

September 06, 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. September 02, 2016. This project is associated with Origins project number X609027-01.

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
BH01 @ 31-32	X609027-01	Soil	September 2, 2016 10:12	09/02/2016 17:27
BH02 @ 32.5-34	X609027-02	Soil	September 2, 2016 13:09	09/02/2016 17:27
BH03 @ 31-32	X609027-03	Soil	September 2, 2016 16:05	09/02/2016 17:27
BH01	X609027-04	Water	September 2, 2016 13:40	09/02/2016 17:27
BH02	X609027-05	Water	September 2, 2016 16:00	09/02/2016 17:27
BH03	X609027-06	Water	September 2, 2016 16:40	09/02/2016 17:27

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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: X609027

Client: Tasman
 Client Project ID: Adamson Ernie FGU #X1

Checklist Completed by: Jeff Smith
 Date/time completed: 9/2/12

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

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

Cooler Number/Temperature: 1, 19 °C _____ °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⁾ ?	X			
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)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
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⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		✓		
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	✓			HCL
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: 9/2/12

Origins Laboratory, Inc.

[Signature]

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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

BH01 @ 31-32
9/2/2016 10:12:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B6I0205	09/02/2016	09/02/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 79.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B6I0204	09/02/2016	09/02/2016	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 103 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 107 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.24		pH Units	1	B6I0206	09/02/2016	09/05/2016	O-04
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.146		mmhos/cm	"	B6I0207	"	"	
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Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #X1

BH02 @ 32.5-34
9/2/2016 1:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B610205	09/02/2016	09/02/2016	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 81.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1.78	0.200	mg/kg	1	B610204	09/02/2016	09/02/2016	
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	0.006	0.002	"	"	"	"	"	
Xylenes, total	0.025	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 107 % 70-130 " " "
Surrogate: Toluene-d8 106 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.56		pH Units	1	B610206	09/02/2016	09/05/2016	O-04
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.124		mmhos/cm	"	B610207	"	"	
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 Project Number: [none]
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BH03 @ 31-32
9/2/2016 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	37.4	25.0	mg/kg	1	B6I0205	09/02/2016	09/02/2016	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 72.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	29.8	5.00	mg/kg	25	B6I0204	09/02/2016	09/03/2016	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 103 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.59		pH Units	1	B6I0206	09/02/2016	09/05/2016	O-04
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.150		mmhos/cm	"	B6I0207	"	"	
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BH01
9/2/2016 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-04 (Water)

BTEX by EPA 8260C

Benzene	1000	50.0	ug/L	50	B610201	09/02/2016	09/02/2016	
Toluene	13.4	4.00	"	4	"	"	09/02/2016	
Ethylbenzene	1010	50.0	"	50	"	"	09/02/2016	
Xylenes, total	9870	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.4 %	85-115			"	"	09/02/2016	
Surrogate: 4-Bromofluorobenzene	99.8 %	84-114			"	"	"	

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BH02
9/2/2016 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-05 (Water)

BTEX by EPA 8260C

Benzene	1240	50.0	ug/L	50	B610201	09/02/2016	09/02/2016	
Toluene	ND	4.00	"	4	"	"	09/02/2016	U
Ethylbenzene	1540	50.0	"	50	"	"	09/02/2016	
Xylenes, total	15700	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	09/02/2016	
Surrogate: Toluene-d8	109 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

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BH03
9/2/2016 4:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X609027-06 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B610201	09/02/2016	09/02/2016	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Xylenes, total	12.6	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.2 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.4 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"	

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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 B610201 - EPA 5030B (Water)

Blank (B610201-BLK1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

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	62		"	62.5		99.9	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.6	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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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 B610201 - EPA 5030B (Water)

Blank (B610201-BLK2)

Prepared: 09/02/2016 Analyzed: 09/02/2016

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	69		"	62.5	110		84-121			
Surrogate: Toluene-d8	61		"	62.5	97.5		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	101		84-114			

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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 B610201 - EPA 5030B (Water)

LCS (B610201-BS1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

Benzene	51.0	1.00	ug/L	50.0		102	73.3-129			
Toluene	49.3	1.00	"	50.0		98.6	76.2-123			
Ethylbenzene	50.6	1.00	"	50.0		101	73.6-130			
m,p-Xylene	98.2	2.00	"	100		98.2	76.1-126			
o-Xylene	49.1	1.00	"	50.0		98.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.2	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.4	84-114			

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 Denver CO 80211

Bob Cornez
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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 B610201 - EPA 5030B (Water)

LCS (B610201-BS2)

Prepared: 09/02/2016 Analyzed: 09/02/2016

Benzene	53.8	1.00	ug/L	50.0		108	73.3-129			
Toluene	52.4	1.00	"	50.0		105	76.2-123			
Ethylbenzene	53.4	1.00	"	50.0		107	73.6-130			
m,p-Xylene	103	2.00	"	100		103	76.1-126			
o-Xylene	51.8	1.00	"	50.0		104	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

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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 B610201 - EPA 5030B (Water)

Matrix Spike (B610201-MS1)	Source: X608328-01			Prepared: 09/02/2016 Analyzed: 09/02/2016						
Benzene	75.2	1.00	ug/L	50.0	12.3	126	74-130			
Toluene	60.5	1.00	"	50.0	ND	121	73-131			
Ethylbenzene	61.7	1.00	"	50.0	ND	123	76-132			
m,p-Xylene	118	2.00	"	100	ND	118	69-139			
o-Xylene	57.7	1.00	"	50.0	ND	115	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	84-114			

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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 B610201 - EPA 5030B (Water)

Matrix Spike (B610201-MS2)	Source: X608328-02			Prepared: 09/02/2016 Analyzed: 09/02/2016						
Benzene	45.1	1.00	ug/L	50.0	ND	90.3	74-130			
Toluene	43.3	1.00	"	50.0	ND	86.6	73-131			
Ethylbenzene	43.6	1.00	"	50.0	ND	87.2	76-132			
m,p-Xylene	86.4	2.00	"	100	ND	86.4	69-139			
o-Xylene	43.4	1.00	"	50.0	ND	86.7	74-131			
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.1	84-114			

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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 B610201 - EPA 5030B (Water)

Matrix Spike Dup (B610201-MSD1)	Source: X608328-01			Prepared: 09/02/2016 Analyzed: 09/02/2016						
Benzene	70.6	1.00	ug/L	50.0	12.3	117	74-130	6.22	20	
Toluene	58.9	1.00	"	50.0	ND	118	73-131	2.63	20	
Ethylbenzene	61.6	1.00	"	50.0	ND	123	76-132	0.211	20	
m,p-Xylene	118	2.00	"	100	ND	118	69-139	0.152	20	
o-Xylene	57.1	1.00	"	50.0	ND	114	74-131	1.10	20	
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.6	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

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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 B610201 - EPA 5030B (Water)

Matrix Spike Dup (B610201-MSD2)	Source: X608328-02			Prepared: 09/02/2016 Analyzed: 09/02/2016						
Benzene	54.3	1.00	ug/L	50.0	ND	109	74-130	18.4	20	
Toluene	52.6	1.00	"	50.0	ND	105	73-131	19.3	20	
Ethylbenzene	56.2	1.00	"	50.0	ND	112	76-132	25.2	20	QR-02
m,p-Xylene	108	2.00	"	100	ND	108	69-139	22.3	20	QR-02
o-Xylene	53.6	1.00	"	50.0	ND	107	74-131	21.1	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	84-121			
Surrogate: Toluene-d8	62		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	84-114			

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 - 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 B610204 - EPA 5030 (soil)

Blank (B610204-BLK1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

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	68		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		109	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 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 B610204 - EPA 5030 (soil)

