

January 28, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. January 25, 2019. This project is associated with Origins project number Y901339-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@8'	Y901339-01	Soil	January 25, 2019 11:10	01/25/2019 16:30

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1901339

Client: Tasman
 Client Project ID: KMG - Brown 32-35

Checklist Completed by: JG
 Date/time completed: 1/25/2019

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

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

Cooler Number/Temperature: 1 / 5.6 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 8°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 (> 3/4 inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO3, HCl, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by: [Signature] (Project Manager)

1/25/19
 Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

B01@8'

1/25/2019 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y901339-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9A2503	JTD	01/25/2019	01/25/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: <i>o</i> -Terphenyl	85.2 %	59-131			"	"	"	"	
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	47.0	5.00	mg/kg	25	B9A2502	JTD	01/25/2019	01/25/2019	
Benzene	0.140	0.050	"	"	"	JTD	"	"	
Toluene	0.496	0.050	"	"	"	JTD	"	"	
Ethylbenzene	0.261	0.050	"	"	"	JTD	"	"	
Xylenes, total	2.32	0.050	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	86.4 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	97.6 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.9 %	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 - Brown 32-35

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 B9A2502 - EPA 5030 (soil)

Blank (B9A2502-BLK1)

Prepared: 01/25/2019 Analyzed: 01/25/2019

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	0.12		"	0.125		92.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		95.9	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 - Brown 32-35

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 B9A2502 - EPA 5030 (soil)

LCS (B9A2502-BS1)

Prepared: 01/25/2019 Analyzed: 01/25/2019

Benzene	0.105	0.002	mg/kg	0.100		105	77.1-124			
Toluene	0.105	0.002	"	0.100		105	74.5-128			
Ethylbenzene	0.106	0.002	"	0.100		106	66.4-127			
m,p-Xylene	0.215	0.004	"	0.200		108	76.6-124			
o-Xylene	0.108	0.002	"	0.100		108	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	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 - Brown 32-35

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 B9A2502 - EPA 5030 (soil)

Matrix Spike (B9A2502-MS1)	Source: Y901340-01			Prepared: 01/25/2019 Analyzed: 01/25/2019						
Benzene	0.096	0.002	mg/kg	0.100	ND	95.8	71.8-126			
Toluene	0.092	0.002	"	0.100	ND	92.1	65.1-130			
Ethylbenzene	0.094	0.002	"	0.100	ND	93.9	62.2-130			
m,p-Xylene	0.189	0.004	"	0.200	0.001	94.2	46.5-137			
o-Xylene	0.094	0.002	"	0.100	0.0003	94.2	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.4	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 - Brown 32-35

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 B9A2502 - EPA 5030 (soil)

Matrix Spike Dup (B9A2502-MSD1)	Source: Y901340-01			Prepared: 01/25/2019 Analyzed: 01/25/2019						
Benzene	0.096	0.002	mg/kg	0.100	ND	95.6	71.8-126	0.167	11.3	
Toluene	0.092	0.002	"	0.100	ND	92.4	65.1-130	0.390	15.4	
Ethylbenzene	0.096	0.002	"	0.100	ND	96.1	62.2-130	2.34	19.6	
m,p-Xylene	0.192	0.004	"	0.200	0.001	95.6	46.5-137	1.46	19.2	
o-Xylene	0.097	0.002	"	0.100	0.0003	96.9	54.2-134	2.82	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Brown 32-35

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 B9A2503 - EPA 3580

Blank (B9A2503-BLK1)

Prepared: 01/25/2019 Analyzed: 01/25/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	40		"	50.0		80.5	59-131			

LCS (B9A2503-BS1)

Prepared: 01/25/2019 Analyzed: 01/25/2019

Diesel (C10-C28)	930	50.0	mg/kg	1000		93.0	64-121			
Residual Range Organics (C28-C40)	933	200	"	1000		93.3	58-124			
Surrogate: o-Terphenyl	45		"	50.0		90.1	59-131			

Matrix Spike (B9A2503-MS1)

Source: Y901340-01

Prepared: 01/25/2019 Analyzed: 01/25/2019

Diesel (C10-C28)	910	50.0	mg/kg	1000	ND	91.0	53-125			
Residual Range Organics (C28-C40)	930	200	"	1000	24.2	90.6	47-133			
Surrogate: o-Terphenyl	40		"	50.0		80.5	59-131			

Matrix Spike Dup (B9A2503-MSD1)

Source: Y901340-01

Prepared: 01/25/2019 Analyzed: 01/25/2019

Diesel (C10-C28)	905	50.0	mg/kg	1000	ND	90.5	53-125	0.614	20	
Residual Range Organics (C28-C40)	921	200	"	1000	24.2	89.7	47-133	0.947	20	
Surrogate: o-Terphenyl	40		"	50.0		80.4	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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 26, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. March 25, 2019. This project is associated with Origins project number Y903344-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@17'	Y903344-01	Soil	March 25, 2019 15:30	03/25/2019 17:00
N02@17'	Y903344-02	Soil	March 25, 2019 15:33	03/25/2019 17:00
E01@17'	Y903344-03	Soil	March 25, 2019 15:42	03/25/2019 17:00
W01@17'	Y903344-04	Soil	March 25, 2019 15:45	03/25/2019 17:00

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.

Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

www.originslaboratory.com
 page 1 of 1

ORIGINS
 LABORATORY, INC

Client: TASMAN GEOSCIENCES Project Manager/Send Report To: Robert Cornez
 Address: 6899 Pecos St Email Address: rcornez@tasman-geo.com
Denver, CO 80221 Project Name/Number: Brown 32-35
 Telephone Number: _____ Samples Collected By: M Rianda / A Hamilton

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method				Sample Instructions			
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sample #	Other	GBTEX	ore/dra	PH		BC		
N01@17'	03/25/14	15:30	2	X				X					X	X	X	5	1131	1
N02@17'		15:33	1															2
E01@17'		15:42	1															3
W01@17'		15:45	1															4
B601@3"		16:10	1	X				X										5
																		6
																		7
																		8
																		9
																		10
Relinquished By: <u>[Signature]</u>	Date: <u>03/25/14</u>	Time: <u>1700</u>	Time: <u>1700</u>	Received By: <u>[Signature]</u>	Date: <u>3/25/17</u>	Time: <u>1700</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard											

Comments: _____
 Date Results Needed: 4.6

Origins Laboratory, Inc.

 Noelle Doyle Mathis, President

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 - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y903344

Client: Tasman

Client Project ID: KMG - Brown 32-35

Checklist Completed by: JG

Shipped Via: HD

Date/time completed: 3/25/2019

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

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.8 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? if yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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


 Reviewed by (Project Manager)

3/25/19
 Date/Time Reviewed

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

N01@17'
3/25/2019 3:30:00PM

Analyte	Result	Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903344-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	924	25.0	mg/kg	1	B9C2504	JTD	03/25/2019	03/25/2019	
Residual Range Organics (C28-C40)	249	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 82.3 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	230	5.00	mg/kg	25	B9C2503	JTD	"	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 106 % 70-130 " " 03/26/2019
 Surrogate: Toluene-d8 93.0 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 105 % 70-130 " " "

pH in Soil by EPA 9045D

pH	9.55		pH Units	1	B9C2508	OLAB	03/25/2019	03/25/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0966	0.00500	mmhos/cm	"	B9C2509	OLAB	03/25/2019	03/25/2019	
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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 - Brown 32-35

N02@17'

3/25/2019 3:33:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903344-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1960	25.0	mg/kg	1	B9C2504	JTD	03/25/2019	03/25/2019	
Residual Range Organics (C28-C40)	565	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 76.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1350	50.0	mg/kg	250	B9C2503	JTD	"	03/26/2019	
Benzene	2.94	0.498	"	"	"	JTD	"	"	
Toluene	14.8	0.498	"	"	"	JTD	"	"	
Ethylbenzene	5.02	0.498	"	"	"	JTD	"	"	
Xylenes, total	46.2	0.498	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4 109 % 70-130 " " "
 Surrogate: Toluene-d8 95.8 % 70-130 " " 03/26/2019
 Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " 03/26/2019

pH in Soil by EPA 9045D

pH	9.40		pH Units	1	B9C2508	OLAB	03/25/2019	03/25/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0909	0.00502	mmhos/cm	"	B9C2509	OLAB	03/25/2019	03/25/2019	
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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 - Brown 32-35

E01@17'

3/25/2019 3:42:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903344-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	4530	25.0	mg/kg	1	B9C2504	JTD	03/25/2019	03/25/2019	
Residual Range Organics (C28-C40)	1290	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 82.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	6860	500	mg/kg	2500	B9C2503	JTD	"	03/26/2019	
Benzene	0.094	0.050	"	25	"	JTD	"	03/26/2019	
Toluene	47.8	0.498	"	250	"	JTD	"	03/25/2019	
Ethylbenzene	21.4	0.498	"	"	"	JTD	"	"	
Xylenes, total	177	0.498	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " 03/26/2019
 Surrogate: Toluene-d8 91.8 % 70-130 " " 03/25/2019
 Surrogate: 4-Bromofluorobenzene 102 % 70-130 " " 03/26/2019

pH in Soil by EPA 9045D

pH	9.62		pH Units	1	B9C2508	OLAB	03/25/2019	03/25/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0767	0.00502	mmhos/cm	"	B9C2509	OLAB	03/25/2019	03/25/2019	
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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 - Brown 32-35

W01@17'
3/25/2019 3:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903344-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1600	25.0	mg/kg	1	B9C2504	JTD	03/25/2019	03/25/2019	
Residual Range Organics (C28-C40)	428	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 102 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1100	50.0	mg/kg	250	B9C2503	JTD	"	03/25/2019	
Benzene	1.40	0.498	"	"	"	JTD	"	"	
Toluene	9.93	0.498	"	"	"	JTD	"	"	
Ethylbenzene	3.24	0.498	"	"	"	JTD	"	"	
Xylenes, total	31.1	0.498	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4 110 % 70-130 " " "
 Surrogate: Toluene-d8 94.0 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 107 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.60		pH Units	1	B9C2508	OLAB	03/25/2019	03/25/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0701	0.00501	mmhos/cm	"	B9C2509	OLAB	03/25/2019	03/25/2019	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Blank (B9C2503-BLK1)

Prepared: 03/25/2019 Analyzed: 03/25/2019

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		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.7	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.

Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Blank (B9C2503-BLK2)

Prepared: 03/25/2019 Analyzed: 03/25/2019

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		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.8	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

LCS (B9C2503-BS1)

Prepared: 03/25/2019 Analyzed: 03/25/2019

Benzene	0.109	0.002	mg/kg	0.100		109	77.1-124			
Toluene	0.104	0.002	"	0.100		104	74.5-128			
Ethylbenzene	0.108	0.002	"	0.100		108	66.4-127			
m,p-Xylene	0.215	0.004	"	0.200		108	76.6-124			
o-Xylene	0.106	0.002	"	0.100		106	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.6	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 - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

LCS (B9C2503-BS2)

Prepared: 03/25/2019 Analyzed: 03/25/2019

Benzene	0.116	0.002	mg/kg	0.100		116	77.1-124			
Toluene	0.107	0.002	"	0.100		107	74.5-128			
Ethylbenzene	0.109	0.002	"	0.100		109	66.4-127			
m,p-Xylene	0.217	0.004	"	0.200		108	76.6-124			
o-Xylene	0.107	0.002	"	0.100		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		108	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Matrix Spike (B9C2503-MS1)	Source: Y903278-03			Prepared: 03/25/2019 Analyzed: 03/25/2019						
Benzene	0.110	0.002	mg/kg	0.100	ND	110	71.8-126			
Toluene	0.103	0.002	"	0.100	ND	103	65.1-130			
Ethylbenzene	0.106	0.002	"	0.100	ND	106	62.2-130			
m,p-Xylene	0.212	0.004	"	0.200	0.001	105	46.5-137			
o-Xylene	0.104	0.002	"	0.100	0.0006	103	54.2-134			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>105</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>99.5</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>102</i>	<i>70-130</i>			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Matrix Spike (B9C2503-MS2)	Source: Y903340-01			Prepared: 03/25/2019 Analyzed: 03/25/2019						
Benzene	0.096	0.002	mg/kg	0.100	ND	95.5	71.8-126			
Toluene	0.088	0.002	"	0.100	ND	87.8	65.1-130			
Ethylbenzene	0.087	0.002	"	0.100	ND	87.5	62.2-130			
m,p-Xylene	0.175	0.004	"	0.200	0.001	86.7	46.5-137			
o-Xylene	0.088	0.002	"	0.100	0.0004	87.3	54.2-134			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>105</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>95.9</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>101</i>	<i>70-130</i>			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Matrix Spike Dup (B9C2503-MSD1)	Source: Y903278-03			Prepared: 03/25/2019 Analyzed: 03/25/2019						
Benzene	0.105	0.002	mg/kg	0.100	ND	105	71.8-126	4.75	11.3	
Toluene	0.098	0.002	"	0.100	ND	98.2	65.1-130	5.08	15.4	
Ethylbenzene	0.101	0.002	"	0.100	ND	101	62.2-130	4.60	19.6	
m,p-Xylene	0.200	0.004	"	0.200	0.001	99.3	46.5-137	5.71	19.2	
o-Xylene	0.100	0.002	"	0.100	0.0006	99.7	54.2-134	3.29	17.9	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>106</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>97.6</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>103</i>	<i>70-130</i>			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2503 - EPA 5030 (soil)

Matrix Spike Dup (B9C2503-MSD2)	Source: Y903340-01			Prepared: 03/25/2019 Analyzed: 03/25/2019						
Benzene	0.098	0.002	mg/kg	0.100	ND	97.5	71.8-126	2.09	11.3	
Toluene	0.088	0.002	"	0.100	ND	88.5	65.1-130	0.771	15.4	
Ethylbenzene	0.087	0.002	"	0.100	ND	87.4	62.2-130	0.0457	19.6	
m,p-Xylene	0.174	0.004	"	0.200	0.001	86.5	46.5-137	0.298	19.2	
o-Xylene	0.087	0.002	"	0.100	0.0004	87.0	54.2-134	0.365	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.0	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 - Brown 32-35

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 B9C2504 - EPA 3550B

Blank (B9C2504-BLK1)

Prepared: 03/25/2019 Analyzed: 03/25/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	40		"	50.0		80.9	59-131			

LCS (B9C2504-BS1)

Prepared: 03/25/2019 Analyzed: 03/25/2019

Diesel (C10-C28)	906	50.0	mg/kg	1000		90.6	64-121			
Residual Range Organics (C28-C40)	903	200	"	1000		90.3	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.1	59-131			

Matrix Spike (B9C2504-MS1)

Source: Y903278-03

Prepared: 03/25/2019 Analyzed: 03/25/2019

Diesel (C10-C28)	937	50.0	mg/kg	1000	22.8	91.4	53-125			
Residual Range Organics (C28-C40)	921	200	"	1000	12.2	90.9	47-133			
Surrogate: o-Terphenyl	45		"	50.0		89.8	59-131			

Matrix Spike Dup (B9C2504-MSD1)

Source: Y903278-03

Prepared: 03/25/2019 Analyzed: 03/25/2019

Diesel (C10-C28)	912	50.0	mg/kg	1000	22.8	88.9	53-125	2.79	20	
Residual Range Organics (C28-C40)	911	200	"	1000	12.2	89.9	47-133	1.07	20	
Surrogate: o-Terphenyl	44		"	50.0		88.2	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2508 - NO PREP										
Duplicate (B9C2508-DUP1)		Source: Y903292-01			Prepared: 03/25/2019 Analyzed: 03/25/2019					
pH	8.24		pH Units		8.49			2.99	25	
Batch B9C2509 - NO PREP										
Blank (B9C2509-BLK1)		Prepared: 03/25/2019 Analyzed: 03/25/2019								
Specific Conductance (EC)	0.00270	0.00500	mmhos/cm							
Duplicate (B9C2509-DUP1)		Source: Y903292-01			Prepared: 03/25/2019 Analyzed: 03/25/2019					
Specific Conductance (EC)	0.0817	0.00502	mmhos/cm		0.0815			0.245	25	

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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.

Noelle Doyle Mathis, President

March 27, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. March 26, 2019. This project is associated with Origins project number Y903380-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	Y903380-01	Water	March 26, 2019 14:07	03/26/2019 16:58

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y903380

Client: Tasman
 Client Project ID: Brown 32-35

Checklist Completed by: JG

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

Date/time completed: 3/26/2019

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

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

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 3/26/19

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

GW01

3/26/2019 2:07:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903380-01 (Water)

BTEX by EPA 8260C

Benzene	612	50.0	ug/L	50	B9C2607	KDK	03/26/2019	03/26/2019	
Toluene	1480	50.0	"	"	"	KDK	"	"	
Ethylbenzene	122	50.0	"	"	"	KDK	"	"	
Xylenes, total	1260	50.0	"	"	"	KDK	"	"	
Surrogate: 1,2-Dichloroethane-d4	101 %			84-121		"	"	"	
Surrogate: Toluene-d8	102 %			85-115		"	"	"	
Surrogate: 4-Bromofluorobenzene	98.3 %			84-114		"	"	"	

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2607 - EPA 5030B (Water)

Blank (B9C2607-BLK1)

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

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		99.3	84-121			
Surrogate: Toluene-d8	63		"	62.5		100	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.0	84-114			

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2607 - EPA 5030B (Water)

LCS (B9C2607-BS1)

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

Benzene	48.8	1.00	ug/L	50.0		97.6	73.3-129			
Toluene	47.0	1.00	"	50.0		94.0	76.2-123			
Ethylbenzene	46.8	1.00	"	50.0		93.6	73.6-130			
m,p-Xylene	93.9	2.00	"	100		93.9	76.1-126			
o-Xylene	47.9	1.00	"	50.0		95.8	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.6	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.5	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2607 - EPA 5030B (Water)

Matrix Spike (B9C2607-MS1)	Source: Y903336-07			Prepared: 03/26/2019 Analyzed: 03/26/2019						
Benzene	52.8	1.00	ug/L	50.0	ND	106	74-130			
Toluene	51.0	1.00	"	50.0	ND	102	73-131			
Ethylbenzene	50.7	1.00	"	50.0	ND	101	76-132			
m,p-Xylene	101	2.00	"	100	ND	101	69-139			
o-Xylene	50.7	1.00	"	50.0	ND	101	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.2	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	84-114			

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9C2607 - EPA 5030B (Water)

