

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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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

ORIGINS
LABORATORY, INC

www.originslaboratory.com

X600027

page 1 of 1

Client: APC
Address:
Telephone Number: 303-889-9525
Email Address: Rcornez@tascogeo.com

Project Manager: Robert Cornez
Project Name: Adamson Ernie F GU #X1
Project Number:
Samples Collected By: Zach Mathis

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative			Matrix			Analysis			Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Other	8260	8260	
BH01031-32	9/2/16	1012	2	X									1
BH02032-34	9/2/16	1309	2	X									2
BH03031-32	9/2/16	1605	2	X									3
BH01	9/2/16	1340	3	X									4
BH02	9/2/16	1600	3	X									5
BH03	9/2/16	1640	3	X									6
													7
													8
													9
													10

Relinquished By: Zach Mathis Date: 9/2/16 Time: 1727
Relinquished By: Date: 9/2/16 Time: 1727

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

Date Results Needed

Temp Received: 1.9

Origins Laboratory, Inc.

Jefe Pellegrini

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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

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

Shipped Via: H/D

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

Date/time completed: 9/2/12

Airbill #:

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

Cooler Number/Temperature: 1, 19 °C 1 °C 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⁾ ?	<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"/>			PH
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"/>			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: Jeff Smith (Project Manager)

Date/Time Reviewed: 9/2/12

Origins Laboratory, Inc.

Jeff Pellegrini

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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

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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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

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	B6I0205	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	B6I0204	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	B6I0206	09/02/2016	09/05/2016	O-04
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.124		mmhos/cm	"	B6I0207	"	"	
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6899 Pecos Street, Unit C
Denver CO 80211

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

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			"	"	"	
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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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6899 Pecos Street, Unit C
Denver CO 80211

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

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	B6I0201	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			"	"	"

Origins Laboratory, Inc.



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

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	B6I0201	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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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

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	B6I0201	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			"	"	"

Origins Laboratory, Inc.



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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 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			

Origins Laboratory, Inc.



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Denver CO 80211

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

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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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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
Batch B6I0201 - EPA 5030B (Water)										
LCS (B6I0201-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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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 B6I0201 - EPA 5030B (Water)

LCS (B6I0201-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			

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: [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 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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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 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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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 B6I0201 - EPA 5030B (Water)

Matrix Spike Dup (B6I0201-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			

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: [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
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
Batch B6I0204 - EPA 5030 (soil)										
Blank (B6I0204-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
Batch B6I0204 - EPA 5030 (soil)										
LCS (B6I0204-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 B6I0204 - EPA 5030 (soil)

Matrix Spike Dup (B6I0204-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			

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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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.

Jen Pellegrini For Noelle Doyle Mathis, President



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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.



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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

www.originslaboratory.com

page / of /

ORIGINS
LABORATORY, INC

XU12325

Client: APC
Address: _____
Telephone Number: 303-889-9525
Email Address: cornez@tasman-geo.com

Project Manager: Bob Cornez
Project Name: Adamson Ernie
Project Number: 89101289
Samples Collected By: M. Sohn

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #			
GWJ-01	12/30/10	1020	3		X			X					1
GW S-01	4	1030	3	X				X					2
													3
													4
													5
													6
													7
													8
													9
													10

Effluents, not preserved

Relinquished By: MZL Date: 12/30/10 Time: 11:25
Relinquished By: _____ Date: _____ Time: _____

Received By: yo Date: 12/30/10 Time: 11:25
Received By: _____ Date: _____ Time: _____

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

Date Results Needed

Temp Received: 7.3

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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: K612325

Client: Tasman

Client Project ID: KMG-Adamson Ernie

Checklist Completed by: Jen Pellegrini

Shipped Via: 4D

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

Date/time completed: 12/30/11

Airbill #: N/A

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

Cooler Number/Temperature: 1 17.3 °C 1 °C 1 °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"/>		<u>sampled same day</u>
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"/>		<input checked="" type="checkbox"/>	<u>headspace in one vol of GWS-01</u>
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)

12/30/11
Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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.



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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)

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
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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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)

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.



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.



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.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

www.originslaboratory.com

page 1 of 1

ORIGINS LABORATORY, INC

Client: LPC

Address: 303-889-9525

Telephone Number: 303-889-9525

Email Address: EOne12@tasman-geo.com

Project Manager: Bob Cornez

Project Name: Adamson Ernie F GU #X1

Project Number: 89101289

Samples Collected By: Zach Mathis

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sampling Container #		
GWS-02	1/9/16	140	3	X				X				1
GWS-02	1/9/16	150	X	X				X				2
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished By: Zach Mathis Date: 1/9/16 Time: 1055

Relinquished By: Bob Cornez Date: 1/9/16 Time: 1103

Received By: Bob Cornez Date: 1/9/17 Time: 1035

Received By: Zach Mathis Date: 1-9-17 Time: 1103

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

Temp Received: 4.9 Date Results Needed: 1-9-17

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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 #: N/A

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

Cooler Number/Temperature: 1 1 49 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: T003

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

Date/Time Reviewed 1-9-17

Origins Laboratory, Inc.

