

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 <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 <sup>(1)</sup> ? (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):				

<sup>(1)</sup>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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 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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 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)	<b>656</b>	25.0	mg/kg	1	B9C2002	JTD	03/20/2019	03/21/2019	
Residual Range Organics (C28-C40)	<b>226</b>	100	"	"	"	JTD	"	"	

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

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>1500</b>	50.0	mg/kg	250	B9C2001	KDK	03/20/2019	03/21/2019	
Benzene	<b>0.132</b>	0.050	"	25	"	KDK	"	03/21/2019	
Toluene	<b>0.056</b>	0.050	"	"	"	KDK	"	"	
Ethylbenzene	<b>1.46</b>	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	<b>8.63</b>		pH Units	1	B9C2009	KDK	03/20/2019	03/20/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.0776</b>	0.00500	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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 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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 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)	<b>278</b>	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	69.1 %	59-131			"	"	"	"	
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**GBTEX by EPA 8260C**

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

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

**pH in Soil by EPA 9045D**

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

Specific Conductance (EC)	<b>0.00839</b>	0.00504	mmhos/cm	"	B9C2010	KDK	03/20/2019	03/20/2019	
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 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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 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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 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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 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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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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 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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 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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 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)**

**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  
 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)**

**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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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 (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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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 (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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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 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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 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)

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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 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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**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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 Denver CO 80211

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
<b>Batch B9C2002 - EPA 3550B</b>										
<b>Matrix Spike (B9C2002-MS1)</b>			<b>Source: Y903233-01</b>		Prepared: 03/20/2019 Analyzed: 03/20/2019					
Surrogate: o-Terphenyl	39		mg/kg	50.0		78.6	59-131			
<b>Matrix Spike (B9C2002-MS2)</b>			<b>Source: Y903248-02</b>		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			
<b>Matrix Spike Dup (B9C2002-MSD1)</b>			<b>Source: Y903233-01</b>		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			
<b>Matrix Spike Dup (B9C2002-MSD2)</b>			<b>Source: Y903248-02</b>		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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 Denver CO 80211

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
<b>Batch B9C2009 - NO PREP</b>										
<b>Duplicate (B9C2009-DUP1)</b>		<b>Source: Y903260-01</b>			Prepared: 03/20/2019 Analyzed: 03/20/2019					
pH	7.49		pH Units		7.71			2.89	25	
<b>Batch B9C2010 - NO PREP</b>										
<b>Blank (B9C2010-BLK1)</b>		Prepared: 03/20/2019 Analyzed: 03/20/2019								
Specific Conductance (EC)	0.00230	0.00500	mmhos/cm							
<b>Duplicate (B9C2010-DUP1)</b>		<b>Source: Y903260-01</b>			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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6899 Pecos Street, Unit C  
Denver CO 80211

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

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**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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March 27, 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 26, 2019. This project is associated with Origins project number Y903379-01.

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
E03@6'	Y903379-01	Soil	March 26, 2019 14:24	03/26/2019 16:58
E04@6'	Y903379-02	Soil	March 26, 2019 14:27	03/26/2019 16:58
N03@6'	Y903379-03	Soil	March 26, 2019 14:30	03/26/2019 16:58
N04@6'	Y903379-04	Soil	March 26, 2019 14:33	03/26/2019 16:58
W03@6'	Y903379-05	Soil	March 26, 2019 14:36	03/26/2019 16:58
W04@6'	Y903379-06	Soil	March 26, 2019 14:39	03/26/2019 16:58
S02@6'	Y903379-07	Soil	March 26, 2019 14:42	03/26/2019 16:58
S03@6'	Y903379-08	Soil	March 26, 2019 14:45	03/26/2019 16:58

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 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: Y903379

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 / 26 / 2019

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 2.0 °C / \_\_\_\_\_ °C / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by: [Signature] (Project Manager)

