99.0 %	60-130	"	"	"
Surrogate: Anthracene-d10	90.8 %	60-130	"	"	"
Surrogate: Pyrene-d10	89.3 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	95.4 %	60-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-W03@8'  
4/9/2024 8:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-05 (Soil)

### pH in Soil by 9045D

pH	8.31		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### Table 915 metals by EPA 6020B

Arsenic	3.10	0.289	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	73.7	9.95	"	"	"	"	"
Cadmium	ND	0.0995	"	"	"	"	"
Copper	ND	9.95	"	"	"	"	"
Lead	6.31	0.995	"	"	"	"	"
Selenium	ND	0.259	"	"	"	"	"

Origins Laboratory, Inc.



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Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**BG-03@8'**

**4/9/2024 8:40:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-06 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.454	0.100	mg/L	1	B4D1103	04/11/2024	04/12/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	0.908	0.499	meq/L	10	[CALC]	04/11/2024	04/12/2024
Magnesium	1.75	0.823	"	"	"	"	"
Sodium	10.9	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.46		pH Units	1	B4D1020	04/10/2024	04/11/2024
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**SAR by 20B Saturated Paste**

SAR	9.45	0.0100	SAR	1	B4D1108	04/11/2024	04/12/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	1.44	0.00500	mmhos/cm	1	B4D1114	04/11/2024	04/12/2024
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**Table 915 metals by EPA 6020B**

Arsenic	3.20	0.288	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	122	9.93	"	"	"	"	"
Cadmium	0.146	0.0993	"	"	"	"	"
Copper	13.6	9.93	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG-03@8'

4/9/2024 8:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-06 (Soil)

### Table 915 metals by EPA 6020B

Lead	9.51	0.993	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Nickel	14.2	0.993	"	"	"	"	"
Selenium	ND	0.258	"	"	"	"	"
Silver	0.106	0.0993	"	"	"	"	"
Zinc	48.5	36.7	"	"	"	"	"

### Total Metals by 7196A

Hexavalent Chromium	ND	0.173	0.432	mg/kg dry	1	2596379	04/12/2024	04/16/2024	U
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**BG-04@8'**

**4/9/2024 12:00:00AM**

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-07 (Soil)**

### Boron (DTPA Sorbitol)

Boron	0.184	0.101	mg/L	1	B4D1103	04/11/2024	04/12/2024
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### Metals by Saturated Paste by EPA 6010

Calcium	1.64	0.499	meq/L	10	[CALC]	04/11/2024	04/12/2024
Magnesium	1.87	0.823	"	"	"	"	"
Sodium	7.80	0.435	"	"	"	"	"

### pH in Soil by 9045D

pH	8.39		pH Units	1	B4D1020	04/10/2024	04/11/2024
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### SAR by 20B Saturated Paste

SAR	5.89	0.0100	SAR	1	B4D1108	04/11/2024	04/12/2024
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### Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.14	0.00500	mmhos/cm	1	B4D1114	04/11/2024	04/12/2024
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### Table 915 metals by EPA 6020B

Arsenic	2.47	0.250	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	82.2	8.60	"	"	"	"	"
Cadmium	ND	0.0860	"	"	"	"	"
Copper	9.06	8.60	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG-04@8'

4/9/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-07 (Soil)**

**Table 915 metals by EPA 6020B**

Lead	6.26	0.860	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Nickel	13.5	0.860	"	"	"	"	"
Selenium	ND	0.224	"	"	"	"	"
Silver	ND	0.0860	"	"	"	"	"
Zinc	39.9	31.8	"	"	"	"	"

**Total Metals by 7196A**

Hexavalent Chromium	ND	0.157	0.392	mg/kg dry	1	2596379	04/12/2024	04/16/2024	U
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Origins Laboratory, Inc.