Matrix Spike Dup (B9C2607-MSD1)	Source: Y903336-07			Prepared: 03/26/2019 Analyzed: 03/26/2019						
Benzene	52.6	1.00	ug/L	50.0	ND	105	74-130	0.228	20	
Toluene	51.6	1.00	"	50.0	ND	103	73-131	1.15	20	
Ethylbenzene	51.0	1.00	"	50.0	ND	102	76-132	0.472	20	
m,p-Xylene	102	2.00	"	100	ND	102	69-139	0.533	20	
o-Xylene	51.5	1.00	"	50.0	ND	103	74-131	1.49	20	
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.4	84-121			
Surrogate: Toluene-d8	63		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.5	84-114			

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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 - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. March 27, 2019. This project is associated with Origins project number Y903401-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S04@17'	Y903401-01	Soil	March 27, 2019 15:19	03/27/2019 17:00

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 - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y903401

Client: Tasman
 Client Project ID: Brown 32-35

Checklist Completed by: JG
 Date/time completed: 3/27/2019

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

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 4.7 °C _____ / _____ °C _____ / _____ °C (Describe)
 Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – Is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 3/27/19

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

S04@17'

3/27/2019 3:19:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903401-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	2930	25.0	mg/kg	1	B9C2702	JTD	03/27/2019	03/27/2019	
Residual Range Organics (C28-C40)	727	100	"	"	"	JTD	"	"	

Surrogate: *o*-Terphenyl 94.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	645	50.0	mg/kg	250	B9C2701	KDK	03/27/2019	03/27/2019	
Benzene	ND	0.050	"	25	"	KDK	"	03/28/2019	U
Toluene	4.03	0.498	"	250	"	KDK	"	03/27/2019	
Ethylbenzene	2.62	0.498	"	"	"	KDK	"	"	
Xylenes, total	23.1	0.498	"	"	"	KDK	"	"	

Surrogate: 1,2-Dichloroethane-d4 116 % 70-130 " " "
 Surrogate: Toluene-d8 92.4 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 108 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.81		pH Units	1	B9C2703	OLAB	03/27/2019	03/27/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.102	0.00500	mmhos/cm	"	B9C2704	OLAB	03/27/2019	"	
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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 - Brown 32-35

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 B9C2701 - EPA 5030 (soil)

Blank (B9C2701-BLK1)

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

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		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.5	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 - Brown 32-35

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 B9C2701 - EPA 5030 (soil)

LCS (B9C2701-BS1)

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

Benzene	0.103	0.002	mg/kg	0.100		103	77.1-124			
Toluene	0.101	0.002	"	0.100		101	74.5-128			
Ethylbenzene	0.101	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.202	0.004	"	0.200		101	76.6-124			
o-Xylene	0.100	0.002	"	0.100		99.8	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Brown 32-35

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

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

Batch B9C2701 - EPA 5030 (soil)

Matrix Spike (B9C2701-MS1)	Source: Y903363-01			Prepared: 03/27/2019 Analyzed: 03/27/2019						
Benzene	0.102	0.002	mg/kg	0.100	ND	102	71.8-126			
Toluene	0.095	0.002	"	0.100	ND	95.3	65.1-130			
Ethylbenzene	0.094	0.002	"	0.100	ND	93.6	62.2-130			
m,p-Xylene	0.187	0.004	"	0.200	0.0009	93.2	46.5-137			
o-Xylene	0.094	0.002	"	0.100	0.0005	93.1	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Brown 32-35

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 B9C2701 - EPA 5030 (soil)

Matrix Spike Dup (B9C2701-MSD1)	Source: Y903363-01			Prepared: 03/27/2019 Analyzed: 03/27/2019						
Benzene	0.091	0.002	mg/kg	0.100	ND	91.2	71.8-126	10.7	11.3	
Toluene	0.083	0.002	"	0.100	ND	82.5	65.1-130	14.3	15.4	
Ethylbenzene	0.083	0.002	"	0.100	ND	83.0	62.2-130	12.0	19.6	
m,p-Xylene	0.166	0.004	"	0.200	0.0009	82.5	46.5-137	12.1	19.2	
o-Xylene	0.083	0.002	"	0.100	0.0005	82.2	54.2-134	12.3	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Brown 32-35

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 B9C2702 - EPA 3580

Blank (B9C2702-BLK1)

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

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	30		"	50.0		59.3	59-131			

LCS (B9C2702-BS1)

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

Diesel (C10-C28)	868	50.0	mg/kg	1000		86.8	64-121			
Residual Range Organics (C28-C40)	828	200	"	1000		82.8	58-124			
Surrogate: o-Terphenyl	43		"	50.0		86.9	59-131			

Matrix Spike (B9C2702-MS1)

Source: Y903363-01

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

Diesel (C10-C28)	899	50.0	mg/kg	1000	ND	89.9	53-125			
Residual Range Organics (C28-C40)	867	200	"	1000	7.95	85.9	47-133			
Surrogate: o-Terphenyl	46		"	50.0		92.1	59-131			

Matrix Spike Dup (B9C2702-MSD1)

Source: Y903363-01

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

Diesel (C10-C28)	924	50.0	mg/kg	1000	ND	92.4	53-125	2.80	20	
Residual Range Organics (C28-C40)	865	200	"	1000	7.95	85.7	47-133	0.228	20	
Surrogate: o-Terphenyl	46		"	50.0		91.2	59-131			

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 - Brown 32-35

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 B9C2703 - NO PREP										
Duplicate (B9C2703-DUP1)		Source: Y903363-01			Prepared: 03/27/2019 Analyzed: 03/27/2019					
pH	7.69		pH Units		7.75			0.777	25	
Batch B9C2704 - NO PREP										
Blank (B9C2704-BLK1)		Prepared: 03/27/2019 Analyzed: 03/27/2019								
Specific Conductance (EC)	0.00260	0.00500	mmhos/cm							
Duplicate (B9C2704-DUP1)		Source: Y903363-01			Prepared: 03/27/2019 Analyzed: 03/27/2019					
Specific Conductance (EC)	0.0796	0.00500	mmhos/cm		0.0646			20.8	25	

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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

April 01, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. March 29, 2019. This project is associated with Origins project number Y903470-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S05@17'	Y903470-01	Soil	March 29, 2019 15:24	03/29/2019 16:45
S06@17'	Y903470-02	Soil	March 29, 2019 15:30	03/29/2019 16:45

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 - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4903470

Client: Tasman

Client Project ID: KMG - Brown 32-35

Checklist Completed by: Dan Lu

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

Date/time completed: 3-29-19

Airbill #: NA

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

Cooler Number/Temperature: 1 / 24 °C / _____ °C / _____ °C / _____ °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>			ph
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) / (pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with Na ₂ SO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 3-29-19

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

S05@17'

3/29/2019 3:24:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903470-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2909	JTD	03/29/2019	03/29/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 74.3 % 59-131 " " "

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B9C2911	JTD	03/29/2019	03/29/2019	U
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
Naphthalene	ND	0.200	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "
 Surrogate: Toluene-d8 99.8 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 97.4 % 70-130 " " "

pH in Soil by EPA 9045D

pH	6.92		pH Units	1	B9C2912	OLAB	03/29/2019	03/29/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0569	0.00500	mmhos/cm	"	B9C2913	OLAB	"	"	
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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 - Brown 32-35

S06@17'

3/29/2019 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y903470-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9C2909	JTD	03/29/2019	03/29/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 75.3 % 59-131 " " "

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B9C2911	JTD	03/29/2019	03/29/2019	U
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
Naphthalene	ND	0.200	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "
 Surrogate: Toluene-d8 101 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 98.3 % 70-130 " " "

pH in Soil by EPA 9045D

pH	6.84		pH Units	1	B9C2912	OLAB	03/29/2019	03/29/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0523	0.00504	mmhos/cm	"	B9C2913	OLAB	"	"	
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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 - Brown 32-35

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 B9C2911 - EPA 5030 (soil)

Blank (B9C2911-BLK1)

Prepared: 03/29/2019 Analyzed: 03/29/2019

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
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	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 - Brown 32-35

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 B9C2911 - EPA 5030 (soil)

LCS (B9C2911-BS1)

Prepared: 03/29/2019 Analyzed: 03/29/2019

Benzene	0.090	0.002	mg/kg	0.100		90.3	70-130			
Toluene	0.089	0.002	"	0.100		89.3	70-130			
Ethylbenzene	0.091	0.002	"	0.100		90.9	70-130			
m,p-Xylene	0.183	0.004	"	0.200		91.4	70-130			
o-Xylene	0.092	0.002	"	0.100		92.3	70-130			
Naphthalene	0.094	0.008	"	0.100		94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	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 - Brown 32-35

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 B9C2911 - EPA 5030 (soil)

Matrix Spike (B9C2911-MS1)	Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 04/01/2019						
Benzene	2.45	0.050	mg/kg	2.50	ND	97.9	70-130			
Toluene	2.40	0.050	"	2.50	ND	95.9	70-130			
Ethylbenzene	2.43	0.050	"	2.50	ND	97.1	70-130			
m,p-Xylene	4.90	0.100	"	5.00	ND	97.9	70-130			
o-Xylene	2.45	0.050	"	2.50	ND	98.0	70-130			
Naphthalene	2.14	0.200	"	2.50	0.108	81.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		100	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 - Brown 32-35

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 B9C2911 - EPA 5030 (soil)