LCS (B610204-BS1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

Benzene	0.117	0.002	mg/kg	0.100		117	77.1-124			
Toluene	0.112	0.002	"	0.100		112	74.5-128			
Ethylbenzene	0.112	0.002	"	0.100		112	66.4-127			
m,p-Xylene	0.224	0.004	"	0.200		112	76.6-124			
o-Xylene	0.110	0.002	"	0.100		110	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		114	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 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 B610204 - EPA 5030 (soil)

Matrix Spike (B610204-MS1)	Source: X608326-02			Prepared: 09/02/2016 Analyzed: 09/05/2016						
Benzene	0.099	0.002	mg/kg	0.100	ND	99.1	71.8-126			
Toluene	0.097	0.002	"	0.100	ND	96.6	65.1-130			
Ethylbenzene	0.098	0.002	"	0.100	ND	97.6	62.2-130			
m,p-Xylene	0.195	0.004	"	0.200	ND	97.3	46.5-137			
o-Xylene	0.099	0.002	"	0.100	ND	98.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		113	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		105	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 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 B610204 - EPA 5030 (soil)

Matrix Spike Dup (B610204-MSD1)	Source: X608326-02			Prepared: 09/02/2016 Analyzed: 09/05/2016						
Benzene	0.096	0.002	mg/kg	0.100	ND	96.4	71.8-126	2.76	11.3	
Toluene	0.093	0.002	"	0.100	ND	93.1	65.1-130	3.69	15.4	
Ethylbenzene	0.093	0.002	"	0.100	ND	92.5	62.2-130	5.36	19.6	
m,p-Xylene	0.184	0.004	"	0.200	ND	92.0	46.5-137	5.61	19.2	
o-Xylene	0.093	0.002	"	0.100	ND	93.3	54.2-134	5.57	17.9	
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		114	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 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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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 B6I0205 - EPA 3580

Blank (B6I0205-BLK1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

Diesel (C10-C28)	53.6	50.0	mg/kg							A-01
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	41		"	50.0		81.5	59-131			

LCS (B6I0205-BS1)

Prepared: 09/02/2016 Analyzed: 09/02/2016

Diesel (C10-C28)	999	50.0	mg/kg	1000		99.9	64-121			
Residual Range Organics (C28-C40)	867	200	"	1000		86.7	58-124			
Surrogate: o-Terphenyl	47		"	50.0		94.2	59-131			

Matrix Spike (B6I0205-MS1)

Source: X608326-02

Prepared: 09/02/2016 Analyzed: 09/02/2016

Diesel (C10-C28)	1060	50.0	mg/kg	1000	20.5	104	53-125			
Residual Range Organics (C28-C40)	910	200	"	1000	ND	91.0	47-133			
Surrogate: o-Terphenyl	51		"	50.0		103	59-131			

Matrix Spike Dup (B6I0205-MSD1)

Source: X608326-02

Prepared: 09/02/2016 Analyzed: 09/02/2016

Diesel (C10-C28)	1010	50.0	mg/kg	1000	20.5	99.0	53-125	4.98	20	
Residual Range Organics (C28-C40)	877	200	"	1000	ND	87.7	47-133	3.69	20	
Surrogate: o-Terphenyl	49		"	50.0		97.7	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

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

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 B6I0206 - NO PREP										
Duplicate (B6I0206-DUP1)		Source: X609026-01			Prepared: 09/02/2016 Analyzed: 09/05/2016					
pH	8.03		pH Units		8.10			0.868	25	
Batch B6I0207 - NO PREP										
Blank (B6I0207-BLK1)					Prepared: 09/02/2016 Analyzed: 09/05/2016					
Specific Conductance (EC)	0.00330		mmhos/cm							
Duplicate (B6I0207-DUP1)		Source: X609026-01			Prepared: 09/02/2016 Analyzed: 09/05/2016					
Specific Conductance (EC)	0.119		mmhos/cm		0.122			2.42	25	

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

O-04 This sample was analyzed outside the EPA recommended holding time.

A-01 The Method Blank contains this analyte above the MRL, but the sample results are less than the MRL.

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.

December 30, 2016

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #1X Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #1X received by Origins Laboratory, Inc. December 30, 2016. This project is associated with Origins project number X612325-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #1X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GWN-01	X612325-01	Water	December 30, 2016 10:20	12/30/2016 11:25
GWS-01	X612325-02	Water	December 30, 2016 10:30	12/30/2016 11:25

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 For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X612325 Client: Tasman
 Client Project ID: KMG-Adamson Ernie
 Checklist Completed by: Jen Pellegrini Shipped Via: FD
 Date/time completed: 12/30/12 (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 / 17.3 °C _____ °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⁾ ?		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)		✓		
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⁾ ?		✓		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	✓			
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⁾ ?	✓			
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		✓	headspace in one vial of GWS-01
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)			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.

Jen Pellegrini
 Reviewed by (Project Manager)

12/30/12
 Date/Time Reviewed

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: 89101289
 Project: KMG - Adamson Ernie F GU #1X

GWN-01
12/30/2016 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X612325-01 (Water)

BTEX by EPA 8260C

Benzene	98.6	4.00	ug/L	4	B6L3001	12/30/2016	12/30/2016	
Toluene	242	4.00	"	"	"	"	"	
Ethylbenzene	177	4.00	"	"	"	"	"	
Xylenes, total	3090	50.0	"	50	"	"	12/30/2016	
Surrogate: 1,2-Dichloroethane-d4	98.8 %	84-121			"	"	12/30/2016	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

GWS-01
12/30/2016 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X612325-02 (Water)

BTEX by EPA 8260C

Benzene	110	4.00	ug/L	4	B6L3001	12/30/2016	12/30/2016	
Toluene	543	4.00	"	"	"	"	"	
Ethylbenzene	500	4.00	"	"	"	"	"	
Xylenes, total	7450	50.0	"	50	"	"	12/30/2016	
Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	12/30/2016	
Surrogate: Toluene-d8	109 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B6L3001 - EPA 5030B (Water)

Blank (B6L3001-BLK1)

Prepared: 12/30/2016 Analyzed: 12/30/2016

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	67		"	62.5	107		84-121			
Surrogate: Toluene-d8	58		"	62.5	93.0		85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.4		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B6L3001 - EPA 5030B (Water)

LCS (B6L3001-BS1)

Prepared: 12/30/2016 Analyzed: 12/30/2016

Benzene	54.9	1.00	ug/L	50.0		110	73.3-129			
Toluene	48.5	1.00	"	50.0		97.0	76.2-123			
Ethylbenzene	49.8	1.00	"	50.0		99.6	73.6-130			
m,p-Xylene	102	2.00	"	100		102	76.1-126			
o-Xylene	48.8	1.00	"	50.0		97.7	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.5	84-121			
Surrogate: Toluene-d8	60		"	62.5		95.7	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.7	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B6L3001 - EPA 5030B (Water)

Matrix Spike (B6L3001-MS1)	Source: X612307-01			Prepared: 12/30/2016 Analyzed: 12/30/2016						
Benzene	52.2	1.00	ug/L	50.0	ND	104	74-130			
Toluene	47.1	1.00	"	50.0	ND	94.2	73-131			
Ethylbenzene	46.4	1.00	"	50.0	ND	92.9	76-132			
m,p-Xylene	94.6	2.00	"	100	ND	94.6	69-139			
o-Xylene	45.5	1.00	"	50.0	ND	90.9	74-131			
Surrogate: 1,2-Dichloroethane-d4	54		"	62.5		87.1	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.8	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B6L3001 - EPA 5030B (Water)

Matrix Spike Dup (B6L3001-MSD1)	Source: X612307-01			Prepared: 12/30/2016 Analyzed: 12/30/2016						
Benzene	53.5	1.00	ug/L	50.0	ND	107	74-130	2.50	20	
Toluene	49.1	1.00	"	50.0	ND	98.3	73-131	4.26	20	
Ethylbenzene	47.9	1.00	"	50.0	ND	95.7	76-132	3.01	20	
m,p-Xylene	99.1	2.00	"	100	ND	99.1	69-139	4.63	20	
o-Xylene	47.3	1.00	"	50.0	ND	94.6	74-131	3.95	20	
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		112	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #1X

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

January 09, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #X1 Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #X1 received by Origins Laboratory, Inc. January 09, 2017. This project is associated with Origins project number X701073-01.

