

March 04, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Gunzner 11-13A**Project Number - [none]**

Attached are your analytical results for KMG - Gunzner 11-13A received by Origins Laboratory, Inc. March 01, 2019. This project is associated with Origins project number Y903028-01.

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 - Gunzner 11-13A

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@6'	Y903028-01	Soil	March 1, 2019 15:15	03/01/2019 16:50
E01@6'	Y903028-02	Soil	March 1, 2019 15:18	03/01/2019 16:50
W01@6'	Y903028-03	Soil	March 1, 2019 15:21	03/01/2019 16:50
GW01	Y903028-04	Water	March 1, 2019 15:24	03/01/2019 16:50

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 - Gunzner 11-13A

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page 1 of 1

4903028

ORIGINS
LABORATORY, INC

Project Manager: Robert Cornez
Project Name: Gunzner 11-13A
Project Number:
Samples Collected By: Zander Hamilton

Client: APC/Tasman Geosciences
Address: 6899 Pecos Street, Denver, CO

Telephone Number: 970-927-0393
Email Address: RCornez@tasman-geo.com

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
N01061	3/1/19	3:15	2						X			GBTEX OH BTEX	1
E01061	3/1/19	3:18	2						X			X X X	2
W01061	3/1/19	3:21	2						X			X X X	3
GW01	3/1/19	3:24	3						X			X	4
													5
													6
													7
													8
													9
													10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
[Signature]	3/1/19	1:50	[Signature]	3/1/19	1:50	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>

Date Results Needed

5.7

Origins Laboratory, Inc.

Jefe Pellegrini

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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y903028

Client: Tasman
Client Project ID: KMG - Gunzner 11-13A

Checklist Completed by: JG

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

Date/time completed: 3 / 1 / 2019

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

Cooler Number/Temperature: 1 5.3 °C / _____ °C / _____ °C / _____ °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"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with Na ₂ SO 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)

3/1/19
Date/Time Reviewed

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 - Gunzner 11-13A

N01@6'

3/1/2019 3:15:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y903028-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C0104	JTD	03/01/2019	03/02/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl 86.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B9C0103	KDK	03/01/2019	03/02/2019	U
Benzene	ND	0.050	"	"	"	KDK	"	"	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4 81.4 % 70-130 " " "
Surrogate: Toluene-d8 99.7 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 96.4 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.46		pH Units	1	B9C0105	OLAB	03/01/2019	03/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.114	0.00500	mmhos/cm	"	B9C0106	OLAB	03/01/2019	"	
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Origins Laboratory, Inc.



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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

E01@6'

3/1/2019 3:18:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903028-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	3640	25.0	mg/kg	1	B9C0104	JTD	03/01/2019	03/02/2019
Residual Range Organics (C28-C40)	755	100	"	"	"	JTD	"	"

Surrogate: o-Terphenyl 86.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	3870	500	mg/kg	2500	B9C0103	JTD	03/01/2019	03/02/2019
Benzene	22.6	4.98	"	"	"	JTD	"	"
Toluene	164	4.98	"	"	"	JTD	"	"
Ethylbenzene	16.2	4.98	"	"	"	JTD	"	"
Xylenes, total	248	4.98	"	"	"	JTD	"	"

Surrogate: 1,2-Dichloroethane-d4 110 % 70-130 " " "
Surrogate: Toluene-d8 100 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.5 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.72		pH Units	1	B9C0105	OLAB	03/01/2019	03/02/2019
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0261	0.00500	mmhos/cm	"	B9C0106	OLAB	03/01/2019	"
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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

W01@6'

3/1/2019 3:21:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y903028-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C0104	JTD	03/01/2019	03/02/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl 80.9 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	5.01	5.00	mg/kg	25	B9C0103	KDK	03/01/2019	03/02/2019	
Benzene	ND	0.050	"	"	"	KDK	"	"	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4 81.6 % 70-130 " " "
Surrogate: Toluene-d8 99.4 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.2 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.73		pH Units	1	B9C0105	OLAB	03/01/2019	03/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0455	0.00500	mmhos/cm	"	B9C0106	OLAB	03/01/2019	"	
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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

GW01

3/1/2019 3:24:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y903028-04 (Water)

BTEX by EPA 8260C

Benzene	9180	100	ug/L	100	B9C0201	JTD	03/02/2019	03/02/2019
Toluene	20000	100	"	"	"	JTD	"	"
Ethylbenzene	864	100	"	"	"	JTD	"	"
Xylenes, total	12600	100	"	"	"	JTD	"	"

Surrogate: 1,2-Dichloroethane-d4	109 %	84-121	"	"	"
Surrogate: Toluene-d8	100 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	96.6 %	84-114	"	"	"

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Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)

Blank (B9C0103-BLK1)

Prepared: 03/01/2019 Analyzed: 03/01/2019

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	0.11		"	0.125		90.9	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.3	70-130			

