

March 21, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Coburn W 28-3JI

Project Number - [none]

Attached are your analytical results for KMG - Coburn W 28-3JI received by Origins Laboratory, Inc. March 20, 2019. This project is associated with Origins project number Y903267-01.

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 - Coburn W 28-3J1

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@6'	Y903267-01	Soil	March 20, 2019 15:03	03/20/2019 17:00
S01@6'	Y903267-02	Soil	March 20, 2019 15:06	03/20/2019 17:00
E01@6'	Y903267-03	Soil	March 20, 2019 15:09	03/20/2019 17:00
E02@6'	Y903267-04	Soil	March 20, 2019 15:12	03/20/2019 17:00
W01@6'	Y903267-05	Soil	March 20, 2019 15:15	03/20/2019 17:00
W02@6'	Y903267-06	Soil	March 20, 2019 15:18	03/20/2019 17:00
GW01	Y903267-07	Water	March 20, 2019 15:21	03/20/2019 17:00

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3JI

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: y903267

Client: Tasman

Client Project ID: Coburn W 28-3JI

Checklist Completed by: JG

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

Date/time completed: 3/20/2019

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 5.0 °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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

[Signature]
 Reviewed by (Project Manager)

3/20/19
 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 - Coburn W 28-3Jl

N01@6'

3/20/2019 3:03:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y903267-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/20/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 71.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	8.58	0.200	mg/kg	1	B9C2001	KDK	03/20/2019	03/20/2019	
Benzene	0.068	0.002	"	"	"	KDK	"	"	
Toluene	0.057	0.002	"	"	"	KDK	"	"	
Ethylbenzene	0.025	0.002	"	"	"	KDK	"	"	
Xylenes, total	0.158	0.002	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4 119 % 70-130 " " "
 Surrogate: Toluene-d8 91.5 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 97.3 % 70-130 " " "

pH in Soil by EPA 9045D

pH	9.43		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0684	0.00510	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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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 - Coburn W 28-3Jl

S01@6'

3/20/2019 3:06:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y903267-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	65.7	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl 81.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	410	5.00	mg/kg	25	B9C2001	KDK	03/20/2019	03/20/2019	
Benzene	1.87	0.050	"	"	"	KDK	"	"	
Toluene	1.63	0.050	"	"	"	KDK	"	"	
Ethylbenzene	1.00	0.050	"	"	"	KDK	"	"	
Xylenes, total	4.81	0.050	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "

Surrogate: Toluene-d8 91.4 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 107 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.46		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.106	0.00500	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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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 - Coburn W 28-3Jl

E01@6'

3/20/2019 3:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y903267-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	113	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl 72.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	217	50.0	mg/kg	250	B9C2001	KDK	03/20/2019	03/21/2019	
Benzene	ND	0.050	"	25	"	KDK	"	03/21/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	0.503	0.050	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4 107 % 70-130 " " "
 Surrogate: Toluene-d8 93.8 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 107 % 70-130 " " 03/21/2019

pH in Soil by EPA 9045D

pH	8.45		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.110	0.00500	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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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 - Coburn W 28-3Jl

E02@6'

3/20/2019 3:12:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903267-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	656	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	226	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 80.2 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1500	50.0	mg/kg	250	B9C2001	KDK	03/20/2019	03/21/2019	
Benzene	0.132	0.050	"	25	"	KDK	"	03/21/2019	
Toluene	0.056	0.050	"	"	"	KDK	"	"	
Ethylbenzene	1.46	0.050	"	"	"	KDK	"	"	
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4 124 % 70-130 " " "
 Surrogate: Toluene-d8 92.4 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 120 % 70-130 " " 03/21/2019

pH in Soil by EPA 9045D

pH	8.63		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0776	0.00500	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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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 - Coburn W 28-3Jl

W01@6'

3/20/2019 3:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y903267-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	87.9	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 68.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	56.9	5.00	mg/kg	25	B9C2001	KDK	03/20/2019	03/21/2019	
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 104 % 70-130 " " "
 Surrogate: Toluene-d8 92.8 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 93.4 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.42		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0828	0.00500	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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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 - Coburn W 28-3Jl

W02@6'

3/20/2019 3:18:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903267-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	278	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

<i>Surrogate: o-Terphenyl</i>	69.1 %	59-131			"	"	"	"	
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	885	50.0	mg/kg	250	B9C2001	KDK	03/20/2019	03/21/2019	
Benzene	0.154	0.050	"	25	"	KDK	"	03/21/2019	
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	0.310	0.050	"	"	"	KDK	"	"	
Xylenes, total	6.15	0.050	"	"	"	KDK	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	112 %	70-130			"	"	"	"	
<i>Surrogate: Toluene-d8</i>	91.2 %	70-130			"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	112 %	70-130			"	"	"	"	

pH in Soil by EPA 9045D

pH	8.39		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.00839	0.00504	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

GW01

3/20/2019 3:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903267-07 (Water)

