



April 12, 2021

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - KMG - Glens 2 Wellhead

Project Number - 90291498

Attached are your analytical results for KMG - Glens 2 Wellhead received by Origins Laboratory, Inc. April 05, 2021. This project is associated with Origins project number Y104073-01.

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: 90291498
Project: KMG - Glens 2 Wellhead

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@7'	Y104073-01	Soil	April 5, 2021 14:35	04/05/2021 16:20
WH-BG01@7'	Y104073-02	Soil	April 5, 2021 14:40	04/05/2021 16:20

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Origins Laboratory, Inc.

Jeff Pellgrini

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Project Number: 90291498
Project: KMG - Glens 2 Wellhead

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y104073 Client: Tasman
Client Project ID: Glens 2

Checklist Completed by: JG Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 4/5/21 Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
Cooler Number/Temperature: 1 / 4.1 °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"/>	<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 (Project Manager)

4/5/21
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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Mike Jahn
Project Number: 90291498
Project: KMG - Glens 2 Wellhead

WH-B01@7'

4/5/2021 2:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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AAL, Inc. Y104073-01 (Soil)

Boron (Sorbitol)

Boron	2.0		mg/L	1	[none]		04/07/2021	04/09/2021	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B1D0502	KDK	04/05/2021	04/05/2021	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	86.0 %	50-150			"	"	"	
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GBTEX + Naphthalene by EPA 8260D

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B1D0501	TEM	04/05/2021	04/05/2021	U
Benzene	ND	0.002	"	"	"	TEM	"	"	U
Toluene	ND	0.002	"	"	"	TEM	"	"	U
Ethylbenzene	ND	0.002	"	"	"	TEM	"	"	U
Xylenes, total	ND	0.002	"	"	"	TEM	"	"	U
Naphthalene	ND	0.008	"	"	"	TEM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	94.6 %	70-130			"	"	"
Surrogate: Toluene-d8	98.0 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	96.8 %	70-130			"	"	"

Metals (Saturated Paste Prep)

Calcium	6.54		me/L	1	[none]		04/07/2021	04/09/2021	
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Project Number: 90291498

Project: KMG - Glens 2 Wellhead

WH-B01@7'

4/5/2021 2:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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AAL, Inc.
Y104073-01 (Soil)

Metals (Saturated Paste Prep)

Magnesium	5.70		me/L	1	[none]		04/07/2021	04/09/2021	
Sodium	11.54		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.92		pH Units	1	B1D0607	DJL	04/06/2021	04/06/2021	
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SAR by 20B Saturated Paste

SAR	4.66			1	[none]		04/07/2021	04/09/2021	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	2.52	0.00500	mmhos/cm	1	B1D0608	DJL	04/06/2021	04/06/2021	
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Mike Jahn
Project Number: 90291498
Project: KMG - Glens 2 Wellhead

WH-BG01@7'

4/5/2021 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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AAL, Inc. Y104073-02 (Soil)

Boron (Sorbitol)

Boron	2.9	mg/L	1	[none]	04/07/2021	04/09/2021
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Metals (Saturated Paste Prep)

Calcium	11.28	me/L	1	[none]	"	04/09/2021
Magnesium	13.55	"	"	"	"	"
Sodium	22.86	"	"	"	"	"

pH in Soil by EPA 9045D

pH	7.61	pH Units	1	B1D0607	DJL	04/06/2021	04/06/2021
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SAR by 20B Saturated Paste

SAR	6.49		1	[none]	04/07/2021	04/09/2021
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	7.33	0.00500 mmhos/cm	1	B1D0608	DJL	04/06/2021	04/06/2021
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Project: KMG - Glens 2 Wellhead

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 B1D0501 - EPA 5030 (soil)										
Blank (B1D0501-BLK1)					Prepared: 04/05/2021 Analyzed: 04/05/2021					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.4	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1D0501 - EPA 5030 (soil)										
LCS (B1D0501-BS1)					Prepared: 04/05/2021 Analyzed: 04/05/2021					
Benzene	0.052	0.002	mg/kg	0.0500		104	70-130			
Toluene	0.049	0.002	"	0.0500		97.6	70-130			
Ethylbenzene	0.051	0.002	"	0.0500		102	70-130			
m,p-Xylene	0.102	0.004	"	0.100		102	70-130			
o-Xylene	0.051	0.002	"	0.0500		102	70-130			
Naphthalene	0.047	0.008	"	0.0500		93.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1D0501 - EPA 5030 (soil)

