



May 14, 2021

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - HSR - Van Schaack 4-33

Project Number - GS-15687

Attached are your analytical results for KMG - HSR - Van Schaack 4-33 received by Origins Laboratory, Inc. May 07, 2021. This project is associated with Origins project number Y105127-01.

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: GS-15687
Project: KMG - HSR - Van Schaack 4-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01 - 050721	Y105127-01	Water	May 7, 2021 9:46	05/07/2021 13:18
BH02 - 050721	Y105127-02	Water	May 7, 2021 9:54	05/07/2021 13:18
BH03 - 050721	Y105127-03	Water	May 7, 2021 9:35	05/07/2021 13:18
BH04 - 050721	Y105127-04	Water	May 7, 2021 9:45	05/07/2021 13:18
BH05 - 050721	Y105127-05	Water	May 7, 2021 9:26	05/07/2021 13:18

Origins Laboratory, Inc.



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page 1 of 1

105127

ORIGINS
LABORATORY, INC

Client: GSH/Tasman
Address: 6855 W 119th Ave.
Broomfield, CO 80020
Telephone Number: 303-487-1228
Email Address: Mjahn@tasman-geo.com

Project Manager: Mike Jahn
Project Name: HSR - Van Schaack 4-33
Project Number: GS-15687
Samples Collected By: Yanni Tsambis

Fox: 303.265.9645 Phone: 303.433.1322 Denver, CO 80211 1725 Elk Place

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa		
BH01-050721	5/7/21	0946	3		X						504	1
BH02-050721		0954	3		X						1,2,4 TMB	2
BH03-050721		0935	3		X						1,3,5 TMB	3
BH04-050721		0945	3		X						1,2,4 TMB	4
BH05-050721		0926	3		X						504	5

Relinquished By: [Signature] Date: 5/7/21 Time: 1318
Relinquished By: [Signature] Date: 5/7/21 Time: 1318

Received By: [Signature] Date: 5/7/21 Time: 1318
Received By: [Signature] Date: 5/7/21 Time: 1318

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

Origins Laboratory, Inc.

Jordan A. Merrill

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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: GS-15687
Project: KMG - HSR - Van Schaack 4-33

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

Origins Work Order: Y105127 Sample Receipt Checklist

Client: Tasman
Client Project ID: Van Schaack 4-33

Checklist Completed by: SK KDK
Date/time completed: 05/10/21

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

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

Cooler Number/Temperature: 1 / 5.8 °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T003

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) Jm

5-10-21
Date/Time Reviewed

Origins Laboratory, Inc.

Jm

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6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: GS-15687
Project: KMG - HSR - Van Schaack 4-33

BH01 - 050721

5/7/2021 9:46:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y105127-01 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1E1003	KDK	05/10/2021	05/10/2021	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	95.2 %	70-130			"	"	"
Surrogate: Toluene-d8	96.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.3 %	70-130			"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6855 West 119th Avenue
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Mike Jahn
Project Number: GS-15687
Project: KMG - HSR - Van Schaack 4-33

BH02 - 050721

5/7/2021 9:54:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y105127-02 (Water)

BTEX by EPA 8260D

Benzene	23.5	1.00	ug/L	1	B1E1003	KDK	05/10/2021	05/10/2021	
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	3.39	1.00	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	96.7 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.9 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.7 %	70-130			"	"	"	

Origins Laboratory, Inc.



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6855 West 119th Avenue
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Mike Jahn
Project Number: GS-15687
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BH03 - 050721

5/7/2021 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y105127-03 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1E1003	KDK	05/10/2021	05/10/2021	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130			"	"	"
Surrogate: Toluene-d8	98.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.4 %	70-130			"	"	"

Origins Laboratory, Inc.



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Mike Jahn
Project Number: GS-15687
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BH04 - 050721

5/7/2021 9:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y105127-04 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1E1003	KDK	05/10/2021	05/10/2021	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	1.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	94.6 %	70-130	"	"	"
Surrogate: Toluene-d8	99.4 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.0 %	70-130	"	"	"

Origins Laboratory, Inc.



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BH05 - 050721

5/7/2021 9:26:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y105127-05 (Water)

BTEX by EPA 8260D

Benzene	ND	1.00	ug/L	1	B1E1003	KDK	05/10/2021	05/10/2021	U
Toluene	ND	1.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	1.00	"	"	"	KDK	"	"	U
Xylenes, total	2.48	1.00	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4	94.7 %	70-130			"	"	"
Surrogate: Toluene-d8	99.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.2 %	70-130			"	"	"

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1E1003 - EPA 5030B (Water)

Blank (B1E1003-BLK1)

Prepared: 05/10/2021 Analyzed: 05/10/2021

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.6	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.1	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1E1003 - EPA 5030B (Water)

LCS (B1E1003-BS1)

Prepared: 05/10/2021 Analyzed: 05/10/2021

Benzene	50.0	1.00	ug/L	50.0		100	70-130			
Toluene	50.5	1.00	"	50.0		101	70-130			
Ethylbenzene	49.9	1.00	"	50.0		99.7	70-130			
m,p-Xylene	100	2.00	"	100		100	70-130			
o-Xylene	50.0	1.00	"	50.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.7	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.6	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1E1003 - EPA 5030B (Water)

Matrix Spike (B1E1003-MS1)		Source: Y105118-02			Prepared: 05/10/2021 Analyzed: 05/10/2021					
Benzene	46.0	1.00	ug/L	50.0	92.0	70-130				
Toluene	48.1	1.00	"	50.0	96.1	70-130				
Ethylbenzene	48.7	1.00	"	50.0	97.4	70-130				
m,p-Xylene	96.1	2.00	"	100	96.1	70-130				
o-Xylene	46.7	1.00	"	50.0	93.4	70-130				
Surrogate: 1,2-Dichloroethane-d4	53		"	62.5	84.7	70-130				
Surrogate: Toluene-d8	61		"	62.5	96.9	70-130				
Surrogate: 4-Bromofluorobenzene	60		"	62.5	96.8	70-130				

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1E1003 - EPA 5030B (Water)										
Matrix Spike Dup (B1E1003-MSD1)	Source: Y105118-02				Prepared: 05/10/2021 Analyzed: 05/10/2021					
Benzene	56.0	1.00	ug/L	50.0	112	70-130	19.6	20		
Toluene	57.0	1.00	"	50.0	114	70-130	17.0	20		
Ethylbenzene	60.0	1.00	"	50.0	120	70-130	20.8	20		QR-03
m,p-Xylene	120	2.00	"	100	120	70-130	21.8	20		QR-03
o-Xylene	57.8	1.00	"	50.0	116	70-130	21.3	20		QR-03
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5	93.7	70-130				
Surrogate: Toluene-d8	61		"	62.5	97.8	70-130				
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.6	70-130				

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Notes and Definitions

U Sample is Non-Detect.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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