Date/Time Reviewed: 3/26/19

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

**E03@6'**

**3/26/2019 2:24:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903379-01 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 73.9 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>1.20</b>	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 110 % 70-130 " " "  
 Surrogate: Toluene-d8 93.7 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 106 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	<b>7.78</b>		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.349</b>	0.00500	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

E04@6'

3/26/2019 2:27:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y903379-02 (Soil)

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	56.0	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 68.7 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	4.40	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "  
 Surrogate: Toluene-d8 96.1 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 114 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.90		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.347	0.00500	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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 28-3J1

**N03@6'**

**3/26/2019 2:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903379-03 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

*Surrogate: o-Terphenyl* 67.1 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>0.286</b>	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

*Surrogate: 1,2-Dichloroethane-d4* 107 % 70-130 " " "  
*Surrogate: Toluene-d8* 94.8 % 70-130 " " "  
*Surrogate: 4-Bromofluorobenzene* 97.6 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	<b>7.86</b>		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.341</b>	0.00509	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

N04@6'

3/26/2019 2:33:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y903379-04 (Soil)

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 69.5 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	U
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "  
 Surrogate: Toluene-d8 93.9 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 97.1 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.71		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.353	0.00500	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

**W03@6'**

**3/26/2019 2:36:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903379-05 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	40.4	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

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

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	26.3	5.00	mg/kg	25	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.050	"	"	"	JTD	"	"	U
Toluene	ND	0.050	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.050	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.050	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "  
 Surrogate: Toluene-d8 97.1 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 108 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.72		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.334	0.00509	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

W04@6'

3/26/2019 2:39:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
 Y903379-06 (Soil)

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 65.8 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	0.371	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	0.002	0.002	"	"	"	JTD	"	"	
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 106 % 70-130 " " "  
 Surrogate: Toluene-d8 94.4 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.83		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.345	0.00500	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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 28-3J1

**S02@6'**

**3/26/2019 2:42:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903379-07 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 67.8 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>2.26</b>	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 104 % 70-130 " " "  
 Surrogate: Toluene-d8 95.4 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 97.7 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	<b>7.83</b>		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.386</b>	0.00502	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

S03@6'

3/26/2019 2:45:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903379-08 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2605	JTD	03/26/2019	03/26/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 73.0 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	<b>0.293</b>	0.200	mg/kg	1	B9C2604	JTD	03/26/2019	03/26/2019	
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "  
 Surrogate: Toluene-d8 97.4 % 70-130 " " "  
 Surrogate: 4-Bromofluorobenzene 97.5 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	<b>7.96</b>		pH Units	1	B9C2612	OLAB	03/26/2019	03/26/2019	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	<b>0.122</b>	0.00502	mmhos/cm	"	B9C2613	OLAB	03/26/2019	03/26/2019	
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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

**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 B9C2604 - EPA 5030 (soil)**

**Blank (B9C2604-BLK1)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

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		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		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 - 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 B9C2604 - EPA 5030 (soil)

**LCS (B9C2604-BS1)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Benzene	0.109	0.002	mg/kg	0.100		109	77.1-124			
Toluene	0.103	0.002	"	0.100		103	74.5-128			
Ethylbenzene	0.102	0.002	"	0.100		102	66.4-127			
m,p-Xylene	0.204	0.004	"	0.200		102	76.6-124			
o-Xylene	0.101	0.002	"	0.100		101	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 - 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 B9C2604 - EPA 5030 (soil)

Matrix Spike (B9C2604-MS1)	Source: Y903335-01			Prepared: 03/26/2019 Analyzed: 03/26/2019						
Benzene	0.102	0.002	mg/kg	0.100	ND	102	71.8-126			
Toluene	0.094	0.002	"	0.100	ND	94.0	65.1-130			
Ethylbenzene	0.100	0.002	"	0.100	ND	99.6	62.2-130			
m,p-Xylene	0.195	0.004	"	0.200	ND	97.7	46.5-137			
o-Xylene	0.099	0.002	"	0.100	ND	99.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		114	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 - 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 B9C2604 - EPA 5030 (soil)**