Matrix Spike Dup (B9C2911-MSD1)	Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 03/29/2019						
Benzene	2.30	0.050	mg/kg	2.50	ND	92.1	70-130	6.19	20	
Toluene	2.18	0.050	"	2.50	ND	87.3	70-130	9.43	20	
Ethylbenzene	2.23	0.050	"	2.50	ND	89.1	70-130	8.53	20	
m,p-Xylene	4.51	0.100	"	5.00	ND	90.2	70-130	8.27	20	
o-Xylene	2.30	0.050	"	2.50	ND	91.8	70-130	6.51	20	
Naphthalene	2.31	0.200	"	2.50	0.108	88.1	70-130	7.66	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 - Brown 32-35

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 B9C2909 - EPA 3550B

Blank (B9C2909-BLK1)

Prepared: 03/29/2019 Analyzed: 03/29/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	47		"	50.0		93.1	59-131			

Blank (B9C2909-BLK2)

Prepared: 03/29/2019 Analyzed: 03/29/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	43		"	50.0		86.7	59-131			

LCS (B9C2909-BS1)

Prepared: 03/29/2019 Analyzed: 03/29/2019

Diesel (C10-C28)	942	50.0	mg/kg	1000		94.2	64-121			
Residual Range Organics (C28-C40)	910	200	"	1000		91.0	58-124			
Surrogate: o-Terphenyl	50		"	50.0		99.2	59-131			

LCS (B9C2909-BS2)

Prepared: 03/29/2019 Analyzed: 03/29/2019

Diesel (C10-C28)	962	50.0	mg/kg	1000		96.2	64-121			
Residual Range Organics (C28-C40)	809	200	"	1000		80.9	58-124			
Surrogate: o-Terphenyl	47		"	50.0		93.8	59-131			

Matrix Spike (B9C2909-MS1)

Source: Y903451-01

Prepared: 03/29/2019 Analyzed: 03/29/2019

Diesel (C10-C28)	1420	50.0	mg/kg	1000	562	85.7	53-125			
Residual Range Organics (C28-C40)	760	200	"	1000	14.0	74.6	47-133			

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 - Brown 32-35

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 B9C2909 - EPA 3550B										
Matrix Spike (B9C2909-MS1)		Source: Y903451-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
Surrogate: o-Terphenyl	57		mg/kg	50.0		113	59-131			
Matrix Spike (B9C2909-MS2)		Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
Diesel (C10-C28)	942	50.0	mg/kg	1000	ND	94.2	53-125			
Residual Range Organics (C28-C40)	809	200	"	1000	ND	80.9	47-133			
Surrogate: o-Terphenyl	45		"	50.0		90.7	59-131			
Matrix Spike Dup (B9C2909-MSD1)		Source: Y903451-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
Diesel (C10-C28)	1230	50.0	mg/kg	1000	562	66.3	53-125	25.4	20	QR-02
Residual Range Organics (C28-C40)	596	200	"	1000	14.0	58.2	47-133	24.7	20	QR-02
Surrogate: o-Terphenyl	51		"	50.0		102	59-131			
Matrix Spike Dup (B9C2909-MSD2)		Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
Diesel (C10-C28)	939	50.0	mg/kg	1000	ND	93.9	53-125	0.331	20	
Residual Range Organics (C28-C40)	828	200	"	1000	ND	82.8	47-133	2.32	20	
Surrogate: o-Terphenyl	46		"	50.0		91.3	59-131			

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 - Brown 32-35

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 B9C2912 - NO PREP										
Duplicate (B9C2912-DUP1)		Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
pH	6.99		pH Units		6.92			1.01	25	
Batch B9C2913 - NO PREP										
Blank (B9C2913-BLK1)		Prepared: 03/29/2019 Analyzed: 03/29/2019								
Specific Conductance (EC)	0.00210	0.00500	mmhos/cm							
Duplicate (B9C2913-DUP1)		Source: Y903470-01			Prepared: 03/29/2019 Analyzed: 03/29/2019					
Specific Conductance (EC)	0.0479	0.00500	mmhos/cm		0.0569			17.2	25	

Origins Laboratory, Inc.



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

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

Notes and Definitions

U Sample is Non-Detect.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

April 02, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. April 01, 2019. This project is associated with Origins project number Y904023-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E02@17'	Y904023-01	Soil	April 1, 2019 15:01	04/01/2019 16:40
E03@17'	Y904023-02	Soil	April 1, 2019 15:00	04/01/2019 16:40
W04@17'	Y904023-03	Soil	April 1, 2019 15:00	04/01/2019 16:40
W05@17'	Y904023-04	Soil	April 1, 2019 15:07	04/01/2019 16:40
S07@17'	Y904023-05	Soil	April 1, 2019 15:21	04/01/2019 16:40
GW02	Y904023-06	Water	April 1, 2019 15:40	04/01/2019 16:40

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 - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4904023

Client: Tasman

Client Project ID: KMG - Brown 32-35

Checklist Completed by: D. La

Shipped Via: HD

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

Date/time completed: 4-1-12

Airbill #: NA

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

Cooler Number/Temperature: / 6.1 °C / _____ °C / _____ °C / _____ °C (Describe)

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Sampled same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) _____

Date/Time Reviewed 4-1-12

Origins Laboratory, Inc.



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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

E02@17'

4/1/2019 3:01:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-01 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.00200	mg/kg	1	B9D0104	JTD	04/01/2019	04/01/2019	U
Toluene	ND	0.00200	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.7 %	70-130			"	"			
Surrogate: Toluene-d8	97.0 %	70-130			"	"			
Surrogate: 4-Bromofluorobenzene	98.4 %	70-130			"	"			

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D0105	JTD	04/01/2019	04/01/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	67.3 %	50-150			"	"			
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pH in Soil by EPA 9045D

pH	7.32		pH Units	1	B9D0111	JTD	04/02/2019	04/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0733	0.00500	mmhos/cm	"	B9D0112	JTD	04/02/2019	"	
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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 - Brown 32-35

E03@17'

4/1/2019 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-02 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D0104	JTD	04/01/2019	04/01/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	93.3 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D0105	JTD	04/01/2019	04/01/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	65.8 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	7.39		pH Units	1	B9D0111	JTD	04/02/2019	04/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0770	0.00500	mmhos/cm	"	B9D0112	JTD	04/02/2019	"	
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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 - Brown 32-35

W04@17'

4/1/2019 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-03 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D0104	JTD	04/01/2019	04/01/2019	U
Toluene	0.358	0.0500	"	"	"	JTD	"	"	
Ethylbenzene	0.171	0.0500	"	"	"	JTD	"	"	
Xylenes, total	1.68	0.0500	"	"	"	JTD	"	"	
Gasoline Range Hydrocarbons	67.9	5.00	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	97.7 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	97.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	106	25.0	mg/kg	1	B9D0105	JTD	04/01/2019	04/01/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	76.7 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	7.66		pH Units	1	B9D0111	JTD	04/02/2019	04/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0622	0.00500	mmhos/cm	"	B9D0112	JTD	04/02/2019	"	
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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 - Brown 32-35

W05@17'

4/1/2019 3:07:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-04 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D0104	JTD	04/01/2019	04/02/2019	U
Toluene	0.955	0.500	"	250	"	JTD	"	04/01/2019	
Ethylbenzene	0.760	0.500	"	"	"	JTD	"	"	
Xylenes, total	7.48	0.500	"	"	"	JTD	"	"	
Gasoline Range Hydrocarbons	400	50.0	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.3 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	191	25.0	mg/kg	1	B9D0105	JTD	04/01/2019	04/01/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	80.8 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	7.59		pH Units	1	B9D0111	JTD	04/02/2019	04/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0538	0.00500	mmhos/cm	"	B9D0112	JTD	04/02/2019	"	
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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 - Brown 32-35

S07@17'

4/1/2019 3:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-05 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D0104	JTD	04/01/2019	04/01/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	92.9 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D0105	JTD	04/01/2019	04/01/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	69.8 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	7.73		pH Units	1	B9D0111	JTD	04/02/2019	04/02/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0565	0.00500	mmhos/cm	"	B9D0112	JTD	04/02/2019	"	
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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 - Brown 32-35

GW02

4/1/2019 3:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904023-06 (Water)

BTEX by EPA 8260D

Benzene	257	4.00	ug/L	4	B9D0107	JTD	04/01/2019	04/01/2019	
Toluene	436	4.00	"	"	"	JTD	"	"	
Ethylbenzene	20.4	4.00	"	"	"	JTD	"	"	
Xylenes, total	482	4.00	"	"	"	JTD	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.8 %			70-130		"	"	"	
Surrogate: Toluene-d8	102 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %			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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Blank (B9D0104-BLK1)

Prepared: 04/01/2019 Analyzed: 04/01/2019

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Blank (B9D0104-BLK2)

Prepared: 04/01/2019 Analyzed: 04/01/2019

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.12		"	0.125		95.2	70-130			
<i>Surrogate: Toluene-d8</i>	0.12		"	0.125		98.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.12		"	0.125		99.2	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

LCS (B9D0104-BS1)

Prepared: 04/01/2019 Analyzed: 04/01/2019

Benzene	0.0946	0.00200	mg/kg	0.100		94.6	70-130			
Toluene	0.0944	0.00200	"	0.100		94.4	70-130			
Ethylbenzene	0.0992	0.00200	"	0.100		99.2	70-130			
m,p-Xylene	0.198	0.00400	"	0.200		99.0	70-130			
o-Xylene	0.103	0.00200	"	0.100		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