Jeff Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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.



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-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.



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)

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.

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

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

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

Batch 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.



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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

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.



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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.



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

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

ORIGINS

LABORATORY, INC

X70116S

www.originslaboratory.com

page 1 of 1

Client: ARC

Project Manager: Bob Jones

Address: _____

Project Name: Adams Field F6V #1

Telephone Number: 970 470 9092

Project Number: 89101239

Email Address: C18162075@msn.com

Samples Collected By: P. Mann

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analyst	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
6WS-03	11/17/17	0730	3	X				X				1
6WN-03	11/17/17	0735	3	X				X				2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By: <u>[Signature]</u>	Date: <u>11/17/17</u>	Time: <u>1340</u>		Received By: <u>[Signature]</u>				Date: <u>1-17-17</u>			Time: <u>1630</u>	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>
Relinquished By: <u>[Signature]</u>	Date: <u>11/17/17</u>	Time: <u>1340</u>		Received By: <u>[Signature]</u>				Date: <u>1-17-17</u>			Time: <u>1630</u>	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>

Temp Received- 68

Date Results Needed

Origins Laboratory, Inc.

Jeff Pellipini

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

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: 1-17-12

Airbill #: NA

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

Cooler Number/Temperature: 1 16.8 °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)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	X			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.

Reviewed by (Project Manager): Jef Smith

Date/Time Reviewed: 1-17-12

Origins Laboratory, Inc.

Jef Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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
---------	--------	--------------------	-------	----------	-------	----------	----------	-------

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.



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

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
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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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-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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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.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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.



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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

www.originslaboratory.com page 1 of 1

X702244

Client: APL
Address: 6899 Pecos Street, Unit C, Denver, CO 80211
Telephone Number: 303.265.9645
Email Address: cornez@tasman-geo.com

Project Manager: Bob Cornez
Project Name: Adamson Ernie F GU #1X
Project Number: 89101289
Samples Collected By: 21, 2M

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #			Other
6WN-4	2/13/17	1230	3										1
GWS-4	2/13/17	1245	3										2
													3
													4
													5
													6
													7
													8
													9
													10

Relinquished By: [Signature] Date: 2/13/17 Time: 1704
Relinquished By: [Signature] Date: 2/13/17 Time: 1704

Temp Received: 1.2° Date Results Needed: 2/13/17

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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: X702244

Client: Tasman

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

Checklist Completed by: Don Lu

Shipped Via: Pick-up

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

Date/time completed: 2-13-12 1755

Airbill #: N/A

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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄ / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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) Don Lu

2-13-12 1755
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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.



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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-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	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	103 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	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
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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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
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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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)

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			

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 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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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)

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			

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)

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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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)

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
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-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.



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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



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - 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

www.originslaboratory.com

Y703317

page of

ORIGINS
LABORATORY, INC

Client: APL - Tasman Geosciences
Address: _____
Telephone Number: _____
Email Address: rcornez@tasman-geo.com

Project Manager: Robert Cornez
Project Name: Adamson Ernie F GU Unit
Project Number: _____
Samples Collected By: DLG AL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			Other
BH04-3/27/17	3-27-17	1108	3		X				X				1
BH05-3/27/17		1124	3										2
BH06-3/27/17		1100	3										3
BH07-3/27/17		1130	3										4
BH08-3/27/17		1155	3										5
BH09-3/27/17	✓	1225	3										6
BH10-3/27/17		1200	3										7
													8
													9
													10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
Deek Louder	3-27-17	1415	DLG	3-27-17	1415	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Date Results Needed

4/2/17

Temp Received-

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y703361

Client: Tasman

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

Checklist Completed by: Don Lee

Shipped Via: 110

(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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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: Don Lee (Project Manager)

Date/Time Reviewed: 3/28/12

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - 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.



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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

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	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	86.2 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	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	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	88.0 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	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.



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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

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.



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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

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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-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.



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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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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.



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-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
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
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.



