



April 11, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - Brown 14-1A TB

Project Number - -

Attached are your analytical results for KMG - Brown 14-1A TB received by Origins Laboratory, Inc. March 29, 2022. This project is associated with Origins project number Y203755-01.

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

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST-B01@6"	Y203755-01	Soil	March 29, 2022 14:06	03/29/2022 18:12
AST-B04@3"	Y203755-02	Soil	March 29, 2022 14:08	03/29/2022 18:12
SEP-B01@3'	Y203755-03	Soil	March 29, 2022 14:10	03/29/2022 18:12
SEP-B02@3'	Y203755-04	Soil	March 29, 2022 0:00	03/29/2022 18:12

Origins Laboratory, Inc.



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Tasman Geosciences
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Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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page of

4203755

ORIGINS LABORATORY, INC

Client: OXY/Tasman
Address: _____
Telephone Number: _____
Email Address: mjahn@tasman-geo.com

Project Manager: Mike Jahn
Project Name: Brown 14-1A TB
Project Number: _____
Samples Collected By: P. Dawns

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa	Conister #	Other		Green
AST-601@6"	3-29-22	14:06	2	X						X				Full 915 added to
AST-604@3"	14:08													AST-604@3" per 2
SEP-601@3'	14:10													the email form
SEP-602@3'														Brandon on 3/30/22
														90 5
														6
														7
														8
														9
														10
Relinquished By: <u>P. Dawns</u>	Date: <u>3-29-22</u>	Time: <u>18:12</u>	Received By: <u>JA</u>	Date: <u>3/29/22</u>	Time: <u>18:12</u>	Received By: <u>JA</u>	Date: <u>3/29/22</u>	Time: <u>18:12</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard					

Temp Received: 3.8 Date Results Needed

Origins Laboratory, Inc.

J. Bynon

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4205755 Client: Tasman
Client Project ID: EXCUN 14-1A TB

Checklist Completed by: AKH Shipped Via: 41D
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 3/29/12 Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
Cooler Number/Temperature: 11306 °C / _____ °C / _____ °C (Describe) _____ °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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

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

Kelly Jahn
Reviewed by (Project Manager)

3/29/12
Date/Time Reviewed

Origins Laboratory, Inc.

J. Bynon

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

AST-B01@6"

3/29/2022 2:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203755-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2925	03/29/2022	03/30/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	94.2 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

Benzene	ND	0.00200	mg/kg	1	B2C2927	03/29/2022	03/30/2022	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	109 %	70-130	"	"	"
Surrogate: Toluene-d8	96.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.7 %	70-130	"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

AST-B04@3"

3/29/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203755-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B2C3009	03/30/2022	03/31/2022
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	112	25.0	mg/kg	1	B2C2925	03/29/2022	03/30/2022
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	" U

Surrogate: o-Terphenyl	94.3 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

Benzene	ND	0.00200	mg/kg	1	B2C2927	03/29/2022	03/30/2022	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Naphthalene	0.0381	0.0100	"	"	"	"	"	
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	0.0206	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.64	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130	"	"	"
Surrogate: Toluene-d8	96.0 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

Origins Laboratory, Inc.



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Mike Jahn
Project Number: -
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AST-B04@3"

3/29/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203755-02 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	2.90	0.499	meq/L	10	[CALC]	03/30/2022	04/01/2022
Magnesium	0.955	0.823	"	"	"	"	"
Sodium	1.00	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.00641	0.000364	0.00067	mg/Kg	1	L609000	04/06/2022	04/06/2022
2-Methylnaphthalene	0.0129	0.000645	0.00067	"	"	"	"	"
Acenaphthene	0.0014	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	0.00212	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	0.000585	0.000484	0.00067	"	"	"	"	" J
Pyrene	ND	0.000643	0.00067	"	"	"	"	"
Surrogate: 2-Fluorobiphenyl	68.2 %		33-115			"	"	"

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Project Number: -
Project: KMG - Brown 14-1A TB

AST-B04@3"
3/29/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203755-02 (Soil)

PAH by 8270D SIM

Surrogate: 4-Terphenyl-d14	89.5 %		33-122			L609000	04/06/2022	04/06/2022	
Surrogate: Nitrobenzene-d5	52.6 %		29-110			"	"	"	

pH in Soil by 9045D

pH	6.50			pH Units	1	B2C3011	03/31/2022	04/01/2022	
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SAR by 20B Saturated Paste

SAR	0.721			SAR	1	B2C3007	03/30/2022	04/01/2022	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.479		0.00500	mmhos/cm	1	B2C3013	03/31/2022	04/01/2022	
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Total Metals by 6020B

Arsenic	2	0.0855	0.25	mg/Kg	5	L608405	04/01/2022	04/05/2022	
Barium	65.2	0.042	0.25	"	"	"	"	"	
Cadmium	0.0479	0.0259	0.25	"	"	"	"	"	J
Copper	5.27	0.0806	0.25	"	"	"	"	"	
Lead	5.94	0.031	0.25	"	"	"	"	"	
Nickel	4.62	0.0633	0.25	"	"	"	"	"	
Selenium	0.352	0.103	0.25	"	"	"	"	"	
Silver	0.0163	0.0067	0.25	"	"	"	"	"	J

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

AST-B04@3"

3/29/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203755-02 (Soil)

Total Metals by 6020B

Zinc	20.4	0.534	2.5	mg/Kg	5	L608405	04/01/2022	04/05/2022
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Total Metals by 7196A

Chromium, Hexavalent	ND	0.25	0.513	mg/Kg	1	L609418	03/29/2022	04/07/2022
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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

SEP-B01@3'
3/29/2022 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203755-03 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2925	03/29/2022	03/30/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 90.5 % 50-150 " " "

GBTEX+TMBs by 8260D

Benzene	ND	0.00200	mg/kg	1	B2C2927	03/29/2022	03/30/2022	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 110 % 70-130 " " "
Surrogate: Toluene-d8 95.2 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 98.2 % 70-130 " " "

Origins Laboratory, Inc.



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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

SEP-B02@3'

3/29/2022 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203755-04 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C2929	03/29/2022	03/30/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 93.5 % 50-150 " " "

GBTEX+TMBs by 8260D

Benzene	ND	0.00200	mg/kg	1	B2C2927	03/29/2022	03/30/2022	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 111 % 70-130 " " "
Surrogate: Toluene-d8 95.8 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 98.2 % 70-130 " " "

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Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C2925 - EPA 3580										
Blank (B2C2925-BLK1)					Prepared: 03/29/2022 Analyzed: 03/29/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	21		"	24.9		84.0	50-150			

Origins Laboratory, Inc.



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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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 B2C2925 - EPA 3580

LCS (B2C2925-BS1)

Prepared: 03/29/2022 Analyzed: 03/29/2022

Diesel (C10-C28)	886	50.0	mg/kg	1000		88.6	70-130			
Residual Range Organics (C28-C40)	955	200	"	1000		95.5	70-130			
Surrogate: o-Terphenyl	50		"	49.8		100	50-150			

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Project Number: -
Project: KMG - Brown 14-1A TB

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 B2C2925 - EPA 3580

Matrix Spike (B2C2925-MS1)		Source: Y203493-01			Prepared: 03/29/2022 Analyzed: 03/29/2022					
Diesel (C10-C28)	816	50.0	mg/kg	1000	ND	81.6	70-130			
Residual Range Organics (C28-C40)	975	200	"	1000	ND	97.5	70-130			
Surrogate: o-Terphenyl	47		"	49.8		93.7	50-150			

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Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C2925 - EPA 3580										
Matrix Spike Dup (B2C2925-MSD1)		Source: Y203493-01			Prepared: 03/29/2022 Analyzed: 03/29/2022					
Diesel (C10-C28)	838	50.0	mg/kg	1000	ND	83.8	70-130	2.68	35	
Residual Range Organics (C28-C40)	981	200	"	1000	ND	98.1	70-130	0.627	35	
Surrogate: o-Terphenyl	49		"	49.8		97.8	50-150			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C2927 - EPA 5030 (soil)										
Blank (B2C2927-BLK1)					Prepared: 03/29/2022 Analyzed: 03/29/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.5	70-130			

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Project Number: -
Project: KMG - Brown 14-1A TB

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
Batch B2C2927 - EPA 5030 (soil)										
LCS (B2C2927-BS1)					Prepared: 03/29/2022 Analyzed: 03/29/2022					
1,2,4-Trimethylbenzene	0.104	0.00200	mg/kg	0.100		104	70-130			
1,3,5-Trimethylbenzene	0.107	0.00200	"	0.100		107	70-130			
Benzene	0.0936	0.00200	"	0.100		93.6	70-130			
Ethylbenzene	0.0987	0.00200	"	0.100		98.7	70-130			
Naphthalene	0.101	0.0100	"	0.100		101	70-130			
Toluene	0.0950	0.00200	"	0.100		95.0	70-130			
o-Xylene	0.0980	0.00200	"	0.100		98.0	70-130			
m,p-Xylene	0.197	0.00400	"	0.200		98.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.1	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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
Batch B2C2927 - EPA 5030 (soil)										
Matrix Spike (B2C2927-MS1)		Source: Y203745-01			Prepared: 03/29/2022 Analyzed: 03/29/2022					
1,2,4-Trimethylbenzene	0.0634	0.00200	mg/kg	0.100	0.00510	58.3	70-130			QM-07
1,3,5-Trimethylbenzene	0.0680	0.00200	"	0.100	0.00926	58.8	70-130			QM-07
Benzene	0.0668	0.00200	"	0.100	0.00722	59.6	70-130			QM-07
Ethylbenzene	0.0599	0.00200	"	0.100	ND	59.9	70-130			QM-07
Naphthalene	0.0554	0.0100	"	0.100	0.000600	54.8	70-130			QM-07
Toluene	0.103	0.00200	"	0.100	0.0470	55.9	70-130			QM-07
o-Xylene	0.0735	0.00200	"	0.100	0.0139	59.6	70-130			QM-07
m,p-Xylene	0.148	0.00400	"	0.200	0.0289	59.7	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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
Batch B2C2927 - EPA 5030 (soil)										
Matrix Spike Dup (B2C2927-MSD1)		Source: Y203745-01			Prepared: 03/29/2022 Analyzed: 03/29/2022					
1,2,4-Trimethylbenzene	0.122	0.00200	mg/kg	0.100	0.00510	117	70-130	62.9	20	QM-07
1,3,5-Trimethylbenzene	0.126	0.00200	"	0.100	0.00926	117	70-130	59.7	20	QM-07
Benzene	0.115	0.00200	"	0.100	0.00722	108	70-130	52.8	20	QM-07
Ethylbenzene	0.112	0.00200	"	0.100	ND	112	70-130	60.5	20	QM-07
Naphthalene	0.116	0.0100	"	0.100	0.000600	115	70-130	70.5	20	QM-07
Toluene	0.160	0.00200	"	0.100	0.0470	113	70-130	43.7	20	QM-07
o-Xylene	0.124	0.00200	"	0.100	0.0139	110	70-130	51.3	20	QM-07
m,p-Xylene	0.261	0.00400	"	0.200	0.0289	116	70-130	55.0	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.6	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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
Batch B2C2929 - EPA 3580										
Blank (B2C2929-BLK1)					Prepared: 03/29/2022 Analyzed: 03/30/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	26		"	24.9		104	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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 B2C2929 - EPA 3580

LCS (B2C2929-BS1)

Prepared: 03/29/2022 Analyzed: 03/30/2022

Diesel (C10-C28)	910	50.0	mg/kg	1000		91.0	70-130			
Residual Range Organics (C28-C40)	926	200	"	1000		92.6	70-130			
Surrogate: o-Terphenyl	50		"	49.8		100	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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 B2C2929 - EPA 3580

Matrix Spike (B2C2929-MS1)		Source: Y203755-04			Prepared: 03/29/2022 Analyzed: 03/30/2022					
Diesel (C10-C28)	889	50.0	mg/kg	1000	ND	88.9	70-130			
Residual Range Organics (C28-C40)	960	200	"	1000	ND	96.0	70-130			
Surrogate: o-Terphenyl	49		"	49.8		98.2	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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 B2C2929 - EPA 3580

Matrix Spike Dup (B2C2929-MSD1)		Source: Y203755-04			Prepared: 03/29/2022 Analyzed: 03/30/2022					
Diesel (C10-C28)	849	50.0	mg/kg	1000	ND	84.9	70-130	4.58	35	
Residual Range Organics (C28-C40)	991	200	"	1000	ND	99.1	70-130	3.11	35	
Surrogate: o-Terphenyl	47		"	49.8		95.1	50-150			

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6855 West 119th Avenue
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Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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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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 B2C3011 - NO PREP

Duplicate (B2C3011-DUP1)		Source: Y203750-05		Prepared: 03/31/2022 Analyzed: 04/01/2022						
pH	8.11		pH Units		8.10			0.123	25	

Batch B2C3013 - NO PREP

Blank (B2C3013-BLK1)		Prepared: 03/31/2022 Analyzed: 04/01/2022								
Specific Conductance (EC)	0.000900	0.00500	mmhos/cm							
Duplicate (B2C3013-DUP1)		Source: Y203750-05		Prepared: 03/31/2022 Analyzed: 04/01/2022						
Specific Conductance (EC)	0.789	0.00500	mmhos/cm		0.841			6.31	25	

Origins Laboratory, Inc.



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Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L609000 - 3550B

MSD (L 86265-MSD-L609000)		Source: 86265			Prepared: 04/06/2022 Analyzed: 04/06/2022					
Pyrene	0.142	0.000643	mg/Kg	0.167	86265	85	30-130	2	30	
Naphthalene	0.113	0.000484	"	0.167	86265	67.6	30-130	3.6	30	
Indeno(1,2,3-cd)pyrene	0.161	0.000627	"	0.167	86265	96.4	30-130	3.7	30	
Fluorene	0.125	0.000286	"	0.167	86265	74.8	30-130	0.7	30	
Fluoranthene	0.14	0.000394	"	0.167	86265	83.8	30-130	4.1	30	
Dibenz(a,h)anthracene	0.172	0.000614	"	0.167	86265	103	30-130	5.9	30	
Chrysene	0.113	0.000624	"	0.167	86265	67.6	30-130	0.8	30	
Benzo(b)fluoranthene	0.147	0.000585	"	0.167	86265	88	30-130	15.3	30	
Benzo(a)pyrene	0.12	0.000468	"	0.167	86265	71.8	30-130	3.3	30	
Benzo(a)anthracene	0.125	0.000493	"	0.167	86265	74.8	30-130	1.6	30	
Anthracene	0.13	0.000334	"	0.167	86265	77.8	30-130	1.5	30	
Acenaphthene	0.113	0.000304	"	0.167	86265	67.6	30-130	0.8	30	
2-Methylnaphthalene	0.118	0.000645	"	0.167	86265	70.6	30-130	3.4	30	
1-Methylnaphthalene	0.119	0.000364	"	0.167	86265	71.2	30-130	3.4	30	
Benzo(k)fluoranthene	0.109	0.000437	"	0.167	86265	65.2	30-130	14.4	30	
Surrogate: Nitrobenzene-d5	55.8		"	0.333	177	55.8	29-110			
Surrogate: 4-Terphenyl-d14	101		"	0.333	259	101	33-122			
Surrogate: 2-Fluorobiphenyl	75.6		"	0.333	222	75.6	33-115			

MS (L 86265-MS-L609000)		Source: 86265			Prepared: 04/06/2022 Analyzed: 04/06/2022					
Benzo(a)anthracene	0.123	0.000493	mg/Kg	0.163	86265	75.4	30-130			
1-Methylnaphthalene	0.115	0.000364	"	0.163	86265	70.5	30-130			
2-Methylnaphthalene	0.114	0.000645	"	0.163	86265	69.9	30-130			
Indeno(1,2,3-cd)pyrene	0.155	0.000627	"	0.163	86265	95	30-130			
Acenaphthene	0.112	0.000304	"	0.163	86265	68.7	30-130			
Pyrene	0.145	0.000643	"	0.163	86265	88.9	30-130			
Naphthalene	0.109	0.000484	"	0.163	86265	66.8	30-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L609000 - 3550B

MS (L 86265-MS-L609000)		Source: 86265			Prepared: 04/06/2022 Analyzed: 04/06/2022					
Fluorene	0.126	0.000286	mg/Kg	0.163	86265	77.3	30-130			
Fluoranthene	0.146	0.000394	"	0.163	86265	89.5	30-130			
Dibenz(a,h)anthracene	0.162	0.000614	"	0.163	86265	99.3	30-130			
Chrysene	0.112	0.000624	"	0.163	86265	68.7	30-130			
Benzo(k)fluoranthene	0.126	0.000437	"	0.163	86265	77.3	30-130			
Benzo(b)fluoranthene	0.126	0.000585	"	0.163	86265	77.3	30-130			
Benzo(a)pyrene	0.116	0.000468	"	0.163	86265	71.1	30-130			
Anthracene	0.132	0.000334	"	0.163	86265	80.9	30-130			
Surrogate: 2-Fluorobiphenyl	80.6		"	0.326	222	80.6	33-115			
Surrogate: 4-Terphenyl-d14	120		"	0.326	259	120	33-122			
Surrogate: Nitrobenzene-d5	56.4		"	0.326	177	56.4	29-110			

LCS (LCS-L609000)		Prepared: 04/06/2022 Analyzed: 04/06/2022								
Benzo(b)fluoranthene	0.141	0.000585	mg/Kg	0.167		84.4	30-130			
Acenaphthene	0.12	0.000304	"	0.167		71.8	30-130			
Anthracene	0.143	0.000334	"	0.167		85.6	30-130			
Benzo(a)anthracene	0.126	0.000493	"	0.167		75.4	30-130			
Benzo(a)pyrene	0.12	0.000468	"	0.167		71.8	30-130			
Benzo(k)fluoranthene	0.128	0.000437	"	0.167		76.6	30-130			
Chrysene	0.125	0.000624	"	0.167		74.8	30-130			
Dibenz(a,h)anthracene	0.167	0.000614	"	0.167		100	30-130			
Fluoranthene	0.147	0.000394	"	0.167		88	30-130			
Fluorene	0.135	0.000286	"	0.167		80.8	30-130			
Naphthalene	0.122	0.000484	"	0.167		73	30-130			
1-Methylnaphthalene	0.129	0.000364	"	0.167		77.2	30-130			
Pyrene	0.149	0.000643	"	0.167		89.2	30-130			
Indeno(1,2,3-cd)pyrene	0.166	0.000627	"	0.167		99.4	30-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L609000 - 3550B										
LCS (LCS-L609000)					Prepared: 04/06/2022 Analyzed: 04/06/2022					
2-Methylnaphthalene	0.127	0.000645	mg/Kg	0.167		76	30-130			
Surrogate: Nitrobenzene-d5	64.8		"	0.333	64.8		29-110			
Surrogate: 2-Fluorobiphenyl	93		"	0.333	93		33-115			
Surrogate: 4-Terphenyl-d14	119		"	0.333	119		33-122			
LRB (LRB-L609000)					Prepared: 04/06/2022 Analyzed: 04/06/2022					
Acenaphthene	ND	0.00067	mg/Kg				-			
Pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Surrogate: 2-Fluorobiphenyl	69.6		"	0.333	69.6		33-115			
Surrogate: 4-Terphenyl-d14	77.4		"	0.333	77.4		33-122			
Surrogate: Nitrobenzene-d5	51.9		"	0.333	51.9		29-110			

