

August 05, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #X1 Project Number - [none]

Attached are your analytical results for KMG - Adamson Ernie F GU #X1 received by Origins Laboratory, Inc. August 04, 2016. This project is associated with Origins project number X608044-01.

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



Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Adamson Ernie F GU #X1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B05@20'	X608044-01	Soil	August 4, 2016 9:35	08/04/2016 15:35

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #X1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X1082044

Client: Tasman Geosciences
 Client Project ID: Adamson Ernie F GU #X1

Checklist Completed by: J. Henderson

Shipped Via: H/D
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: WA

Date/time completed: 8/4/16 1535

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

Cooler Number/Temperature: 1 / 8.1 °C 1 °C 1 °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⁾ ?		X		Sampled Same Day
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	X			pH
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
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 Na ₂ SO ₂ +NaOH, ZnAc+NaOH)			X	
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.

[Signature]
 Reviewed By (Project Manager)

8/4/16
 Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #X1

B05@20'
8/4/2016 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X608044-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	2460	25.0	mg/kg	1	B6H0402	08/04/2016	08/04/2016	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 104 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	2920	50.0	mg/kg	250	B6H0405	08/04/2016	08/04/2016	
Benzene	1.54	0.498	"	"	"	"	"	
Toluene	29.6	0.498	"	"	"	"	"	
Ethylbenzene	17.2	0.498	"	"	"	"	"	
Xylenes, total	263	0.498	"	"	"	"	"	

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

Surrogate: Toluene-d8 109 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 109 % 70-130 " " "

pH in Soil by EPA 9045D

pH	9.49		pH Units	1	B6H0406	08/04/2016	08/04/2016	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.211		mmhos/cm	"	B6H0407	"	08/04/2016	
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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #X1

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
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Batch B6H0405 - EPA 5030 (soil)

Blank (B6H0405-BLK1)

Prepared: 08/04/2016 Analyzed: 08/04/2016

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	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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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
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Batch B6H0405 - EPA 5030 (soil)

LCS (B6H0405-BS1)

Prepared: 08/04/2016 Analyzed: 08/04/2016

Benzene	0.109	0.002	mg/kg	0.100		109	77.1-124			
Toluene	0.106	0.002	"	0.100		106	74.5-128			
Ethylbenzene	0.105	0.002	"	0.100		105	66.4-127			
m,p-Xylene	0.211	0.004	"	0.200		105	76.6-124			
o-Xylene	0.104	0.002	"	0.100		104	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.5	70-130			

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Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B6H0405 - EPA 5030 (soil)

Matrix Spike (B6H0405-MS1)	Source: X608045-01			Prepared: 08/04/2016 Analyzed: 08/04/2016						
Benzene	0.100	0.002	mg/kg	0.100	ND	100	71.8-126			
Toluene	0.097	0.002	"	0.100	ND	96.8	65.1-130			
Ethylbenzene	0.097	0.002	"	0.100	ND	96.9	62.2-130			
m,p-Xylene	0.196	0.004	"	0.200	ND	97.8	46.5-137			
o-Xylene	0.098	0.002	"	0.100	ND	98.0	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		113	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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 Project: KMG - Adamson Ernie F GU #X1

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
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Batch B6H0405 - EPA 5030 (soil)

Matrix Spike Dup (B6H0405-MSD1)	Source: X608045-01			Prepared: 08/04/2016 Analyzed: 08/04/2016						
Benzene	0.101	0.002	mg/kg	0.100	ND	101	71.8-126	0.457	11.3	
Toluene	0.098	0.002	"	0.100	ND	98.0	65.1-130	1.27	15.4	
Ethylbenzene	0.097	0.002	"	0.100	ND	97.4	62.2-130	0.453	19.6	
m,p-Xylene	0.198	0.004	"	0.200	ND	99.0	46.5-137	1.26	19.2	
o-Xylene	0.099	0.002	"	0.100	ND	99.4	54.2-134	1.36	17.9	
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		113	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.7	70-130			

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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
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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
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Batch B6H0402 - EPA 3580

Blank (B6H0402-BLK1)

Prepared: 08/04/2016 Analyzed: 08/04/2016

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	38		"	50.0		75.8	59-131			

LCS (B6H0402-BS1)

Prepared: 08/04/2016 Analyzed: 08/04/2016

Diesel (C10-C28)	1080	50.0	mg/kg	1000		108	64-121			
Residual Range Organics (C28-C40)	1090	200	"	1000		109	58-124			
Surrogate: o-Terphenyl	50		"	50.0		100	59-131			

Matrix Spike (B6H0402-MS1)

Source: X608037-01

Prepared: 08/04/2016 Analyzed: 08/04/2016

Diesel (C10-C28)	1020	50.0	mg/kg	1000	15.1	100	53-125			
Residual Range Organics (C28-C40)	1030	200	"	1000	ND	103	47-133			
Surrogate: o-Terphenyl	45		"	50.0		89.3	59-131			

Matrix Spike Dup (B6H0402-MSD1)

Source: X608037-01

Prepared: 08/04/2016 Analyzed: 08/04/2016

Diesel (C10-C28)	1010	50.0	mg/kg	1000	15.1	99.6	53-125	0.836	20	
Residual Range Organics (C28-C40)	1020	200	"	1000	ND	102	47-133	1.39	20	
Surrogate: o-Terphenyl	45		"	50.0		90.4	59-131			

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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
Batch B6H0406 - NO PREP										
Duplicate (B6H0406-DUP1)		Source: X608044-01			Prepared: 08/04/2016 Analyzed: 08/04/2016					
pH	9.55		pH Units		9.49			0.630	25	
Batch B6H0407 - NO PREP										
Blank (B6H0407-BLK1)		Prepared: 08/04/2016 Analyzed: 08/04/2016								
Specific Conductance (EC)	0.00230		mmhos/cm							
Duplicate (B6H0407-DUP1)		Source: X608044-01			Prepared: 08/04/2016 Analyzed: 08/04/2016					
Specific Conductance (EC)	0.224		mmhos/cm		0.211			5.98	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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Jen Pellegrini For Noelle Doyle Mathis, President