LCS (B9D0104-BS2)

Prepared: 04/01/2019 Analyzed: 04/01/2019

Benzene	0.0981	0.00200	mg/kg	0.100		98.1	70-130			
Toluene	0.0969	0.00200	"	0.100		96.9	70-130			
Ethylbenzene	0.102	0.00200	"	0.100		102	70-130			
m,p-Xylene	0.203	0.00400	"	0.200		101	70-130			
o-Xylene	0.104	0.00200	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.9	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Matrix Spike (B9D0104-MS1)	Source: Y903456-05			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	0.0884	0.00200	mg/kg	0.100	ND	88.4	70-130			
Toluene	0.0866	0.00200	"	0.100	ND	86.6	70-130			
Ethylbenzene	0.0896	0.00200	"	0.100	ND	89.6	70-130			
m,p-Xylene	0.181	0.00400	"	0.200	ND	90.3	70-130			
o-Xylene	0.0944	0.00200	"	0.100	ND	94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Matrix Spike (B9D0104-MS2)	Source: Y903456-07			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	0.0943	0.00200	mg/kg	0.100	ND	94.3	70-130			
Toluene	0.0897	0.00200	"	0.100	ND	89.7	70-130			
Ethylbenzene	0.0923	0.00200	"	0.100	ND	92.3	70-130			
m,p-Xylene	0.185	0.00400	"	0.200	ND	92.7	70-130			
o-Xylene	0.0976	0.00200	"	0.100	ND	97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Matrix Spike Dup (B9D0104-MSD1)	Source: Y903456-05			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	0.0914	0.00200	mg/kg	0.100	ND	91.4	70-130	3.32	20	
Toluene	0.0888	0.00200	"	0.100	ND	88.8	70-130	2.55	20	
Ethylbenzene	0.0912	0.00200	"	0.100	ND	91.2	70-130	1.84	20	
m,p-Xylene	0.184	0.00400	"	0.200	ND	91.9	70-130	1.71	20	
o-Xylene	0.0964	0.00200	"	0.100	ND	96.4	70-130	2.14	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0104 - EPA 5030 (soil)

Matrix Spike Dup (B9D0104-MSD2)	Source: Y903456-07			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	0.0941	0.00200	mg/kg	0.100	ND	94.1	70-130	0.255	20	
Toluene	0.0860	0.00200	"	0.100	ND	86.0	70-130	4.17	20	
Ethylbenzene	0.0847	0.00200	"	0.100	ND	84.7	70-130	8.52	20	
m,p-Xylene	0.173	0.00400	"	0.200	ND	86.4	70-130	7.11	20	
o-Xylene	0.0914	0.00200	"	0.100	ND	91.4	70-130	6.52	20	
Surrogate: 1,2-Dichloroethane-d4	0.16		"	0.125		125	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	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 - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
Blank (B9D0105-BLK1)										
					Prepared: 04/01/2019 Analyzed: 04/01/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	41		"	50.0		82.1	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
Blank (B9D0105-BLK2)										
					Prepared: 04/01/2019 Analyzed: 04/01/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	38		"	50.0		76.8	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
LCS (B9D0105-BS1)					Prepared: 04/01/2019 Analyzed: 04/01/2019					
Diesel (C10-C28)	775	50.0	mg/kg	1000		77.5	70-130			
Residual Range Organics (C28-C40)	807	200	"	1000		80.7	70-130			
Surrogate: o-Terphenyl	41		"	50.0		81.2	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
LCS (B9D0105-BS2)										
					Prepared: 04/01/2019 Analyzed: 04/01/2019					
Diesel (C10-C28)	859	50.0	mg/kg	1000		85.9	70-130			
Residual Range Organics (C28-C40)	938	200	"	1000		93.8	70-130			
Surrogate: o-Terphenyl	38		"	50.0		76.8	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D0105 - EPA 3550B

Matrix Spike (B9D0105-MS1)	Source: Y903420-01			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Diesel (C10-C28)	1640	50.0	mg/kg	1000	726	91.3	70-130			
Residual Range Organics (C28-C40)	1200	200	"	1000	245	95.6	70-130			
Surrogate: o-Terphenyl	53		"	50.0		106	50-150			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D0105 - EPA 3550B

Matrix Spike (B9D0105-MS2)	Source: Y904022-01			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Diesel (C10-C28)	796	50.0	mg/kg	1000	15.9	78.0	70-130			
Residual Range Organics (C28-C40)	846	200	"	1000	ND	84.6	70-130			
Surrogate: o-Terphenyl	39		"	50.0		78.0	50-150			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
Matrix Spike Dup (B9D0105-MSD1)					Source: Y903420-01					Prepared: 04/01/2019 Analyzed: 04/01/2019
Diesel (C10-C28)	1270	50.0	mg/kg	1000	726	54.4	70-130	50.8	35	QM-07, QR-03
Residual Range Organics (C28-C40)	983	200	"	1000	245	73.8	70-130	25.7	35	
Surrogate: o-Terphenyl	42		"	50.0		83.2	50-150			

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Tasman Geosciences
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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D0105 - EPA 3550B										
Matrix Spike Dup (B9D0105-MSD2)					Source: Y904022-01					Prepared: 04/01/2019 Analyzed: 04/01/2019
Diesel (C10-C28)	888	50.0	mg/kg	1000	15.9	87.3	70-130	11.2	35	
Residual Range Organics (C28-C40)	965	200	"	1000	ND	96.5	70-130	13.1	35	
Surrogate: o-Terphenyl	45		"	50.0		90.7	50-150			

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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D0107 - EPA 5030B (Water)

Blank (B9D0107-BLK1)

Prepared: 04/01/2019 Analyzed: 04/01/2019

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	60		"	62.5	96.8		70-130			
Surrogate: Toluene-d8	63		"	62.5	101		70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.0		70-130			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0107 - EPA 5030B (Water)

LCS (B9D0107-BS1)

Prepared: 04/01/2019 Analyzed: 04/01/2019

Benzene	53.0	1.00	ug/L	50.0		106	70-130			
Toluene	50.5	1.00	"	50.0		101	70-130			
Ethylbenzene	48.5	1.00	"	50.0		97.0	70-130			
m,p-Xylene	98.2	2.00	"	100		98.2	70-130			
o-Xylene	49.0	1.00	"	50.0		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		93.6	70-130			
Surrogate: Toluene-d8	65		"	62.5		103	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.1	70-130			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0107 - EPA 5030B (Water)

Matrix Spike (B9D0107-MS1)	Source: Y903436-02			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	54.6	1.00	ug/L	50.0	ND	109	70-130			
Toluene	51.8	1.00	"	50.0	0.100	103	70-130			
Ethylbenzene	50.9	1.00	"	50.0	0.060	102	70-130			
m,p-Xylene	104	2.00	"	100	ND	104	70-130			
o-Xylene	51.0	1.00	"	50.0	ND	102	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.2	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.9	70-130			

Origins Laboratory, Inc.



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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D0107 - EPA 5030B (Water)

Matrix Spike Dup (B9D0107-MSD1)	Source: Y903436-02			Prepared: 04/01/2019 Analyzed: 04/01/2019						
Benzene	54.6	1.00	ug/L	50.0	ND	109	70-130	0.0549	20	
Toluene	51.8	1.00	"	50.0	0.100	103	70-130	0.00	20	
Ethylbenzene	51.4	1.00	"	50.0	0.060	103	70-130	0.977	20	
m,p-Xylene	104	2.00	"	100	ND	104	70-130	0.268	20	
o-Xylene	52.1	1.00	"	50.0	ND	104	70-130	2.14	20	
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.0	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.9	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 - Brown 32-35

Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President

April 05, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. April 04, 2019. This project is associated with Origins project number Y904097-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W06@17'	Y904097-01	Soil	April 4, 2019 11:50	04/04/2019 17:05

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 - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y904097

Client: Tasman
 Client Project ID: Brown 32-35

Checklist Completed by: JG

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

Date/time completed: 4/4/2019

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

Cooler Number/Temperature: 1 / 5.6 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<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 checked="" type="checkbox"/>	<input 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"/>	<input type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
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)

4/4/19
 Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

W06@17'
4/4/2019 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904097-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D0402	JTD	04/04/2019	04/04/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: *o*-Terphenyl 64.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B9D0406	JTD	04/04/2019	04/05/2019	U
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 114 % 70-130 " " "
 Surrogate: Toluene-d8 102 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 103 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.81		pH Units	1	B9D0412	OLAB	04/04/2019	04/04/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0685	0.00500	mmhos/cm	"	B9D0413	OLAB	04/04/2019	"	
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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 - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Blank (B9D0406-BLK1)

Prepared: 04/04/2019 Analyzed: 04/04/2019

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	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	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 - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Blank (B9D0406-BLK2)

Prepared: 04/04/2019 Analyzed: 04/04/2019

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	0.15		"	0.125		119	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

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

Batch B9D0406 - EPA 5030 (soil)

LCS (B9D0406-BS1)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Benzene	0.097	0.002	mg/kg	0.100		96.7	77.1-124			
Toluene	0.097	0.002	"	0.100		96.9	74.5-128			
Ethylbenzene	0.096	0.002	"	0.100		95.9	66.4-127			
m,p-Xylene	0.196	0.004	"	0.200		97.8	76.6-124			
o-Xylene	0.095	0.002	"	0.100		94.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.2	70-130			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

LCS (B9D0406-BS2)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Benzene	0.093	0.002	mg/kg	0.100		92.9	77.1-124			
Toluene	0.089	0.002	"	0.100		89.1	74.5-128			
Ethylbenzene	0.086	0.002	"	0.100		85.8	66.4-127			
m,p-Xylene	0.177	0.004	"	0.200		88.4	76.6-124			
o-Xylene	0.087	0.002	"	0.100		87.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.4	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 - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Matrix Spike (B9D0406-MS1)	Source: Y904061-01			Prepared: 04/04/2019 Analyzed: 04/04/2019						
Benzene	0.085	0.002	mg/kg	0.100	ND	84.7	71.8-126			
Toluene	0.082	0.002	"	0.100	ND	82.2	65.1-130			
Ethylbenzene	0.081	0.002	"	0.100	ND	80.6	62.2-130			
m,p-Xylene	0.166	0.004	"	0.200	ND	82.9	46.5-137			
o-Xylene	0.082	0.002	"	0.100	0.0004	81.8	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		114	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.5	70-130			

Origins Laboratory, Inc.