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6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG-05@8'

4/9/2024 8:44:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y404248-08 (Soil)**

**Boron (DTPA Sorbitol)**

Boron	0.318	0.100	mg/L	1	B4D1103	04/11/2024	04/12/2024
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**Metals by Saturated Paste by EPA 6010**

Calcium	11.2	0.499	meq/L	10	[CALC]	04/11/2024	04/12/2024
Magnesium	6.05	0.823	"	"	"	"	"
Sodium	10.7	0.435	"	"	"	"	"

**pH in Soil by 9045D**

pH	8.04		pH Units	1	B4D1020	04/10/2024	04/11/2024
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**SAR by 20B Saturated Paste**

SAR	3.63	0.0100	SAR	1	B4D1108	04/11/2024	04/12/2024
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**Specific Conductance Mod. 9050A**

Specific Conductance (EC)	2.13	0.00500	mmhos/cm	1	B4D1114	04/11/2024	04/12/2024
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**Table 915 metals by EPA 6020B**

Arsenic	3.43	0.276	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Barium	84.6	9.52	"	"	"	"	"
Cadmium	0.129	0.0952	"	"	"	"	"
Copper	9.65	9.52	"	"	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

BG-05@8'

4/9/2024 8:44:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-08 (Soil)

## Table 915 metals by EPA 6020B

Lead	7.60	0.952	mg/kg	10	B4D0923	04/09/2024	04/10/2024
Nickel	10.9	0.952	"	"	"	"	"
Selenium	ND	0.248	"	"	"	"	"
Silver	ND	0.0952	"	"	"	"	"
Zinc	ND	35.2	"	"	"	"	"

## Total Metals by 7196A

Hexavalent Chromium	ND	0.147	0.367	mg/kg dry	1	2596379	04/12/2024	04/16/2024	U
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Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

WH-GW01

4/9/2024 8:46:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y404248-09 (Water)

BTEX+N+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	2.00	ug/L	1	B4D0927	04/09/2024	04/09/2024	Ua
1,3,5-Trimethylbenzene	ND	2.00	"	"	"	"	"	Ua
Benzene	ND	1.00	"	"	"	"	"	Ua
Ethylbenzene	ND	1.00	"	"	"	"	"	Ua
Naphthalene	ND	2.00	"	"	"	"	"	Ua
Toluene	ND	1.00	"	"	"	"	"	Ua
Xylenes, total	ND	1.00	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130	"	"	"
Surrogate: Toluene-d8	93.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	88.8 %	70-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0901 - EPA 3550B</b>										
<b>Blank (B4D0901-BLK1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	27		"	24.9		110	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0901 - EPA 3550B</b>										
<b>LCS (B4D0901-BS1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
Diesel (C10-C28)	901	50.0	mg/kg	1000		90.1	70-130			
Residual Range Organics (C28-C40)	970	200	"	1000		97.0	70-130			
Surrogate: o-Terphenyl	55		"	49.8		110	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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 B4D0901 - EPA 3550B**

Matrix Spike (B4D0901-MS1)		Source: Y404244-01			Prepared: 04/09/2024 Analyzed: 04/09/2024					
Diesel (C10-C28)	880	50.0	mg/kg	1000	ND	88.0	70-130			
Residual Range Organics (C28-C40)	955	200	"	1000	ND	95.5	70-130			
Surrogate: o-Terphenyl	53		"	49.8		106	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0901 - EPA 3550B</b>										
<b>Matrix Spike Dup (B4D0901-MSD1)</b>	<b>Source: Y404244-01</b>				Prepared: 04/09/2024 Analyzed: 04/09/2024					
Diesel (C10-C28)	885	50.0	mg/kg	1000	ND	88.5	70-130	0.580	35	
Residual Range Organics (C28-C40)	981	200	"	1000	ND	98.1	70-130	2.68	35	
Surrogate: o-Terphenyl	64		"	49.8		128	50-150			

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Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0924 - EPA 5030 (soil)</b>										
<b>Blank (B4D0924-BLK1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
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	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.16		"	0.125		124	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
<b>Batch B4D0924 - EPA 5030 (soil)</b>										
<b>LCS (B4D0924-BS1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	0.119	0.00200	mg/kg	0.100		119	70-130			
1,3,5-Trimethylbenzene	0.117	0.00200	"	0.100		117	70-130			
Benzene	0.0856	0.00200	"	0.100		85.6	70-130			
Ethylbenzene	0.117	0.00200	"	0.100		117	70-130			
Naphthalene	0.0976	0.00380	"	0.100		97.6	70-130			
Toluene	0.101	0.00200	"	0.100		101	70-130			
o-Xylene	0.118	0.00200	"	0.100		118	70-130			
m,p-Xylene	0.235	0.00400	"	0.200		118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.8	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		109	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Project: KMG - VOGL 5-8A