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Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)										
Blank (B9C0103-BLK2)					Prepared: 03/01/2019 Analyzed: 03/01/2019					
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	0.11		"	0.125		91.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.8	70-130			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9C0103 - EPA 5030 (soil)										
LCS (B9C0103-BS1)					Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.108	0.002	"	0.100		108	66.4-127			
m,p-Xylene	0.214	0.004	"	0.200		107	76.6-124			
o-Xylene	0.114	0.002	"	0.100		114	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		85.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)										
LCS (B9C0103-BS2)					Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.116	0.002	mg/kg	0.100		116	77.1-124			
Toluene	0.110	0.002	"	0.100		110	74.5-128			
Ethylbenzene	0.118	0.002	"	0.100		118	66.4-127			
m,p-Xylene	0.234	0.004	"	0.200		117	76.6-124			
o-Xylene	0.116	0.002	"	0.100		116	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)

Matrix Spike (B9C0103-MS1)		Source: Y903010-02			Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.111	0.002	mg/kg	0.100	0.002	109	71.8-126			
Toluene	0.108	0.002	"	0.100	0.007	101	65.1-130			
Ethylbenzene	0.113	0.002	"	0.100	0.001	112	62.2-130			
m,p-Xylene	0.226	0.004	"	0.200	0.005	111	46.5-137			
o-Xylene	0.119	0.002	"	0.100	0.002	118	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Bob Cornez
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Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)

Matrix Spike (B9C0103-MS2)		Source: Y903023-02			Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.108	0.002	mg/kg	0.100	ND	108	71.8-126			
Toluene	0.102	0.002	"	0.100	ND	102	65.1-130			
Ethylbenzene	0.110	0.002	"	0.100	ND	110	62.2-130			
m,p-Xylene	0.219	0.004	"	0.200	ND	110	46.5-137			
o-Xylene	0.115	0.002	"	0.100	ND	115	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Bob Cornez
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Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)

Matrix Spike Dup (B9C0103-MSD1)		Source: Y903010-02			Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.109	0.002	mg/kg	0.100	0.002	107	71.8-126	1.96	11.3	
Toluene	0.105	0.002	"	0.100	0.007	98.8	65.1-130	2.27	15.4	
Ethylbenzene	0.111	0.002	"	0.100	0.001	110	62.2-130	2.07	19.6	
m,p-Xylene	0.221	0.004	"	0.200	0.005	108	46.5-137	2.59	19.2	
o-Xylene	0.117	0.002	"	0.100	0.002	115	54.2-134	2.24	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0103 - EPA 5030 (soil)

Matrix Spike Dup (B9C0103-MSD2)		Source: Y903023-02			Prepared: 03/01/2019 Analyzed: 03/01/2019					
Benzene	0.099	0.002	mg/kg	0.100	ND	99.3	71.8-126	8.32	11.3	
Toluene	0.094	0.002	"	0.100	ND	94.2	65.1-130	8.23	15.4	
Ethylbenzene	0.099	0.002	"	0.100	ND	99.4	62.2-130	10.5	19.6	
m,p-Xylene	0.199	0.004	"	0.200	ND	99.4	46.5-137	9.63	19.2	
o-Xylene	0.106	0.002	"	0.100	ND	106	54.2-134	8.32	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0201 - EPA 5030B (Water)										
Blank (B9C0201-BLK1)					Prepared: 03/02/2019 Analyzed: 03/02/2019					
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	62		"	62.5	99.5		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.0		84-114			

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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0201 - EPA 5030B (Water)										
LCS (B9C0201-BS1)					Prepared: 03/02/2019 Analyzed: 03/02/2019					
Benzene	49.5	1.00	ug/L	50.0		98.9	73.3-129			
Toluene	45.6	1.00	"	50.0		91.2	76.2-123			
Ethylbenzene	45.5	1.00	"	50.0		91.1	73.6-130			
m,p-Xylene	92.2	2.00	"	100		92.2	76.1-126			
o-Xylene	49.1	1.00	"	50.0		98.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	84-114			

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Tasman Geosciences
6899 Pecos Street, Unit C
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Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0201 - EPA 5030B (Water)

Matrix Spike (B9C0201-MS1)		Source: Y903005-01			Prepared: 03/02/2019 Analyzed: 03/02/2019					
Benzene	53.6	1.00	ug/L	50.0	ND	107	74-130			
Toluene	50.3	1.00	"	50.0	ND	101	73-131			
Ethylbenzene	51.2	1.00	"	50.0	0.060	102	76-132			
m,p-Xylene	102	2.00	"	100	0.280	102	69-139			
o-Xylene	52.1	1.00	"	50.0	ND	104	74-131			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.4	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0201 - EPA 5030B (Water)

Matrix Spike Dup (B9C0201-MSD1)		Source: Y903005-01			Prepared: 03/02/2019 Analyzed: 03/02/2019					
Benzene	56.7	1.00	ug/L	50.0	ND	113	74-130	5.46	20	
Toluene	53.1	1.00	"	50.0	ND	106	73-131	5.38	20	
Ethylbenzene	54.6	1.00	"	50.0	0.060	109	76-132	6.33	20	
m,p-Xylene	109	2.00	"	100	0.280	108	69-139	6.13	20	
o-Xylene	55.0	1.00	"	50.0	ND	110	74-131	5.34	20	
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.4	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	84-114			