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.

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #X1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GWN-02	X701073-01	Water	January 9, 2017 9:40	01/09/2017 11:03
GWS-02	X701073-02	Water	January 9, 2017 9:50	01/09/2017 11:03

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #X1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X701073

Client: Tasman

Client Project ID: Adamson Ernie F GU #X1

Checklist Completed by: Jeff Smith

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

Date/time completed: 1-9-17

Airbill #: NA

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

Cooler Number/Temperature: 1 1 49 °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⁾ ?	✓			
Is there ice present (document if blue ice is used)	✓			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		✓		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		✓		
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	✓			HCL
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.

Jeff Smith
 Reviewed by (Project Manager)

1-9-17
 Date/Time Reviewed

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #X1

GWN-02

1/9/2017 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X701073-01 (Water)

BTEX by EPA 8260C

Benzene	152	50.0	ug/L	50	B7A0603	01/09/2017	01/09/2017	
Toluene	398	50.0	"	"	"	"	"	
Ethylbenzene	1510	50.0	"	"	"	"	"	
Xylenes, total	19700	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	81.6 %	85-115			"	"	"	S-04
Surrogate: 4-Bromofluorobenzene	135 %	84-114			"	"	"	S-04

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #X1

GWS-02
1/9/2017 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X701073-02 (Water)

BTEX by EPA 8260C

Benzene	301	4.00	ug/L	4	B7A0603	01/09/2017	01/09/2017	
Toluene	293	4.00	"	"	"	"	"	
Ethylbenzene	679	100	"	100	"	"	01/09/2017	
Xylenes, total	10800	100	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	99.9 %	84-121			"	"	01/09/2017	
Surrogate: Toluene-d8	101 %	85-115			"	"	01/09/2017	
Surrogate: 4-Bromofluorobenzene	98.9 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A0603 - EPA 5030B (Water)

Blank (B7A0603-BLK1)

Prepared: 01/06/2017 Analyzed: 01/09/2017

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	62		"	62.5		99.2	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.3	84-114			

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: 89101289
 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 B7A0603 - EPA 5030B (Water)

LCS (B7A0603-BS1)

Prepared: 01/06/2017 Analyzed: 01/09/2017

Benzene	47.3	1.00	ug/L	50.0		94.7	73.3-129			
Toluene	51.9	1.00	"	50.0		104	76.2-123			
Ethylbenzene	52.9	1.00	"	50.0		106	73.6-130			
m,p-Xylene	106	2.00	"	100		106	76.1-126			
o-Xylene	53.4	1.00	"	50.0		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.6	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.8	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A0603 - EPA 5030B (Water)

Matrix Spike (B7A0603-MS1)	Source: X701064-01			Prepared: 01/06/2017 Analyzed: 01/09/2017						
Benzene	61.7	1.00	ug/L	50.0	ND	123	74-130			
Toluene	67.0	1.00	"	50.0	ND	134	73-131			QM-07
Ethylbenzene	68.3	1.00	"	50.0	0.130	136	76-132			QM-07
m,p-Xylene	136	2.00	"	100	0.380	135	69-139			
o-Xylene	67.3	1.00	"	50.0	ND	135	74-131			QM-07
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		98.3	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.4	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A0603 - EPA 5030B (Water)

Matrix Spike Dup (B7A0603-MSD1)	Source: X701064-01			Prepared: 01/06/2017 Analyzed: 01/09/2017						
Benzene	55.3	1.00	ug/L	50.0	ND	111	74-130	10.9	20	
Toluene	60.3	1.00	"	50.0	ND	121	73-131	10.5	20	
Ethylbenzene	62.2	1.00	"	50.0	0.130	124	76-132	9.37	20	
m,p-Xylene	123	2.00	"	100	0.380	123	69-139	9.74	20	
o-Xylene	61.6	1.00	"	50.0	ND	123	74-131	8.78	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.6	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #X1

Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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

January 17, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #X1 Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #X1 received by Origins Laboratory, Inc. January 17, 2017. This project is associated with Origins project number X701165-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #X1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GWS-03	X701165-01	Water	January 17, 2017 7:30	01/17/2017 10:30
GWN-03	X701165-02	Water	January 17, 2017 7:35	01/17/2017 10:30

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #X1

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X701165

Client: Tasman

Client Project ID: Adamson Ernie F GU #X1

Checklist Completed by: Jef Smith

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

Date/time completed: 1-17-17

Airbill #: NA

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

Cooler Number/Temperature: 1 / 6.8 °C 1 °C 1 °C 1 °C

Thermometer ID: TU03

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)	✓			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		✓		
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		✓		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		✓		
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)	✓			Htc
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.

Jef Smith
 Reviewed by (Project Manager)

1-17-17
 Date/Time Reviewed

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: 89101289
 Project: KMG - Adamson Ernie F GU #X1

GWS-03

1/17/2017 7:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X701165-01 (Water)

BTEX by EPA 8260C

Benzene	4.00	4.00	ug/L	4	B7A1702	01/17/2017	01/17/2017	
Toluene	8.76	4.00	"	"	"	"	"	
Ethylbenzene	19.2	4.00	"	"	"	"	"	
Xylenes, total	305	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.9 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.0 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #X1

GWN-03

1/17/2017 7:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X701165-02 (Water)

BTEX by EPA 8260C

Benzene	19.0	4.00	ug/L	4	B7A1702	01/17/2017	01/17/2017	
Toluene	19.2	4.00	"	"	"	"	"	
Ethylbenzene	85.0	4.00	"	"	"	"	"	
Xylenes, total	1150	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Blank (B7A1702-BLK1)

Prepared: 01/17/2017 Analyzed: 01/17/2017

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	94.9		84-121			
Surrogate: Toluene-d8	64		"	62.5	103		85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5	104		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Blank (B7A1702-BLK2)

Prepared: 01/17/2017 Analyzed: 01/17/2017

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	61		"	62.5	98.3		84-121			
Surrogate: Toluene-d8	64		"	62.5	102		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	101		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

LCS (B7A1702-BS1)

Prepared: 01/17/2017 Analyzed: 01/17/2017

Benzene	43.2	1.00	ug/L	50.0		86.3	73.3-129			
Toluene	47.9	1.00	"	50.0		95.8	76.2-123			
Ethylbenzene	49.1	1.00	"	50.0		98.3	73.6-130			
m,p-Xylene	97.0	2.00	"	100		97.0	76.1-126			
o-Xylene	49.1	1.00	"	50.0		98.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	55		"	62.5		88.2	84-121			
Surrogate: Toluene-d8	68		"	62.5		108	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

LCS (B7A1702-BS2)

Prepared: 01/17/2017 Analyzed: 01/17/2017

Benzene	52.8	1.00	ug/L	50.0		106	73.3-129			
Toluene	52.2	1.00	"	50.0		104	76.2-123			
Ethylbenzene	53.6	1.00	"	50.0		107	73.6-130			
m,p-Xylene	105	2.00	"	100		105	76.1-126			
o-Xylene	53.4	1.00	"	50.0		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.0	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Matrix Spike (B7A1702-MS1)	Source: X701151-01			Prepared: 01/17/2017 Analyzed: 01/17/2017						
Benzene	53.7	1.00	ug/L	50.0	ND	107	74-130			
Toluene	53.1	1.00	"	50.0	ND	106	73-131			
Ethylbenzene	55.0	1.00	"	50.0	ND	110	76-132			
m,p-Xylene	109	2.00	"	100	0.320	109	69-139			
o-Xylene	54.4	1.00	"	50.0	0.110	109	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.1	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Matrix Spike (B7A1702-MS2)	Source: X701151-04			Prepared: 01/17/2017 Analyzed: 01/17/2017						
Benzene	58.4	1.00	ug/L	50.0	0.590	116	74-130			
Toluene	56.0	1.00	"	50.0	ND	112	73-131			
Ethylbenzene	57.8	1.00	"	50.0	ND	116	76-132			
m,p-Xylene	114	2.00	"	100	ND	114	69-139			
o-Xylene	57.5	1.00	"	50.0	ND	115	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.0	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Matrix Spike Dup (B7A1702-MSD1)	Source: X701151-01			Prepared: 01/17/2017 Analyzed: 01/17/2017						
Benzene	52.7	1.00	ug/L	50.0	ND	105	74-130	1.82	20	
Toluene	52.2	1.00	"	50.0	ND	104	73-131	1.67	20	
Ethylbenzene	54.1	1.00	"	50.0	ND	108	76-132	1.69	20	
m,p-Xylene	107	2.00	"	100	0.320	106	69-139	2.12	20	
o-Xylene	53.3	1.00	"	50.0	0.110	106	74-131	2.17	20	
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 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 B7A1702 - EPA 5030B (Water)