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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Matrix Spike (B9D0406-MS2)	Source: Y904091-02			Prepared: 04/04/2019 Analyzed: 04/04/2019						
Benzene	0.099	0.002	mg/kg	0.100	ND	98.9	71.8-126			
Toluene	0.095	0.002	"	0.100	ND	95.2	65.1-130			
Ethylbenzene	0.096	0.002	"	0.100	ND	95.5	62.2-130			
m,p-Xylene	0.197	0.004	"	0.200	ND	98.3	46.5-137			
o-Xylene	0.097	0.002	"	0.100	ND	97.1	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		116	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.2	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Matrix Spike Dup (B9D0406-MSD1)	Source: Y904061-01			Prepared: 04/04/2019 Analyzed: 04/04/2019						
Benzene	0.085	0.002	mg/kg	0.100	ND	85.1	71.8-126	0.448	11.3	
Toluene	0.082	0.002	"	0.100	ND	82.0	65.1-130	0.317	15.4	
Ethylbenzene	0.080	0.002	"	0.100	ND	80.2	62.2-130	0.448	19.6	
m,p-Xylene	0.165	0.004	"	0.200	ND	82.3	46.5-137	0.750	19.2	
o-Xylene	0.080	0.002	"	0.100	0.0004	80.0	54.2-134	2.22	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.1	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0406 - EPA 5030 (soil)

Matrix Spike Dup (B9D0406-MSD2)	Source: Y904091-02			Prepared: 04/04/2019 Analyzed: 04/04/2019						
Benzene	0.094	0.002	mg/kg	0.100	ND	93.8	71.8-126	5.27	11.3	
Toluene	0.091	0.002	"	0.100	ND	90.8	65.1-130	4.73	15.4	
Ethylbenzene	0.091	0.002	"	0.100	ND	91.5	62.2-130	4.34	19.6	
m,p-Xylene	0.188	0.004	"	0.200	ND	94.2	46.5-137	4.19	19.2	
o-Xylene	0.093	0.002	"	0.100	ND	92.5	54.2-134	4.83	17.9	
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		117	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0402 - EPA 3580

Blank (B9D0402-BLK1)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	40		"	50.0		79.8	59-131			

Blank (B9D0402-BLK2)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	40		"	50.0		80.7	59-131			

LCS (B9D0402-BS1)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Diesel (C10-C28)	785	50.0	mg/kg	1000		78.5	64-121			
Residual Range Organics (C28-C40)	911	200	"	1000		91.1	58-124			
Surrogate: o-Terphenyl	41		"	50.0		82.8	59-131			

LCS (B9D0402-BS2)

Prepared: 04/04/2019 Analyzed: 04/04/2019

Diesel (C10-C28)	848	50.0	mg/kg	1000		84.8	64-121			
Residual Range Organics (C28-C40)	954	200	"	1000		95.4	58-124			
Surrogate: o-Terphenyl	48		"	50.0		95.6	59-131			

Matrix Spike (B9D0402-MS1)

Source: Y904076-61

Prepared: 04/04/2019 Analyzed: 04/04/2019

Diesel (C10-C28)	793	50.0	mg/kg	1000	24.8	76.9	53-125			
Residual Range Organics (C28-C40)	850	200	"	1000	ND	85.0	47-133			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0402 - EPA 3580										
Matrix Spike (B9D0402-MS1)			Source: Y904076-61		Prepared: 04/04/2019 Analyzed: 04/04/2019					
Surrogate: o-Terphenyl	42		mg/kg	50.0		84.6	59-131			
Matrix Spike (B9D0402-MS2)			Source: Y904076-62		Prepared: 04/04/2019 Analyzed: 04/04/2019					
Diesel (C10-C28)	752	50.0	mg/kg	1000	13.1	73.8	53-125			
Residual Range Organics (C28-C40)	863	200	"	1000	ND	86.3	47-133			
Surrogate: o-Terphenyl	38		"	50.0		75.5	59-131			
Matrix Spike Dup (B9D0402-MSD1)			Source: Y904076-61		Prepared: 04/04/2019 Analyzed: 04/04/2019					
Diesel (C10-C28)	737	50.0	mg/kg	1000	24.8	71.2	53-125	7.67	20	
Residual Range Organics (C28-C40)	759	200	"	1000	ND	75.9	47-133	11.2	20	
Surrogate: o-Terphenyl	34		"	50.0		68.3	59-131			
Matrix Spike Dup (B9D0402-MSD2)			Source: Y904076-62		Prepared: 04/04/2019 Analyzed: 04/04/2019					
Diesel (C10-C28)	733	50.0	mg/kg	1000	13.1	72.0	53-125	2.59	20	
Residual Range Organics (C28-C40)	825	200	"	1000	ND	82.5	47-133	4.55	20	
Surrogate: o-Terphenyl	37		"	50.0		73.8	59-131			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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 B9D0412 - NO PREP										
Duplicate (B9D0412-DUP1)		Source: Y903026-01			Prepared: 04/04/2019 Analyzed: 04/04/2019					
pH	7.18		pH Units		7.47			3.96	25	
Batch B9D0413 - NO PREP										
Blank (B9D0413-BLK1)		Prepared: 04/04/2019 Analyzed: 04/04/2019								
Specific Conductance (EC)	0.00270	0.00500	mmhos/cm							
Duplicate (B9D0413-DUP1)		Source: Y903026-01			Prepared: 04/04/2019 Analyzed: 04/04/2019					
Specific Conductance (EC)	0.252	0.00500	mmhos/cm		0.233			7.99	25	

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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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

April 15, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. April 12, 2019. This project is associated with Origins project number Y904238-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W07@17'	Y904238-01	Soil	April 12, 2019 13:10	04/12/2019 16:36
N03@17'	Y904238-02	Soil	April 12, 2019 13:13	04/12/2019 16:36
N04@17'	Y904238-03	Soil	April 12, 2019 13:16	04/12/2019 16:36
N05@17'	Y904238-04	Soil	April 12, 2019 13:19	04/12/2019 16:36
E04@17'	Y904238-05	Soil	April 12, 2019 13:22	04/12/2019 16:36
GW03	Y904238-06	Water	April 12, 2019 13:35	04/12/2019 16:36

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1904238

Client: Tasman
 Client Project ID: Brown 32-35

Checklist Completed by: JG
 Date/time completed: 4/12/2019

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

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

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

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/pH <2 for samples preserved with HNO ₃ , HCl, H ₂ SO ₄ / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 4/12/19

Origins Laboratory, Inc.

Jefe Pellegrini

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

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

W07@17'
4/12/2019 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904238-01 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	0.653	0.0500	mg/kg	25	B9D1201	JTD	04/12/2019	04/12/2019	
Toluene	0.327	0.0500	"	"	"	JTD	"	"	
Ethylbenzene	1.54	0.0500	"	"	"	JTD	"	"	
Xylenes, total	10.5	0.0500	"	"	"	JTD	"	"	
Gasoline Range Hydrocarbons	473	5.00	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	98.5 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	126 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.4 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	750	25.0	mg/kg	1	B9D1202	JTD	04/12/2019	04/13/2019	
Residual Range Organics (C28-C40)	200	100	"	"	"	JTD	"	"	

Surrogate: o-Terphenyl	130 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	8.21		pH Units	1	B9D1203	OLAB	04/12/2019	04/12/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0626	0.00500	mmhos/cm	"	B9D1204	OLAB	"	"	
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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 - Brown 32-35

N03@17'

4/12/2019 1:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y904238-02 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1201	JTD	04/12/2019	04/12/2019	U
Toluene	0.0985	0.0500	"	"	"	JTD	"	"	
Ethylbenzene	0.349	0.0500	"	"	"	JTD	"	"	
Xylenes, total	3.33	0.0500	"	"	"	JTD	"	"	
Gasoline Range Hydrocarbons	472	50.0	"	250	"	JTD	"	04/15/2019	

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"		04/12/2019	
Surrogate: Toluene-d8	105 %	70-130			"	"		04/15/2019	
Surrogate: 4-Bromofluorobenzene	97.3 %	70-130			"	"		04/12/2019	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	3310	25.0	mg/kg	1	B9D1202	JTD	04/12/2019	04/13/2019	
Residual Range Organics (C28-C40)	927	100	"	"	"	JTD	"	"	