**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 B4D0924 - EPA 5030 (soil)**

Matrix Spike (B4D0924-MS1)		Source: Y404244-01			Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	0.116	0.00200	mg/kg	0.100	0.00114	115	70-130			
1,3,5-Trimethylbenzene	0.117	0.00200	"	0.100	ND	117	70-130			
Benzene	0.0846	0.00200	"	0.100	ND	84.6	70-130			
Ethylbenzene	0.116	0.00200	"	0.100	0.00102	115	70-130			
Naphthalene	0.0949	0.00380	"	0.100	0.00126	93.6	70-130			
Toluene	0.100	0.00200	"	0.100	0.000860	99.5	70-130			
o-Xylene	0.117	0.00200	"	0.100	ND	117	70-130			
m,p-Xylene	0.233	0.00400	"	0.200	ND	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.9	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		109	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	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
<b>Batch B4D0924 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (B4D0924-MSD1)</b>		<b>Source: Y404244-01</b>			Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	0.113	0.00200	mg/kg	0.100	0.00114	112	70-130	2.82	20	
1,3,5-Trimethylbenzene	0.112	0.00200	"	0.100	ND	112	70-130	3.86	20	
Benzene	0.0844	0.00200	"	0.100	ND	84.4	70-130	0.237	20	
Ethylbenzene	0.111	0.00200	"	0.100	0.00102	110	70-130	4.60	20	
Naphthalene	0.0978	0.00380	"	0.100	0.00126	96.6	70-130	3.07	20	
Toluene	0.0981	0.00200	"	0.100	0.000860	97.3	70-130	2.24	20	
o-Xylene	0.113	0.00200	"	0.100	ND	113	70-130	3.19	20	
m,p-Xylene	0.226	0.00400	"	0.200	ND	113	70-130	3.01	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.7	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	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
<b>Batch B4D0927 - EPA 5030B (Water)</b>										
<b>Blank (B4D0927-BLK1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	ND	2.00	ug/L							Ua
1,3,5-Trimethylbenzene	ND	2.00	"							Ua
Benzene	ND	1.00	"							Ua
Ethylbenzene	ND	1.00	"							Ua
Naphthalene	ND	2.00	"							Ua
Toluene	ND	1.00	"							Ua
Xylenes, total	ND	1.00	"							Ua
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	59		"	62.5		93.7	70-130			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.1	70-130			

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Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0927 - EPA 5030B (Water)</b>										
<b>LCS (B4D0927-BS1)</b>					Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	53.9	2.00	ug/L	50.0		108	70-130			
1,3,5-Trimethylbenzene	46.7	2.00	"	50.0		93.4	70-130			
Benzene	58.0	1.00	"	50.0		116	70-130			
Ethylbenzene	52.2	1.00	"	50.0		104	70-130			
m,p-Xylene	106	2.00	"	100		106	70-130			
Naphthalene	50.5	2.00	"	50.0		101	70-130			
o-Xylene	52.7	1.00	"	50.0		105	70-130			
Toluene	47.8	1.00	"	50.0		95.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.0	70-130			
Surrogate: Toluene-d8	68		"	62.5		108	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	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 B4D0927 - EPA 5030B (Water)**

Matrix Spike (B4D0927-MS1)		Source: Y404248-09			Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	48.2	2.00	ug/L	50.0	0.850	94.6	70-130			
1,3,5-Trimethylbenzene	42.3	2.00	"	50.0	0.970	82.7	70-130			
Benzene	39.6	1.00	"	50.0	0.120	78.9	70-130			
Ethylbenzene	46.8	1.00	"	50.0	0.210	93.2	70-130			
m,p-Xylene	98.8	2.00	"	100	1.66	97.2	70-130			
Naphthalene	44.0	2.00	"	50.0	0.200	87.7	70-130			
o-Xylene	47.8	1.00	"	50.0	0.500	94.7	70-130			
Toluene	41.0	1.00	"	50.0	0.430	81.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.2	70-130			
Surrogate: Toluene-d8	74		"	62.5		118	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Project Number: [none]  
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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
<b>Batch B4D0927 - EPA 5030B (Water)</b>										
<b>Matrix Spike Dup (B4D0927-MSD1)</b>			<b>Source: Y404248-09</b>		Prepared: 04/09/2024 Analyzed: 04/09/2024					
1,2,4-Trimethylbenzene	62.3	2.00	ug/L	50.0	0.850	123	70-130	25.6	20	QR-02
1,3,5-Trimethylbenzene	54.4	2.00	"	50.0	0.970	107	70-130	25.0	20	QR-02
Benzene	63.7	1.00	"	50.0	0.120	127	70-130	46.6	20	QR-02
Ethylbenzene	59.3	1.00	"	50.0	0.210	118	70-130	23.5	20	QR-02
m,p-Xylene	122	2.00	"	100	1.66	120	70-130	21.0	20	QR-02
Naphthalene	58.7	2.00	"	50.0	0.200	117	70-130	28.5	20	QR-02
o-Xylene	62.1	1.00	"	50.0	0.500	123	70-130	26.0	20	QR-02
Toluene	55.8	1.00	"	50.0	0.430	111	70-130	30.6	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.4	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		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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**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 B4D0923 - EPA 3050B**