Matrix Spike Dup (B7A1702-MSD2)	Source: X701151-04			Prepared: 01/17/2017 Analyzed: 01/17/2017						
Benzene	53.7	1.00	ug/L	50.0	0.590	106	74-130	8.29	20	
Toluene	52.0	1.00	"	50.0	ND	104	73-131	7.33	20	
Ethylbenzene	53.7	1.00	"	50.0	ND	107	76-132	7.39	20	
m,p-Xylene	107	2.00	"	100	ND	107	69-139	6.71	20	
o-Xylene	52.7	1.00	"	50.0	ND	105	74-131	8.79	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		96.9	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	84-114			

Origins Laboratory, Inc.



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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #X1

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

February 14, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #1X Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #1X received by Origins Laboratory, Inc. February 13, 2017. This project is associated with Origins project number X702244-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #1X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GWN-4	X702244-01	Water	February 13, 2017 12:30	02/13/2017 17:04
GWS-4	X702244-02	Water	February 13, 2017 12:45	02/13/2017 17:04

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: 89101289
 Project: KMG - Adamson Ernie F GU #1X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X 702244

Client: Tasman

Client Project ID: KMG - Adamson Ernie F GU #1X

Checklist Completed by: Dan Lu

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

Date/time completed: 2-13-12 1755

Airbill #: NA

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

Cooler Number/Temperature: 1 / 1.2 °C _____ / _____ °C _____ / _____ °C (Describe)

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⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		/		
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		/		
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) Dan Lu

Date/Time Reviewed 2-13-12 1755

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.

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

GWN-4
2/13/2017 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X702244-01 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7B1306	02/13/2017	02/13/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Xylenes, total	83.4	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	84-114			"	"	"	

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: 89101289
 Project: KMG - Adamson Ernie F GU #1X

GWS-4
2/13/2017 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X702244-02 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7B1306	02/13/2017	02/13/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	4.00	4.00	"	"	"	"	"	
Xylenes, total	141	4.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	102 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	103 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Blank (B7B1306-BLK1)

Prepared: 02/13/2017 Analyzed: 02/13/2017

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	64		"	62.5		103	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.9	84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Blank (B7B1306-BLK2)

Prepared: 02/13/2017 Analyzed: 02/13/2017

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	64		"	62.5	103		84-121			
Surrogate: Toluene-d8	63		"	62.5	101		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.8		84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

LCS (B7B1306-BS1)

Prepared: 02/13/2017 Analyzed: 02/13/2017

Benzene	45.2	1.00	ug/L	50.0		90.4	73.3-129			
Toluene	46.1	1.00	"	50.0		92.1	76.2-123			
Ethylbenzene	47.3	1.00	"	50.0		94.7	73.6-130			
m,p-Xylene	93.8	2.00	"	100		93.8	76.1-126			
o-Xylene	46.6	1.00	"	50.0		93.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.1	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

LCS (B7B1306-BS2)

Prepared: 02/13/2017 Analyzed: 02/13/2017

Benzene	44.0	1.00	ug/L	50.0		87.9	73.3-129			
Toluene	44.7	1.00	"	50.0		89.3	76.2-123			
Ethylbenzene	46.9	1.00	"	50.0		93.9	73.6-130			
m,p-Xylene	92.9	2.00	"	100		92.9	76.1-126			
o-Xylene	46.5	1.00	"	50.0		93.0	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.9	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Matrix Spike (B7B1306-MS1)	Source: X702177-06			Prepared: 02/13/2017 Analyzed: 02/13/2017						
Benzene	52.1	1.00	ug/L	50.0	ND	104	74-130			
Toluene	52.1	1.00	"	50.0	ND	104	73-131			
Ethylbenzene	53.1	1.00	"	50.0	ND	106	76-132			
m,p-Xylene	106	2.00	"	100	0.230	106	69-139			
o-Xylene	51.3	1.00	"	50.0	ND	103	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.1	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Matrix Spike (B7B1306-MS2)	Source: X702177-07			Prepared: 02/13/2017 Analyzed: 02/13/2017						
Benzene	50.4	1.00	ug/L	50.0	ND	101	74-130			
Toluene	49.8	1.00	"	50.0	ND	99.7	73-131			
Ethylbenzene	51.1	1.00	"	50.0	ND	102	76-132			
m,p-Xylene	100	2.00	"	100	ND	100	69-139			
o-Xylene	49.3	1.00	"	50.0	ND	98.6	74-131			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		90.4	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Matrix Spike Dup (B7B1306-MSD1)	Source: X702177-06			Prepared: 02/13/2017 Analyzed: 02/13/2017						
Benzene	49.3	1.00	ug/L	50.0	ND	98.6	74-130	5.62	20	
Toluene	49.0	1.00	"	50.0	ND	97.9	73-131	6.14	20	
Ethylbenzene	50.7	1.00	"	50.0	ND	101	76-132	4.60	20	
m,p-Xylene	100	2.00	"	100	0.230	100	69-139	5.49	20	
o-Xylene	49.2	1.00	"	50.0	ND	98.4	74-131	4.26	20	
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		90.5	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7B1306 - EPA 5030B (Water)

Matrix Spike Dup (B7B1306-MSD2)	Source: X702177-07			Prepared: 02/13/2017 Analyzed: 02/13/2017						
Benzene	48.0	1.00	ug/L	50.0	ND	95.9	74-130	4.92	20	
Toluene	46.6	1.00	"	50.0	ND	93.2	73-131	6.72	20	
Ethylbenzene	47.7	1.00	"	50.0	ND	95.4	76-132	6.94	20	
m,p-Xylene	94.2	2.00	"	100	ND	94.2	69-139	6.42	20	
o-Xylene	46.7	1.00	"	50.0	ND	93.3	74-131	5.48	20	
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.2	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	84-114			

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: 89101289
Project: KMG - Adamson Ernie F GU #1X

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

March 31, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #1X Project Number - [none]

Attached are your analytical results for KMG - Adamson Ernie F GU #1X received by Origins Laboratory, Inc. March 27, 2017. This project is associated with Origins project number Y703367-01.