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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L608405 - 3050B										
MSD (L 86402-MSD-L608405)			Source: 86402		Prepared: 04/01/2022 Analyzed: 04/05/2022					
Barium	25.7	0.042	mg/Kg	4.84	19.6	126	75-125	12.3	80	*
Copper	8.69	0.0806	"	2.42	6.81	78	75-125	4.7	80	
Arsenic	3.45	0.0855	"	2.42	1.16	95	75-125	14	80	
Cadmium	0.537	0.0259	"	0.484	0.136	83	75-125	4.3	80	
Nickel	10.2	0.0633	"	2.42	7.66	105	75-125	5.2	80	
Selenium	4.54	0.103	"	4.84	0.41	85	75-125	5.3	80	
Silver	0.501	0.0067	"	0.484	0.0203	99	75-125	0.4	80	
Zinc	65.5	0.534	"	24.2	45	85	75-125	0.1	80	
Lead	9.31	0.031	"	2.42	6.99	96	75-125	17.5	80	
MS (L 86402-MS-L608405)			Source: 86402		Prepared: 04/01/2022 Analyzed: 04/05/2022					
Copper	9.11	0.0806	mg/Kg	2.35	6.81	98	75-125			
Lead	11.1	0.031	"	2.35	6.99	175	75-125			*
Nickel	9.68	0.0633	"	2.35	7.66	86	75-125			
Selenium	4.79	0.103	"	4.71	0.41	93	75-125			
Silver	0.499	0.0067	"	0.471	0.0203	102	75-125			
Cadmium	0.561	0.0259	"	0.471	0.136	90	75-125			
Barium	22.7	0.042	"	4.71	19.6	66	75-125			*
Arsenic	3.97	0.0855	"	2.35	1.16	119	75-125			
Zinc	65.4	0.534	"	23.5	45	87	75-125			
LCS (LCS-L608405)			Prepared: 04/01/2022 Analyzed: 04/05/2022							
Arsenic	2.56	0.0855	mg/Kg	2.5		102	80-120			
Selenium	4.96	0.103	"	5		99	80-120			
Silver	0.478	0.0067	"	0.5		96	80-120			
Zinc	24.3	0.534	"	25		97	80-120			
Lead	2.36	0.031	"	2.5		94	80-120			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L608405 - 3050B										
LCS (LCS-L608405)					Prepared: 04/01/2022 Analyzed: 04/05/2022					
Copper	2.39	0.0806	mg/Kg	2.5		96	80-120			
Nickel	2.48	0.0633	"	2.5		99	80-120			
Barium	4.92	0.042	"	5		98	80-120			
Cadmium	0.485	0.0259	"	0.5		97	80-120			
LRB (LRB-L608405)					Prepared: 04/01/2022 Analyzed: 04/05/2022					
Selenium	ND	0.25	mg/Kg				-			
Silver	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Barium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Zinc	ND	2.5	"				-			

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

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L609418 -										
DUP (L 86271-DUP)		Source: 86271			Prepared: Analyzed: 04/07/2022					
Chromium, Hexavalent	ND	1.22	mg/Kg		86271	-		0	20	
MS (L 86271-MS)		Source: 86271			Prepared: Analyzed: 04/07/2022					
Chromium, Hexavalent	9.87	1.27	mg/Kg	8.33	86271	118	75-125			
LCS (LCS)					Prepared: Analyzed: 04/07/2022					
Chromium, Hexavalent	7.52	0.244	mg/Kg	8		94	75-125			
LRB (LRB)					Prepared: Analyzed: 04/07/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: -
Project: KMG - Brown 14-1A TB

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.

J Estimated Value. Analyte below reported quantitation limit.

* QC Failure

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.



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.



April 26, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR- Brown 14-1A TB

Project Number - [none]

Attached are your analytical results for KMG - HSR- Brown 14-1A TB received by Origins Laboratory, Inc. March 30, 2022. This project is associated with Origins project number Y203793-01.

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW-B01@12'	Y203793-01	Soil	March 30, 2022 14:00	03/30/2022 18:32
PW-N01@10'	Y203793-02	Soil	March 30, 2022 14:02	03/30/2022 18:32
PW-S01@10'	Y203793-03	Soil	March 30, 2022 14:04	03/30/2022 18:32
PW-E01@10'	Y203793-04	Soil	March 30, 2022 14:06	03/30/2022 18:32
PW-W01@10'	Y203793-05	Soil	March 30, 2022 14:08	03/30/2022 18:32
PW-N02@3'	Y203793-06	Soil	March 30, 2022 14:10	03/30/2022 18:32
BG01@3"	Y203793-07	Soil	March 30, 2022 14:12	03/30/2022 18:32
BG01@3'	Y203793-08	Soil	March 30, 2022 14:14	03/30/2022 18:32
BG02@3"	Y203793-09	Soil	March 30, 2022 14:16	03/30/2022 18:32
BG02@3'	Y203793-10	Soil	March 30, 2022 14:18	03/30/2022 18:32
BG03@3"	Y203793-11	Soil	March 30, 2022 14:00	03/30/2022 18:32
BG03@3'	Y203793-12	Soil	March 30, 2022 14:00	03/30/2022 18:32
BG04@3"	Y203793-13	Soil	March 30, 2022 14:00	03/30/2022 18:32
BG04@3'	Y203793-14	Soil	March 30, 2022 14:00	03/30/2022 18:32

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

Mike Jahn

Project Number: [none]

Project: KMG - HSR- Brown 14-1A TB

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

www.originslaboratory.com

page 1 of 2

1205793

ORIGINS LABORATORY, INC

Client: OXY/Tasman
Address:
Telephone Number:
Email Address: m.jahn@tasman-geo.com

Project Manager: Mike Jahn
Project Name: HSR-Brown 14-1A TB
Project Number:

Samples Collected By: P. Downs
PATH added to BOL, NO1, NO2, SO1 & WO1
per Brandon's email on 3/19

Sample IDs raised per the email from Brandon on 3/12/20

Sample ID Description	Date Sampled	Time Sampled	Preservative				Matrix		Analysis		Sample Instructions
			Unpreserved	HCl	HNO ₃	Other	Soil	Air Summa	EC	GC/MS	
BOL	3-30-22	14:00	X				X		X		Table 915 on hold
PW-801@13'		14:02							X		
PW-801@10'		14:04							X		
PW-801@10'		14:06							X		
PW-801@10'		14:08							X		
PW-801@10'		14:10							X		
PW-801@10'		14:12							X		
PW-801@10'		14:14							X		
PW-801@10'		14:16							X		
PW-801@10'		14:18							X		
BG01@3"											Table 915 on hold
BG01@3"											
BG02@3"											Table 915 metals
BG02@3"											
BG02@3"											
BG02@3"											

Relinquished By: P. Downs
Relinquished By:

Date: 3-30-22
Date:

Time: 18:32
Time:

Received By: KH
Received By:

Date: 3/30/22
Date:

Time: 24 Hr
Time:

Turnaround Time: 24 Hr
Turnaround Time: 48 Hr
Turnaround Time: 72 Hr

Temp Received: 9.0
Date Results Needed

Origins Laboratory, Inc.

Jefe 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.

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

ORIGINS

LABORATORY, INC.

www.originslaboratory.com

YU3793

page 2 of 2

Client: OXY/Tasman
Address: _____

Telephone Number: _____
Email Address: Miguel.tasman-geo.com

Project Manager: Mike Jahn
Project Name: HSL-Brown 14-1A TB
Project Number: _____
Samples Collected By: P. Downs

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis					Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	Fc	pH	SAC	Boron		Toxicity
BG 03 @ 3"	3-30-22	14:20	2	X						X			X	X	X	X	
BG 03 @ 3'		14:22															
BG 04 @ 3"		14:24															
BG 04 @ 3'	↓	14:26	↓	↓						↓			↓	↓	↓	↓	
Relinquished By: <u>Pat Downs</u>	Date: 3-30-22	Time: 18:32	Received By: <u>KH</u>	Date: 3/30/22	Time: 18:32	Same Day? <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/>	Turnaround Time:										
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	48 Hr <input type="checkbox"/> Standard <input type="checkbox"/>											

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Temp Received-

Date Results Needed

Origins Laboratory, Inc.

Jeff Pellgrini

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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

Sample Receipt Checklist

Origins Work Order: 420373 Client: Tasman
Client Project ID: Brown 14-1A TB

Checklist Completed by: SKH Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 3/30/22 Airbill #: AB

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
Cooler Number/Temperature: 1 19.6 c / _____ °C / _____ °C (Describe) _____ °C
Thermometer ID: TC04

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

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

Devin J
Reviewed by (Project Manager)

3/30/22
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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-B01@12'
3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	86.1 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3042	03/30/2022	03/30/2022	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	109 %	70-130	"	"	"
Surrogate: Toluene-d8	95.8 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-B01@12'
3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-01 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	56.9 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	71.4 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	65.7 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-N01@10'
3/30/2022 2:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 90.5 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00374	0.00200	mg/kg	1	B2C3042	03/30/2022	03/31/2022	
1,3,5-Trimethylbenzene	0.00260	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Naphthalene	ND	0.00380	"	"	"	"	"	U
Toluene	ND	0.00200	"	"	"	"	"	U
Xylenes, total	0.00436	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.301	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 112 % 70-130 " " "
Surrogate: Toluene-d8 93.5 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-N01@10'
3/30/2022 2:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-02 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	56.3 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	74.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	66.4 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-S01@10'
3/30/2022 2:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-03 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 89.8 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3042	03/30/2022	03/31/2022	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 108 % 70-130 " " "
Surrogate: Toluene-d8 95.7 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 98.5 % 70-130 " " "

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-S01@10'

3/30/2022 2:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-03 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	55.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	70.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	63.1 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-E01@10'
3/30/2022 2:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.160	0.100	mg/L	1	B2C3124	03/31/2022	04/01/2022	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	77.4	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	96.3 %	50-150	"	"	"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.00890	0.00200	mg/kg	1	B2C3042	03/30/2022	03/31/2022	
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	0.00486	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.472	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130	"	"	"	"	"	
Surrogate: Toluene-d8	97.2 %	70-130	"	"	"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-E01@10'
3/30/2022 2:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 4-Bromofluorobenzene 99.2 % 70-130 B2C30 42 03/30/2022 03/31/2022

Metals by Saturated Paste by EPA 6010

Calcium	2.54	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	0.905	0.823	"	"	"	"	"
Sodium	1.04	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.000402	0.000364	0.00067	mg/Kg	1	L610198	04/12/2022	04/15/2022	J
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	
Fluorene	0.000837	0.000286	0.00067	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-E01@10'
3/30/2022 2:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-04 (Soil)

PAH by 8270D SIM

Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	mg/Kg	1	L610198	04/12/2022	04/15/2022
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	0.000755	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	60.8 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	67.5 %		33-122			"	"	"
Surrogate: Nitrobenzene-d5	45.6 %		29-110			"	"	"

pH in Soil by 9045D

pH	7.90			pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.788			SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.488		0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L610895	03/30/2022	04/14/2022
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-E01@10'

3/30/2022 2:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-04 (Soil)

Total Metals by 6020B

Arsenic	1.07	0.0855	0.25	mg/Kg	5	L610158	04/11/2022	04/15/2022	
Barium	48.7	0.042	0.25	"	"	"	"	"	
Cadmium	0.0677	0.0259	0.25	"	"	"	"	"	J
Copper	4.02	0.0806	0.25	"	"	"	"	"	
Lead	4.9	0.031	0.25	"	"	"	"	"	
Nickel	4.61	0.0633	0.25	"	"	"	"	"	
Selenium	0.238	0.103	0.25	"	"	"	"	"	J
Silver	0.015	0.0067	0.25	"	"	"	"	"	J
Zinc	19.3	0.534	2.5	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-W01@10'

3/30/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-05 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 90.8 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3042	03/30/2022	03/31/2022	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 105 % 70-130 " " "
Surrogate: Toluene-d8 97.0 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.2 % 70-130 " " "

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-W01@10'

3/30/2022 2:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-05 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	0.00133	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	60.1 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	79 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	67.4 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-N02@3'
3/30/2022 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-06 (Soil)

Boron (DTPA Sorbitol)

Boron	0.0986	0.0986	mg/L	1	B2C3124	03/31/2022	04/01/2022	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2C3040	03/30/2022	03/31/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	79.9 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2C3042	03/30/2022	03/31/2022	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

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-N02@3'

3/30/2022 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-06 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	B2C30 42	03/30/2022	03/31/2022
Surrogate: Toluene-d8	97.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.7 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	4.41	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	1.37	0.823	"	"	"	"	"
Sodium	1.21	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PW-N02@3'

3/30/2022 2:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-06 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	60.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	76.8 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	68.1 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.74	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.711	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.789	0.00500 mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG01@3"

3/30/2022 2:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-07 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0990	mg/L	1	B2C3124	03/31/2022	04/01/2022	U
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Metals by Saturated Paste by EPA 6010

Calcium	1.83	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.726	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.66	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.637	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.375	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	1.16	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	54.8	0.042	0.25	"	"	"	"	"
Cadmium	0.0383	0.0259	0.25	"	"	"	"	J
Copper	4.69	0.0806	0.25	"	"	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG01@3"

3/30/2022 2:12:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-07 (Soil)

Total Metals by 6020B

Lead	3.88	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	4.37	0.0633	0.25	"	"	"	"	"	
Selenium	0.277	0.103	0.25	"	"	"	"	"	
Silver	0.0151	0.0067	0.25	"	"	"	"	"	J
Zinc	19.5	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L610890	03/30/2022	04/14/2022	
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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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG01@3'
3/30/2022 2:14:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-08 (Soil)

Boron (DTPA Sorbitol)

Boron	0.283	0.101	mg/L	1	B2C3124	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	1.34	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.50	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.187	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.230	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	1.28	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	62.7	0.042	0.25	"	"	"	"	"
Cadmium	0.0488	0.0259	0.25	"	"	"	"	"
Copper	5.65	0.0806	0.25	"	"	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG01@3'
3/30/2022 2:14:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-08 (Soil)

Total Metals by 6020B

Lead	5.79	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	5.99	0.0633	0.25	"	"	"	"	"	
Selenium	0.197	0.103	0.25	"	"	"	"	"	J
Silver	0.0235	0.0067	0.25	"	"	"	"	"	J
Zinc	28.5	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.25	0.514	mg/Kg	1	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG02@3"

3/30/2022 2:16:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-09 (Soil)

Boron (DTPA Sorbitol)

Boron	0.384	0.101	mg/L	1	B2C3124	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	2.09	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	1.03	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.34	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.0627	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.860	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	0.941	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	87.9	0.042	0.25	"	"	"	"	"
Cadmium	0.073	0.0259	0.25	"	"	"	"	"
Copper	4.91	0.0806	0.25	"	"	"	"	"

J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG02@3"

3/30/2022 2:16:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-09 (Soil)

Total Metals by 6020B

Lead	5.54	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	3.64	0.0633	0.25	"	"	"	"	"	
Selenium	0.243	0.103	0.25	"	"	"	"	"	J
Silver	0.0156	0.0067	0.25	"	"	"	"	"	J
Zinc	24.1	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	1.24	2.55	mg/Kg	5	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG02@3'
3/30/2022 2:18:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-10 (Soil)

Boron (DTPA Sorbitol)

Boron	0.101		0.101	mg/L	1	B2C3124	03/31/2022	04/01/2022	
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Metals by Saturated Paste by EPA 6010

Calcium	2.18		0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022	
Magnesium	0.856		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

pH in Soil by 9045D

pH	7.63			pH Units	1	B2D0116	04/01/2022	04/02/2022	
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SAR by 20B Saturated Paste

SAR	0.102			SAR	1	B2D0107	04/01/2022	04/04/2022	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.434		0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022	
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Total Metals by 6020B

Arsenic	1.38	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Barium	70.3	0.042	0.25	"	"	"	"	"	
Cadmium	0.0478	0.0259	0.25	"	"	"	"	"	J
Copper	5.35	0.0806	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG02@3'
3/30/2022 2:18:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-10 (Soil)

Total Metals by 6020B

Lead	5.86	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	6.85	0.0633	0.25	"	"	"	"	"	
Selenium	0.188	0.103	0.25	"	"	"	"	"	J
Silver	0.0321	0.0067	0.25	"	"	"	"	"	J
Zinc	28.5	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG03@3"

3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-11 (Soil)

Boron (DTPA Sorbitol)

Boron	1.31	0.0990	mg/L	1	B2C3125	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	2.82	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	1.44	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.68		pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.0358		SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.538	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	0.689	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	62.8	0.042	0.25	"	"	"	"	"
Cadmium	0.0849	0.0259	0.25	"	"	"	"	"
Copper	5.75	0.0806	0.25	"	"	"	"	"

J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG03@3"

3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-11 (Soil)

Total Metals by 6020B

Lead	6.08	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	3.12	0.0633	0.25	"	"	"	"	"	
Selenium	0.235	0.103	0.25	"	"	"	"	"	J
Silver	0.0141	0.0067	0.25	"	"	"	"	"	J
Zinc	35.8	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	1.22	2.51	mg/Kg	5	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG03@3'
3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-12 (Soil)

Boron (DTPA Sorbitol)

