



August 17, 2018

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Smith Jake GU#1

Project Number - [none]

Attached are your analytical results for KMG - Smith Jake GU#1 received by Origins Laboratory, Inc. August 16, 2018. This project is associated with Origins project number Y808220-01.

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

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Smith Jake GU#1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@5'	Y808220-01	Soil	August 16, 2018 15:30	08/16/2018 17:08

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.

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

ORIGINS
LABORATORY, INC.

www.originslaboratory.com

page _____ of _____

Client: APC Project Manager/Send Report To: Robert Gomez

Address: _____ Email Address: RobertGomez@originslab.com

_____ Project Name/Number: Divina Eve GCH9

Telephone Number: _____ Samples Collected By: BZ

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis/Method		Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other	GC/MS	GC/MS		EC
B20185'	8-16-18	1530	2	X						X			X	X	10d 675.5
NW184'		1531	1										X	X	Hold
S20184'		1533	1										X	X	
E20184'		1534	1										X	X	
W20184'		1535	1										X	X	
B20183"		1537	1										X	X	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:									
B	8-16-18			8/16/18	17:08	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/>									
						48 Hr <input type="checkbox"/>									
						Standard <input type="checkbox"/>									

Comments:

Date Results Needed:

2.9

Origins Laboratory, Inc.

Jeff Pellgrini

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
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1808220 Client: Tasman
Client Project ID: KMG - Smith Jake GU#1
Checklist Completed by: Dan Lee Shipped Via: Pick-up
Date/time completed: 8-16-18 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
Airbill #: NO
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____ (Describe)
Cooler Number/Temperature: 1 / 2.9 °C 1 / _____ °C 1 / _____ °C 1 / _____ °C
Thermometer ID: 1003

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pk
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)

8-16-18
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

B01@5'

8/16/2018 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

Origins Laboratory, Inc.
Y808220-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	157	25.0	mg/kg	1	B8H1602	JTD	08/16/2018	08/16/2018	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl 77.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	9.51	0.200	mg/kg	1	B8H1601	JTD	08/16/2018	08/16/2018	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	0.013	0.002	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 " " "
Surrogate: Toluene-d8 97.1 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 129 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.44		pH Units	1	B8H1608	JTD	08/16/2018	08/16/2018	
----	------	--	----------	---	---------	-----	------------	------------	--

Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0992	0.00502	mmhos/cm	"	B8H1609	JTD	08/16/2018	"	
---------------------------	--------	---------	----------	---	---------	-----	------------	---	--

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
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8H1601 - EPA 5030 (soil)										
Blank (B8H1601-BLK1)					Prepared: 08/16/2018 Analyzed: 08/16/2018					
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
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		97.6	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.9	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8H1601 - EPA 5030 (soil)										
LCS (B8H1601-BS1)					Prepared: 08/16/2018 Analyzed: 08/16/2018					
Benzene	0.093	0.002	mg/kg	0.100		92.7	77.1-124			
Toluene	0.093	0.002	"	0.100		93.2	74.5-128			
Ethylbenzene	0.092	0.002	"	0.100		92.1	66.4-127			
m,p-Xylene	0.170	0.004	"	0.200		84.9	76.6-124			
o-Xylene	0.089	0.002	"	0.100		88.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		93.4	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8H1601 - EPA 5030 (soil)

Matrix Spike (B8H1601-MS1)		Source: Y808168-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Benzene	0.100	0.002	mg/kg	0.100	ND	99.8	71.8-126			
Toluene	0.101	0.002	"	0.100	ND	101	65.1-130			
Ethylbenzene	0.099	0.002	"	0.100	ND	99.1	62.2-130			
m,p-Xylene	0.182	0.004	"	0.200	ND	91.2	46.5-137			
o-Xylene	0.095	0.002	"	0.100	ND	94.7	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.5	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.9	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8H1601 - EPA 5030 (soil)										
Matrix Spike Dup (B8H1601-MSD1)		Source: Y808168-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Benzene	0.094	0.002	mg/kg	0.100	ND	94.1	71.8-126	5.88	11.3	
Toluene	0.093	0.002	"	0.100	ND	93.1	65.1-130	7.72	15.4	
Ethylbenzene	0.092	0.002	"	0.100	ND	91.6	62.2-130	7.85	19.6	
m,p-Xylene	0.169	0.004	"	0.200	ND	84.7	46.5-137	7.47	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.3	54.2-134	6.93	17.9	
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.6	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	70-130			