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 #1X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04-3/27/17	Y703367-01	Water	March 27, 2017 11:08	03/27/2017 14:15
BH05-3/27/17	Y703367-02	Water	March 27, 2017 11:24	03/27/2017 14:15
BH06-3/27/17	Y703367-03	Water	March 27, 2017 11:00	03/27/2017 14:15
BH07-3/27/17	Y703367-04	Water	March 27, 2017 11:30	03/27/2017 14:15
BH08-3/27/17	Y703367-05	Water	March 27, 2017 11:55	03/27/2017 14:15
BH09-3/27/17	Y703367-06	Water	March 27, 2017 12:25	03/27/2017 14:15
BH10-3/27/17	Y703367-07	Water	March 27, 2017 12:00	03/27/2017 14:15

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 - Adamson Ernie F GU #1X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: y703367

Client: Tasman

Client Project ID: KMG - Adamson Ernie F GU #1X

Checklist Completed by: Don Lee

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

Date/time completed: 3-27-12 1430

Airbill #: NA

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

Cooler Number/Temperature: 1 / 4.2 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: 7003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		/		
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)		/		
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 Don Lee (Project Manager)

Date/Time Reviewed 3/28/12

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 - Adamson Ernie F GU #1X

BH04-3/27/17

3/27/2017 11:08:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y703367-01 (Water)

BTEX by EPA 8260C

Benzene	15.6	4.00	ug/L	4	B7C2905	03/29/2017	03/29/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	700	4.00	"	"	"	"	"	
Xylenes, total	10700	100	"	100	"	"	03/30/2017	
Surrogate: 1,2-Dichloroethane-d4	87.2 %	84-121			"	"	03/29/2017	
Surrogate: Toluene-d8	99.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

BH05-3/27/17
3/27/2017 11:24:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y703367-02 (Water)

BTEX by EPA 8260C

Benzene	19.7	4.00	ug/L	4	B7C2905	03/29/2017	03/29/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	575	4.00	"	"	"	"	"	
Xylenes, total	5740	50.0	"	50	"	"	03/30/2017	

Surrogate: 1,2-Dichloroethane-d4	89.9 %	84-121			"	"	03/29/2017	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	84-114			"	"	"	

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 - Adamson Ernie F GU #1X

BH06-3/27/17

3/27/2017 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y703367-03 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7C2905	03/29/2017	03/29/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	43.6	4.00	"	"	"	"	"	
Xylenes, total	310	4.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	86.2 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

BH07-3/27/17
3/27/2017 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y703367-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7C2905	03/29/2017	03/30/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	12.1	1.00	"	"	"	"	"	
Xylenes, total	64.0	1.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	88.0 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	96.3 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

BH08-3/27/17

3/27/2017 11:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y703367-05 (Water)

BTEX by EPA 8260C

Benzene	15.4	4.00	ug/L	4	B7C2905	03/29/2017	03/30/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	418	4.00	"	"	"	"	"	
Xylenes, total	2270	10.0	"	10	"	"	03/30/2017	
Surrogate: 1,2-Dichloroethane-d4	88.8 %	84-121			"	"	03/30/2017	
Surrogate: Toluene-d8	99.9 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.7 %	84-114			"	"	"	

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 - Adamson Ernie F GU #1X

BH09-3/27/17

3/27/2017 12:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y703367-06 (Water)

BTEX by EPA 8260C

Benzene	321	4.00	ug/L	4	B7C2905	03/29/2017	03/30/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	666	4.00	"	"	"	"	"	
Xylenes, total	8050	20.0	"	20	"	"	03/30/2017	
Surrogate: 1,2-Dichloroethane-d4	88.3 %	84-121			"	"	03/30/2017	
Surrogate: Toluene-d8	96.0 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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 - Adamson Ernie F GU #1X

BH10-3/27/17

3/27/2017 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y703367-07 (Water)

BTEX by EPA 8260C

Benzene	2610	50.0	ug/L	50	B7C2905	03/29/2017	03/30/2017	
Toluene	2750	50.0	"	"	"	"	"	
Ethylbenzene	1470	50.0	"	"	"	"	"	
Xylenes, total	21500	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	87.8 %	84-121			"	"	03/30/2017	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"	

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 - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Blank (B7C2905-BLK1)

Prepared: 03/29/2017 Analyzed: 03/29/2017

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.4	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Blank (B7C2905-BLK2)

Prepared: 03/29/2017 Analyzed: 03/29/2017

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	62		"	62.5		99.8	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

LCS (B7C2905-BS1)

Prepared: 03/29/2017 Analyzed: 03/29/2017

Benzene	54.0	1.00	ug/L	50.0		108	73.3-129			
Toluene	53.3	1.00	"	50.0		107	76.2-123			
Ethylbenzene	53.3	1.00	"	50.0		107	73.6-130			
m,p-Xylene	108	2.00	"	100		108	76.1-126			
o-Xylene	53.4	1.00	"	50.0		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	84-114			

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 - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

LCS (B7C2905-BS2)

Prepared: 03/29/2017 Analyzed: 03/29/2017

Benzene	48.9	1.00	ug/L	50.0		97.7	73.3-129			
Toluene	47.4	1.00	"	50.0		94.9	76.2-123			
Ethylbenzene	47.6	1.00	"	50.0		95.1	73.6-130			
m,p-Xylene	94.7	2.00	"	100		94.7	76.1-126			
o-Xylene	46.2	1.00	"	50.0		92.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.2	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	84-114			

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 - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Matrix Spike (B7C2905-MS1)	Source: Y703341-01			Prepared: 03/29/2017 Analyzed: 03/29/2017						
Benzene	62.4	1.00	ug/L	50.0	ND	125	74-130			
Toluene	61.9	1.00	"	50.0	ND	124	73-131			
Ethylbenzene	62.0	1.00	"	50.0	ND	124	76-132			
m,p-Xylene	125	2.00	"	100	ND	125	69-139			
o-Xylene	60.8	1.00	"	50.0	ND	122	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.8	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Matrix Spike (B7C2905-MS2)	Source: Y703341-05			Prepared: 03/29/2017 Analyzed: 03/29/2017						
Benzene	50.7	1.00	ug/L	50.0	ND	101	74-130			
Toluene	49.2	1.00	"	50.0	ND	98.3	73-131			
Ethylbenzene	49.6	1.00	"	50.0	ND	99.2	76-132			
m,p-Xylene	98.3	2.00	"	100	ND	98.3	69-139			
o-Xylene	48.6	1.00	"	50.0	ND	97.3	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.6	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Matrix Spike Dup (B7C2905-MSD1)	Source: Y703341-01			Prepared: 03/29/2017 Analyzed: 03/29/2017						
Benzene	50.6	1.00	ug/L	50.0	ND	101	74-130	21.0	20	QR-02
Toluene	48.5	1.00	"	50.0	ND	96.9	73-131	24.4	20	QR-02
Ethylbenzene	48.5	1.00	"	50.0	ND	97.0	76-132	24.5	20	QR-02
m,p-Xylene	97.7	2.00	"	100	ND	97.7	69-139	24.3	20	QR-02
o-Xylene	49.8	1.00	"	50.0	ND	99.5	74-131	20.1	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Adamson Ernie F GU #1X

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 B7C2905 - EPA 5030B (Water)

Matrix Spike Dup (B7C2905-MSD2)	Source: Y703341-05			Prepared: 03/29/2017 Analyzed: 03/29/2017						
Benzene	52.0	1.00	ug/L	50.0	ND	104	74-130	2.53	20	
Toluene	49.9	1.00	"	50.0	ND	99.7	73-131	1.39	20	
Ethylbenzene	49.9	1.00	"	50.0	ND	99.7	76-132	0.503	20	
m,p-Xylene	101	2.00	"	100	ND	101	69-139	2.47	20	
o-Xylene	50.2	1.00	"	50.0	ND	100	74-131	3.14	20	
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.2	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.2	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	84-114			

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 - Adamson Ernie F GU #1X

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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.