BTEX by EPA 8260C

Benzene	88.8	4.00	ug/L	4	B9C1903	KDK	03/20/2019	03/20/2019	
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	53.8	4.00	"	"	"	KDK	"	"	
Xylenes, total	20.5	4.00	"	"	"	KDK	"	"	
Surrogate: 1,2-Dichloroethane-d4	99.1 %			84-121		"	"	"	
Surrogate: Toluene-d8	104 %			85-115		"	"	"	
Surrogate: 4-Bromofluorobenzene	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: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C1903 - EPA 5030B (Water)

Blank (B9C1903-BLK1)

Prepared: 03/19/2019 Analyzed: 03/20/2019

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	62		"	62.5	99.8		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.4		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	100		84-114			

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C1903 - EPA 5030B (Water)

LCS (B9C1903-BS1)

Prepared: 03/19/2019 Analyzed: 03/20/2019

Benzene	44.8	1.00	ug/L	50.0		89.6	73.3-129			
Toluene	44.4	1.00	"	50.0		88.9	76.2-123			
Ethylbenzene	44.7	1.00	"	50.0		89.3	73.6-130			
m,p-Xylene	89.2	2.00	"	100		89.2	76.1-126			
o-Xylene	44.6	1.00	"	50.0		89.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		95.1	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.6	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	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: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C1903 - EPA 5030B (Water)

Matrix Spike (B9C1903-MS1)	Source: Y903217-02			Prepared: 03/19/2019 Analyzed: 03/20/2019						
Benzene	44.8	1.00	ug/L	50.0	ND	89.6	74-130			
Toluene	44.3	1.00	"	50.0	0.150	88.3	73-131			
Ethylbenzene	45.3	1.00	"	50.0	ND	90.6	76-132			
m,p-Xylene	90.0	2.00	"	100	0.280	89.8	69-139			
o-Xylene	45.5	1.00	"	50.0	ND	91.1	74-131			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.0	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.8	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: [none]
 Project: KMG - Coburn W 28-3JI

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 B9C1903 - EPA 5030B (Water)

Matrix Spike Dup (B9C1903-MSD1)	Source: Y903217-02			Prepared: 03/19/2019 Analyzed: 03/20/2019						
Benzene	44.6	1.00	ug/L	50.0	ND	89.2	74-130	0.492	20	
Toluene	44.4	1.00	"	50.0	0.150	88.4	73-131	0.0677	20	
Ethylbenzene	45.0	1.00	"	50.0	ND	89.9	76-132	0.798	20	
m,p-Xylene	89.6	2.00	"	100	0.280	89.4	69-139	0.434	20	
o-Xylene	46.0	1.00	"	50.0	ND	92.0	74-131	0.984	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		96.9	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

Blank (B9C2001-BLK1)

Prepared: 03/20/2019 Analyzed: 03/20/2019

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	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.8	70-130			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

Blank (B9C2001-BLK2)

Prepared: 03/20/2019 Analyzed: 03/20/2019

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	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.6	70-130			

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Bob Cornez
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 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

LCS (B9C2001-BS1)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Benzene	0.100	0.002	mg/kg	0.100		99.5	77.1-124			
Toluene	0.095	0.002	"	0.100		94.6	74.5-128			
Ethylbenzene	0.096	0.002	"	0.100		95.8	66.4-127			
m,p-Xylene	0.188	0.004	"	0.200		94.0	76.6-124			
o-Xylene	0.094	0.002	"	0.100		94.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.0	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.6	70-130			

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Bob Cornez
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 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

LCS (B9C2001-BS2)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Benzene	0.113	0.002	mg/kg	0.100		113	77.1-124			
Toluene	0.114	0.002	"	0.100		114	74.5-128			
Ethylbenzene	0.117	0.002	"	0.100		117	66.4-127			
m,p-Xylene	0.227	0.004	"	0.200		113	76.6-124			
o-Xylene	0.114	0.002	"	0.100		114	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.2	70-130			

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 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

Matrix Spike (B9C2001-MS1)	Source: Y903233-01			Prepared: 03/20/2019 Analyzed: 03/20/2019						
Benzene	0.104	0.002	mg/kg	0.100	ND	104	71.8-126			
Toluene	0.097	0.002	"	0.100	ND	97.2	65.1-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	95.5	62.2-130			
m,p-Xylene	0.187	0.004	"	0.200	ND	93.6	46.5-137			
o-Xylene	0.094	0.002	"	0.100	ND	94.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.0	70-130			

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 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

Matrix Spike (B9C2001-MS2)	Source: Y903248-02			Prepared: 03/20/2019 Analyzed: 03/21/2019						
Benzene	0.076	0.002	mg/kg	0.100	ND	76.0	71.8-126			
Toluene	0.067	0.002	"	0.100	ND	67.2	65.1-130			
Ethylbenzene	0.073	0.002	"	0.100	ND	73.2	62.2-130			
m,p-Xylene	0.141	0.004	"	0.200	ND	70.3	46.5-137			
o-Xylene	0.070	0.002	"	0.100	ND	70.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		118	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.15		"	0.125		120	70-130			

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 Project: KMG - Coburn W 28-3JI

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 B9C2001 - EPA 5030 (soil)