Boron	0.361	0.100	mg/L	1	B2C3125	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	2.22	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	0.897	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.33	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.143	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.664	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	1.2	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	67.6	0.042	0.25	"	"	"	"	"
Cadmium	0.0705	0.0259	0.25	"	"	"	"	"
Copper	5.91	0.0806	0.25	"	"	"	"	"

J

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG03@3'

3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-12 (Soil)

Total Metals by 6020B

Lead	6.48	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	6.07	0.0633	0.25	"	"	"	"	"	
Selenium	0.248	0.103	0.25	"	"	"	"	"	J
Silver	0.0282	0.0067	0.25	"	"	"	"	"	J
Zinc	32.2	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.488	1	mg/Kg	2	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG04@3"

3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-13 (Soil)

Boron (DTPA Sorbitol)

Boron	0.380	0.100	mg/L	1	B2C3125	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	4.99	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	2.56	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.52	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.0806	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.06	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	1.01	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	53.6	0.042	0.25	"	"	"	"	"
Cadmium	0.0532	0.0259	0.25	"	"	"	"	"
Copper	3.81	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG04@3"

3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-13 (Soil)

Total Metals by 6020B

Lead	4.4	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	2.69	0.0633	0.25	"	"	"	"	"	
Selenium	0.216	0.103	0.25	"	"	"	"	"	J
Silver	0.0126	0.0067	0.25	"	"	"	"	"	J
Zinc	20	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.502	1.03	mg/Kg	2	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG04@3'
3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y203793-14 (Soil)

Boron (DTPA Sorbitol)

Boron	0.140	0.100	mg/L	1	B2C3125	03/31/2022	04/01/2022
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Metals by Saturated Paste by EPA 6010

Calcium	2.64	0.499	meq/L	10	[CALC]	04/01/2022	04/04/2022
Magnesium	1.08	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.67	pH Units	1	B2D0116	04/01/2022	04/02/2022
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SAR by 20B Saturated Paste

SAR	0.150	SAR	1	B2D0107	04/01/2022	04/04/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.465	0.00500	mmhos/cm	1	B2D0118	04/01/2022	04/02/2022
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Total Metals by 6020B

Arsenic	1.1	0.0855	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022
Barium	68	0.042	0.25	"	"	"	"	"
Cadmium	0.0578	0.0259	0.25	"	"	"	"	"
Copper	4.89	0.0806	0.25	"	"	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

BG04@3'
3/30/2022 2:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y203793-14 (Soil)

Total Metals by 6020B

Lead	4.95	0.031	0.25	mg/Kg	5	L610438	04/13/2022	04/14/2022	
Nickel	5.41	0.0633	0.25	"	"	"	"	"	
Selenium	0.275	0.103	0.25	"	"	"	"	"	
Silver	0.0221	0.0067	0.25	"	"	"	"	"	J
Zinc	25.1	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.251	0.515	mg/Kg	1	L610890	03/30/2022	04/14/2022	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C3040 - EPA 3580										
Blank (B2C3040-BLK1)					Prepared: 03/30/2022 Analyzed: 03/31/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		93.4	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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 B2C3040 - EPA 3580

LCS (B2C3040-BS1)

Prepared: 03/30/2022 Analyzed: 03/31/2022

Diesel (C10-C28)	815	50.0	mg/kg	1000		81.5	70-130			
Residual Range Organics (C28-C40)	975	200	"	1000		97.5	70-130			
Surrogate: o-Terphenyl	45		"	49.8		89.7	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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 B2C3040 - EPA 3580

Matrix Spike (B2C3040-MS1)		Source: Y203793-01			Prepared: 03/30/2022 Analyzed: 03/31/2022					
Diesel (C10-C28)	755	50.0	mg/kg	1000	ND	75.5	70-130			
Residual Range Organics (C28-C40)	782	200	"	1000	ND	78.2	70-130			
Surrogate: o-Terphenyl	40		"	49.8		80.3	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C3040 - EPA 3580										
Matrix Spike Dup (B2C3040-MSD1)		Source: Y203793-01			Prepared: 03/30/2022 Analyzed: 03/31/2022					
Diesel (C10-C28)	828	50.0	mg/kg	1000	ND	82.8	70-130	9.20	35	
Residual Range Organics (C28-C40)	964	200	"	1000	ND	96.4	70-130	20.8	35	
Surrogate: o-Terphenyl	54		"	49.8		108	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2C3042 - EPA 5030 (soil)										
Blank (B2C3042-BLK1)					Prepared: 03/30/2022 Analyzed: 03/30/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.3	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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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
Batch B2C3042 - EPA 5030 (soil)										
LCS (B2C3042-BS1)					Prepared: 03/30/2022 Analyzed: 03/30/2022					
1,2,4-Trimethylbenzene	0.0938	0.00200	mg/kg	0.100		93.8	70-130			
1,3,5-Trimethylbenzene	0.0954	0.00200	"	0.100		95.4	70-130			
Benzene	0.0955	0.00200	"	0.100		95.5	70-130			
Ethylbenzene	0.0946	0.00200	"	0.100		94.6	70-130			
Naphthalene	0.0942	0.0100	"	0.100		94.2	70-130			
Toluene	0.0957	0.00200	"	0.100		95.7	70-130			
o-Xylene	0.0933	0.00200	"	0.100		93.3	70-130			
m,p-Xylene	0.190	0.00400	"	0.200		95.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
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Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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
Batch B2C3042 - EPA 5030 (soil)										
Matrix Spike (B2C3042-MS1)		Source: Y203788-04			Prepared: 03/30/2022 Analyzed: 03/30/2022					
1,2,4-Trimethylbenzene	0.101	0.00200	mg/kg	0.100	ND	101	70-130			
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130			
Benzene	0.104	0.00200	"	0.100	ND	104	70-130			
Ethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130			
Naphthalene	0.117	0.0100	"	0.100	0.00162	115	70-130			
Toluene	0.102	0.00200	"	0.100	ND	102	70-130			
o-Xylene	0.0996	0.00200	"	0.100	ND	99.6	70-130			
m,p-Xylene	0.205	0.00400	"	0.200	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Jen Pellegrini, Project Manager

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Tasman Geosciences
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Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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
Batch B2C3042 - EPA 5030 (soil)										
Matrix Spike Dup (B2C3042-MSD1)		Source: Y203788-04			Prepared: 03/30/2022 Analyzed: 03/30/2022					
1,2,4-Trimethylbenzene	0.0405	0.00200	mg/kg	0.100	ND	40.5	70-130	85.4	20	QM-07
1,3,5-Trimethylbenzene	0.0409	0.00200	"	0.100	ND	40.9	70-130	84.9	20	QM-07
Benzene	0.0453	0.00200	"	0.100	ND	45.3	70-130	78.9	20	QM-07
Ethylbenzene	0.0423	0.00200	"	0.100	ND	42.3	70-130	82.9	20	QM-07
Naphthalene	0.0492	0.0100	"	0.100	0.00162	47.5	70-130	81.4	20	QM-07
Toluene	0.0443	0.00200	"	0.100	ND	44.3	70-130	79.0	20	QM-07
o-Xylene	0.0418	0.00200	"	0.100	ND	41.8	70-130	81.7	20	QM-07
m,p-Xylene	0.0849	0.00400	"	0.200	ND	42.5	70-130	82.7	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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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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 B2C3124 - Default Prep Metals

Blank (B2C3124-BLK1)

Prepared: 03/31/2022 Analyzed: 04/01/2022

Boron	ND	0.100	mg/L							U
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Duplicate (B2C3124-DUP1)

Source: Y203789-09

Prepared: 03/31/2022 Analyzed: 04/01/2022

Boron	0.0395	0.0987	mg/L		0.0398			0.693	50	U
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Batch B2C3125 - Default Prep Metals

Blank (B2C3125-BLK1)

Prepared: 03/31/2022 Analyzed: 04/01/2022

Boron	ND	0.100	mg/L							U
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Duplicate (B2C3125-DUP1)

Source: Y203793-11

Prepared: 03/31/2022 Analyzed: 04/01/2022

Boron	1.70	0.0999	mg/L		1.31			26.0	50	
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Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0116 - NO PREP										
Duplicate (B2D0116-DUP1)		Source: Y203791-02			Prepared: 04/01/2022 Analyzed: 04/02/2022					
pH	8.00		pH Units		8.03			0.374	25	
Batch B2D0118 - NO PREP										
Blank (B2D0118-BLK1)		Prepared: 04/01/2022 Analyzed: 04/02/2022								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B2D0118-DUP1)		Source: Y203791-02			Prepared: 04/01/2022 Analyzed: 04/02/2022					
Specific Conductance (EC)	0.490	0.00500	mmhos/cm		0.511			4.11	25	

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

MSD (L 94940-MSD-L611893)		Source: 94940			Prepared: 04/20/2022 Analyzed: 04/24/2022					
Benzo(a)pyrene	0.099	0.000468	mg/Kg	0.165	0.00226	58.6	30-130	3.4	30	
Pyrene	0.0994	0.000643	"	0.165	0.00462	57.4	30-130	4.6	30	
Naphthalene	0.0906	0.000484	"	0.165	0.00163	53.9	30-130	10.9	30	
Indeno(1,2,3-cd)pyrene	0.0835	0.000627	"	0.165	0.00132	49.8	30-130	13.6	30	
Fluorene	0.0947	0.000286	"	0.165	0.00173	56.3	30-130	6.8	30	
Fluoranthene	0.0982	0.000394	"	0.165	0.002	58.3	30-130	2.7	30	
Dibenz(a,h)anthracene	0.0954	0.000614	"	0.165	0.00198	56.6	30-130	16.9	30	
Chrysene	0.102	0.000624	"	0.165	0.00221	60.4	30-130	5.9	30	
1-Methylnaphthalene	0.0896	0.000364	"	0.165	0.00165	53.3	30-130	9.3	30	
Benzo(b)fluoranthene	0.0875	0.000585	"	0.165	0.00155	52	30-130	5.5	30	
Benzo(a)anthracene	0.103	0.000493	"	0.165	0.00172	61.3	30-130	3.9	30	
Anthracene	0.0949	0.000334	"	0.165	0.00171	56.4	30-130	2.3	30	
Acenaphthene	0.092	0.000304	"	0.165	0.00167	54.7	30-130	8.9	30	
2-Methylnaphthalene	0.0893	0.000645	"	0.165	0.00165	53.1	30-130	11.3	30	
Benzo(k)fluoranthene	0.0988	0.000437	"	0.165	0.0024	58.4	30-130	12.7	30	
Surrogate: Nitrobenzene-d5	61.2		"	0.33	210	61.2	29-110			
Surrogate: 4-Terphenyl-d14	66.9		"	0.33	235	66.9	33-122			
Surrogate: 2-Fluorobiphenyl	53.3		"	0.33	184	53.3	33-115			

MS (L 94940-MS-L611893)		Source: 94940			Prepared: 04/20/2022 Analyzed: 04/24/2022					
Dibenz(a,h)anthracene	0.0805	0.000614	mg/Kg	0.165	0.00198	47.5	30-130			
Fluoranthene	0.0955	0.000394	"	0.165	0.002	56.6	30-130			
Fluorene	0.0884	0.000286	"	0.165	0.00173	52.5	30-130			
Indeno(1,2,3-cd)pyrene	0.0728	0.000627	"	0.165	0.00132	43.3	30-130			
Naphthalene	0.0812	0.000484	"	0.165	0.00163	48.2	30-130			
Benzo(k)fluoranthene	0.087	0.000437	"	0.165	0.0024	51.2	30-130			
Pyrene	0.0949	0.000643	"	0.165	0.00462	54.7	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

MS (L 94940-MS-L611893)		Source: 94940			Prepared: 04/20/2022 Analyzed: 04/24/2022					
Benzo(b)fluoranthene	0.0828	0.000585	mg/Kg	0.165	0.00155	49.2	30-130			
1-Methylnaphthalene	0.0816	0.000364	"	0.165	0.00165	48.4	30-130			
Benzo(a)pyrene	0.0956	0.000468	"	0.165	0.00226	56.5	30-130			
Benzo(a)anthracene	0.099	0.000493	"	0.165	0.00172	58.9	30-130			
Anthracene	0.0927	0.000334	"	0.165	0.00171	55.1	30-130			
Acenaphthene	0.0841	0.000304	"	0.165	0.00167	49.9	30-130			
2-Methylnaphthalene	0.0797	0.000645	"	0.165	0.00165	47.3	30-130			
Chrysene	0.0961	0.000624	"	0.165	0.00221	56.9	30-130			
Surrogate: Nitrobenzene-d5	54.2		"	0.33	210	54.2	29-110			
Surrogate: 4-Terphenyl-d14	65.1		"	0.33	235	65.1	33-122			
Surrogate: 2-Fluorobiphenyl	47.8		"	0.33	184	47.8	33-115			

LCS (LCS-L611893)		Prepared: 04/20/2022 Analyzed: 04/24/2022								
Pyrene	0.115	0.000643	mg/Kg	0.167		68.8	30-130			
Chrysene	0.116	0.000624	"	0.167		69.4	30-130			
Dibenz(a,h)anthracene	0.107	0.000614	"	0.167		64	30-130			
Fluoranthene	0.112	0.000394	"	0.167		67	30-130			
Fluorene	0.106	0.000286	"	0.167		63.4	30-130			
Indeno(1,2,3-cd)pyrene	0.0902	0.000627	"	0.167		54	30-130			
Benzo(a)pyrene	0.117	0.000468	"	0.167		70	30-130			
Naphthalene	0.103	0.000484	"	0.167		61.6	30-130			
Benzo(a)anthracene	0.116	0.000493	"	0.167		69.4	30-130			
Anthracene	0.11	0.000334	"	0.167		65.8	30-130			
Acenaphthene	0.101	0.000304	"	0.167		60.4	30-130			
2-Methylnaphthalene	0.0973	0.000645	"	0.167		58.2	30-130			
1-Methylnaphthalene	0.0997	0.000364	"	0.167		59.7	30-130			
Benzo(b)fluoranthene	0.09	0.000585	"	0.167		53.8	30-130			

Origins Laboratory, Inc.



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Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

LCS (LCS-L611893)

Prepared: 04/20/2022 Analyzed: 04/24/2022

Benzo(k)fluoranthene	0.118	0.000437	mg/Kg	0.167		70.6	30-130			
Surrogate: Nitrobenzene-d5	73.5		"	0.333		73.5	29-110			
Surrogate: 4-Terphenyl-d14	79.5		"	0.333		79.5	33-122			
Surrogate: 2-Fluorobiphenyl	63.9		"	0.333		63.9	33-115			

LRB (LRB-L611893)

Prepared: 04/20/2022 Analyzed: 04/24/2022

Pyrene	ND	0.00067	mg/Kg				-			
Chrysene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	71.7		"	0.333		71.7	29-110			
Surrogate: 4-Terphenyl-d14	79.8		"	0.333		79.8	33-122			
Surrogate: 2-Fluorobiphenyl	60.3		"	0.333		60.3	33-115			

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Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

MSD (L 85124-MSD-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Anthracene	0.0939	0.00167	mg/Kg	0.164	85124	57.2	30-130	13.9	30	
Acenaphthene	0.0853	0.00152	"	0.164	85124	52	30-130	10.7	30	
2-Methylnaphthalene	0.0873	0.00323	"	0.164	85124	53.2	30-130	8.7	30	
Benzo(b)fluoranthene	0.0847	0.00293	"	0.164	85124	51.6	30-130	2.2	30	
1-Methylnaphthalene	0.0954	0.00182	"	0.164	85124	58.1	30-130	8.6	30	
Pyrene	0.105	0.00322	"	0.164	85124	64	30-130	9.9	30	
Naphthalene	0.0869	0.00242	"	0.164	85124	52.9	30-130	5.9	30	
Indeno(1,2,3-cd)pyrene	0.11	0.00314	"	0.164	0.00322	65.1	30-130	14.6	30	
Fluorene	0.0938	0.00143	"	0.164	85124	57.1	30-130	8.3	30	
Fluoranthene	0.105	0.00197	"	0.164	85124	64	30-130	10.8	30	
Dibenz(a,h)anthracene	0.132	0.00307	"	0.164	85124	80.4	30-130	12	30	
Chrysene	0.0964	0.00312	"	0.164	85124	58.7	30-130	5.6	30	
Benzo(k)fluoranthene	0.0855	0.00219	"	0.164	85124	52.1	30-130	0.9	30	
Benzo(a)pyrene	0.0998	0.00234	"	0.164	0.00267	59.2	30-130	6.9	30	
Benzo(a)anthracene	0.0938	0.00247	"	0.164	85124	57.1	30-130	14	30	
Surrogate: 4-Terphenyl-d14	70.5		"	0.329	261	70.5	33-122			
Surrogate: 2-Fluorobiphenyl	60.7		"	0.329	230	60.7	33-115			
Surrogate: Nitrobenzene-d5	45.2		"	0.329	163	45.2	29-110			

MS (L 85124-MS-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Benzo(a)anthracene	0.108	0.00247	mg/Kg	0.166	85124	65	30-130			
Benzo(k)fluoranthene	0.0863	0.00219	"	0.166	85124	51.9	30-130			
Naphthalene	0.0922	0.00242	"	0.166	85124	55.5	30-130			
Indeno(1,2,3-cd)pyrene	0.095	0.00314	"	0.166	0.00322	55.2	30-130			
Fluorene	0.102	0.00143	"	0.166	85124	61.4	30-130			
Fluoranthene	0.117	0.00197	"	0.166	85124	70.4	30-130			
Dibenz(a,h)anthracene	0.117	0.00307	"	0.166	85124	70.4	30-130			

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Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

MS (L 85124-MS-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Chrysene	0.102	0.00312	mg/Kg	0.166	85124	61.4	30-130			
Benzo(b)fluoranthene	0.0828	0.00293	"	0.166	85124	49.8	30-130			
1-Methylnaphthalene	0.104	0.00182	"	0.166	85124	62.6	30-130			
2-Methylnaphthalene	0.0953	0.00323	"	0.166	85124	57.4	30-130			
Acenaphthene	0.095	0.00152	"	0.166	85124	57.2	30-130			
Anthracene	0.108	0.00167	"	0.166	85124	65	30-130			
Pyrene	0.116	0.00322	"	0.166	85124	69.8	30-130			
Benzo(a)pyrene	0.107	0.00234	"	0.166	0.00267	62.8	30-130			
Surrogate: Nitrobenzene-d5	50.6		"	0.332	163	50.6	29-110			
Surrogate: 2-Fluorobiphenyl	66.2		"	0.332	230	66.2	33-115			
Surrogate: 4-Terphenyl-d14	78.6		"	0.332	261	78.6	33-122			