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8H1602 - EPA 3550B

Blank (B8H1602-BLK1)

Prepared: 08/16/2018 Analyzed: 08/16/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	39		"	50.0		78.7	59-131			

Blank (B8H1602-BLK2)

Prepared: 08/16/2018 Analyzed: 08/16/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	71		"	50.0		141	59-131			

LCS (B8H1602-BS1)

Prepared: 08/16/2018 Analyzed: 08/16/2018

Diesel (C10-C28)	917	50.0	mg/kg	1000		91.7	64-121			
Residual Range Organics (C28-C40)	920	200	"	1000		92.0	58-124			
Surrogate: o-Terphenyl	47		"	50.0		94.9	59-131			

LCS (B8H1602-BS2)

Prepared: 08/16/2018 Analyzed: 08/16/2018

Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	64-121			
Residual Range Organics (C28-C40)	1020	200	"	1000		102	58-124			
Surrogate: o-Terphenyl	50		"	50.0		101	59-131			

Matrix Spike (B8H1602-MS1)

Source: Y808199-02

Prepared: 08/16/2018 Analyzed: 08/16/2018

Diesel (C10-C28)	925	50.0	mg/kg	1000	ND	92.5	53-125			
Residual Range Organics (C28-C40)	1000	200	"	1000	57.5	94.4	47-133			

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
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8H1602 - EPA 3550B										
Matrix Spike (B8H1602-MS1)		Source: Y808199-02			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Surrogate: o-Terphenyl	47		mg/kg	50.0		94.8	59-131			
Matrix Spike (B8H1602-MS2)		Source: Y808219-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Diesel (C10-C28)	940	50.0	mg/kg	1000	ND	94.0	53-125			
Residual Range Organics (C28-C40)	996	200	"	1000	54.6	94.1	47-133			
Surrogate: o-Terphenyl	48		"	50.0		95.8	59-131			
Matrix Spike Dup (B8H1602-MSD1)		Source: Y808199-02			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Diesel (C10-C28)	926	50.0	mg/kg	1000	ND	92.6	53-125	0.143	20	
Residual Range Organics (C28-C40)	982	200	"	1000	57.5	92.5	47-133	2.03	20	
Surrogate: o-Terphenyl	48		"	50.0		95.5	59-131			
Matrix Spike Dup (B8H1602-MSD2)		Source: Y808219-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Diesel (C10-C28)	876	50.0	mg/kg	1000	ND	87.6	53-125	6.95	20	
Residual Range Organics (C28-C40)	934	200	"	1000	54.6	87.9	47-133	6.80	20	
Surrogate: o-Terphenyl	42		"	50.0		84.5	59-131			

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
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Smith Jake GU#1

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 B8H1608 - NO PREP										
Duplicate (B8H1608-DUP1)		Source: Y808198-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
pH	2.89		pH Units		2.90			0.345	25	
Batch B8H1609 - NO PREP										
Blank (B8H1609-BLK1)		Prepared: 08/16/2018 Analyzed: 08/16/2018								
Specific Conductance (EC)	0.00200	0.00500	mmhos/cm							
Duplicate (B8H1609-DUP1)		Source: Y808221-01			Prepared: 08/16/2018 Analyzed: 08/16/2018					
Specific Conductance (EC)	0.156	0.00500	mmhos/cm		0.147			6.40	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.

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Smith Jake GU#1

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.

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 For Noelle Doyle Mathis, President