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Tasman Geosciences
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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0104 - EPA 3580

Blank (B9C0104-BLK1)

Prepared: 03/01/2019 Analyzed: 03/01/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	45		"	50.0		89.4	59-131			

Blank (B9C0104-BLK2)

Prepared: 03/01/2019 Analyzed: 03/01/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	45		"	50.0		89.1	59-131			

Blank (B9C0104-BLK3)

Prepared: 03/01/2019 Analyzed: 03/02/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	47		"	50.0		94.6	59-131			

LCS (B9C0104-BS1)

Prepared: 03/01/2019 Analyzed: 03/01/2019

Diesel (C10-C28)	983	50.0	mg/kg	1000		98.3	64-121			
Residual Range Organics (C28-C40)	1010	200	"	1000		101	58-124			
Surrogate: o-Terphenyl	50		"	50.0		101	59-131			

LCS (B9C0104-BS2)

Prepared: 03/01/2019 Analyzed: 03/01/2019

Diesel (C10-C28)	984	50.0	mg/kg	1000		98.4	64-121			
Residual Range Organics (C28-C40)	977	200	"	1000		97.7	58-124			

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9C0104 - EPA 3580										
LCS (B9C0104-BS2)					Prepared: 03/01/2019 Analyzed: 03/01/2019					
Surrogate: o-Terphenyl	49		mg/kg	50.0		98.7	59-131			
LCS (B9C0104-BS3)					Prepared: 03/01/2019 Analyzed: 03/02/2019					
Diesel (C10-C28)	965	50.0	mg/kg	1000		96.5	64-121			
Residual Range Organics (C28-C40)	964	200	"	1000		96.4	58-124			
Surrogate: o-Terphenyl	48		"	50.0		96.5	59-131			
Matrix Spike (B9C0104-MS1)					Source: Y903010-02		Prepared: 03/01/2019 Analyzed: 03/01/2019			
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	53-125			
Residual Range Organics (C28-C40)	1070	200	"	1000	54.7	102	47-133			
Surrogate: o-Terphenyl	51		"	50.0		102	59-131			
Matrix Spike (B9C0104-MS2)					Source: Y903013-02		Prepared: 03/01/2019 Analyzed: 03/01/2019			
Diesel (C10-C28)	918	50.0	mg/kg	1000	ND	91.8	53-125			
Residual Range Organics (C28-C40)	917	200	"	1000	12.1	90.5	47-133			
Surrogate: o-Terphenyl	44		"	50.0		87.5	59-131			
Matrix Spike (B9C0104-MS3)					Source: Y903023-02		Prepared: 03/01/2019 Analyzed: 03/02/2019			
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	53-125			
Residual Range Organics (C28-C40)	1070	200	"	1000	7.21	106	47-133			
Surrogate: o-Terphenyl	49		"	50.0		98.5	59-131			
Matrix Spike Dup (B9C0104-MSD1)					Source: Y903010-02		Prepared: 03/01/2019 Analyzed: 03/01/2019			
Diesel (C10-C28)	957	50.0	mg/kg	1000	ND	95.7	53-125	6.22	20	
Residual Range Organics (C28-C40)	1010	200	"	1000	54.7	95.6	47-133	6.34	20	
Surrogate: o-Terphenyl	48		"	50.0		96.0	59-131			
Matrix Spike Dup (B9C0104-MSD2)					Source: Y903013-02		Prepared: 03/01/2019 Analyzed: 03/01/2019			

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9C0104 - EPA 3580										
Matrix Spike Dup (B9C0104-MSD2)		Source: Y903013-02			Prepared: 03/01/2019 Analyzed: 03/01/2019					
Diesel (C10-C28)	955	50.0	mg/kg	1000	ND	95.5	53-125	3.95	20	
Residual Range Organics (C28-C40)	938	200	"	1000	12.1	92.6	47-133	2.35	20	
Surrogate: o-Terphenyl	46		"	50.0		91.8	59-131			
Matrix Spike Dup (B9C0104-MSD3)		Source: Y903023-02			Prepared: 03/01/2019 Analyzed: 03/02/2019					
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	53-125	3.30	20	
Residual Range Organics (C28-C40)	1070	200	"	1000	7.21	107	47-133	0.529	20	
Surrogate: o-Terphenyl	54		"	50.0		108	59-131			

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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Gunzner 11-13A

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 B9C0105 - NO PREP										
Duplicate (B9C0105-DUP1)		Source: Y903013-01			Prepared: 03/01/2019 Analyzed: 03/02/2019					
pH	7.31		pH Units		7.35			0.546	25	
Batch B9C0106 - NO PREP										
Blank (B9C0106-BLK1)		Prepared: 03/01/2019 Analyzed: 03/02/2019								
Specific Conductance (EC)	0.00180	0.00500	mmhos/cm							
Duplicate (B9C0106-DUP1)		Source: Y903013-01			Prepared: 03/01/2019 Analyzed: 03/02/2019					
Specific Conductance (EC)	0.204	0.00500	mmhos/cm		0.205			0.147	25	

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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: [none]

Project: KMG - Gunzner 11-13A

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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