LCS (LCS-L610198)		Prepared: 04/12/2022 Analyzed: 04/15/2022								
Benzo(a)pyrene	0.107	0.000468	mg/Kg	0.167		64	30-130			
2-Methylnaphthalene	0.0954	0.000645	"	0.167		57.1	30-130			
Acenaphthene	0.0905	0.000304	"	0.167		54.1	30-130			
Anthracene	0.107	0.000334	"	0.167		64	30-130			
Benzo(a)anthracene	0.105	0.000493	"	0.167		62.8	30-130			
1-Methylnaphthalene	0.0975	0.000364	"	0.167		58.3	30-130			
Pyrene	0.112	0.000643	"	0.167		67	30-130			
Benzo(k)fluoranthene	0.0937	0.000437	"	0.167		56.1	30-130			
Chrysene	0.0974	0.000624	"	0.167		58.3	30-130			
Dibenz(a,h)anthracene	0.135	0.000614	"	0.167		80.8	30-130			
Fluoranthene	0.112	0.000394	"	0.167		67	30-130			
Fluorene	0.1	0.000286	"	0.167		59.8	30-130			
Indeno(1,2,3-cd)pyrene	0.13	0.000627	"	0.167		77.8	30-130			
Benzo(b)fluoranthene	0.0991	0.000585	"	0.167		59.3	30-130			

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

LCS (LCS-L610198)

Prepared: 04/12/2022 Analyzed: 04/15/2022

Naphthalene	0.0925	0.000484	mg/Kg	0.167		55.3	30-130			
Surrogate: 2-Fluorobiphenyl	68.1		"	0.333		68.1	33-115			
Surrogate: 4-Terphenyl-d14	80.4		"	0.333		80.4	33-122			
Surrogate: Nitrobenzene-d5	50.7		"	0.333		50.7	29-110			

LRB (LRB-L610198)

Prepared: 04/12/2022 Analyzed: 04/15/2022

Anthracene	ND	0.00067	mg/Kg				-			
Acenaphthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Surrogate: 4-Terphenyl-d14	70.2		"	0.333		70.2	33-122			
Surrogate: 2-Fluorobiphenyl	64.8		"	0.333		64.8	33-115			
Surrogate: Nitrobenzene-d5	45.9		"	0.333		45.9	29-110			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L610895 -										
DUP (L 85158-DUP)		Source: Y203793-04			Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.244	mg/Kg		85158	-		0	20	
MS (L 85158-MS)		Source: Y203793-04			Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	5.86	0.244	mg/Kg	7.84	85158	75	75-125			
LCS (LCS)					Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	7.34	0.244	mg/Kg	8		92	75-125			
LRB (LRB)					Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Total Metals by 6020B - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610438 - 3050B

MSD (L 85172-MSD-L610438)		Source: 85172			Prepared: 04/13/2022 Analyzed: 04/14/2022					
Silver	0.523	0.0067	mg/Kg	0.493	0.0214	102	75-125	0	80	
Selenium	4.04	0.103	"	4.93	0.288	76	75-125	7.4	80	
Nickel	11.9	0.0633	"	2.46	7.47	180	75-125	17.3	80	*
Lead	9.03	0.031	"	2.46	5.88	128	75-125	10	80	*
Copper	9.6	0.0806	"	2.46	5.7	158	75-125	13	80	*
Barium	93.8	0.042	"	4.93	79.6	288	75-125	18.2	80	*
Zinc	56.3	0.534	"	24.6	27.9	115	75-125	5.2	80	
Arsenic	3.97	0.0855	"	2.46	1.45	102	75-125	11.4	80	
Cadmium	0.536	0.0259	"	0.493	0.0448	100	75-125	5.9	80	
MS (L 85172-MS-L610438)		Source: 85172			Prepared: 04/13/2022 Analyzed: 04/14/2022					
Cadmium	0.505	0.0259	mg/Kg	0.477	0.0448	97	75-125			
Barium	78.1	0.042	"	4.77	79.6	NR	75-125			*
Nickel	10	0.0633	"	2.38	7.47	106	75-125			
Arsenic	3.54	0.0855	"	2.38	1.45	88	75-125			
Copper	8.42	0.0806	"	2.38	5.7	114	75-125			
Zinc	53.4	0.534	"	23.8	27.9	107	75-125			
Silver	0.523	0.0067	"	0.477	0.0214	105	75-125			
Selenium	3.75	0.103	"	4.77	0.288	73	75-125			*
Lead	8.17	0.031	"	2.38	5.88	96	75-125			
LCS (LCS-L610438)		Prepared: 04/13/2022 Analyzed: 04/14/2022								
Copper	2.54	0.0806	mg/Kg	2.5		102	80-120			
Zinc	25.2	0.534	"	25		101	80-120			
Lead	2.44	0.031	"	2.5		98	80-120			
Arsenic	2.57	0.0855	"	2.5		103	80-120			
Nickel	2.5	0.0633	"	2.5		100	80-120			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Total Metals by 6020B - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610438 - 3050B

LCS (LCS-L610438)

Prepared: 04/13/2022 Analyzed: 04/14/2022

Selenium	5.08	0.103	mg/Kg	5		102	80-120			
Silver	0.503	0.0067	"	0.5		101	80-120			
Barium	4.87	0.042	"	5		97	80-120			
Cadmium	0.499	0.0259	"	0.5		100	80-120			

LRB (LRB-L610438)

Prepared: 04/13/2022 Analyzed: 04/14/2022

Zinc	ND	2.5	mg/Kg				-			
Silver	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Barium	0.0456	0.25	"				-			J
Arsenic	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Total Metals by 6020B - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610158 - 3050B

MSD (L 85691-MSD-L610158)		Source: 85691			Prepared: 04/11/2022 Analyzed: 04/15/2022					
Nickel	7.56	0.0633	mg/Kg	2.3	5.13	106	75-125	2.7	80	
Zinc	55	0.534	"	23	32.9	96	75-125	0.3	80	
Selenium	4.1	0.103	"	4.6	0.255	84	75-125	5.7	80	
Lead	10.2	0.031	"	2.3	8.71	65	75-125	3.8	80	*
Copper	8.85	0.0806	"	2.3	8.28	25	75-125	9.9	80	*
Cadmium	0.532	0.0259	"	0.46	0.172	78	75-125	18.5	80	
Barium	57.3	0.042	"	4.6	50.7	143	75-125	3.3	80	*
Arsenic	3.13	0.0855	"	2.3	1.48	72	75-125	7	80	*
Silver	0.508	0.0067	"	0.46	0.0854	92	75-125	7.3	80	

MS (L 85691-MS-L610158)		Source: 85691			Prepared: 04/11/2022 Analyzed: 04/15/2022					
Barium	55.4	0.042	mg/Kg	4.86	50.7	97	75-125			
Zinc	55.2	0.534	"	24.3	32.9	92	75-125			
Silver	0.547	0.0067	"	0.486	0.0854	95	75-125			
Selenium	3.87	0.103	"	4.86	0.255	74	75-125			*
Nickel	7.77	0.0633	"	2.43	5.13	109	75-125			
Lead	10.6	0.031	"	2.43	8.71	78	75-125			
Cadmium	0.641	0.0259	"	0.486	0.172	96	75-125			
Arsenic	3.36	0.0855	"	2.43	1.48	77	75-125			
Copper	9.78	0.0806	"	2.43	8.28	62	75-125			*

LCS (LCS-L610158)		Prepared: 04/11/2022 Analyzed: 04/15/2022								
Arsenic	2.44	0.0855	mg/Kg	2.5		98	80-120			
Zinc	25.6	0.534	"	25		102	80-120			
Barium	4.79	0.042	"	5		96	80-120			
Copper	2.62	0.0806	"	2.5		105	80-120			
Lead	2.46	0.031	"	2.5		98	80-120			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610158 - 3050B

LCS (LCS-L610158)

Prepared: 04/11/2022 Analyzed: 04/15/2022

Nickel	2.75	0.0633	mg/Kg	2.5		110	80-120			
Selenium	4.84	0.103	"	5		97	80-120			
Cadmium	0.508	0.0259	"	0.5		102	80-120			
Silver	0.533	0.0067	"	0.5		107	80-120			

LRB (LRB-L610158)

Prepared: 04/11/2022 Analyzed: 04/15/2022

Zinc	ND	2.5	mg/Kg				-			
Barium	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Silver	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L610890 -										
DUP (L 85133-DUP)		Source: 85133			Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.492	mg/Kg		85133	-		0	20	
MS (L 85133-MS)		Source: 85133			Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.488	mg/Kg	7.97	85133	0	75-125			*

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR- Brown 14-1A TB

Notes and Definitions

- U Sample is Non-Detect.
- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- J Estimated Value. Analyte below reported quantitation limit.
- H Sample was analyzed beyond recommended holding time for the Method.
- * QC Failure
- 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

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.



April 26, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR - Brown 14-1A

Project Number - [none]

Attached are your analytical results for KMG - HSR - Brown 14-1A received by Origins Laboratory, Inc. April 01, 2022. This project is associated with Origins project number Y204037-01.

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW-B02@9'	Y204037-01	Soil	April 1, 2022 12:00	04/01/2022 17:00
PW-N03@7'	Y204037-02	Soil	April 1, 2022 12:02	04/01/2022 17:00
PW-N04@3'	Y204037-03	Soil	April 1, 2022 12:04	04/01/2022 17:00
PW-S02@7'	Y204037-04	Soil	April 1, 2022 12:06	04/01/2022 17:00
PW-E02@7'	Y204037-05	Soil	April 1, 2022 12:08	04/01/2022 17:00
PW-W02@7'	Y204037-06	Soil	April 1, 2022 12:10	04/01/2022 17:00

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

www.originslaboratory.com

page 1 of 1

Client: OXY/Tasman
Project Manager: Mike Jahn
Address: HSR - Brown 14-1A
Project Name: HSR - Brown 14-1A
Project Number:
Telephone Number:
Email Address: m.jahn@tasman-geo.com
Samples Collected By: P. Downs

PAHs added to B02, N03, N04, S02
B02 per Brandt's email
ON 4/11/12

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Other	Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Groundwater	Soil	Air Summa			
PW-802@9'	4-1-22	12:00	2	X				X			EC	Table 915 on hold 1
PW-N03@7'		12:02									Table 915	2
PW-N04@3'		12:04									Table 915	3
PW-S02@7'		12:06									Table 915 on hold 4	4
PW-E02@7'		12:08									Table 915 on hold 5	5
PW-W02@7'		12:10									Table 915 on hold 6	6
											per chemical from 7	7
											Brandon on 4/11/12 8	8
												9
												10

Relinquished By: P. Downs
Relinquished By:

Date: 4-1-22
Date:

Time: 1700
Time:

Received By: [Signature]
Received By:

Date: 4/11/12
Date:

Time: 1700
Time:

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

Temp Received: 14.3
Date Results Needed

Origins Laboratory, Inc.

Jefe 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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y2041037

Client: Tasman

Client Project ID: HSR Brown 14-1A

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 4/1/22

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid

☐ Water

☐ Other:

Cooler Number/Temperature: 1 19.3 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: T004

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

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

Reviewed by (Project Manager)

4/1/22
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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-B02@9'

4/1/2022 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	91.9 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	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	113 %	70-130	"	"	"
Surrogate: Toluene-d8	94.6 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.1 %	70-130	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-B02@9'

4/1/2022 12:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-01 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	0.00165	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	0.00165	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	0.00167	0.000304	0.00067	"	"	"	"	"	H
Anthracene	0.00171	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	0.00172	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	0.00226	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	0.00155	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	0.0024	0.000437	0.00067	"	"	"	"	"	H
Chrysene	0.00221	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	0.00198	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	0.002	0.000394	0.00067	"	"	"	"	"	H
Fluorene	0.00173	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	0.00132	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	0.00163	0.000484	0.00067	"	"	"	"	"	H
Pyrene	0.00462	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	56.1 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	71.6 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	64 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-N03@7'
4/1/2022 12:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 85.2 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	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 113 % 70-130 " " "
Surrogate: Toluene-d8 94.1 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 96.6 % 70-130 " " "

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-N03@7'

4/1/2022 12:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-02 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	0.00196	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	0.00157	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	0.000821	0.000437	0.00067	"	"	"	"	"	H
Chrysene	0.00176	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	0.00171	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	53.2 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	68.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	62.3 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-N04@3'

4/1/2022 12:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0997	mg/L	1	B2D0502	04/05/2022	04/06/2022	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	92.3 %	50-150	"	"	"	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	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

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-N04@3'

4/1/2022 12:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: 1,2-Dichloroethane-d4	115 %	70-130	B2D01 20	04/01/2022	04/02/2022
Surrogate: Toluene-d8	94.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.8 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.91	0.499	meq/L	10	[CALC]	04/04/2022	04/05/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.618	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-N04@3'

4/1/2022 12:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-03 (Soil)

PAH by 8270D SIM

Fluoranthene	ND	0.000394	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	52.1 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	70.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	61.2 %	29-110	"	"	"

pH in Soil by 9045D

pH	7.99	pH Units	1	B2D0421	04/04/2022	04/05/2022
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SAR by 20B Saturated Paste

SAR	0.574	SAR	1	B2D0419	04/04/2022	04/05/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.314	0.00500 mmhos/cm	1	B2D0420	04/04/2022	04/05/2022
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-S02@7'

4/1/2022 12:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-04 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 94.0 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	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 114 % 70-130 " " "
Surrogate: Toluene-d8 93.7 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 96.6 % 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.

Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-S02@7'

4/1/2022 12:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-04 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	55.7 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	75.6 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	66.6 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-E02@7'

4/1/2022 12:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-05 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 95.0 % 50-150 " " "

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	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 115 % 70-130 " " "
Surrogate: Toluene-d8 93.6 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 96.8 % 70-130 " " "

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-E02@7'

4/1/2022 12:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-05 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L611893	04/20/2022	04/24/2022	H
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"	H
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"	H
Anthracene	ND	0.000334	0.00067	"	"	"	"	"	H
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"	H
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"	H
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"	H
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"	H
Chrysene	ND	0.000624	0.00067	"	"	"	"	"	H
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"	H
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"	H
Fluorene	ND	0.000286	0.00067	"	"	"	"	"	H
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"	H
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"	H
Pyrene	ND	0.000643	0.00067	"	"	"	"	"	H

Surrogate: 2-Fluorobiphenyl	52.6 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	70.5 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	61.7 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W02@7'
4/1/2022 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-06 (Soil)

Boron (DTPA Sorbitol)

Boron	0.139	0.0995	mg/L	1	B2D0502	04/05/2022	04/06/2022	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	42.8	25.0	mg/kg	1	B2D0119	04/01/2022	04/02/2022	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	94.5 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	0.0115	0.00200	mg/kg	1	B2D0120	04/01/2022	04/02/2022	
1,3,5-Trimethylbenzene	0.00270	0.00200	"	"	"	"	"	
Benzene	ND	0.00200	"	"	"	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	"	"	U
Toluene	0.00646	0.00200	"	"	"	"	"	
Xylenes, total	0.0143	0.00200	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.55	0.200	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	114 %	70-130			"	"	"	
Surrogate: Toluene-d8	93.4 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W02@7'
4/1/2022 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204037-06 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	1.21	0.499	meq/L	10	[CALC]	04/04/2022	04/05/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	0.565	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.111	0.000364	0.00067	mg/Kg	1	L610198	04/12/2022	04/15/2022
2-Methylnaphthalene	0.22	0.000645	0.00067	"	"	"	"	"
Acenaphthene	0.0304	0.000304	0.00067	"	"	"	"	"
Anthracene	0.000346	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	0.00357	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	0.000745	0.000394	0.00067	"	"	"	"	"
Fluorene	0.0544	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	0.0242	0.000484	0.00067	"	"	"	"	"
Pyrene	0.00398	0.000643	0.00067	"	"	"	"	"
Surrogate: 2-Fluorobiphenyl	59.5 %		33-115			"	"	"
Surrogate: 4-Terphenyl-d14	92.4 %		33-122			"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W02@7'
4/1/2022 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-06 (Soil)

PAH by 8270D SIM

Surrogate: Nitrobenzene-d5	49.4 %	29-110	L6101 98	04/12/2022	04/15/2022
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pH in Soil by 9045D

pH	8.16	pH Units	1	B2D0421	04/04/2022	04/05/2022
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SAR by 20B Saturated Paste

SAR	0.649	SAR	1	B2D0419	04/04/2022	04/05/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.236	0.00500	mmhos/cm	1	B2D0420	04/04/2022	04/05/2022
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Total Metals by 6020B

Arsenic	1.22	0.0855	0.25	mg/Kg	5	L610157	04/11/2022	04/13/2022	B
Barium	27.2	0.042	0.25	"	"	"	"	"	
Cadmium	0.0384	0.0259	0.25	"	"	"	"	"	J
Copper	2.56	0.0806	0.25	"	"	"	"	"	
Lead	4.12	0.031	0.25	"	"	"	"	"	
Nickel	2.6	0.0633	0.25	"	"	"	"	"	
Selenium	0.133	0.103	0.25	"	"	"	"	"	J
Silver	0.0103	0.0067	0.25	"	"	"	"	"	J
Zinc	10.9	0.534	2.5	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W02@7'
4/1/2022 12:10:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y204037-06 (Soil)

Total Metals by 7196A

Chromium, Hexavalent	ND	0.246	0.506	mg/Kg	1	L610889	04/01/2022	04/14/2022
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0119 - EPA 3550B										
Blank (B2D0119-BLK1)					Prepared: 04/01/2022 Analyzed: 04/02/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	19		"	24.9		77.8	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2D0119 - EPA 3550B

LCS (B2D0119-BS1)

Prepared: 04/01/2022 Analyzed: 04/04/2022

Diesel (C10-C28)	833	50.0	mg/kg	1000		83.3	70-130			
Residual Range Organics (C28-C40)	921	200	"	1000		92.1	70-130			
Surrogate: o-Terphenyl	45		"	49.8		90.2	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2D0119 - EPA 3550B