Matrix Spike (B1D0501-MS1)		Source: Y104045-01			Prepared: 04/05/2021 Analyzed: 04/05/2021					
Benzene	0.050	0.002	mg/kg	0.0500	ND	100	70-130			
Toluene	0.046	0.002	"	0.0500	ND	92.8	70-130			
Ethylbenzene	0.046	0.002	"	0.0500	ND	91.1	70-130			
m,p-Xylene	0.092	0.004	"	0.100	ND	92.1	70-130			
o-Xylene	0.046	0.002	"	0.0500	ND	92.7	70-130			
Naphthalene	0.046	0.008	"	0.0500	ND	92.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.6	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1D0501 - EPA 5030 (soil)

Matrix Spike Dup (B1D0501-MSD1)		Source: Y104045-01			Prepared: 04/05/2021 Analyzed: 04/05/2021					
Benzene	0.052	0.002	mg/kg	0.0500	ND	103	70-130	2.91	20	
Toluene	0.049	0.002	"	0.0500	ND	97.2	70-130	4.55	20	
Ethylbenzene	0.049	0.002	"	0.0500	ND	97.7	70-130	6.99	20	
m,p-Xylene	0.098	0.004	"	0.100	ND	98.4	70-130	6.59	20	
o-Xylene	0.049	0.002	"	0.0500	ND	98.8	70-130	6.39	20	
Naphthalene	0.047	0.008	"	0.0500	ND	93.5	70-130	1.68	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		94.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.2	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1D0502 - EPA 3550B										
Blank (B1D0502-BLK1)					Prepared: 04/05/2021 Analyzed: 04/05/2021					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	20		"	25.0		80.7	50-150			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1D0502 - EPA 3550B

LCS (B1D0502-BS1)

Prepared: 04/05/2021 Analyzed: 04/05/2021

Diesel (C10-C28)	885	50.0	mg/kg	1000		88.5	70-130			
Residual Range Organics (C28-C40)	873	200	"	1000		87.3	70-130			
Surrogate: o-Terphenyl	52		"	50.0		105	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1D0502 - EPA 3550B

Matrix Spike (B1D0502-MS1)		Source: Y104045-01			Prepared: 04/05/2021 Analyzed: 04/05/2021					
Diesel (C10-C28)	820	50.0	mg/kg	1000	ND	82.0	70-130			
Residual Range Organics (C28-C40)	833	200	"	1000	ND	83.3	70-130			
Surrogate: o-Terphenyl	41		"	50.0		82.0	50-150			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B1D0502 - EPA 3550B

Matrix Spike Dup (B1D0502-MSD1)		Source: Y104045-01			Prepared: 04/05/2021 Analyzed: 04/05/2021					
Diesel (C10-C28)	793	50.0	mg/kg	1000	ND	79.3	70-130	3.31	35	
Residual Range Organics (C28-C40)	781	200	"	1000	ND	78.1	70-130	6.37	35	
Surrogate: o-Terphenyl	40		"	50.0		80.8	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control

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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 B1D0607 - NO PREP

Duplicate (B1D0607-DUP1)

Source: Y104058-01

Prepared: 04/06/2021 Analyzed: 04/06/2021

pH	6.24	pH Units	6.78	8.29	25
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Batch B1D0608 - NO PREP

Blank (B1D0608-BLK1)

Prepared: 04/06/2021 Analyzed: 04/06/2021

Specific Conductance (EC)	0.00330	0.00500	mmhos/cm
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Duplicate (B1D0608-DUP1)

Source: Y104058-01

Prepared: 04/06/2021 Analyzed: 04/06/2021

Specific Conductance (EC)	11.1	0.00500	mmhos/cm	10.4	5.93	25
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Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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