<b>Matrix Spike Dup (B9C2604-MSD1)</b>	<b>Source: Y903335-01</b>			<b>Prepared: 03/26/2019 Analyzed: 03/26/2019</b>						
Benzene	0.113	0.002	mg/kg	0.100	ND	113	71.8-126	10.1	11.3	
Toluene	0.105	0.002	"	0.100	ND	105	65.1-130	10.8	15.4	
Ethylbenzene	0.106	0.002	"	0.100	ND	106	62.2-130	6.39	19.6	
m,p-Xylene	0.206	0.004	"	0.200	ND	103	46.5-137	5.42	19.2	
o-Xylene	0.108	0.002	"	0.100	ND	108	54.2-134	8.42	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		107	70-130			

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 - 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 B9C2605 - EPA 3550B**

**Blank (B9C2605-BLK1)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	34		"	50.0		67.1	59-131			

**Blank (B9C2605-BLK2)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	36		"	50.0		72.0	59-131			

**LCS (B9C2605-BS1)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Diesel (C10-C28)	840	50.0	mg/kg	1000		84.0	64-121			
Residual Range Organics (C28-C40)	885	200	"	1000		88.5	58-124			
Surrogate: o-Terphenyl	42		"	50.0		84.8	59-131			

**LCS (B9C2605-BS2)**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Diesel (C10-C28)	857	50.0	mg/kg	1000		85.7	64-121			
Residual Range Organics (C28-C40)	850	200	"	1000		85.0	58-124			
Surrogate: o-Terphenyl	43		"	50.0		85.5	59-131			

**Matrix Spike (B9C2605-MS1)**

**Source: Y903335-01**

Prepared: 03/26/2019 Analyzed: 03/26/2019

Diesel (C10-C28)	890	50.0	mg/kg	1000	70.5	82.0	53-125			
Residual Range Organics (C28-C40)	828	200	"	1000	7.64	82.1	47-133			

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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

**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
<b>Batch B9C2605 - EPA 3550B</b>										
<b>Matrix Spike (B9C2605-MS1)</b>		<b>Source: Y903335-01</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
Surrogate: o-Terphenyl	39		mg/kg	50.0		77.8	59-131			
<b>Matrix Spike (B9C2605-MS2)</b>		<b>Source: Y903335-02</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
Diesel (C10-C28)	849	50.0	mg/kg	1000	13.2	83.6	53-125			
Residual Range Organics (C28-C40)	866	200	"	1000	ND	86.6	47-133			
Surrogate: o-Terphenyl	42		"	50.0		83.9	59-131			
<b>Matrix Spike Dup (B9C2605-MSD1)</b>		<b>Source: Y903335-01</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
Diesel (C10-C28)	912	50.0	mg/kg	1000	70.5	84.1	53-125	2.56	20	
Residual Range Organics (C28-C40)	816	200	"	1000	7.64	80.8	47-133	1.56	20	
Surrogate: o-Terphenyl	39		"	50.0		78.6	59-131			
<b>Matrix Spike Dup (B9C2605-MSD2)</b>		<b>Source: Y903335-02</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
Diesel (C10-C28)	860	50.0	mg/kg	1000	13.2	84.7	53-125	1.26	20	
Residual Range Organics (C28-C40)	887	200	"	1000	ND	88.7	47-133	2.41	20	
Surrogate: o-Terphenyl	42		"	50.0		84.0	59-131			

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 Denver CO 80211

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
<b>Batch B9C2612 - NO PREP</b>										
<b>Duplicate (B9C2612-DUP1)</b>		<b>Source: Y903377-01</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
pH	7.06		pH Units		7.75			9.32	25	
<b>Batch B9C2613 - NO PREP</b>										
<b>Blank (B9C2613-BLK1)</b>		Prepared: 03/26/2019 Analyzed: 03/26/2019								
Specific Conductance (EC)	0.00220	0.00500	mmhos/cm							
<b>Duplicate (B9C2613-DUP1)</b>		<b>Source: Y903377-01</b>			Prepared: 03/26/2019 Analyzed: 03/26/2019					
Specific Conductance (EC)	0.102	0.00500	mmhos/cm		0.119			14.9	25	

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6899 Pecos Street, Unit C  
Denver CO 80211

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

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**Notes and Definitions**

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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 28, 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 27, 2019. This project is associated with Origins project number Y903402-01.