Matrix Spike (B2D0119-MS1)		Source: Y204035-01			Prepared: 04/01/2022 Analyzed: 04/02/2022					
Diesel (C10-C28)	881	50.0	mg/kg	1000	ND	88.1	70-130			
Residual Range Organics (C28-C40)	873	200	"	1000	ND	87.3	70-130			
Surrogate: o-Terphenyl	47		"	49.8		94.3	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0119 - EPA 3550B										
Matrix Spike Dup (B2D0119-MSD1)		Source: Y204035-01			Prepared: 04/01/2022 Analyzed: 04/02/2022					
Diesel (C10-C28)	891	50.0	mg/kg	1000	ND	89.1	70-130	1.13	35	
Residual Range Organics (C28-C40)	958	200	"	1000	ND	95.8	70-130	9.24	35	
Surrogate: o-Terphenyl	48		"	49.8		96.9	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0120 - EPA 5030 (soil)										
Blank (B2D0120-BLK1)					Prepared: 04/01/2022 Analyzed: 04/01/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.2	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2D0120 - EPA 5030 (soil)

LCS (B2D0120-BS1)

Prepared: 04/01/2022 Analyzed: 04/01/2022

1,2,4-Trimethylbenzene	0.119	0.00200	mg/kg	0.100		119	70-130			
1,3,5-Trimethylbenzene	0.118	0.00200	"	0.100		118	70-130			
Benzene	0.110	0.00200	"	0.100		110	70-130			
Ethylbenzene	0.111	0.00200	"	0.100		111	70-130			
Naphthalene	0.111	0.0100	"	0.100		111	70-130			
Toluene	0.108	0.00200	"	0.100		108	70-130			
o-Xylene	0.110	0.00200	"	0.100		110	70-130			
m,p-Xylene	0.223	0.00400	"	0.200		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.5	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2D0120 - EPA 5030 (soil)

Matrix Spike (B2D0120-MS1)		Source: Y204035-01			Prepared: 04/01/2022 Analyzed: 04/01/2022					
1,2,4-Trimethylbenzene	0.0994	0.00200	mg/kg	0.100	ND	99.4	70-130			
1,3,5-Trimethylbenzene	0.0985	0.00200	"	0.100	ND	98.5	70-130			
Benzene	0.0969	0.00200	"	0.100	ND	96.9	70-130			
Ethylbenzene	0.0906	0.00200	"	0.100	ND	90.6	70-130			
Naphthalene	0.116	0.0100	"	0.100	0.00280	113	70-130			
Toluene	0.0921	0.00200	"	0.100	ND	92.1	70-130			
o-Xylene	0.0927	0.00200	"	0.100	ND	92.7	70-130			
m,p-Xylene	0.180	0.00400	"	0.200	0.000600	89.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.3	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2D0120 - EPA 5030 (soil)										
Matrix Spike Dup (B2D0120-MSD1)		Source: Y204035-01			Prepared: 04/01/2022 Analyzed: 04/01/2022					
1,2,4-Trimethylbenzene	0.0971	0.00200	mg/kg	0.100	ND	97.1	70-130	2.34	20	
1,3,5-Trimethylbenzene	0.0967	0.00200	"	0.100	ND	96.7	70-130	1.82	20	
Benzene	0.0991	0.00200	"	0.100	ND	99.1	70-130	2.31	20	
Ethylbenzene	0.0910	0.00200	"	0.100	ND	91.0	70-130	0.440	20	
Naphthalene	0.113	0.0100	"	0.100	0.00280	110	70-130	2.33	20	
Toluene	0.0939	0.00200	"	0.100	ND	93.9	70-130	1.89	20	
o-Xylene	0.0917	0.00200	"	0.100	ND	91.7	70-130	0.998	20	
m,p-Xylene	0.179	0.00400	"	0.200	0.000600	89.3	70-130	0.423	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.8	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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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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 B2D0502 - Default Prep Metals

Blank (B2D0502-BLK1)

Prepared: 04/05/2022 Analyzed: 04/06/2022

Boron	ND	0.100	mg/L							U
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Duplicate (B2D0502-DUP1)

Source: Y203705-01

Prepared: 04/05/2022 Analyzed: 04/06/2022

Boron	0.843	0.100	mg/L		0.707			17.5	50	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0420 - NO PREP										
Blank (B2D0420-BLK1)					Prepared: 04/04/2022 Analyzed: 04/05/2022					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B2D0420-DUP1)					Source: Y204019-01 Prepared: 04/04/2022 Analyzed: 04/05/2022					
Specific Conductance (EC)	0.440	0.00500	mmhos/cm		0.436			0.890	25	
Batch B2D0421 - NO PREP										
Duplicate (B2D0421-DUP1)					Source: Y204019-01 Prepared: 04/04/2022 Analyzed: 04/05/2022					
pH	8.06		pH Units		8.13			0.865	25	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

MSD (L 94940-MSD-L611893)		Source: Y204037-01			Prepared: 04/20/2022 Analyzed: 04/24/2022					
Fluoranthene	0.0982	0.000394	mg/Kg	0.165	0.002	58.3	30-130	2.7	30	
Pyrene	0.0994	0.000643	"	0.165	0.00462	57.4	30-130	4.6	30	
Anthracene	0.0949	0.000334	"	0.165	0.00171	56.4	30-130	2.3	30	
Naphthalene	0.0906	0.000484	"	0.165	0.00163	53.9	30-130	10.9	30	
Indeno(1,2,3-cd)pyrene	0.0835	0.000627	"	0.165	0.00132	49.8	30-130	13.6	30	
Fluorene	0.0947	0.000286	"	0.165	0.00173	56.3	30-130	6.8	30	
Benzo(a)pyrene	0.099	0.000468	"	0.165	0.00226	58.6	30-130	3.4	30	
Acenaphthene	0.092	0.000304	"	0.165	0.00167	54.7	30-130	8.9	30	
Dibenz(a,h)anthracene	0.0954	0.000614	"	0.165	0.00198	56.6	30-130	16.9	30	
1-Methylnaphthalene	0.0896	0.000364	"	0.165	0.00165	53.3	30-130	9.3	30	
Benzo(a)anthracene	0.103	0.000493	"	0.165	0.00172	61.3	30-130	3.9	30	
Benzo(b)fluoranthene	0.0875	0.000585	"	0.165	0.00155	52	30-130	5.5	30	
Benzo(k)fluoranthene	0.0988	0.000437	"	0.165	0.0024	58.4	30-130	12.7	30	
Chrysene	0.102	0.000624	"	0.165	0.00221	60.4	30-130	5.9	30	
2-Methylnaphthalene	0.0893	0.000645	"	0.165	0.00165	53.1	30-130	11.3	30	
Surrogate: Nitrobenzene-d5	61.2		"	0.33	210	61.2	29-110			
Surrogate: 4-Terphenyl-d14	66.9		"	0.33	235	66.9	33-122			
Surrogate: 2-Fluorobiphenyl	53.3		"	0.33	184	53.3	33-115			

MS (L 94940-MS-L611893)		Source: Y204037-01			Prepared: 04/20/2022 Analyzed: 04/24/2022					
Dibenz(a,h)anthracene	0.0805	0.000614	mg/Kg	0.165	0.00198	47.5	30-130			
Fluoranthene	0.0955	0.000394	"	0.165	0.002	56.6	30-130			
Pyrene	0.0949	0.000643	"	0.165	0.00462	54.7	30-130			
Naphthalene	0.0812	0.000484	"	0.165	0.00163	48.2	30-130			
Indeno(1,2,3-cd)pyrene	0.0728	0.000627	"	0.165	0.00132	43.3	30-130			
1-Methylnaphthalene	0.0816	0.000364	"	0.165	0.00165	48.4	30-130			
Fluorene	0.0884	0.000286	"	0.165	0.00173	52.5	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

MS (L 94940-MS-L611893)		Source: Y204037-01			Prepared: 04/20/2022 Analyzed: 04/24/2022					
2-Methylnaphthalene	0.0797	0.000645	mg/Kg	0.165	0.00165	47.3	30-130			
Acenaphthene	0.0841	0.000304	"	0.165	0.00167	49.9	30-130			
Anthracene	0.0927	0.000334	"	0.165	0.00171	55.1	30-130			
Benzo(a)anthracene	0.099	0.000493	"	0.165	0.00172	58.9	30-130			
Benzo(a)pyrene	0.0956	0.000468	"	0.165	0.00226	56.5	30-130			
Benzo(b)fluoranthene	0.0828	0.000585	"	0.165	0.00155	49.2	30-130			
Benzo(k)fluoranthene	0.087	0.000437	"	0.165	0.0024	51.2	30-130			
Chrysene	0.0961	0.000624	"	0.165	0.00221	56.9	30-130			
Surrogate: Nitrobenzene-d5	54.2		"	0.33	210	54.2	29-110			
Surrogate: 4-Terphenyl-d14	65.1		"	0.33	235	65.1	33-122			
Surrogate: 2-Fluorobiphenyl	47.8		"	0.33	184	47.8	33-115			

LCS (LCS-L611893)		Prepared: 04/20/2022 Analyzed: 04/24/2022								
1-Methylnaphthalene	0.0997	0.000364	mg/Kg	0.167		59.7	30-130			
Dibenz(a,h)anthracene	0.107	0.000614	"	0.167		64	30-130			
Pyrene	0.115	0.000643	"	0.167		68.8	30-130			
Naphthalene	0.103	0.000484	"	0.167		61.6	30-130			
Indeno(1,2,3-cd)pyrene	0.0902	0.000627	"	0.167		54	30-130			
Fluorene	0.106	0.000286	"	0.167		63.4	30-130			
Fluoranthene	0.112	0.000394	"	0.167		67	30-130			
Benzo(k)fluoranthene	0.118	0.000437	"	0.167		70.6	30-130			
Benzo(b)fluoranthene	0.09	0.000585	"	0.167		53.8	30-130			
Benzo(a)pyrene	0.117	0.000468	"	0.167		70	30-130			
Benzo(a)anthracene	0.116	0.000493	"	0.167		69.4	30-130			
Anthracene	0.11	0.000334	"	0.167		65.8	30-130			
Acenaphthene	0.101	0.000304	"	0.167		60.4	30-130			
Chrysene	0.116	0.000624	"	0.167		69.4	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L611893 - 3550B

LCS (LCS-L611893)

Prepared: 04/20/2022 Analyzed: 04/24/2022

2-Methylnaphthalene	0.0973	0.000645	mg/Kg	0.167		58.2	30-130			
Surrogate: Nitrobenzene-d5	73.5		"	0.333		73.5	29-110			
Surrogate: 2-Fluorobiphenyl	63.9		"	0.333		63.9	33-115			
Surrogate: 4-Terphenyl-d14	79.5		"	0.333		79.5	33-122			

LRB (LRB-L611893)

Prepared: 04/20/2022 Analyzed: 04/24/2022

Benzo(a)pyrene	ND	0.00067	mg/Kg				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Surrogate: 4-Terphenyl-d14	79.8		"	0.333		79.8	33-122			
Surrogate: 2-Fluorobiphenyl	60.3		"	0.333		60.3	33-115			
Surrogate: Nitrobenzene-d5	71.7		"	0.333		71.7	29-110			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

MSD (L 85124-MSD-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Benzo(a)anthracene	0.0938	0.00247	mg/Kg	0.164	85124	57.1	30-130	14	30	
Benzo(k)fluoranthene	0.0855	0.00219	"	0.164	85124	52.1	30-130	0.9	30	
Naphthalene	0.0869	0.00242	"	0.164	85124	52.9	30-130	5.9	30	
Indeno(1,2,3-cd)pyrene	0.11	0.00314	"	0.164	0.00322	65.1	30-130	14.6	30	
Fluorene	0.0938	0.00143	"	0.164	85124	57.1	30-130	8.3	30	
Fluoranthene	0.105	0.00197	"	0.164	85124	64	30-130	10.8	30	
Dibenz(a,h)anthracene	0.132	0.00307	"	0.164	85124	80.4	30-130	12	30	
Chrysene	0.0964	0.00312	"	0.164	85124	58.7	30-130	5.6	30	
Pyrene	0.105	0.00322	"	0.164	85124	64	30-130	9.9	30	
Benzo(b)fluoranthene	0.0847	0.00293	"	0.164	85124	51.6	30-130	2.2	30	
1-Methylnaphthalene	0.0954	0.00182	"	0.164	85124	58.1	30-130	8.6	30	
2-Methylnaphthalene	0.0873	0.00323	"	0.164	85124	53.2	30-130	8.7	30	
Acenaphthene	0.0853	0.00152	"	0.164	85124	52	30-130	10.7	30	
Anthracene	0.0939	0.00167	"	0.164	85124	57.2	30-130	13.9	30	
Benzo(a)pyrene	0.0998	0.00234	"	0.164	0.00267	59.2	30-130	6.9	30	
Surrogate: Nitrobenzene-d5	45.2		"	0.329	163	45.2	29-110			
Surrogate: 2-Fluorobiphenyl	60.7		"	0.329	230	60.7	33-115			
Surrogate: 4-Terphenyl-d14	70.5		"	0.329	261	70.5	33-122			

MS (L 85124-MS-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Benzo(b)fluoranthene	0.0828	0.00293	mg/Kg	0.166	85124	49.8	30-130			
Naphthalene	0.0922	0.00242	"	0.166	85124	55.5	30-130			
Indeno(1,2,3-cd)pyrene	0.095	0.00314	"	0.166	0.00322	55.2	30-130			
Fluorene	0.102	0.00143	"	0.166	85124	61.4	30-130			
Fluoranthene	0.117	0.00197	"	0.166	85124	70.4	30-130			
Dibenz(a,h)anthracene	0.117	0.00307	"	0.166	85124	70.4	30-130			
Chrysene	0.102	0.00312	"	0.166	85124	61.4	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

MS (L 85124-MS-L610198)		Source: 85124			Prepared: 04/12/2022 Analyzed: 04/15/2022					
Benzo(k)fluoranthene	0.0863	0.00219	mg/Kg	0.166	85124	51.9	30-130			
Pyrene	0.116	0.00322	"	0.166	85124	69.8	30-130			
Benzo(a)pyrene	0.107	0.00234	"	0.166	0.00267	62.8	30-130			
1-Methylnaphthalene	0.104	0.00182	"	0.166	85124	62.6	30-130			
2-Methylnaphthalene	0.0953	0.00323	"	0.166	85124	57.4	30-130			
Acenaphthene	0.095	0.00152	"	0.166	85124	57.2	30-130			
Anthracene	0.108	0.00167	"	0.166	85124	65	30-130			
Benzo(a)anthracene	0.108	0.00247	"	0.166	85124	65	30-130			
Surrogate: Nitrobenzene-d5	50.6		"	0.332	163	50.6	29-110			
Surrogate: 2-Fluorobiphenyl	66.2		"	0.332	230	66.2	33-115			
Surrogate: 4-Terphenyl-d14	78.6		"	0.332	261	78.6	33-122			

LCS (LCS-L610198)		Prepared: 04/12/2022 Analyzed: 04/15/2022								
Benzo(b)fluoranthene	0.0991	0.000585	mg/Kg	0.167		59.3	30-130			
Anthracene	0.107	0.000334	"	0.167		64	30-130			
1-Methylnaphthalene	0.0975	0.000364	"	0.167		58.3	30-130			
2-Methylnaphthalene	0.0954	0.000645	"	0.167		57.1	30-130			
Acenaphthene	0.0905	0.000304	"	0.167		54.1	30-130			
Pyrene	0.112	0.000643	"	0.167		67	30-130			
Benzo(a)pyrene	0.107	0.000468	"	0.167		64	30-130			
Benzo(k)fluoranthene	0.0937	0.000437	"	0.167		56.1	30-130			
Chrysene	0.0974	0.000624	"	0.167		58.3	30-130			
Dibenz(a,h)anthracene	0.135	0.000614	"	0.167		80.8	30-130			
Fluoranthene	0.112	0.000394	"	0.167		67	30-130			
Naphthalene	0.0925	0.000484	"	0.167		55.3	30-130			
Fluorene	0.1	0.000286	"	0.167		59.8	30-130			
Indeno(1,2,3-cd)pyrene	0.13	0.000627	"	0.167		77.8	30-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610198 - 3550B

LCS (LCS-L610198)

Prepared: 04/12/2022 Analyzed: 04/15/2022

Benzo(a)anthracene	0.105	0.000493	mg/Kg	0.167		62.8	30-130			
Surrogate: Nitrobenzene-d5	50.7		"	0.333		50.7	29-110			
Surrogate: 2-Fluorobiphenyl	68.1		"	0.333		68.1	33-115			
Surrogate: 4-Terphenyl-d14	80.4		"	0.333		80.4	33-122			

LRB (LRB-L610198)

Prepared: 04/12/2022 Analyzed: 04/15/2022

Chrysene	ND	0.00067	mg/Kg				-			
1-Methylnaphthalene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Surrogate: 4-Terphenyl-d14	70.2		"	0.333		70.2	33-122			
Surrogate: 2-Fluorobiphenyl	64.8		"	0.333		64.8	33-115			
Surrogate: Nitrobenzene-d5	45.9		"	0.333		45.9	29-110			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Total Metals by 6020B - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610157 - 3050B

MSD (L 85133-MSD-L610157)		Source: 85133			Prepared: 04/11/2022 Analyzed: 04/13/2022					
Cadmium	0.58	0.0259	mg/Kg	0.466	0.132	96	75-125	6.2	80	
Arsenic	4.83	0.0855	"	2.33	2.61	95	75-125	8.4	80	
Barium	97.7	0.042	"	4.66	83.3	309	75-125	36.9	80	*
Copper	16.2	0.0806	"	2.33	11.4	206	75-125	9.7	80	*
Lead	11.3	0.031	"	2.33	8.78	108	75-125	0.8	80	
Nickel	12.1	0.0633	"	2.33	8.91	137	75-125	5.9	80	*
Selenium	3.54	0.103	"	4.66	0.236	71	75-125	11.4	80	*
Zinc	69.2	0.534	"	23.3	44.1	108	75-125	3.5	80	
Silver	0.461	0.0067	"	0.466	0.0422	90	75-125	3.4	80	
MS (L 85133-MS-L610157)		Source: 85133			Prepared: 04/11/2022 Analyzed: 04/13/2022					
Copper	14.7	0.0806	mg/Kg	2.45	11.4	135	75-125			*
Arsenic	4.44	0.0855	"	2.45	2.61	75	75-125			
Barium	142	0.042	"	4.91	83.3	NR	75-125			*
Cadmium	0.545	0.0259	"	0.491	0.132	84	75-125			
Lead	11.2	0.031	"	2.45	8.78	99	75-125			
Selenium	3.97	0.103	"	4.91	0.236	76	75-125			
Silver	0.477	0.0067	"	0.491	0.0422	89	75-125			
Zinc	71.7	0.534	"	24.5	44.1	112	75-125			
Nickel	11.4	0.0633	"	2.45	8.91	101	75-125			
LCS (LCS-L610157)		Prepared: 04/11/2022 Analyzed: 04/13/2022								
Lead	2.46	0.031	mg/Kg	2.5		98	80-120			
Arsenic	2.47	0.0855	"	2.5		99	80-120			
Barium	4.99	0.042	"	5		100	80-120			
Copper	2.45	0.0806	"	2.5		98	80-120			
Zinc	24.9	0.534	"	25		100	80-120			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L610157 - 3050B

LCS (LCS-L610157)

Prepared: 04/11/2022 Analyzed: 04/13/2022

Selenium	4.74	0.103	mg/Kg	5		95	80-120			
Silver	0.478	0.0067	"	0.5		96	80-120			
Cadmium	0.462	0.0259	"	0.5		92	80-120			
Nickel	2.32	0.0633	"	2.5		93	80-120			

LRB (LRB-L610157)

Prepared: 04/11/2022 Analyzed: 04/13/2022

Lead	ND	0.25	mg/Kg				-			
Arsenic	ND	0.25	"				-			
Barium	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Silver	ND	0.25	"				-			
Zinc	ND	2.5	"				-			
Cadmium	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L610889 -										
DUP (L 85105-DUP)	Source: Y204037-06				Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.252	mg/Kg		85105	-		0	20	
MS (L 85105-MS)	Source: Y204037-06				Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	3.09	0.244	mg/Kg	7.88	85105	39	75-125			*
LCS (LCS)					Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	7.25	0.244	mg/Kg	8		91	75-125			
LRB (LRB)					Prepared: Analyzed: 04/14/2022					
Chromium, Hexavalent	ND	0.5	mg/Kg							

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Notes and Definitions

- U Sample is Non-Detect.
- J Estimated Value. Analyte below reported quantitation limit.
- H Sample was analyzed beyond recommended holding time for the Method.
- B Analyte detected in associated method blank.
- * QC Failure
- 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

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.