Surrogate: o-Terphenyl	97.3 %	50-150			"	"		"	
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pH in Soil by EPA 9045D

pH	8.89		pH Units	1	B9D1203	OLAB	04/12/2019	04/12/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0630	0.00500	mmhos/cm	"	B9D1204	OLAB	"	"	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

N04@17'

4/12/2019 1:16:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904238-03 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1201	JTD	04/12/2019	04/15/2019	U
Toluene	0.0575	0.0500	"	"	"	JTD	"	"	
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130			"	"		04/12/2019	
Surrogate: Toluene-d8	103 %	70-130			"	"		"	
Surrogate: 4-Bromofluorobenzene	92.2 %	70-130			"	"		"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D1202	JTD	04/12/2019	04/13/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	96.2 %	50-150			"	"		"	
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pH in Soil by EPA 9045D

pH	8.99		pH Units	1	B9D1203	OLAB	04/12/2019	04/12/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0538	0.00506	mmhos/cm	"	B9D1204	OLAB	"	"	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

N05@17'
4/12/2019 1:19:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904238-04 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	0.340	0.0500	mg/kg	25	B9D1201	JTD	04/12/2019	04/12/2019	
Toluene	1.98	0.0500	"	"	"	JTD	"	"	
Ethylbenzene	0.809	0.0500	"	"	"	JTD	"	"	
Xylenes, total	7.97	0.0500	"	"	"	JTD	"	"	
Gasoline Range Hydrocarbons	210	5.00	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	96.6 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	113 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.8 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	469	25.0	mg/kg	1	B9D1202	JTD	04/12/2019	04/13/2019	
Residual Range Organics (C28-C40)	121	100	"	"	"	JTD	"	"	

Surrogate: o-Terphenyl	113 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	8.09		pH Units	1	B9D1203	OLAB	04/12/2019	04/12/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0852	0.00500	mmhos/cm	"	B9D1204	OLAB	"	"	
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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

E04@17'

4/12/2019 1:22:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904238-05 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1201	JTD	04/12/2019	04/12/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	04/15/2019	U

Surrogate: 1,2-Dichloroethane-d4	98.5 %	70-130			"	"		04/12/2019	
Surrogate: Toluene-d8	103 %	70-130			"	"		"	
Surrogate: 4-Bromofluorobenzene	97.5 %	70-130			"	"		"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D1202	JTD	04/12/2019	04/13/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	89.2 %	50-150			"	"		"	
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pH in Soil by EPA 9045D

pH	7.95		pH Units	1	B9D1203	OLAB	04/12/2019	04/12/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0707	0.00506	mmhos/cm	"	B9D1204	OLAB	"	"	
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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

GW03

4/12/2019 1:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904238-06 (Water)

BTEX by EPA 8260D

Benzene	127	4.00	ug/L	4	B9D1112	JTD	04/12/2019	04/12/2019	
Toluene	307	4.00	"	"	"	JTD	"	"	
Ethylbenzene	41.7	4.00	"	"	"	JTD	"	"	
Xylenes, total	573	4.00	"	"	"	JTD	"	"	
Surrogate: 1,2-Dichloroethane-d4	109 %			70-130		"	"	"	
Surrogate: Toluene-d8	99.5 %			70-130		"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %			70-130		"	"	"	

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 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1112 - EPA 5030B (Water)

Blank (B9D1112-BLK1)

Prepared: 04/12/2019 Analyzed: 04/12/2019

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	68		"	62.5	108		70-130			
Surrogate: Toluene-d8	62		"	62.5	99.0		70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	102		70-130			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1112 - EPA 5030B (Water)

LCS (B9D1112-BS1)

Prepared: 04/12/2019 Analyzed: 04/12/2019

Benzene	50.3	1.00	ug/L	50.0		101	70-130			
Toluene	49.9	1.00	"	50.0		99.7	70-130			
Ethylbenzene	49.7	1.00	"	50.0		99.5	70-130			
m,p-Xylene	99.6	2.00	"	100		99.6	70-130			
o-Xylene	49.5	1.00	"	50.0		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		104	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		100	70-130			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1112 - EPA 5030B (Water)

Matrix Spike (B9D1112-MS1)	Source: Y904213-02			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	48.0	1.00	ug/L	50.0	ND	96.0	70-130			
Toluene	48.4	1.00	"	50.0	ND	96.7	70-130			
Ethylbenzene	48.0	1.00	"	50.0	ND	96.1	70-130			
m,p-Xylene	96.2	2.00	"	100	ND	96.2	70-130			
o-Xylene	48.4	1.00	"	50.0	ND	96.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1112 - EPA 5030B (Water)

Matrix Spike Dup (B9D1112-MSD1)	Source: Y904213-02			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	48.1	1.00	ug/L	50.0	ND	96.3	70-130	0.250	20	
Toluene	48.2	1.00	"	50.0	ND	96.4	70-130	0.269	20	
Ethylbenzene	48.2	1.00	"	50.0	ND	96.4	70-130	0.312	20	
m,p-Xylene	96.8	2.00	"	100	ND	96.8	70-130	0.642	20	
o-Xylene	48.5	1.00	"	50.0	ND	97.0	70-130	0.248	20	
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		105	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Bob Cornez
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 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Blank (B9D1201-BLK1)

Prepared: 04/12/2019 Analyzed: 04/12/2019

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Blank (B9D1201-BLK2)

Prepared: 04/12/2019 Analyzed: 04/12/2019

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.1	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

LCS (B9D1201-BS1)

Prepared: 04/12/2019 Analyzed: 04/12/2019

Benzene	0.0894	0.00200	mg/kg	0.100		89.4	70-130			
Toluene	0.0917	0.00200	"	0.100		91.7	70-130			
Ethylbenzene	0.0913	0.00200	"	0.100		91.3	70-130			
m,p-Xylene	0.185	0.00400	"	0.200		92.5	70-130			
o-Xylene	0.0907	0.00200	"	0.100		90.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.9	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	70-130			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

LCS (B9D1201-BS2)

Prepared: 04/12/2019 Analyzed: 04/12/2019

Benzene	0.102	0.00200	mg/kg	0.100		102	70-130			
Toluene	0.104	0.00200	"	0.100		104	70-130			
Ethylbenzene	0.104	0.00200	"	0.100		104	70-130			
m,p-Xylene	0.210	0.00400	"	0.200		105	70-130			
o-Xylene	0.102	0.00200	"	0.100		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.8	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.1	70-130			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Matrix Spike (B9D1201-MS1)	Source: Y904233-01			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	0.0923	0.00200	mg/kg	0.100	ND	92.3	70-130			
Toluene	0.0923	0.00200	"	0.100	ND	92.3	70-130			
Ethylbenzene	0.0899	0.00200	"	0.100	ND	89.9	70-130			
m,p-Xylene	0.182	0.00400	"	0.200	ND	91.1	70-130			
o-Xylene	0.0893	0.00200	"	0.100	ND	89.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.5	70-130			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Matrix Spike (B9D1201-MS2)	Source: Y904231-02			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	0.0997	0.00200	mg/kg	0.100	ND	99.7	70-130			
Toluene	0.101	0.00200	"	0.100	ND	101	70-130			
Ethylbenzene	0.0995	0.00200	"	0.100	ND	99.5	70-130			
m,p-Xylene	0.203	0.00400	"	0.200	ND	102	70-130			
o-Xylene	0.100	0.00200	"	0.100	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.7	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.6	70-130			

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 6899 Pecos Street, Unit C
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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Matrix Spike Dup (B9D1201-MSD1)	Source: Y904233-01			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	0.0898	0.00200	mg/kg	0.100	ND	89.8	70-130	2.68	20	
Toluene	0.0906	0.00200	"	0.100	ND	90.6	70-130	1.79	20	
Ethylbenzene	0.0882	0.00200	"	0.100	ND	88.2	70-130	1.93	20	
m,p-Xylene	0.180	0.00400	"	0.200	ND	90.0	70-130	1.15	20	
o-Xylene	0.0889	0.00200	"	0.100	ND	88.9	70-130	0.427	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.9	70-130			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1201 - EPA 5030 (soil)

Matrix Spike Dup (B9D1201-MSD2)	Source: Y904231-02			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Benzene	0.101	0.00200	mg/kg	0.100	ND	101	70-130	1.20	20	
Toluene	0.102	0.00200	"	0.100	ND	102	70-130	1.00	20	
Ethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130	0.721	20	
m,p-Xylene	0.205	0.00400	"	0.200	ND	103	70-130	0.998	20	
o-Xylene	0.102	0.00200	"	0.100	ND	102	70-130	1.54	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.3	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.8	70-130			

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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1202 - EPA 3550B										
Blank (B9D1202-BLK1)										
					Prepared: 04/12/2019 Analyzed: 04/12/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	43		"	50.0		86.2	50-150			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1202 - EPA 3550B										
Blank (B9D1202-BLK2)										
					Prepared: 04/12/2019 Analyzed: 04/12/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	44		"	50.0		88.8	50-150			