**Blank (B4D0923-BLK1)**

Prepared: 04/09/2024 Analyzed: 04/10/2024

Arsenic	ND	0.290	mg/kg
Barium	ND	10.0	"
Cadmium	ND	0.100	"
Copper	ND	10.0	"
Lead	ND	1.00	"
Selenium	ND	0.260	"

**LCS (B4D0923-BS1)**

Prepared: 04/09/2024 Analyzed: 04/10/2024

Arsenic	5.37	0.290	mg/kg	5.00	107	80-120
Barium	552	10.0	"	500	110	80-120
Cadmium	5.50	0.100	"	5.00	110	80-120
Copper	55.9	10.0	"	50.0	112	80-120
Lead	5.41	1.00	"	5.00	108	80-120
Selenium	10.7	0.260	"	9.50	113	80-120

**Matrix Spike (B4D0923-MS1)**

Source: Y404248-01

Prepared: 04/09/2024 Analyzed: 04/10/2024

Arsenic	7.42	0.252	mg/kg	4.34	3.58	88.5	75-125
Barium	536	8.68	"	434	70.7	107	75-125
Cadmium	4.74	0.0868	"	4.34	0.174	105	75-125
Copper	60.3	8.68	"	43.4	7.33	122	75-125
Lead	13.6	0.868	"	4.34	6.72	159	75-125
Selenium	8.71	0.226	"	8.25	0.0993	104	75-125

QM-07

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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 B4D0923 - EPA 3050B**

Matrix Spike Dup (B4D0923-MSD1)		Source: Y404248-01			Prepared: 04/09/2024 Analyzed: 04/10/2024					
Arsenic	8.61	0.287	mg/kg	4.94	3.58	102	75-125	14.8	20	
Barium	612	9.89	"	494	70.7	110	75-125	13.2	20	
Cadmium	5.63	0.0989	"	4.94	0.174	110	75-125	17.3	20	
Copper	69.8	9.89	"	49.4	7.33	126	75-125	14.5	20	QM-07
Lead	15.5	0.989	"	4.94	6.72	177	75-125	12.7	20	QM-07
Selenium	10.2	0.257	"	9.39	0.0993	108	75-125	15.9	20	

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Project: KMG - VOGL 5-8A

**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 B4D0929 - EPA 3580**

**Blank (B4D0929-BLK1)**

Prepared: 04/09/2024 Analyzed: 04/09/2024

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	200		ug/kg	200		100	60-130
Surrogate: Anthracene-d10	210		"	200		104	60-130
Surrogate: Pyrene-d10	190		"	200		94.1	60-130
Surrogate: Benzo (a) pyrene-d12	190		"	200		95.9	60-130

**LCS (B4D0929-BS1)**

Prepared: 04/09/2024 Analyzed: 04/09/2024

1-Methylnaphthalene	0.187	0.002	mg/kg	0.200		93.7	70-130
2-Methylnaphthalene	0.186	0.002	"	0.200		93.1	70-130
Acenaphthene	0.181	0.020	"	0.200		90.5	70-130
Anthracene	0.167	0.020	"	0.200		83.4	70-130

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Project Number: [none]  
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**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 B4D0929 - EPA 3580**