April 13, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR - Brown 14-1A

Project Number - [none]

Attached are your analytical results for KMG - HSR - Brown 14-1A received by Origins Laboratory, Inc. April 04, 2022. This project is associated with Origins project number Y204051-01.

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

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

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

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

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

Origins Laboratory, Inc.
303.433.1322
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1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW-BG01@7'	Y204051-01	Soil	April 4, 2022 13:02	04/04/2022 17:10
PW-BG02@7'	Y204051-02	Soil	April 4, 2022 13:04	04/04/2022 17:10
PW-BG03@7'	Y204051-03	Soil	April 4, 2022 13:06	04/04/2022 17:10
PW-BG04@7'	Y204051-04	Soil	April 4, 2022 13:08	04/04/2022 17:10

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

ORIGINS

LABORATORY, INC

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Y2CH051

page | of |

Client: DYK Tramm Project Manager: Mike Jahn
 Address: _____ Project Name: HSE Brown 14-1A
 Telephone Number: _____ Project Number: _____
 Email Address: Mjahn@ktsman-grb.com Samples Collected By: P. Dams

Sample ID Description	Date Sampled	Time Sampled	Preservative				Matrix			Analysis					Sample Instructions		
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	EC	PH	SAR	Boron		Tablet pH Metals	
PW-B60107	4-4-22	13:02	X														1
PW-B60207		13:04															2
PW-B60307		13:06															3
PW-B60407		13:08															4
																	5
																	6
																	7
																	8
																	9
																	10

Relinquished By: <u>P. Dams</u>	Date: <u>4-4-22</u>	Time: <u>17:10</u>	Received By: <u>[Signature]</u>	Date: <u>4/4/22</u>	Time: <u>17:10</u>	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr 48 Hr <input type="checkbox"/> 72 Hr Standard <input type="checkbox"/>
	Date: <u>4-4-22</u>	Time: <u>17:10</u>	Received By: <u>[Signature]</u>	Date: <u>4/4/22</u>	Time: <u>17:10</u>	

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

Temp Received: 3.6 Date Results Needed: _____

Origins Laboratory, Inc.

Jeff Pellgrini

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y204051

Client: Tasman

Client Project ID: Brown 14-1A

Checklist Completed by: SG

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

Date/time completed: 4/4/22

Airbill #: N/A

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

Cooler Number/Temperature: 1, 136.0 °C 1 °C 1 °C 1 °C

Thermometer ID: T004

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

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 4/4/22

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG01@7'

4/4/2022 1:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204051-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B2D0503	04/05/2022	04/06/2022	U
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Metals by Saturated Paste by EPA 6010

Calcium	1.57	0.499	meq/L	10	[CALC]	04/05/2022	04/06/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	8.15	pH Units	1	B2D0521	04/05/2022	04/06/2022
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SAR by 20B Saturated Paste

SAR	0.364	SAR	1	B2D0501	04/05/2022	04/06/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.231	0.00500	mmhos/cm	1	B2D0522	04/05/2022	04/06/2022
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Total Metals by 6020B

Arsenic	1	0.0855	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	B
Barium	50.7	0.042	0.25	"	"	"	"	"	
Cadmium	0.0567	0.0259	0.25	"	"	"	"	"	J
Copper	3.48	0.0806	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



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

Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG01@7'

4/4/2022 1:02:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y204051-01 (Soil)

Total Metals by 6020B

Lead	3.86	0.031	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	
Nickel	4.05	0.0633	0.25	"	"	"	"	"	
Selenium	0.262	0.103	0.25	"	"	"	"	"	
Silver	0.0176	0.0067	0.25	"	"	"	"	"	J
Zinc	17.1	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.249	0.511	mg/Kg	1	L610017	04/04/2022	04/11/2022	
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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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG02@7'

4/4/2022 1:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204051-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.100	mg/L	1	B2D0503	04/05/2022	04/06/2022	U
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Metals by Saturated Paste by EPA 6010

Calcium	1.35	0.499	meq/L	10	[CALC]	04/05/2022	04/06/2022
Magnesium	ND	0.823	"	"	"	"	"
Sodium	1.43	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	8.27	pH Units	1	B2D0521	04/05/2022	04/06/2022
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SAR by 20B Saturated Paste

SAR	1.41	SAR	1	B2D0501	04/05/2022	04/06/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.351	0.00500	mmhos/cm	1	B2D0522	04/05/2022	04/06/2022
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Total Metals by 6020B

Arsenic	0.797	0.0855	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	B
Barium	49.3	0.042	0.25	"	"	"	"	"	
Cadmium	0.056	0.0259	0.25	"	"	"	"	"	J
Copper	3.33	0.0806	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG02@7'

4/4/2022 1:04:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y204051-02 (Soil)

Total Metals by 6020B

Lead	3.64	0.031	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	
Nickel	3.92	0.0633	0.25	"	"	"	"	"	
Selenium	0.237	0.103	0.25	"	"	"	"	"	J
Silver	0.0164	0.0067	0.25	"	"	"	"	"	J
Zinc	17.4	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.246	0.505	mg/Kg	1	L610017	04/04/2022	04/11/2022	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG03@7'

4/4/2022 1:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204051-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B2D0503	04/05/2022	04/06/2022	U
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Metals by Saturated Paste by EPA 6010

Calcium	7.83	0.499	meq/L	10	[CALC]	04/05/2022	04/06/2022
Magnesium	3.18	0.823	"	"	"	"	"
Sodium	3.46	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.82	pH Units	1	B2D0521	04/05/2022	04/06/2022
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SAR by 20B Saturated Paste

SAR	1.48	SAR	1	B2D0501	04/05/2022	04/06/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	3.32	0.00500	mmhos/cm	1	B2D0522	04/05/2022	04/06/2022
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Total Metals by 6020B

Arsenic	0.687	0.0855	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	B
Barium	47.2	0.042	0.25	"	"	"	"	"	
Cadmium	0.0535	0.0259	0.25	"	"	"	"	"	J
Copper	3.28	0.0806	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG03@7'

4/4/2022 1:06:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y204051-03 (Soil)

Total Metals by 6020B

Lead	3.93	0.031	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	
Nickel	3.63	0.0633	0.25	"	"	"	"	"	
Selenium	0.221	0.103	0.25	"	"	"	"	"	J
Silver	0.0137	0.0067	0.25	"	"	"	"	"	J
Zinc	16.6	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.247	0.507	mg/Kg	1	L610017	04/04/2022	04/11/2022	
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Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG04@7'

4/4/2022 1:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y204051-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.343	0.101	mg/L	1	B2D0503	04/05/2022	04/06/2022
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Metals by Saturated Paste by EPA 6010

Calcium	4.06	0.499	meq/L	10	[CALC]	04/05/2022	04/06/2022
Magnesium	2.08	0.823	"	"	"	"	"
Sodium	0.953	0.435	"	"	"	"	"

pH in Soil by 9045D

pH	7.20	pH Units	1	B2D0521	04/05/2022	04/06/2022
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SAR by 20B Saturated Paste

SAR	0.544	SAR	1	B2D0501	04/05/2022	04/06/2022
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.890	0.00500	mmhos/cm	1	B2D0522	04/05/2022	04/06/2022
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Total Metals by 6020B

Arsenic	0.597	0.0855	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	B
Barium	39.7	0.042	0.25	"	"	"	"	"	
Cadmium	0.0443	0.0259	0.25	"	"	"	"	"	J
Copper	3.03	0.0806	0.25	"	"	"	"	"	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-BG04@7'

4/4/2022 1:08:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y204051-04 (Soil)

Total Metals by 6020B

Lead	3.07	0.031	0.25	mg/Kg	5	L609227	04/06/2022	04/07/2022	
Nickel	2.98	0.0633	0.25	"	"	"	"	"	
Selenium	0.154	0.103	0.25	"	"	"	"	"	J
Silver	0.0121	0.0067	0.25	"	"	"	"	"	J
Zinc	14.7	0.534	2.5	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.245	0.503	mg/Kg	1	L610017	04/04/2022	04/11/2022	
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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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Classical Chemistry Parameters - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0503 - Default Prep Metals										
Blank (B2D0503-BLK1)					Prepared: 04/05/2022 Analyzed: 04/06/2022					
Boron	ND	0.100	mg/L							U
Duplicate (B2D0503-DUP1)					Source: Y204038-10 Prepared: 04/05/2022 Analyzed: 04/06/2022					
Boron	0.461	0.100	mg/L		0.459			0.400	50	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0521 - NO PREP										
Duplicate (B2D0521-DUP1)		Source: Y203705-01			Prepared: 04/05/2022 Analyzed: 04/06/2022					
pH	7.63		pH Units		7.75			1.56	25	
Batch B2D0522 - NO PREP										
Blank (B2D0522-BLK1)		Prepared: 04/05/2022 Analyzed: 04/06/2022								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B2D0522-DUP1)		Source: Y204039-03			Prepared: 04/05/2022 Analyzed: 04/06/2022					
Specific Conductance (EC)	0.443	0.00500	mmhos/cm		0.889			67.1	25	QR-DUP

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L609227 - 3050B

MSD (L 89120-MSD-L609227)			Source: 89120			Prepared: 04/06/2022 Analyzed: 04/07/2022				
Nickel	16.9	0.0633	mg/Kg	2.4	14.7	92	75-125	1.1	80	
Zinc	73.9	0.534	"	24	51	96	75-125	1.3	80	
Arsenic	4.83	0.0855	"	2.4	3.24	66	75-125	4	80	*
Selenium	3.39	0.103	"	4.79	0.301	64	75-125	2	80	*
Lead	12.4	0.031	"	2.4	9.6	117	75-125	3.2	80	
Copper	14	0.0806	"	2.4	12.2	75	75-125	0.7	80	
Cadmium	0.671	0.0259	"	0.479	0.192	100	75-125	4.7	80	
Barium	167	0.042	"	4.79	146	438	75-125	7.4	80	*
Silver	0.493	0.0067	"	0.479	0.0512	92	75-125	2	80	
MS (L 89120-MS-L609227)			Source: 89120			Prepared: 04/06/2022 Analyzed: 04/07/2022				
Zinc	72.9	0.534	mg/Kg	23.1	51	95	75-125			
Arsenic	5.03	0.0855	"	2.31	3.24	77	75-125			
Barium	155	0.042	"	4.62	146	195	75-125			*
Cadmium	0.64	0.0259	"	0.462	0.192	97	75-125			
Copper	14.1	0.0806	"	2.31	12.2	82	75-125			
Lead	12	0.031	"	2.31	9.6	104	75-125			
Nickel	16.7	0.0633	"	2.31	14.7	87	75-125			
Selenium	3.32	0.103	"	4.62	0.301	65	75-125			*
Silver	0.483	0.0067	"	0.462	0.0512	93	75-125			
LCS (LCS-L609227)			Prepared: 04/06/2022 Analyzed: 04/07/2022							
Barium	5.01	0.042	mg/Kg	5		100	80-120			
Cadmium	0.484	0.0259	"	0.5		97	80-120			
Copper	2.41	0.0806	"	2.5		96	80-120			
Lead	2.44	0.031	"	2.5		98	80-120			
Nickel	2.48	0.0633	"	2.5		99	80-120			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L609227 - 3050B

LCS (LCS-L609227)

Prepared: 04/06/2022 Analyzed: 04/07/2022

Selenium	4.99	0.103	mg/Kg	5		100	80-120			
Silver	0.486	0.0067	"	0.5		97	80-120			
Zinc	25	0.534	"	25		100	80-120			
Arsenic	2.51	0.0855	"	2.5		100	80-120			

LRB (LRB-L609227)

Prepared: 04/06/2022 Analyzed: 04/07/2022

Arsenic	0.138	0.25	mg/Kg				-			J
Zinc	ND	2.5	"				-			
Silver	ND	0.25	"				-			
Selenium	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Lead	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Barium	0.105	0.25	"				-			J
Cadmium	ND	0.25	"				-			

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch L610017 -										
DUP (L 89100-DUP)	Source: 89100				Prepared: Analyzed: 04/11/2022					
Chromium, Hexavalent	ND	1.22	mg/Kg		89100	-		0	20	
MS (L 89100-MS)	Source: 89100				Prepared: Analyzed: 04/11/2022					
Chromium, Hexavalent	4.55	1.22	mg/Kg	7.89	89100	58	75-125			*
LCS (LCS)					Prepared: Analyzed: 04/11/2022					
Chromium, Hexavalent	6.64	0.244	mg/Kg	8		83	75-125			
LRB (LRB)					Prepared: Analyzed: 04/11/2022					
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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Notes and Definitions

U Sample is Non-Detect.

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

J Estimated Value. Analyte below reported quantitation limit.

B Analyte detected in associated method blank.

* QC Failure

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

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



May 27, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR - Brown 14-1A

Project Number - [none]

Attached are your analytical results for KMG - HSR - Brown 14-1A received by Origins Laboratory, Inc. May 17, 2022. This project is associated with Origins project number Y205440-01.

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST-B05@3'	Y205440-01	Soil	May 17, 2022 10:30	05/17/2022 16:15
AST-N01@2'	Y205440-02	Soil	May 17, 2022 10:32	05/17/2022 16:15
AST-S01@2'	Y205440-03	Soil	May 17, 2022 10:34	05/17/2022 16:15
AST-E01@2'	Y205440-04	Soil	May 17, 2022 10:36	05/17/2022 16:15
AST-W01@2'	Y205440-05	Soil	May 17, 2022 10:38	05/17/2022 16:15
PW-E03@10'	Y205440-06	Soil	May 17, 2022 10:40	05/17/2022 16:15
PW-W03@7'	Y205440-07	Soil	May 17, 2022 10:42	05/17/2022 16:15

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

www.originslaboratory.com

page 1 of 1

ORIGINS
LABORATORY, INC

105440

Client: OKY
Address: _____
Telephone Number: _____
Email Address: mjahn@tasman-geo.com

Project Manager: Mike Jahn
Project Name: HSR Brown 14-1A
Project Number: _____
Samples Collected By: P. Downs

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis					Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	Cetyl	Deo/oxo	TyB ₂	PAH ₂	
AST-605e3'	5-17-22	10:30	2	X					X				X	X	X	1
AST-101e2'		10:32														2
AST-101e2'		10:34														3
AST-101e2'		10:36														4
AST-101e2'		10:38														5
PW-103e10'		10:40											X	X		6
PW-103e10'		10:42											X	X		7
																8
																9
																10

Relinquished By: <u>P. Downs</u>	Date: <u>5-17-22</u>	Time: <u>16:15</u>	Received By: <u>AK</u>	Date: <u>5/17/22</u>	Time: <u>16:15</u>	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

Date Results Needed

Temp Received- 4.1

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y205440

Client: Tasman
Client Project ID: Brown 14-1A

Checklist Completed by: JG

Shipped Via: HD

Date/time completed: 5/17/22

(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.1 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: T004

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

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

Reviewed by: [Signature] (Project Manager)

Date/Time Reviewed: 5/17/22

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-B05@3'

5/17/2022 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y205440-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E1718	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	12.1 %	50-150	"	"	"	S-DUP, U
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1717	05/17/2022	05/18/2022	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	114 %	70-130	"	"	"
Surrogate: Toluene-d8	93.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.4 %	70-130	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-B05@3'

5/17/2022 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-01 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	54.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	74.7 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	49.7 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-B05@3'

5/17/2022 10:30:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-01 (Soil)

Total Metals by 6020B

Arsenic	2.02	0.0855	0.25	mg/Kg	5	L617431	05/20/2022	05/24/2022
Selenium	0.272	0.103	0.25	"	"	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-N01@2'

5/17/2022 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y205440-02 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B2E1718	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	63.8 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B2E1717	05/17/2022	05/18/2022	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	113 %		70-130			"	"	"	
Surrogate: Toluene-d8	93.8 %		70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.3 %		70-130			"	"	"	

PAH by 8270D SIM

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-N01@2'

5/17/2022 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-02 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	58.3 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	75.4 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	48.6 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-N01@2'

5/17/2022 10:32:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-02 (Soil)