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 28-3Jl

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	Y903402-01	Water	March 27, 2019 11:05	03/27/2019 17:00

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President



Tasman Geosciences  
 6899 Pecos Street, Unit C  
 Denver CO 80211

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

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y903402

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: 3/27/2019

Airbill #: N/A

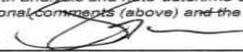
Matrix(s) Received: (Check all that apply): Soil/Solid  Water  Other: \_\_\_\_\_

Cooler Number/Temperature: 1 / 4.7 °C \_\_\_\_\_ / \_\_\_\_\_ °C \_\_\_\_\_ / \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup>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)

3/27/19  
 Date/Time Reviewed

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

**GW02**

**3/27/2019 11:05:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y903402-01 (Water)**

**BTEX by EPA 8260C**

Benzene	8.80	4.00	ug/L	4	B9C2705	KDK	03/27/2019	03/27/2019	
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	11.4	4.00	"	"	"	KDK	"	"	
Xylenes, total	28.5	4.00	"	"	"	KDK	"	"	
Surrogate: 1,2-Dichloroethane-d4	102 %			84-121		"	"	"	
Surrogate: Toluene-d8	102 %			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: [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 B9C2705 - EPA 5030B (Water)**

**Blank (B9C2705-BLK1)**

Prepared: 03/27/2019 Analyzed: 03/27/2019

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	61		"	62.5	97.8		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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 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 B9C2705 - EPA 5030B (Water)**

**LCS (B9C2705-BS1)**

Prepared: 03/27/2019 Analyzed: 03/27/2019

Benzene	47.2	1.00	ug/L	50.0		94.4	73.3-129			
Toluene	46.0	1.00	"	50.0		92.1	76.2-123			
Ethylbenzene	45.8	1.00	"	50.0		91.6	73.6-130			
m,p-Xylene	92.1	2.00	"	100		92.1	76.1-126			
o-Xylene	46.7	1.00	"	50.0		93.4	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.1	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	84-114			

Origins Laboratory, Inc.



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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 B9C2705 - EPA 5030B (Water)**

Matrix Spike (B9C2705-MS1)	Source: Y903352-01			Prepared: 03/27/2019 Analyzed: 03/27/2019						
Benzene	49.4	1.00	ug/L	50.0	ND	98.7	74-130			
Toluene	49.6	1.00	"	50.0	ND	99.1	73-131			
Ethylbenzene	47.5	1.00	"	50.0	ND	94.9	76-132			
m,p-Xylene	96.0	2.00	"	100	ND	96.0	69-139			
o-Xylene	48.4	1.00	"	50.0	ND	96.8	74-131			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.7	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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 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 B9C2705 - EPA 5030B (Water)**

Matrix Spike Dup (B9C2705-MSD1)	Source: Y903352-01			Prepared: 03/27/2019 Analyzed: 03/27/2019						
Benzene	47.8	1.00	ug/L	50.0	ND	95.7	74-130	3.11	20	
Toluene	47.4	1.00	"	50.0	ND	94.8	73-131	4.45	20	
Ethylbenzene	45.9	1.00	"	50.0	ND	91.7	76-132	3.43	20	
m,p-Xylene	92.4	2.00	"	100	ND	92.4	69-139	3.78	20	
o-Xylene	46.8	1.00	"	50.0	ND	93.7	74-131	3.23	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.9	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

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Denver CO 80211

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

---

**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.



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---

Jen Pellegrini For Noelle Doyle Mathis, President