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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

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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

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

7706037

page 1 of 1

Client: Tasman Geosciences For Adair
Address: 6899 Pecos St, Unit C
Denver, Co 80221
Telephone Number: 979-955-4735
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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Groundwater	Soil	Air Summa	Other	Other		
BH04-61217	6/2/17	12:12	3	X			X						1
BH05-61217	6/2/17	12:10	1										2
BH06-61217	6/2/17	12:30	1										3
BH07-61217	6/2/17	12:34	1										4
BH08-61217	6/2/17	12:51	1										5
BH09-61217	6/2/17	13:00	1										6
BH10-61217	6/2/17	13:15	1										7
													8
													9
													10
Relinquished By: <i>Max</i>	Date: 6/2/17	Time: 1535		Received By: <i>Max</i>	Date: 6-2-17	Time: 1535		Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input checked="" type="checkbox"/> Standard					

Date Results Needed

4/02

Temp Received-

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: 6-1-17 1618

Airbill #: 212

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

Cooler Number/Temperature: 1 4.0 °C 1 °C 1 °C 1 °C

Thermometer ID: 1083

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

Date/Time Reviewed 4/5/17

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	109 %	84-121			"	"	06/05/2017	
Surrogate: Toluene-d8	98.5 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	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

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.



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

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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Tasman Geosciences
6899 Pecos Street, Unit C
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			"	"	"	

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

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.



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

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			"	"	"	

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

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			"	"	"

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 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			

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 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			

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
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			

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 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			

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 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			

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 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			

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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 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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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 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.

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.



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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

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 #2X

ORIGINS
LABORATORY, INC

www.originslaboratory.com

710004

page of

Client: APC/Tasman
Address: 6899 Pecos St
Denver, CO 80231
Telephone Number: 970-215-6266
Email Address: rcornez@tasman-geo.com

Project Manager: Bob Cornez
Project Name: Adamson Ernie F GU #2X
Project Number: 89101289
Samples Collected By: Matt P, Mark P, Eric B

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #			
BH04-9/28/17	9/28/17	09:35	3	X				X				1	
BH05-9/28/17	9/28/17	09:33	1									2	
BH06-9/28/17	9/28/17	08:43	1									3	
BH07-9/28/17	9/28/17	09:03	1									4	
BH08-9/28/17	9/28/17	09:15	1									5	
BH09-9/28/17	9/28/17	09:50	1									6	
BH10-9/28/17	9/28/17	09:50	2									7	
												8	
												9	
												10	

Relinquished By: John Gray Date: 9/28/17 Time: 1044
Relinquished By: _____ Date: _____ Time: _____

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

Date Results Needed

Temp Received- 5.1

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 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: 4710009

Client: Tasman

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

Checklist Completed by: Dan Le

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

Date/time completed: 10-1-17 921

Airbill #: PA

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

Cooler Number/Temperature: 1 5.1 °C 1 °C 1 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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)

10-3-17 939
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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 #2X

BH04-9/28/17

9/28/2017 9:35:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

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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Tasman Geosciences
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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Tasman Geosciences
6899 Pecos Street, Unit C
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	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	98.5 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	93.6 %	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

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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Tasman Geosciences
6899 Pecos Street, Unit C
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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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
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			"	"	"	

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

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			"	"	"

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)

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			

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
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			

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
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

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-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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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 #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			

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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			

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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			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.4	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.0	85-115			
Surrogate: 4-Bromofluorobenzene	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			

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 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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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-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			

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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-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.



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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 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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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

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

www.originslaboratory.com

page 1 of 2

ORIGINS LABORATORY, INC 712093

Client: ARC / Tasman Project Manager/Send Report To: Bob Cornez

Address: 6899 Pecos Street Email Address: cornez@tasman-geo.com

Telephone Number: 979-255-4235 Project Name/Number: 89101289 / Adamson Ernie

Samples Collected By: Max Cornez

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/Method	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air / Surface		
BH01-12/5/17	12/5/17	11:15	3	X				X				1
BH05-12/5/17		11:05	1									2
BH06-12/5/17		10:45	1									3
BH07-12/5/17		11:25	1									4
BH08-12/5/17		10:55	1									5
BH10-12/5/17		11:35	1									6
												7
												8
												9
												10

Relinquished By: M. Cornez Date: 12/5/17 Time: 17:00

Relinquished By: Date: Time:

Received By: 8 Date: 12/6/17 Time: 17:00

Received By: Date: Time:

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

Date Result Needed: 12/6

Comments:

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: 4712093

Client: Tasman

Client Project ID: KMG-Adamson Ernie

Checklist Completed by: Dan

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

Date/time completed: 12-7-17

Airbill #: NA

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

Cooler Number/Temperature: 1 / 3.6 °C 1 / 3.6 °C 1 / 3.6 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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.

[Signature]

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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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Tasman Geosciences
6899 Pecos Street, Unit C
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

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

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			"	"	"	

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

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			"	"	"	

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

BH10-12/5/17

12/5/2017 11:35:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

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			"	"	"

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
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			

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 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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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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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			

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

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.

Origins Laboratory, Inc.



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