**LCS (B4D0929-BS1)**

Prepared: 04/09/2024 Analyzed: 04/09/2024

Benzo (a) anthracene	0.198	0.005	mg/kg	0.200		99.0	70-130
Benzo (a) pyrene	0.186	0.020	"	0.200		93.0	70-130
Benzo (b) fluoranthene	0.177	0.020	"	0.200		88.3	70-130
Benzo (g,h,i) perylene	0.189	0.020	"	0.200		94.3	70-130
Benzo (k) fluoranthene	0.186	0.020	"	0.200		93.0	70-130
Chrysene	0.183	0.020	"	0.200		91.3	70-130
Dibenz (a,h) anthracene	0.178	0.020	"	0.200		89.0	70-130
Fluoranthene	0.206	0.020	"	0.200		103	70-130
Fluorene	0.184	0.020	"	0.200		91.9	70-130
Indeno (1,2,3-cd) pyrene	0.221	0.020	"	0.200		110	70-130
Naphthalene	0.181	0.002	"	0.200		90.7	70-130
Phenanthrene	0.185	0.020	"	0.200		92.7	70-130
Pyrene	0.154	0.020	"	0.200		77.2	70-130
Surrogate: Fluorene-d10	200		ug/kg	200		99.4	60-130
Surrogate: Anthracene-d10	210		"	200		105	60-130
Surrogate: Pyrene-d10	170		"	200		82.8	60-130
Surrogate: Benzo (a) pyrene-d12	190		"	200		96.1	60-130

**Matrix Spike (B4D0929-MS1)**

**Source: Y404244-01**

Prepared: 04/09/2024 Analyzed: 04/10/2024

1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	ND	96.8	70-130
2-Methylnaphthalene	0.191	0.002	"	0.200	ND	95.5	70-130
Acenaphthene	0.188	0.020	"	0.200	ND	93.9	70-130
Anthracene	0.184	0.020	"	0.200	0.0006	91.9	70-130
Benzo (a) anthracene	0.194	0.005	"	0.200	0.001	96.5	70-130
Benzo (a) pyrene	0.198	0.020	"	0.200	0.003	97.6	70-130
Benzo (b) fluoranthene	0.195	0.020	"	0.200	0.005	95.2	70-130
Benzo (g,h,i) perylene	0.201	0.020	"	0.200	0.002	99.3	70-130

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**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 B4D0929 - EPA 3580**

Matrix Spike (B4D0929-MS1)		Source: Y404244-01			Prepared: 04/09/2024 Analyzed: 04/10/2024					
Benzo (k) fluoranthene	0.190	0.020	mg/kg	0.200	0.0004	94.8	70-130			
Chrysene	0.204	0.020	"	0.200	0.003	100	70-130			
Dibenz (a,h) anthracene	0.185	0.020	"	0.200	ND	92.6	70-130			
Fluoranthene	0.220	0.020	"	0.200	0.002	109	70-130			
Fluorene	0.192	0.020	"	0.200	ND	96.0	70-130			
Indeno (1,2,3-cd) pyrene	0.183	0.020	"	0.200	0.001	90.8	70-130			
Naphthalene	0.188	0.002	"	0.200	ND	93.8	70-130			
Phenanthrene	0.191	0.020	"	0.200	ND	95.3	70-130			
Pyrene	0.178	0.020	"	0.200	0.003	87.9	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.8	60-130			
Surrogate: Anthracene-d10	210		"	200		104	60-130			
Surrogate: Pyrene-d10	180		"	200		90.2	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		98.9	60-130			

Matrix Spike Dup (B4D0929-MSD1)		Source: Y404244-01			Prepared: 04/09/2024 Analyzed: 04/09/2024					
1-Methylnaphthalene	0.192	0.002	mg/kg	0.200	ND	95.8	70-130	1.06	20	
2-Methylnaphthalene	0.190	0.002	"	0.200	ND	94.9	70-130	0.629	20	
Acenaphthene	0.188	0.020	"	0.200	ND	94.0	70-130	0.147	20	
Anthracene	0.180	0.020	"	0.200	0.0006	89.6	70-130	2.50	20	
Benzo (a) anthracene	0.203	0.005	"	0.200	0.001	101	70-130	4.47	20	
Benzo (a) pyrene	0.169	0.020	"	0.200	0.003	83.1	70-130	15.8	20	
Benzo (b) fluoranthene	0.183	0.020	"	0.200	0.005	89.3	70-130	6.22	20	
Benzo (g,h,i) perylene	0.199	0.020	"	0.200	0.002	98.6	70-130	0.749	20	
Benzo (k) fluoranthene	0.180	0.020	"	0.200	0.0004	89.7	70-130	5.51	20	
Chrysene	0.207	0.020	"	0.200	0.003	102	70-130	1.59	20	
Dibenz (a,h) anthracene	0.189	0.020	"	0.200	ND	94.4	70-130	1.92	20	
Fluoranthene	0.212	0.020	"	0.200	0.002	105	70-130	3.35	20	

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Tasman Geosciences  
6855 West 119th Avenue  
Broomfield CO 80020