June 07, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #1X Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #1X received by Origins Laboratory, Inc. June 02, 2017. This project is associated with Origins project number Y706037-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #1X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04-6/2/17	Y706037-01	Water	June 2, 2017 12:12	06/02/2017 15:35
BH05-6/2/17	Y706037-02	Water	June 2, 2017 12:10	06/02/2017 15:35
BH06-6/2/17	Y706037-03	Water	June 2, 2017 12:30	06/02/2017 15:35
BH07-6/2/17	Y706037-04	Water	June 2, 2017 12:34	06/02/2017 15:35
BH08-6/2/17	Y706037-05	Water	June 2, 2017 12:51	06/02/2017 15:35
BH09-6/2/17	Y706037-06	Water	June 2, 2017 13:00	06/02/2017 15:35
BH10-6/2/17	Y706037-07	Water	June 2, 2017 13:15	06/02/2017 15:35

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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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4706037

page 1 of 1

ORIGINS
 LABORATORY, INC

Client: Tasman Geosciences For Anadarko
 Address: 6899 Pecos St, Unit C
Denver, Co 80221
 Telephone Number: 979-255-4735
 Email Address: bcornez@tasman-geo.com

Project Manager: Bob Cornez
 Project Name: Adamson Ernie F GU #1X
 Project Number: 89101289
 Samples Collected By: Max Cornez, Mich Weller

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | 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 #	Other	ES/7								
BH04-6/2/17	6/2/17	12:12	3	X				X												
BH05-6/2/17	6/2/17	12:10																		
BH06-6/2/17	6/2/17	12:30																		
BH07-6/2/17	6/2/17	12:34																		
BH08-6/2/17	6/2/17	12:51																		
BH09-6/2/17	6/2/17	13:00																		
BH10-6/2/17	6/2/17	13:15																		
Relinquished By:	Date:	Time:	# of Containers:	Unpreserved:	HCl:	HNO ₃ :	Other:	Groundwater:	Soil:	Air Summa #:	Other:	ES/7:	Time:	Date:	Turnaround Time:	Same Day:	48 Hr:	72 Hr:	Standard:	
<i>Max</i>	6/2/17	1535											1535	6-2-17	24 Hr				<input checked="" type="checkbox"/>	
Relinquished By:	Date:	Time:	Received By:	Received By:	Received By:	Received By:	Received By:	Received By:	Received By:	Received By:	Received By:	Received By:	Time:	Date:	Temp Received:	40%	Date Results Needed:			

Origins Laboratory, Inc.

Jefe Pellegrini

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y706037

Client: Tasman

Client Project ID: KMG - Adamson Ernie F GU #1X

Checklist Completed by: Dan Len

Shipped Via: 42
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 6-2-17 1618

Airbill #: 212

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

Cooler Number/Temperature: 1 / 4.0 °C 1 / °C 1 / °C 1 / °C (Describe)

Thermometer ID: 1063

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		/		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.				
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)		/		
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) JAP

Date/Time Reviewed 4/5/17

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH04-6/2/17
 6/2/2017 12:12:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-01 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7F0501	06/05/2017	06/05/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	633	4.00	"	"	"	"	"	
Xylenes, total	5830	50.0	"	50	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	109 %	84-121			"	"	06/05/2017	
<i>Surrogate: Toluene-d8</i>	98.5 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	100 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH05-6/2/17
 6/2/2017 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-02 (Water)

BTEX by EPA 8260C

Benzene	8.32	4.00	ug/L	4	B7F0501	06/05/2017	06/06/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	677	10.0	"	10	"	"	06/05/2017	
Xylenes, total	2710	10.0	"	"	"	"	06/06/2017	
Surrogate: 1,2-Dichloroethane-d4	110 %	84-121			"	"	06/05/2017	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH06-6/2/17
 6/2/2017 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7F0501	06/05/2017	06/05/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	23.6	1.00	"	"	"	"	"	
Xylenes, total	170	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	117 %	85-115			"	"	" S-04	
Surrogate: 4-Bromofluorobenzene	98.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH07-6/2/17
 6/2/2017 12:34:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7F0501	06/05/2017	06/05/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	7.90	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	84-121			"	"	"	
Surrogate: Toluene-d8	98.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH08-6/2/17
 6/2/2017 12:51:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-05 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7F0501	06/05/2017	06/06/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	338	10.0	"	10	"	"	06/05/2017	
Xylenes, total	957	10.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH09-6/2/17
 6/2/2017 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-06 (Water)

BTEX by EPA 8260C

Benzene	98.0	50.0	ug/L	50	B7F0501	06/05/2017	06/05/2017	
Toluene	ND	50.0	"	"	"	"	"	U
Ethylbenzene	754	50.0	"	"	"	"	"	
Xylenes, total	5980	50.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	97.9 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.3 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH10-6/2/17
 6/2/2017 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y706037-07 (Water)

BTEX by EPA 8260C

Benzene	1870	50.0	ug/L	50	B7F0501	06/05/2017	06/05/2017	
Toluene	1620	50.0	"	"	"	"	"	
Ethylbenzene	1010	50.0	"	"	"	"	"	
Xylenes, total	13800	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	108 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.4 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Blank (B7F0501-BLK1)

Prepared: 06/05/2017 Analyzed: 06/05/2017

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	94.3		84-121			
Surrogate: Toluene-d8	63		"	62.5	101		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	100		84-114			

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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Blank (B7F0501-BLK2)

Prepared: 06/05/2017 Analyzed: 06/05/2017

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	61		"	62.5		97.1	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.6	84-114			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

LCS (B7F0501-BS1)

Prepared: 06/05/2017 Analyzed: 06/05/2017

Benzene	44.7	1.00	ug/L	50.0		89.4	73.3-129			
Toluene	42.8	1.00	"	50.0		85.6	76.2-123			
Ethylbenzene	43.0	1.00	"	50.0		86.1	73.6-130			
m,p-Xylene	85.6	2.00	"	100		85.6	76.1-126			
o-Xylene	44.5	1.00	"	50.0		89.0	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.1	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.9	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

LCS (B7F0501-BS2)

Prepared: 06/05/2017 Analyzed: 06/05/2017

Benzene	47.1	1.00	ug/L	50.0		94.2	73.3-129			
Toluene	42.6	1.00	"	50.0		85.1	76.2-123			
Ethylbenzene	43.5	1.00	"	50.0		87.1	73.6-130			
m,p-Xylene	85.8	2.00	"	100		85.8	76.1-126			
o-Xylene	44.9	1.00	"	50.0		89.8	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.5	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Matrix Spike (B7F0501-MS1)	Source: Y706017-02			Prepared: 06/05/2017 Analyzed: 06/05/2017						
Benzene	49.0	1.00	ug/L	50.0	ND	98.1	74-130			
Toluene	52.1	1.00	"	50.0	ND	104	73-131			
Ethylbenzene	48.2	1.00	"	50.0	ND	96.3	76-132			
m,p-Xylene	105	2.00	"	100	ND	105	69-139			
o-Xylene	48.6	1.00	"	50.0	ND	97.2	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.0	84-114			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Matrix Spike (B7F0501-MS2)	Source: Y706017-03			Prepared: 06/05/2017 Analyzed: 06/05/2017						
Benzene	54.4	1.00	ug/L	50.0	ND	109	74-130			
Toluene	58.1	1.00	"	50.0	ND	116	73-131			
Ethylbenzene	54.3	1.00	"	50.0	ND	109	76-132			
m,p-Xylene	120	2.00	"	100	ND	120	69-139			
o-Xylene	55.3	1.00	"	50.0	ND	111	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.0	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.4	84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Matrix Spike Dup (B7F0501-MSD1)	Source: Y706017-02			Prepared: 06/05/2017 Analyzed: 06/05/2017						
Benzene	64.2	1.00	ug/L	50.0	ND	128	74-130	26.9	20	QR-02
Toluene	68.1	1.00	"	50.0	ND	136	73-131	26.7	20	QM-07, QR-03
Ethylbenzene	62.4	1.00	"	50.0	ND	125	76-132	25.7	20	QR-02
m,p-Xylene	138	2.00	"	100	ND	138	69-139	26.6	20	QR-02
o-Xylene	64.4	1.00	"	50.0	ND	129	74-131	28.0	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.2	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.3	84-114			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7F0501 - EPA 5030B (Water)