Total Metals by 6020B

Arsenic	1.23	0.0855	0.25	mg/Kg	5	L617431	05/20/2022	05/24/2022	
Selenium	0.248	0.103	0.25	"	"	"	"	"	J

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-S01@2'

5/17/2022 10:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y205440-03 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E1718	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	26.4 %	50-150	"	"	"	S-DUP, U
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1717	05/17/2022	05/18/2022	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	114 %	70-130	"	"	"
Surrogate: Toluene-d8	94.0 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.6 %	70-130	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-S01@2'

5/17/2022 10:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-03 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	56.4 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	77.4 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	47.3 %	29-110	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-S01@2'

5/17/2022 10:34:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-03 (Soil)

Total Metals by 6020B

Arsenic	1.25	0.0855	0.25	mg/Kg	5	L617431	05/20/2022	05/24/2022
Selenium	0.25	0.103	0.25	"	"	"	"	"

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-E01@2'

5/17/2022 10:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y205440-04 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E1718	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 33.1 % 50-150 " " " S-DUP

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1717	05/17/2022	05/18/2022	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 115 % 70-130 " " "

Surrogate: Toluene-d8 93.1 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 99.3 % 70-130 " " "

PAH by 8270D SIM

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-E01@2'

5/17/2022 10:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-04 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	60.1 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	76.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	49.2 %	29-110	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-E01@2'

5/17/2022 10:36:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-04 (Soil)

Total Metals by 6020B

Arsenic	1.29	0.0855	0.25	mg/Kg	5	L617431	05/20/2022	05/24/2022
Selenium	0.271	0.103	0.25	"	"	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-W01@2'

5/17/2022 10:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y205440-05 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B2E1718	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	59.0 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1717	05/17/2022	05/18/2022	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	115 %	70-130	"	"	"
Surrogate: Toluene-d8	94.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.3 %	70-130	"	"	"

PAH by 8270D SIM

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-W01@2'

5/17/2022 10:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-05 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	56.8 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	78.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	47.1 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

AST-W01@2'

5/17/2022 10:38:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-05 (Soil)

Total Metals by 6020B

Arsenic	1.25	0.0855	0.25	mg/Kg	5	L617431	05/20/2022	05/24/2022	
Selenium	0.221	0.103	0.25	"	"	"	"	"	J

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-E03@10'

5/17/2022 10:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y205440-06 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E1720	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 39.2 % 50-150 " " " S-DUP

GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1719	05/17/2022	05/17/2022	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 120 % 70-130 " " "

Surrogate: Toluene-d8 99.9 % 70-130 " " "

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

PAH by 8270D SIM

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-E03@10'

5/17/2022 10:40:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-06 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	59.5 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	78 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	52.4 %	29-110	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W03@7'

5/17/2022 10:42:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y205440-07 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2E1720	05/17/2022	05/18/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	15.8 %	50-150	"	"	"	S-DUP, U
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2E1719	05/17/2022	05/17/2022	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	122 %	70-130	"	"	"
Surrogate: Toluene-d8	103 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	70-130	"	"	"

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PW-W03@7'

5/17/2022 10:42:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y205440-07 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L617942	05/24/2022	05/25/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	62.3 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	80.9 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	55 %	29-110	"	"	"

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2E1717 - EPA 5030 (soil)										
Blank (B2E1717-BLK1)					Prepared: 05/17/2022 Analyzed: 05/17/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125	123		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	101		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	94.8		70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1717 - EPA 5030 (soil)

LCS (B2E1717-BS1)

Prepared: 05/17/2022 Analyzed: 05/17/2022

1,2,4-Trimethylbenzene	0.102	0.00200	mg/kg	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100		101	70-130			
Benzene	0.111	0.00200	"	0.100		111	70-130			
Ethylbenzene	0.0970	0.00200	"	0.100		97.0	70-130			
Naphthalene	0.101	0.0100	"	0.100		101	70-130			
Toluene	0.109	0.00200	"	0.100		109	70-130			
o-Xylene	0.102	0.00200	"	0.100		102	70-130			
m,p-Xylene	0.204	0.00400	"	0.200		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		120	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.6	70-130			

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1717 - EPA 5030 (soil)

Matrix Spike (B2E1717-MS1)		Source: Y205431-01			Prepared: 05/17/2022 Analyzed: 05/17/2022					
1,2,4-Trimethylbenzene	0.0967	0.00200	mg/kg	0.100	ND	96.7	70-130			
1,3,5-Trimethylbenzene	0.0958	0.00200	"	0.100	ND	95.8	70-130			
Benzene	0.101	0.00200	"	0.100	ND	101	70-130			
Ethylbenzene	0.0927	0.00200	"	0.100	ND	92.7	70-130			
Naphthalene	0.108	0.0100	"	0.100	0.00100	107	70-130			
Toluene	0.0946	0.00200	"	0.100	ND	94.6	70-130			
o-Xylene	0.0938	0.00200	"	0.100	ND	93.8	70-130			
m,p-Xylene	0.194	0.00400	"	0.200	ND	97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.7	70-130			

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

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2E1717 - EPA 5030 (soil)										
Matrix Spike Dup (B2E1717-MSD1)		Source: Y205431-01			Prepared: 05/17/2022 Analyzed: 05/17/2022					
1,2,4-Trimethylbenzene	0.0962	0.00200	mg/kg	0.100	ND	96.2	70-130	0.519	20	
1,3,5-Trimethylbenzene	0.0959	0.00200	"	0.100	ND	95.9	70-130	0.0209	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	0.0994	20	
Ethylbenzene	0.0921	0.00200	"	0.100	ND	92.1	70-130	0.693	20	
Naphthalene	0.110	0.0100	"	0.100	0.00100	109	70-130	2.09	20	
Toluene	0.0942	0.00200	"	0.100	ND	94.2	70-130	0.424	20	
o-Xylene	0.0937	0.00200	"	0.100	ND	93.7	70-130	0.128	20	
m,p-Xylene	0.192	0.00400	"	0.200	ND	96.2	70-130	1.03	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2E1718 - EPA 3550B										
Blank (B2E1718-BLK1)					Prepared: 05/17/2022 Analyzed: 05/17/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		95.0	50-150			

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Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1718 - EPA 3550B

LCS (B2E1718-BS1)

Prepared: 05/17/2022 Analyzed: 05/17/2022

Diesel (C10-C28)	960	50.0	mg/kg	1000		96.0	70-130			
Residual Range Organics (C28-C40)	1080	200	"	1000		108	70-130			
Surrogate: o-Terphenyl	55		"	49.8		111	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2E1718 - EPA 3550B										
LCS Dup (B2E1718-BSD1)					Prepared: 05/17/2022 Analyzed: 05/17/2022					
Diesel (C10-C28)	984	50.0	mg/kg	1000		98.4	70-130	2.48	35	QM-10
Residual Range Organics (C28-C40)	1070	200	"	1000		107	70-130	0.377	35	QM-10
Surrogate: o-Terphenyl	49		"	49.8		99.4	50-150			QM-10

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2E1719 - EPA 5030 (soil)										
Blank (B2E1719-BLK1)					Prepared: 05/17/2022 Analyzed: 05/17/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125	114	70-130				
Surrogate: Toluene-d8	0.13		"	0.125	108	70-130				
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.9	70-130				

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1719 - EPA 5030 (soil)

LCS (B2E1719-BS1)

Prepared: 05/17/2022 Analyzed: 05/17/2022

1,2,4-Trimethylbenzene	0.100	0.00200	mg/kg	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.104	0.00200	"	0.100		104	70-130			
Benzene	0.0981	0.00200	"	0.100		98.1	70-130			
Ethylbenzene	0.105	0.00200	"	0.100		105	70-130			
Naphthalene	0.0887	0.0100	"	0.100		88.7	70-130			
Toluene	0.111	0.00200	"	0.100		111	70-130			
o-Xylene	0.104	0.00200	"	0.100		104	70-130			
m,p-Xylene	0.209	0.00400	"	0.200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1719 - EPA 5030 (soil)

Matrix Spike (B2E1719-MS1)		Source: Y205440-06			Prepared: 05/17/2022 Analyzed: 05/17/2022					
1,2,4-Trimethylbenzene	0.103	0.00200	mg/kg	0.100	ND	103	70-130			
1,3,5-Trimethylbenzene	0.103	0.00200	"	0.100	ND	103	70-130			
Benzene	0.101	0.00200	"	0.100	ND	101	70-130			
Ethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130			
Naphthalene	0.0960	0.0100	"	0.100	ND	96.0	70-130			
Toluene	0.106	0.00200	"	0.100	ND	106	70-130			
o-Xylene	0.105	0.00200	"	0.100	ND	105	70-130			
m,p-Xylene	0.211	0.00400	"	0.200	ND	106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		117	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2E1719 - EPA 5030 (soil)										
Matrix Spike Dup (B2E1719-MSD1)		Source: Y205440-06			Prepared: 05/17/2022 Analyzed: 05/17/2022					
1,2,4-Trimethylbenzene	0.0999	0.00200	mg/kg	0.100	ND	99.9	70-130	2.59	20	
1,3,5-Trimethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130	1.44	20	
Benzene	0.0980	0.00200	"	0.100	ND	98.0	70-130	3.07	20	
Ethylbenzene	0.105	0.00200	"	0.100	ND	105	70-130	0.832	20	
Naphthalene	0.0903	0.0100	"	0.100	ND	90.3	70-130	6.10	20	
Toluene	0.103	0.00200	"	0.100	ND	103	70-130	2.77	20	
o-Xylene	0.104	0.00200	"	0.100	ND	104	70-130	0.900	20	
m,p-Xylene	0.210	0.00400	"	0.200	ND	105	70-130	0.742	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		114	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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
Batch B2E1720 - EPA 3550B										
Blank (B2E1720-BLK1)					Prepared: 05/17/2022 Analyzed: 05/17/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	21		"	24.9		82.4	50-150			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1720 - EPA 3550B

LCS (B2E1720-BS1)

Prepared: 05/17/2022 Analyzed: 05/17/2022

Diesel (C10-C28)	1030	50.0	mg/kg	1000		103	70-130			
Residual Range Organics (C28-C40)	896	200	"	1000		89.6	70-130			
Surrogate: o-Terphenyl	45		"	49.8		91.2	50-150			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1720 - EPA 3550B

Matrix Spike (B2E1720-MS1)		Source: Y205440-06			Prepared: 05/17/2022 Analyzed: 05/17/2022					
Diesel (C10-C28)	1070	50.0	mg/kg	1000	ND	107	70-130			
Residual Range Organics (C28-C40)	881	200	"	1000	ND	88.1	70-130			
Surrogate: o-Terphenyl	46		"	49.8		92.9	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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 B2E1720 - EPA 3550B

Matrix Spike Dup (B2E1720-MSD1)		Source: Y205440-06			Prepared: 05/17/2022 Analyzed: 05/17/2022					
Diesel (C10-C28)	1210	50.0	mg/kg	1000	ND	121	70-130	12.0	35	
Residual Range Organics (C28-C40)	885	200	"	1000	ND	88.5	70-130	0.387	35	
Surrogate: o-Terphenyl	51		"	49.8		103	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

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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PAH by 8270D SIM - Quality Control

Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L617942 - 3550B

LCS (LCS-L617942)

Prepared: 05/24/2022 Analyzed: 05/25/2022

Benzo(a)pyrene	0.102	0.000468	mg/Kg	0.167		61	30-130
Pyrene	0.114	0.000643	"	0.167		68.2	30-130
Naphthalene	0.0748	0.000484	"	0.167		44.7	30-130
Indeno(1,2,3-cd)pyrene	0.126	0.000627	"	0.167		75.4	30-130
Fluorene	0.0906	0.000286	"	0.167		54.2	30-130
Fluoranthene	0.113	0.000394	"	0.167		67.6	30-130
Dibenz(a,h)anthracene	0.122	0.000614	"	0.167		73	30-130
Chrysene	0.0944	0.000624	"	0.167		56.5	30-130
1-Methylnaphthalene	0.0776	0.000364	"	0.167		46.4	30-130
Benzo(k)fluoranthene	0.092	0.000437	"	0.167		55	30-130
Benzo(b)fluoranthene	0.0986	0.000585	"	0.167		59	30-130
Anthracene	0.104	0.000334	"	0.167		62.2	30-130
Acenaphthene	0.0929	0.000304	"	0.167		55.6	30-130
Benzo(a)anthracene	0.0981	0.000493	"	0.167		58.7	30-130
2-Methylnaphthalene	0.0775	0.000645	"	0.167		46.4	30-130
Surrogate: Nitrobenzene-d5	48.6		"	0.333		48.6	29-110
Surrogate: 4-Terphenyl-d14	84.6		"	0.333		84.6	33-122
Surrogate: 2-Fluorobiphenyl	58.8		"	0.333		58.8	33-115

LRB (LRB-L617942)

Prepared: 05/24/2022 Analyzed: 05/25/2022

Fluorene	ND	0.00067	mg/Kg			-
Benzo(a)anthracene	ND	0.00067	"			-

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L617942 - 3550B

LRB (LRB-L617942)

Prepared: 05/24/2022 Analyzed: 05/25/2022

Pyrene	ND	0.00067	mg/Kg				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	46.5		"	0.333		46.5	29-110			
Surrogate: 4-Terphenyl-d14	73.5		"	0.333		73.5	33-122			
Surrogate: 2-Fluorobiphenyl	57.6		"	0.333		57.6	33-115			

MSD (N 93130-MSD-L617942)

Source: 93130

Prepared: 05/24/2022 Analyzed: 05/25/2022

Benzo(a)anthracene	0.141	0.00493	mg/Kg	0.163	0.089	31.9	30-130	11.3	30	
Benzo(a)pyrene	0.16	0.00468	"	0.163	0.121	23.9	30-130	10.6	30	*
Benzo(b)fluoranthene	0.149	0.00585	"	0.163	0.153	NR	30-130	18.2	30	*
Benzo(k)fluoranthene	0.1	0.00437	"	0.163	0.0553	27.4	30-130	12.3	30	*
Dibenz(a,h)anthracene	0.107	0.00614	"	0.163	0.0267	49.2	30-130	8.9	30	
Anthracene	0.1	0.00334	"	0.163	0.0153	51.9	30-130	3.9	30	
Indeno(1,2,3-cd)pyrene	0.151	0.00627	"	0.163	0.102	30	30-130	4.5	30	
Chrysene	0.151	0.00624	"	0.163	0.116	21.4	30-130	10	30	*
Naphthalene	0.0908	0.00484	"	0.163	0.02	43.4	30-130	0.3	30	

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L617942 - 3550B

MSD (N 93130-MSD-L617942)		Source: 93130			Prepared: 05/24/2022 Analyzed: 05/25/2022					
Pyrene	0.244	0.00643	mg/Kg	0.163	0.218	15.9	30-130	15.1	30	*
Fluorene	0.0848	0.00286	"	0.163	0.00445	49.2	30-130	3.1	30	
2-Methylnaphthalene	0.0818	0.00645	"	0.163	0.00649	46.2	30-130	1.4	30	
1-Methylnaphthalene	0.0801	0.00364	"	0.163	0.00392	46.7	30-130	1.3	30	
Fluoranthene	0.249	0.00394	"	0.163	0.257	NR	30-130	7.7	30	*
Acenaphthene	0.0956	0.00304	"	0.163	0.00685	54.4	30-130	0.2	30	
Surrogate: Nitrobenzene-d5	45.3		"	0.326	171	45.3	29-110			
Surrogate: 4-Terphenyl-d14	71.7		"	0.326	273	71.7	33-122			
Surrogate: 2-Fluorobiphenyl	52.7		"	0.326	201	52.7	33-115			

MS (N 93130-MS-L617942)		Source: 93130			Prepared: 05/24/2022 Analyzed: 05/25/2022					
Fluorene	0.0875	0.00286	mg/Kg	0.163	0.00445	50.9	30-130			
Benzo(a)anthracene	0.158	0.00493	"	0.163	0.089	42.3	30-130			
Benzo(a)pyrene	0.178	0.00468	"	0.163	0.121	34.9	30-130			
Benzo(b)fluoranthene	0.179	0.00585	"	0.163	0.153	15.9	30-130			*
Benzo(k)fluoranthene	0.0884	0.00437	"	0.163	0.0553	20.3	30-130			*
Chrysene	0.167	0.00624	"	0.163	0.116	31.2	30-130			
Anthracene	0.104	0.00334	"	0.163	0.0153	54.4	30-130			
Fluoranthene	0.269	0.00394	"	0.163	0.257	7.3	30-130			*
Indeno(1,2,3-cd)pyrene	0.158	0.00627	"	0.163	0.102	34.3	30-130			
Naphthalene	0.0911	0.00484	"	0.163	0.02	43.6	30-130			
Dibenz(a,h)anthracene	0.117	0.00614	"	0.163	0.0267	55.3	30-130			
Acenaphthene	0.0958	0.00304	"	0.163	0.00685	54.5	30-130			
2-Methylnaphthalene	0.0806	0.00645	"	0.163	0.00649	45.4	30-130			
1-Methylnaphthalene	0.079	0.00364	"	0.163	0.00392	46	30-130			
Pyrene	0.284	0.00643	"	0.163	0.218	40.4	30-130			
Surrogate: 2-Fluorobiphenyl	52.5		"	0.327	201	52.5	33-115			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L617942 - 3550B

MS (N 93130-MS-L617942)

Source: 93130

Prepared: 05/24/2022 Analyzed: 05/25/2022

Surrogate: Nitrobenzene-d5	43.4		mg/Kg	0.327	171	43.4	29-110
Surrogate: 4-Terphenyl-d14	72.1		"	0.327	273	72.1	33-122

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Total Metals by 6020B - Quality Control Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L617431 - 3050B										
MSD (L 95090-MSD-L617431)			Source: 95090		Prepared: 05/20/2022 Analyzed: 05/24/2022					
Selenium	4.28	0.103	mg/Kg	4.78	0.277	84	75-125	0.9	80	
Arsenic	3.24	0.0855	"	2.39	1.7	64	75-125	8	80	*
MS (L 95090-MS-L617431)			Source: 95090		Prepared: 05/20/2022 Analyzed: 05/24/2022					
Selenium	4.32	0.103	mg/Kg	4.74	0.277	85	75-125			
Arsenic	2.99	0.0855	"	2.37	1.7	54	75-125			*
LCS (LCS-L617431)			Prepared: 05/20/2022 Analyzed: 05/24/2022							
Selenium	5.02	0.103	mg/Kg	5		100	80-120			
Arsenic	2.43	0.0855	"	2.5		97	80-120			
LRB (LRB-L617431)			Prepared: 05/20/2022 Analyzed: 05/24/2022							
Selenium	ND	0.25	mg/Kg				-			
Arsenic	ND	0.25	"				-			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Notes and Definitions

- U Sample is Non-Detect.
- S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.
- QM-10 LCS/LCSD were analyzed in place of MS/MSD.
- J Estimated Value. Analyte below reported quantitation limit.
- * QC Failure
- 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

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.