Matrix Spike Dup (B9C2001-MSD1)	Source: Y903233-01			Prepared: 03/20/2019 Analyzed: 03/20/2019						
Benzene	0.099	0.002	mg/kg	0.100	ND	99.1	71.8-126	5.06	11.3	
Toluene	0.092	0.002	"	0.100	ND	91.9	65.1-130	5.60	15.4	
Ethylbenzene	0.092	0.002	"	0.100	ND	92.4	62.2-130	3.28	19.6	
m,p-Xylene	0.181	0.004	"	0.200	ND	90.6	46.5-137	3.30	19.2	
o-Xylene	0.091	0.002	"	0.100	ND	91.4	54.2-134	2.95	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.5	70-130			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2001 - EPA 5030 (soil)

Matrix Spike Dup (B9C2001-MSD2)	Source: Y903248-02			Prepared: 03/20/2019 Analyzed: 03/21/2019						
Benzene	0.075	0.002	mg/kg	0.100	ND	75.3	71.8-126	0.952	11.3	
Toluene	0.063	0.002	"	0.100	ND	62.8	65.1-130	6.83	15.4	QM-07
Ethylbenzene	0.064	0.002	"	0.100	ND	64.3	62.2-130	13.0	19.6	
m,p-Xylene	0.130	0.004	"	0.200	ND	65.1	46.5-137	7.67	19.2	
o-Xylene	0.065	0.002	"	0.100	ND	65.2	54.2-134	7.53	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.16		"	0.125		125	70-130			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2002 - EPA 3550B

Blank (B9C2002-BLK1)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	37		"	50.0		74.9	59-131			

Blank (B9C2002-BLK2)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	38		"	50.0		76.3	59-131			

LCS (B9C2002-BS1)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Diesel (C10-C28)	782	50.0	mg/kg	1000		78.2	64-121			
Residual Range Organics (C28-C40)	819	200	"	1000		81.9	58-124			
Surrogate: o-Terphenyl	41		"	50.0		81.3	59-131			

LCS (B9C2002-BS2)

Prepared: 03/20/2019 Analyzed: 03/20/2019

Diesel (C10-C28)	819	50.0	mg/kg	1000		81.9	64-121			
Residual Range Organics (C28-C40)	850	200	"	1000		85.0	58-124			
Surrogate: o-Terphenyl	43		"	50.0		85.2	59-131			

Matrix Spike (B9C2002-MS1)

Source: Y903233-01

Prepared: 03/20/2019 Analyzed: 03/20/2019

Diesel (C10-C28)	802	50.0	mg/kg	1000	14.3	78.8	53-125			
Residual Range Organics (C28-C40)	854	200	"	1000	7.64	84.7	47-133			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3Jl

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 B9C2002 - EPA 3550B										
Matrix Spike (B9C2002-MS1)		Source: Y903233-01			Prepared: 03/20/2019 Analyzed: 03/20/2019					
Surrogate: o-Terphenyl	39		mg/kg	50.0		78.6	59-131			
Matrix Spike (B9C2002-MS2)		Source: Y903248-02			Prepared: 03/20/2019 Analyzed: 03/20/2019					
Diesel (C10-C28)	2270	50.0	mg/kg	1000	875	140	53-125			QM-07
Residual Range Organics (C28-C40)	1120	200	"	1000	145	97.1	47-133			
Surrogate: o-Terphenyl	56		"	50.0		112	59-131			
Matrix Spike Dup (B9C2002-MSD1)		Source: Y903233-01			Prepared: 03/20/2019 Analyzed: 03/20/2019					
Diesel (C10-C28)	767	50.0	mg/kg	1000	14.3	75.2	53-125	4.64	20	
Residual Range Organics (C28-C40)	791	200	"	1000	7.64	78.3	47-133	7.79	20	
Surrogate: o-Terphenyl	38		"	50.0		75.9	59-131			
Matrix Spike Dup (B9C2002-MSD2)		Source: Y903248-02			Prepared: 03/20/2019 Analyzed: 03/20/2019					
Diesel (C10-C28)	2500	50.0	mg/kg	1000	875	162	53-125	15.2	20	QM-07
Residual Range Organics (C28-C40)	1200	200	"	1000	145	105	47-133	8.31	20	
Surrogate: o-Terphenyl	70		"	50.0		141	59-131			S-02

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Bob Cornez
 Project Number: [none]
 Project: KMG - Coburn W 28-3JI

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 B9C2009 - NO PREP										
Duplicate (B9C2009-DUP1)		Source: Y903260-01			Prepared: 03/20/2019 Analyzed: 03/20/2019					
pH	7.49		pH Units		7.71			2.89	25	
Batch B9C2010 - NO PREP										
Blank (B9C2010-BLK1)		Prepared: 03/20/2019 Analyzed: 03/20/2019								
Specific Conductance (EC)	0.00230	0.00500	mmhos/cm							
Duplicate (B9C2010-DUP1)		Source: Y903260-01			Prepared: 03/20/2019 Analyzed: 03/20/2019					
Specific Conductance (EC)	0.0655	0.00500	mmhos/cm		0.0632			3.57	25	

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Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Coburn W 28-3Jl

Notes and Definitions

- U Sample is Non-Detect.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- All soil results are reported at a wet weight basis.

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