Matrix Spike Dup (B7F0501-MSD2)	Source: Y706017-03			Prepared: 06/05/2017 Analyzed: 06/05/2017						
Benzene	50.0	1.00	ug/L	50.0	ND	100	74-130	8.26	20	
Toluene	52.7	1.00	"	50.0	ND	105	73-131	9.60	20	
Ethylbenzene	48.1	1.00	"	50.0	ND	96.2	76-132	12.1	20	
m,p-Xylene	106	2.00	"	100	ND	106	69-139	12.1	20	
o-Xylene	50.4	1.00	"	50.0	ND	101	74-131	9.41	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.7	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.0	84-114			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #1X

Notes and Definitions

- U Sample is Non-Detect.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- 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.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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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October 05, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #2X Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #2X received by Origins Laboratory, Inc. September 28, 2017. This project is associated with Origins project number Y710004-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #2X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04-9/28/17	Y710004-01	Water	September 28, 2017 9:35	09/28/2017 16:44
BH05-9/28/17	Y710004-02	Water	September 28, 2017 9:33	09/28/2017 16:44
BH06-9/28/17	Y710004-03	Water	September 28, 2017 8:43	09/28/2017 16:44
BH07-9/28/17	Y710004-04	Water	September 28, 2017 9:03	09/28/2017 16:44
BH08-9/28/17	Y710004-05	Water	September 28, 2017 9:15	09/28/2017 16:44
BH09-9/28/17	Y710004-06	Water	September 28, 2017 9:50	09/28/2017 16:44
BH10-9/28/17	Y710004-07	Water	September 28, 2017 9:50	09/28/2017 16:44

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4710007

Client: Tasman

Client Project ID: KMG - Adamson Ernie FGW #2X

Checklist Completed by: Dan Le

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

Date/time completed: 10-1-17 9:21

Airbill #: PA

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

Cooler Number/Temperature: 1 / 5.1 °C _____ / _____ °C _____ / _____ °C (Describe)

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"/>			
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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: [Signature] (Project Manager)

Date/Time Reviewed: 10-2-17 9:39

Origins Laboratory, Inc.

Jefe Pellegrini

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH04-9/28/17
9/28/2017 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710004-01 (Water)

BTEX by EPA 8260C

Benzene	77.2	4.00	ug/L	4	B7J0310	10/03/2017	10/04/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	893	100	"	100	"	"	10/05/2017	
Xylenes, total	6350	100	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.6 %	84-121			"	"	10/04/2017	
Surrogate: Toluene-d8	105 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH05-9/28/17
9/28/2017 9:33:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710004-02 (Water)

BTEX by EPA 8260C

Benzene	231	100	ug/L	100	B7J0310	10/03/2017	10/05/2017	
Toluene	4.36	1.00	"	1	"	"	10/04/2017	
Ethylbenzene	1430	100	"	100	"	"	10/05/2017	
Xylenes, total	11400	100	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	103 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	10/04/2017	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH06-9/28/17
9/28/2017 8:43:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710004-03 (Water)

BTEX by EPA 8260C

Benzene	ND	4.00	ug/L	4	B7J0310	10/03/2017	10/04/2017	U
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	31.3	4.00	"	"	"	"	"	
Xylenes, total	773	4.00	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	98.5 %	84-121			"	"	"	
<i>Surrogate: Toluene-d8</i>	102 %	85-115			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	93.6 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH07-9/28/17
 9/28/2017 9:03:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y710004-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7J0310	10/03/2017	10/04/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	2.16	1.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.9 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH08-9/28/17
9/28/2017 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710004-05 (Water)

BTEX by EPA 8260C

Benzene	1110	100	ug/L	100	B7J0310	10/03/2017	10/05/2017	
Toluene	ND	4.00	"	4	"	"	10/04/2017	U
Ethylbenzene	467	4.00	"	"	"	"	"	
Xylenes, total	9140	100	"	100	"	"	10/05/2017	
Surrogate: 1,2-Dichloroethane-d4	96.6 %	84-121			"	"	10/04/2017	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.1 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH09-9/28/17
 9/28/2017 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y710004-06 (Water)

BTEX by EPA 8260C

Benzene	989	100	ug/L	100	B7J0310	10/03/2017	10/05/2017	
Toluene	ND	1.00	"	1	"	"	10/04/2017	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	6790	100	"	100	"	"	10/05/2017	
Surrogate: 1,2-Dichloroethane-d4	96.9 %	84-121			"	"	10/04/2017	
Surrogate: Toluene-d8	109 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.1 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

BH10-9/28/17
9/28/2017 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y710004-07 (Water)

BTEX by EPA 8260C

Benzene	2170	200	ug/L	200	B7J0310	10/03/2017	10/05/2017	
Toluene	273	4.00	"	4	"	"	10/04/2017	
Ethylbenzene	66.3	4.00	"	"	"	"	"	
Xylenes, total	10900	200	"	200	"	"	10/05/2017	
Surrogate: 1,2-Dichloroethane-d4	99.0 %	84-121			"	"	10/04/2017	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	94.4 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Blank (B7J0310-BLK1)

Prepared: 10/03/2017 Analyzed: 10/03/2017

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	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.2	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.4	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Blank (B7J0310-BLK2)

Prepared: 10/03/2017 Analyzed: 10/04/2017

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	64		"	62.5	102		84-121			
Surrogate: Toluene-d8	61		"	62.5	98.1		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.7		84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Blank (B7J0310-BLK3)

Prepared: 10/03/2017 Analyzed: 10/04/2017

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.6	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.0	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

LCS (B7J0310-BS1)

Prepared: 10/03/2017 Analyzed: 10/03/2017

Benzene	49.6	1.00	ug/L	50.0		99.3	73.3-129			
Toluene	50.6	1.00	"	50.0		101	76.2-123			
Ethylbenzene	51.4	1.00	"	50.0		103	73.6-130			
m,p-Xylene	102	2.00	"	100		102	76.1-126			
o-Xylene	51.9	1.00	"	50.0		104	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

LCS (B7J0310-BS2)

Prepared: 10/03/2017 Analyzed: 10/04/2017

Benzene	52.7	1.00	ug/L	50.0		105	73.3-129			
Toluene	48.4	1.00	"	50.0		96.9	76.2-123			
Ethylbenzene	47.7	1.00	"	50.0		95.3	73.6-130			
m,p-Xylene	99.5	2.00	"	100		99.5	76.1-126			
o-Xylene	49.8	1.00	"	50.0		99.5	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	56		"	62.5		89.7	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

LCS (B7J0310-BS3)

Prepared: 10/03/2017 Analyzed: 10/04/2017

Benzene	45.7	1.00	ug/L	50.0		91.3	73.3-129			
Toluene	46.9	1.00	"	50.0		93.8	76.2-123			
Ethylbenzene	48.0	1.00	"	50.0		96.1	73.6-130			
m,p-Xylene	94.2	2.00	"	100		94.2	76.1-126			
o-Xylene	47.8	1.00	"	50.0		95.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.6	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike (B7J0310-MS1)	Source: Y710003-01			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	59.7	1.00	ug/L	50.0	ND	119	74-130			
Toluene	58.6	1.00	"	50.0	ND	117	73-131			
Ethylbenzene	59.6	1.00	"	50.0	ND	119	76-132			
m,p-Xylene	116	2.00	"	100	ND	116	69-139			
o-Xylene	61.4	1.00	"	50.0	ND	123	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.1	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.1	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.6	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike (B7J0310-MS2)	Source: Y710003-02			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	56.5	1.00	ug/L	50.0	ND	113	74-130			
Toluene	56.2	1.00	"	50.0	ND	112	73-131			
Ethylbenzene	56.9	1.00	"	50.0	ND	114	76-132			
m,p-Xylene	114	2.00	"	100	ND	114	69-139			
o-Xylene	58.8	1.00	"	50.0	ND	118	74-131			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	59		"	62.5		94.4	84-121			
<i>Surrogate: Toluene-d8</i>	62		"	62.5		99.0	85-115			
<i>Surrogate: 4-Bromofluorobenzene</i>	62		"	62.5		99.9	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike (B7J0310-MS3)	Source: Y710003-03			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	59.9	1.00	ug/L	50.0	ND	120	74-130			
Toluene	60.1	1.00	"	50.0	ND	120	73-131			
Ethylbenzene	61.4	1.00	"	50.0	ND	123	76-132			
m,p-Xylene	124	2.00	"	100	ND	124	69-139			
o-Xylene	63.5	1.00	"	50.0	ND	127	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.1	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.4	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike Dup (B7J0310-MSD1)	Source: Y710003-01			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	47.1	1.00	ug/L	50.0	ND	94.3	74-130	23.5	20	QR-02
Toluene	46.5	1.00	"	50.0	ND	93.1	73-131	22.9	20	QR-02
Ethylbenzene	47.7	1.00	"	50.0	ND	95.4	76-132	22.2	20	QR-02
m,p-Xylene	94.2	2.00	"	100	ND	94.2	69-139	21.1	20	QR-02
o-Xylene	48.3	1.00	"	50.0	ND	96.5	74-131	23.9	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.8	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	84-114			