June 17, 2022

Tasman Geosciences

Andy Sagen

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR - Brown 14-1A

Project Number - [none]

Attached are your analytical results for KMG - HSR - Brown 14-1A received by Origins Laboratory, Inc. June 08, 2022. This project is associated with Origins project number Y206206-01.

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 - HSR - Brown 14-1A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST-B06@4'	Y206206-01	Soil	June 8, 2022 11:59	06/08/2022 16:45

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 - HSR - Brown 14-1A

www.originslaboratory.com

Y206206

page of

ORIGINS
LABORATORY, INC

Client: OKY TASMAN
Project Manager: Andy Sagen
Address: HSR Brown 14-1A
Project Name: HSR Brown 14-1A
Project Number: JS
Samples Collected By: JS

Telephone Number: 303.265.9645
Email Address: ASAGEN@TASMAN-geo.com

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix		Analysis			Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	soil	Air	Canister #		Other
15T-Brown 14-1A	6/8/22	11:59	2X					X		X	X	X	1
													2
													3
													4
													5
													6
													7
													8
													9
													10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
<u>[Signature]</u>	6-8-22		<u>AS</u>	6/8/22	11:55	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>

Date Results Needed

Temp Received 57.7

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 - HSR - Brown 14-1A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X206206

Client: Tasman

Client Project ID: HSR B row 14-1A

Checklist Completed by: MS

Shipped Via: HD

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

Date/time completed: 6/8/12

Airbill #: NA

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

Cooler Number/Temperature: 1 / 7.7 °C / _____ °C / _____ °C (Describe) _____ °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 ⁽¹⁾ ?		<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager)

Date/Time Reviewed

Origins Laboratory, Inc.

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 - HSR - Brown 14-1A

AST-B06@4'
6/8/2022 11:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y206206-01 (Soil)

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2F0825	06/08/2022	06/09/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	71.4 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B2F0830	06/08/2022	06/08/2022	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	113 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	114 %	70-130	"	"	"

PAH by 8270D SIM

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 - HSR - Brown 14-1A

AST-B06@4'
6/8/2022 11:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y206206-01 (Soil)

PAH by 8270D SIM

1-Methylnaphthalene	ND	0.000364	0.00067	mg/Kg	1	L621130	06/13/2022	06/14/2022
2-Methylnaphthalene	ND	0.000645	0.00067	"	"	"	"	"
Acenaphthene	ND	0.000304	0.00067	"	"	"	"	"
Anthracene	ND	0.000334	0.00067	"	"	"	"	"
Benzo(a)anthracene	ND	0.000493	0.00067	"	"	"	"	"
Benzo(a)pyrene	ND	0.000468	0.00067	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.000585	0.00067	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.000437	0.00067	"	"	"	"	"
Chrysene	ND	0.000624	0.00067	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.000614	0.00067	"	"	"	"	"
Fluoranthene	ND	0.000394	0.00067	"	"	"	"	"
Fluorene	ND	0.000286	0.00067	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.000627	0.00067	"	"	"	"	"
Naphthalene	ND	0.000484	0.00067	"	"	"	"	"
Pyrene	ND	0.000643	0.00067	"	"	"	"	"

Surrogate: 2-Fluorobiphenyl	49.2 %	33-115	"	"	"
Surrogate: 4-Terphenyl-d14	65.1 %	33-122	"	"	"
Surrogate: Nitrobenzene-d5	56 %	29-110	"	"	"

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 - HSR - Brown 14-1A

AST-B06@4'
6/8/2022 11:59:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y206206-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	1.64	0.100	mg/kg	1	B2F0903	06/09/2022	06/09/2022	
Selenium	ND	0.100	"	"	"	"	"	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 - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2F0825 - EPA 3550B										
Blank (B2F0825-BLK1)					Prepared: 06/08/2022 Analyzed: 06/09/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	19		"	24.9		76.8	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 - HSR - Brown 14-1A

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 B2F0825 - EPA 3550B

LCS (B2F0825-BS1)

Prepared: 06/08/2022 Analyzed: 06/09/2022

Diesel (C10-C28)	948	50.0	mg/kg	1000		94.8	70-130			
Residual Range Organics (C28-C40)	970	200	"	1000		97.0	70-130			
Surrogate: o-Terphenyl	37		"	49.8		73.7	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 - HSR - Brown 14-1A

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 B2F0825 - EPA 3550B

Matrix Spike (B2F0825-MS1)		Source: Y206206-01			Prepared: 06/08/2022 Analyzed: 06/09/2022					
Diesel (C10-C28)	1000	50.0	mg/kg	1000	ND	100	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000	ND	103	70-130			
Surrogate: o-Terphenyl	38		"	49.8		75.5	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 - HSR - Brown 14-1A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B2F0825 - EPA 3550B

Matrix Spike Dup (B2F0825-MSD1)		Source: Y206206-01			Prepared: 06/08/2022 Analyzed: 06/09/2022					
Diesel (C10-C28)	1060	50.0	mg/kg	1000	ND	106	70-130	5.82	35	
Residual Range Organics (C28-C40)	1040	200	"	1000	ND	104	70-130	1.03	35	
Surrogate: o-Terphenyl	40		"	49.8		80.7	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 - HSR - Brown 14-1A

Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2F0830 - EPA 5030 (soil)										
Blank (B2F0830-BLK1)					Prepared: 06/08/2022 Analyzed: 06/08/2022					
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	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.9	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 - HSR - Brown 14-1A

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 B2F0830 - EPA 5030 (soil)

LCS (B2F0830-BS1)

Prepared: 06/08/2022 Analyzed: 06/08/2022

1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Benzene	0.102	0.00200	"	0.100		102	70-130			
Ethylbenzene	0.119	0.00200	"	0.100		119	70-130			
Naphthalene	0.107	0.0100	"	0.100		107	70-130			
Toluene	0.100	0.00200	"	0.100		100	70-130			
o-Xylene	0.109	0.00200	"	0.100		109	70-130			
m,p-Xylene	0.222	0.00400	"	0.200		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		110	70-130			

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 - HSR - Brown 14-1A

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 B2F0830 - EPA 5030 (soil)

Matrix Spike (B2F0830-MS1)		Source: Y206206-01			Prepared: 06/08/2022 Analyzed: 06/08/2022					
1,2,4-Trimethylbenzene	0.0999	0.00200	mg/kg	0.100	ND	99.9	70-130			
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130			
Benzene	0.102	0.00200	"	0.100	ND	102	70-130			
Ethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130			
Naphthalene	0.101	0.0100	"	0.100	ND	101	70-130			
Toluene	0.0984	0.00200	"	0.100	ND	98.4	70-130			
o-Xylene	0.0996	0.00200	"	0.100	ND	99.6	70-130			
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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 - HSR - Brown 14-1A

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
Batch B2F0830 - EPA 5030 (soil)										
Matrix Spike Dup (B2F0830-MSD1)		Source: Y206206-01			Prepared: 06/08/2022 Analyzed: 06/08/2022					
1,2,4-Trimethylbenzene	0.0991	0.00200	mg/kg	0.100	ND	99.1	70-130	0.724	20	
1,3,5-Trimethylbenzene	0.0985	0.00200	"	0.100	ND	98.5	70-130	2.03	20	
Benzene	0.103	0.00200	"	0.100	ND	103	70-130	1.05	20	
Ethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130	0.489	20	
Naphthalene	0.104	0.0100	"	0.100	ND	104	70-130	2.83	20	
Toluene	0.0981	0.00200	"	0.100	ND	98.1	70-130	0.244	20	
o-Xylene	0.0994	0.00200	"	0.100	ND	99.4	70-130	0.161	20	
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130	0.0102	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		112	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 - HSR - Brown 14-1A

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 SM 3500 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 B2F0903 - Default Prep Metals

Blank (B2F0903-BLK1)

Prepared: 06/09/2022 Analyzed: 06/09/2022

Arsenic	ND	0.100	mg/kg							U
Barium	ND	10.0	"							U
Cadmium	ND	0.100	"							U
Chromium	ND	0.100	"							U
Copper	ND	10.0	"							U
Lead	ND	1.00	"							U
Nickel	ND	1.00	"							U
Selenium	ND	0.100	"							U
Silver	ND	0.100	"							U
Zinc	ND	10.0	"							U

LCS (B2F0903-BS1)

Prepared: 06/09/2022 Analyzed: 06/09/2022

Arsenic	0.0483	0.100	mg/kg	0.0500		96.6	80-120			U
Barium	4.70	10.0	"	5.00		94.0	80-120			U
Cadmium	0.0547	0.100	"	0.0500		109	80-120			U
Chromium	0.0562	0.100	"	0.0500		112	80-120			U
Copper	0.514	10.0	"	0.500		103	80-120			U
Lead	0.0518	1.00	"	0.0500		104	80-120			U
Nickel	0.0511	1.00	"	0.0500		102	80-120			U
Selenium	0.0495	0.100	"	0.0500		99.0	80-120			U
Silver	0.0528	0.100	"	0.0500		106	80-120			U

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Andy Sagen
Project Number: [none]
Project: KMG - HSR - Brown 14-1A

Metals by SM 3500 Series Methods - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2F0903 - Default Prep Metals										
LCS (B2F0903-BS1)					Prepared: 06/09/2022 Analyzed: 06/09/2022					
Zinc	0.477	10.0	mg/kg	0.500		95.3	80-120			U
Matrix Spike (B2F0903-MS1)					Source: Y206204-01 Prepared: 06/09/2022 Analyzed: 06/09/2022					
Arsenic	9.30	0.100	mg/kg	9.93	2.72	66.2	75-125			QM-07
Barium	1060	10.0	"	993	136	92.5	75-125			
Cadmium	6.09	0.100	"	9.93	0.0925	60.4	75-125			QM-07
Chromium	34.1	0.100	"	9.93	23.4	107	75-125			
Copper	64.8	10.0	"	99.3	9.25	55.9	75-125			QM-07
Lead	21.2	1.00	"	9.93	11.3	99.4	75-125			
Nickel	13.6	1.00	"	9.93	8.09	55.2	75-125			QM-07
Selenium	5.83	0.100	"	9.93	0.131	57.4	75-125			QM-07
Silver	9.92	0.100	"	9.93	0.0741	99.1	75-125			
Zinc	78.7	10.0	"	99.3	30.3	48.7	75-125			QM-07
Matrix Spike Dup (B2F0903-MSD1)					Source: Y206204-01 Prepared: 06/09/2022 Analyzed: 06/09/2022					
Arsenic	7.84	0.100	mg/kg	9.66	2.72	53.0	75-125	17.0	20	QM-07
Barium	996	10.0	"	966	136	88.9	75-125	5.84	20	
Cadmium	6.34	0.100	"	9.66	0.0925	64.7	75-125	4.04	20	QM-07
Chromium	31.6	0.100	"	9.66	23.4	85.1	75-125	7.43	20	
Copper	66.3	10.0	"	96.6	9.25	59.0	75-125	2.26	20	QM-07
Lead	19.4	1.00	"	9.66	11.3	84.0	75-125	8.66	20	
Nickel	12.9	1.00	"	9.66	8.09	49.5	75-125	5.29	20	QM-07
Selenium	6.04	0.100	"	9.66	0.131	61.2	75-125	3.58	20	QM-07
Silver	10.0	0.100	"	9.66	0.0741	103	75-125	1.14	20	
Zinc	79.8	10.0	"	96.6	30.3	51.2	75-125	1.34	20	QM-07

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 - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L621130 - 3550B

MSD (L 93027-MSD-L621130)		Source: Y206206-01			Prepared: 06/13/2022 Analyzed: 06/14/2022					
Benzo(a)anthracene	0.116	0.000493	mg/Kg	0.166	<0.000493	69.8	30-130	15.8	30	
Chrysene	0.118	0.000624	"	0.166	<0.000624	71	30-130	17	30	
Pyrene	0.127	0.000643	"	0.166	<0.000643	76.5	30-130	19.2	30	
Naphthalene	0.0952	0.000484	"	0.166	<0.000484	57.3	30-130	17.9	30	
Indeno(1,2,3-cd)pyrene	0.115	0.000627	"	0.166	<0.000627	69.2	30-130	23.7	30	
Fluorene	0.113	0.000286	"	0.166	<0.000286	68	30-130	23.4	30	
Fluoranthene	0.132	0.000394	"	0.166	<0.000394	79.5	30-130	17.3	30	
Dibenz(a,h)anthracene	0.152	0.000614	"	0.166	<0.000614	91.5	30-130	18.5	30	
2-Methylnaphthalene	0.0941	0.000645	"	0.166	<0.000645	56.6	30-130	19.9	30	
1-Methylnaphthalene	0.0957	0.000364	"	0.166	<0.000364	57.6	30-130	18.3	30	
Benzo(b)fluoranthene	0.0689	0.000585	"	0.166	<0.000585	41.5	30-130	17.4	30	
Benzo(k)fluoranthene	0.088	0.000437	"	0.166	<0.000437	53	30-130	13.7	30	
Acenaphthene	0.117	0.000304	"	0.166	<0.000304	70.4	30-130	21.3	30	
Anthracene	0.138	0.000334	"	0.166	<0.000334	83.1	30-130	19.6	30	
Benzo(a)pyrene	0.126	0.000468	"	0.166	<0.000468	75.9	30-130	20.6	30	
Surrogate: Nitrobenzene-d5	72.8		"	0.332	183	72.8	29-110			
Surrogate: 2-Fluorobiphenyl	70.4		"	0.332	161	70.4	33-115			
Surrogate: 4-Terphenyl-d14	104		"	0.332	213	104	33-122			

MS (L 93027-MS-L621130)		Source: Y206206-01			Prepared: 06/13/2022 Analyzed: 06/14/2022					
Dibenz(a,h)anthracene	0.183	0.000614	mg/Kg	0.163	<0.000614	112	30-130			
Naphthalene	0.114	0.000484	"	0.163	<0.000484	69.9	30-130			
Indeno(1,2,3-cd)pyrene	0.146	0.000627	"	0.163	<0.000627	89.5	30-130			
Benzo(k)fluoranthene	0.101	0.000437	"	0.163	<0.000437	61.9	30-130			
Fluoranthene	0.157	0.000394	"	0.163	<0.000394	96.3	30-130			
Chrysene	0.14	0.000624	"	0.163	<0.000624	85.8	30-130			
Pyrene	0.154	0.000643	"	0.163	<0.000643	94.4	30-130			

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 - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L621130 - 3550B

MS (L 93027-MS-L621130)		Source: Y206206-01			Prepared: 06/13/2022 Analyzed: 06/14/2022					
Benzo(b)fluoranthene	0.0821	0.000585	mg/Kg	0.163	<0.000585	50.3	30-130			
Fluorene	0.143	0.000286	"	0.163	<0.000286	87.7	30-130			
1-Methylnaphthalene	0.115	0.000364	"	0.163	<0.000364	70.5	30-130			
2-Methylnaphthalene	0.115	0.000645	"	0.163	<0.000645	70.5	30-130			
Acenaphthene	0.145	0.000304	"	0.163	<0.000304	88.9	30-130			
Anthracene	0.168	0.000334	"	0.163	<0.000334	103	30-130			
Benzo(a)anthracene	0.136	0.000493	"	0.163	<0.000493	83.4	30-130			
Benzo(a)pyrene	0.155	0.000468	"	0.163	<0.000468	95	30-130			
Surrogate: Nitrobenzene-d5	90.1		"	0.326	183	90.1	29-110			
Surrogate: 2-Fluorobiphenyl	95		"	0.326	161	95	33-115			
Surrogate: 4-Terphenyl-d14	148		"	0.326	213	148	33-122			*

LCS (LCS-L621130)

Prepared: 06/13/2022 Analyzed: 06/14/2022

Fluoranthene	0.131	0.000394	mg/Kg	0.167		78.4	30-130
Pyrene	0.127	0.000643	"	0.167		76	30-130
Benzo(k)fluoranthene	0.0889	0.000437	"	0.167		53.2	30-130
Naphthalene	0.1	0.000484	"	0.167		59.8	30-130
Fluorene	0.118	0.000286	"	0.167		70.6	30-130
Dibenz(a,h)anthracene	0.154	0.000614	"	0.167		92.2	30-130
Chrysene	0.115	0.000624	"	0.167		68.8	30-130
1-Methylnaphthalene	0.102	0.000364	"	0.167		61	30-130
Benzo(a)pyrene	0.127	0.000468	"	0.167		76	30-130
Benzo(a)anthracene	0.115	0.000493	"	0.167		68.8	30-130
Anthracene	0.137	0.000334	"	0.167		82	30-130
Acenaphthene	0.121	0.000304	"	0.167		72.4	30-130
2-Methylnaphthalene	0.101	0.000645	"	0.167		60.4	30-130
Indeno(1,2,3-cd)pyrene	0.113	0.000627	"	0.167		67.6	30-130

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 - HSR - Brown 14-1A

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L621130 - 3550B

LCS (LCS-L621130)

Prepared: 06/13/2022 Analyzed: 06/14/2022

Benzo(b)fluoranthene	0.0771	0.000585	mg/Kg	0.167		46.1	30-130			
Surrogate: Nitrobenzene-d5	76.5		"	0.333		76.5	29-110			
Surrogate: 4-Terphenyl-d14	98.1		"	0.333		98.1	33-122			
Surrogate: 2-Fluorobiphenyl	76.8		"	0.333		76.8	33-115			

LRB (LRB-L621130)

Prepared: 06/13/2022 Analyzed: 06/14/2022

Chrysene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	65.1		"	0.333		65.1	29-110			
Surrogate: 4-Terphenyl-d14	78		"	0.333		78	33-122			
Surrogate: 2-Fluorobiphenyl	58.5		"	0.333		58.5	33-115			

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 - HSR - Brown 14-1A

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.

* QC Failure

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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