Andy Sagen  
Project Number: [none]  
Project: KMG - VOGL 5-8A

**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
<b>Batch B4D0929 - EPA 3580</b>										
<b>Matrix Spike Dup (B4D0929-MSD1)</b>		<b>Source: Y404244-01</b>			Prepared: 04/09/2024 Analyzed: 04/09/2024					
Fluorene	0.192	0.020	mg/kg	0.200	ND	95.8	70-130	0.145	20	
Indeno (1,2,3-cd) pyrene	0.193	0.020	"	0.200	0.001	95.7	70-130	5.19	20	
Naphthalene	0.186	0.002	"	0.200	ND	93.0	70-130	0.817	20	
Phenanthrene	0.183	0.020	"	0.200	ND	91.6	70-130	3.95	20	
Pyrene	0.183	0.020	"	0.200	0.003	90.2	70-130	2.56	20	
Surrogate: Fluorene-d10	200		ug/kg	200		98.4	60-130			
Surrogate: Anthracene-d10	210		"	200		105	60-130			
Surrogate: Pyrene-d10	190		"	200		92.5	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

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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 B4D1103 - DTPA Sorbitol Preparation**

**Blank (B4D1103-BLK1)**

Prepared: 04/11/2024 Analyzed: 04/12/2024

Boron ND 0.100 mg/L

**Duplicate (B4D1103-DUP1)**

**Source: Y404248-06**

Prepared: 04/11/2024 Analyzed: 04/12/2024

Boron 0.463 0.0988 mg/L 0.454 1.98 50

**Batch B4D1108 - Saturated Paste Metals**

**Blank (B4D1108-BLK1)**

Prepared: 04/11/2024 Analyzed: 04/12/2024

Calcium PPM ND 10.0 mg/L

SAR ND 0.0100 SAR

Magnesium PPM ND 10.0 mg/L

Sodium PPM ND 10.0 "

**Duplicate (B4D1108-DUP1)**

**Source: Y404288-01**

Prepared: 04/11/2024 Analyzed: 04/12/2024

SAR ND 0.0100 SAR 1.80 200

Calcium PPM 22.5 10.0 mg/L 16.9 28.1 50

Magnesium PPM 5.96 10.0 " 4.46 28.8 50

Sodium PPM 39.6 10.0 " 32.1 20.7 50

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**Saturated Paste - Quality Control**  
**Origins Laboratory, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4D1020 - Saturated Paste pH/EC</b>										
<b>Duplicate (B4D1020-DUP1)</b>		<b>Source: Y403236-02</b>			Prepared: 04/10/2024 Analyzed: 04/11/2024					
pH	8.38		pH Units		8.56			2.13	25	
<b>Batch B4D1114 - Saturated Paste pH/EC</b>										
<b>Blank (B4D1114-BLK1)</b>		Prepared: 04/11/2024 Analyzed: 04/12/2024								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
<b>Duplicate (B4D1114-DUP1)</b>		<b>Source: Y404288-01</b>			Prepared: 04/11/2024 Analyzed: 04/15/2024					
Specific Conductance (EC)	0.368	0.00500	mmhos/cm		0.301			19.9	25	

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Project Number: [none]  
Project: KMG - VOGL 5-8A

## 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
<b>Batch 2596379 - SW846 3060A</b>										
<b>BLANK (1205702543-BLK)</b>					Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	ND	0.353	mg/kg				-			U
<b>LCS (1205702544-BKS)</b>					Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	3.48	0.349	mg/kg	3.49		99.7	80-120			
<b>DUP (1205702545 D)</b>					Source: 662739001 Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	ND	0.356	mg/kg dry		<0.142		0-50	N/A	50	U
<b>MS (1205702546 S)</b>					Source: 662739001 Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	0.687	0.310	mg/kg dry	3.10	<0.124	22.1	75-125			
<b>DUP (1205702547 D)</b>					Source: 662739011 Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	ND	0.381	mg/kg dry		<0.152		0-50	N/A	50	U
<b>MS (1205702548 S)</b>					Source: 662739011 Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	2.98	0.363	mg/kg dry	3.63	<0.145	81.9	75-125			
<b>ILCS (1205702549-ILCS)</b>					Prepared: 04/12/2024 Analyzed: 04/16/2024					
Hexavalent Chromium	7.79	0.387	mg/kg	7.81		99.8	80-120			

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Project: KMG - VOGL 5-8A

## Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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 on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

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