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 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike Dup (B7J0310-MSD2)	Source: Y710003-02			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	57.8	1.00	ug/L	50.0	ND	116	74-130	2.22	20	
Toluene	58.7	1.00	"	50.0	ND	117	73-131	4.42	20	
Ethylbenzene	60.5	1.00	"	50.0	ND	121	76-132	6.11	20	
m,p-Xylene	119	2.00	"	100	ND	119	69-139	4.89	20	
o-Xylene	61.3	1.00	"	50.0	ND	123	74-131	4.05	20	
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.9	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		96.9	84-114			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
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 Project: KMG - Adamson Ernie F GU #2X

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 B7J0310 - EPA 5030B (Water)

Matrix Spike Dup (B7J0310-MSD3)	Source: Y710003-03			Prepared: 10/03/2017 Analyzed: 10/04/2017						
Benzene	46.2	1.00	ug/L	50.0	ND	92.3	74-130	25.9	20	QR-02
Toluene	45.8	1.00	"	50.0	ND	91.5	73-131	27.1	20	QR-02
Ethylbenzene	46.9	1.00	"	50.0	ND	93.8	76-132	26.8	20	QR-02
m,p-Xylene	93.3	2.00	"	100	ND	93.3	69-139	28.2	20	QR-02
o-Xylene	48.6	1.00	"	50.0	ND	97.1	74-131	26.6	20	QR-02
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.8	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.7	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	84-114			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 89101289
Project: KMG - Adamson Ernie F GU #2X

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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

December 13, 2017

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Adamson Ernie F GU #1X Project Number - 89101289

Attached are your analytical results for KMG - Adamson Ernie F GU #1X received by Origins Laboratory, Inc. December 06, 2017. This project is associated with Origins project number Y712093-01.

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: 89101289
Project: KMG - Adamson Ernie F GU #1X

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04-12/5/17	Y712093-01	Water	December 5, 2017 11:15	12/06/2017 17:00
BH05-12/5/17	Y712093-02	Water	December 5, 2017 11:05	12/06/2017 17:00
BH06-12/5/17	Y712093-03	Water	December 5, 2017 10:45	12/06/2017 17:00
BH07-12/5/17	Y712093-04	Water	December 5, 2017 11:25	12/06/2017 17:00
BH08-12/5/17	Y712093-05	Water	December 5, 2017 10:55	12/06/2017 17:00
BH10-12/5/17	Y712093-06	Water	December 5, 2017 11:35	12/06/2017 17:00

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4712093 Client: Tasman
 Client Project ID: KMG-Adamson Ernie
 Checklist Completed by: Dan G Shipped Via: HD
 Date/time completed: 12-7-17 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 3.6 °c _____ / _____ °c _____ / _____ °c (Describe)
 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) [Signature] Date/Time Reviewed 12-7-17

Origins Laboratory, Inc.

Jefe Pellegrini

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH04-12/5/17
12/5/2017 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-01 (Water)

BTEX by EPA 8260C

Benzene	100	4.00	ug/L	4	B7L1103	12/11/2017	12/12/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	667	50.0	"	50	"	"	12/11/2017	
Xylenes, total	3900	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH05-12/5/17
12/5/2017 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-02 (Water)

BTEX by EPA 8260C

Benzene	24.0	4.00	ug/L	4	B7L1103	12/11/2017	12/12/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	677	20.0	"	20	"	"	12/11/2017	
Xylenes, total	2940	20.0	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	106 %	84-121			"	"	"	
Surrogate: Toluene-d8	90.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	143 %	84-114			"	"	"	S-04

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH06-12/5/17
12/5/2017 10:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-03 (Water)

BTEX by EPA 8260C

Benzene	1.14	1.00	ug/L	1	B7L1103	12/11/2017	12/11/2017	
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	6.48	1.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	111 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	492 %	84-114			"	"	"	S-04

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH07-12/5/17

12/5/2017 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B7L1103	12/11/2017	12/11/2017	U
Toluene	ND	1.00	"	"	"	"	"	U
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	ND	1.00	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	105 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH08-12/5/17
12/5/2017 10:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-05 (Water)

BTEX by EPA 8260C

Benzene	26.7	4.00	ug/L	4	B7L1103	12/11/2017	12/11/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	733	4.00	"	"	"	"	"	
Xylenes, total	1770	10.0	"	10	"	"	12/12/2017	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	12/11/2017	
Surrogate: Toluene-d8	89.6 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	111 %	84-114			"	"	"	

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 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

BH10-12/5/17
12/5/2017 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y712093-06 (Water)

BTEX by EPA 8260C

Benzene	1740	50.0	ug/L	50	B7L1103	12/11/2017	12/11/2017	
Toluene	432	50.0	"	"	"	"	"	
Ethylbenzene	732	50.0	"	"	"	"	"	
Xylenes, total	11900	50.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	104 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.8 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

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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 B7L1103 - EPA 5030B (Water)

Blank (B7L1103-BLK1)

Prepared: 12/11/2017 Analyzed: 12/11/2017

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	65		"	62.5		104	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 Project: KMG - Adamson Ernie F GU #1X

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 B7L1103 - EPA 5030B (Water)

LCS (B7L1103-BS1)

Prepared: 12/11/2017 Analyzed: 12/11/2017

Benzene	53.0	1.00	ug/L	50.0		106	73.3-129			
Toluene	53.7	1.00	"	50.0		107	76.2-123			
Ethylbenzene	57.8	1.00	"	50.0		116	73.6-130			
m,p-Xylene	111	2.00	"	100		111	76.1-126			
o-Xylene	54.6	1.00	"	50.0		109	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		93.7	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7L1103 - EPA 5030B (Water)

Matrix Spike (B7L1103-MS1)	Source: Y712093-04			Prepared: 12/11/2017 Analyzed: 12/11/2017						
Benzene	50.9	1.00	ug/L	50.0	ND	102	74-130			
Toluene	49.5	1.00	"	50.0	ND	99.1	73-131			
Ethylbenzene	56.8	1.00	"	50.0	ND	114	76-132			
m,p-Xylene	111	2.00	"	100	ND	111	69-139			
o-Xylene	53.7	1.00	"	50.0	ND	107	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.7	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: 89101289
 Project: KMG - Adamson Ernie F GU #1X

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 B7L1103 - EPA 5030B (Water)

Matrix Spike Dup (B7L1103-MSD1)	Source: Y712093-04			Prepared: 12/11/2017 Analyzed: 12/11/2017						
Benzene	51.9	1.00	ug/L	50.0	ND	104	74-130	1.81	20	
Toluene	51.0	1.00	"	50.0	ND	102	73-131	2.98	20	
Ethylbenzene	56.7	1.00	"	50.0	ND	113	76-132	0.159	20	
m,p-Xylene	109	2.00	"	100	ND	109	69-139	1.23	20	
o-Xylene	53.8	1.00	"	50.0	ND	108	74-131	0.205	20	
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.3	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.3	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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