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 - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1202 - EPA 3550B										
LCS (B9D1202-BS1)					Prepared: 04/12/2019 Analyzed: 04/12/2019					
Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	70-130			
Residual Range Organics (C28-C40)	973	200	"	1000		97.3	70-130			
Surrogate: o-Terphenyl	51		"	50.0		102	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1202 - EPA 3550B										
LCS (B9D1202-BS2)										
					Prepared: 04/12/2019 Analyzed: 04/12/2019					
Diesel (C10-C28)	959	50.0	mg/kg	1000		95.9	70-130			
Residual Range Organics (C28-C40)	932	200	"	1000		93.2	70-130			
Surrogate: o-Terphenyl	49		"	50.0		98.9	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1202 - EPA 3550B

Matrix Spike (B9D1202-MS1)	Source: Y904233-01			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Diesel (C10-C28)	975	50.0	mg/kg	1000	ND	97.5	70-130			
Residual Range Organics (C28-C40)	969	200	"	1000	11.8	95.7	70-130			
Surrogate: o-Terphenyl	50		"	50.0		100	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1202 - EPA 3550B

Matrix Spike (B9D1202-MS2)	Source: Y904231-02			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Diesel (C10-C28)	1040	50.0	mg/kg	1000	ND	104	70-130			
Residual Range Organics (C28-C40)	1020	200	"	1000	7.99	102	70-130			
Surrogate: o-Terphenyl	46		"	50.0		93.0	50-150			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1202 - EPA 3550B

Matrix Spike Dup (B9D1202-MSD1)	Source: Y904233-01			Prepared: 04/12/2019 Analyzed: 04/12/2019						
Diesel (C10-C28)	961	50.0	mg/kg	1000	ND	96.1	70-130	1.48	35	
Residual Range Organics (C28-C40)	916	200	"	1000	11.8	90.4	70-130	5.74	35	
<i>Surrogate: o-Terphenyl</i>	38		"	50.0		75.7	50-150			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1202 - EPA 3550B										
Matrix Spike Dup (B9D1202-MSD2)					Source: Y904231-02					Prepared: 04/12/2019 Analyzed: 04/12/2019
Diesel (C10-C28)	1050	50.0	mg/kg	1000	ND	105	70-130	0.284	35	
Residual Range Organics (C28-C40)	1060	200	"	1000	7.99	106	70-130	3.73	35	
Surrogate: o-Terphenyl	47		"	50.0		95.0	50-150			

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 - Brown 32-35

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

April 17, 2019

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver CO 80211

Project Name - KMG - Brown 32-35

Project Number - [none]

Attached are your analytical results for KMG - Brown 32-35 received by Origins Laboratory, Inc. April 16, 2019. This project is associated with Origins project number Y904279-01.

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 - Brown 32-35

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N06@17'	Y904279-01	Soil	April 16, 2019 13:05	04/16/2019 16:30
N07@17'	Y904279-02	Soil	April 16, 2019 13:09	04/16/2019 16:30
W08@17'	Y904279-03	Soil	April 16, 2019 13:13	04/16/2019 16:30
W09@17'	Y904279-04	Soil	April 16, 2019 13:17	04/16/2019 16:30

Origins Laboratory, Inc.



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

Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Sample Receipt Checklist

Origins Work Order: Y904279 Client: Tasman
 Client Project ID: Brown 32-35
 Checklist Completed by: JG Shipped Via: HD
 Date/time completed: 4/16/2019 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1 / 3.3 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C
 Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 8°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with Na ₂ CO ₃ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature] Date/Time Reviewed 4/16/19

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 - Brown 32-35

N06@17'

4/16/2019 1:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904279-01 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1602	JTD	04/16/2019	04/16/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.2 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.4 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D1603	JTD	04/16/2019	04/16/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	94.1 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	7.77		pH Units	1	B9D1608	OLAB	04/16/2019	04/16/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0822	0.00500	mmhos/cm	"	B9D1609	OLAB	04/16/2019	"	
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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 - Brown 32-35

N07@17'

4/16/2019 1:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904279-02 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1602	JTD	04/16/2019	04/16/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	12.5	5.00	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	98.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.6 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	231	25.0	mg/kg	1	B9D1603	JTD	04/16/2019	04/16/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	115 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	8.72		pH Units	1	B9D1608	OLAB	04/16/2019	04/16/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0738	0.00500	mmhos/cm	"	B9D1609	OLAB	04/16/2019	"	
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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 - Brown 32-35

W08@17'

4/16/2019 1:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904279-03 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1602	JTD	04/16/2019	04/16/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	23.9	5.00	"	"	"	JTD	"	"	

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.2 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	347	25.0	mg/kg	1	B9D1603	JTD	04/16/2019	04/16/2019	
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	112 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	8.78		pH Units	1	B9D1608	OLAB	04/16/2019	04/16/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0659	0.00503	mmhos/cm	"	B9D1609	OLAB	04/16/2019	"	
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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 - Brown 32-35

W09@17'

4/16/2019 1:17:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y904279-04 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.0500	mg/kg	25	B9D1602	JTD	04/16/2019	04/16/2019	U
Toluene	ND	0.0500	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.0500	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.0500	"	"	"	JTD	"	"	U
Gasoline Range Hydrocarbons	ND	5.00	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	98.3 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.7 %	70-130			"	"	"	"	

DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B9D1603	JTD	04/16/2019	04/16/2019	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	JTD	"	"	U

Surrogate: o-Terphenyl	98.6 %	50-150			"	"	"	"	
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pH in Soil by EPA 9045D

pH	8.40		pH Units	1	B9D1608	OLAB	04/16/2019	04/16/2019	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0961	0.00500	mmhos/cm	"	B9D1609	OLAB	04/16/2019	"	
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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 - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1602 - EPA 5030 (soil)

Blank (B9D1602-BLK1)

Prepared: 04/16/2019 Analyzed: 04/16/2019

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.2	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.15		"	0.125		121	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.

Noelle Doyle Mathis, President

Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1602 - EPA 5030 (soil)

LCS (B9D1602-BS1)

Prepared: 04/16/2019 Analyzed: 04/16/2019

Benzene	0.0964	0.00200	mg/kg	0.100		96.4	70-130			
Toluene	0.0965	0.00200	"	0.100		96.5	70-130			
Ethylbenzene	0.103	0.00200	"	0.100		103	70-130			
m,p-Xylene	0.201	0.00400	"	0.200		101	70-130			
o-Xylene	0.101	0.00200	"	0.100		101	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>98.5</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>102</i>	<i>70-130</i>			

Origins Laboratory, Inc.



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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1602 - EPA 5030 (soil)

Matrix Spike (B9D1602-MS1)	Source: Y904266-02			Prepared: 04/16/2019 Analyzed: 04/16/2019						
Benzene	0.0971	0.00200	mg/kg	0.100	ND	97.1	70-130			
Toluene	0.0960	0.00200	"	0.100	ND	96.0	70-130			
Ethylbenzene	0.100	0.00200	"	0.100	ND	100	70-130			
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.1	70-130			
o-Xylene	0.100	0.00200	"	0.100	ND	100	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>99.8</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.12</i>		<i>"</i>	<i>0.125</i>		<i>99.8</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>102</i>	<i>70-130</i>			

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Tasman Geosciences
 6899 Pecos Street, Unit C
 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Volatile Organic Compounds by GC/MS SW846 8260D - 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 B9D1602 - EPA 5030 (soil)

Matrix Spike Dup (B9D1602-MSD1)	Source: Y904266-02			Prepared: 04/16/2019 Analyzed: 04/16/2019						
Benzene	0.0970	0.00200	mg/kg	0.100	ND	97.0	70-130	0.0824	20	
Toluene	0.0967	0.00200	"	0.100	ND	96.7	70-130	0.748	20	
Ethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130	0.695	20	
m,p-Xylene	0.197	0.00400	"	0.200	ND	98.6	70-130	0.468	20	
o-Xylene	0.100	0.00200	"	0.100	ND	100	70-130	0.459	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>100</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.13</i>		<i>"</i>	<i>0.125</i>		<i>101</i>	<i>70-130</i>			

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 Denver CO 80211

Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1603 - EPA 3580										
Blank (B9D1603-BLK1)										
					Prepared: 04/16/2019 Analyzed: 04/16/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	49		"	50.0		98.2	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9D1603 - EPA 3580										
Blank (B9D1603-BLK2)										
					Prepared: 04/16/2019 Analyzed: 04/16/2019					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	53		"	50.0		105	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

LCS (B9D1603-BS1)

Prepared: 04/16/2019 Analyzed: 04/16/2019

Diesel (C10-C28)	964	50.0	mg/kg	1000		96.4	70-130			
Residual Range Organics (C28-C40)	987	200	"	1000		98.7	70-130			
Surrogate: o-Terphenyl	50		"	50.0		99.9	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

LCS (B9D1603-BS2)

Prepared: 04/16/2019 Analyzed: 04/16/2019

Diesel (C10-C28)	1140	50.0	mg/kg	1000		114	70-130			
Residual Range Organics (C28-C40)	1180	200	"	1000		118	70-130			
Surrogate: o-Terphenyl	59		"	50.0		119	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

Matrix Spike (B9D1603-MS1)	Source: Y904266-02			Prepared: 04/16/2019 Analyzed: 04/16/2019						
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130			
Residual Range Organics (C28-C40)	1070	200	"	1000	10.9	106	70-130			
<i>Surrogate: o-Terphenyl</i>	<i>51</i>		<i>"</i>	<i>50.0</i>		<i>102</i>	<i>50-150</i>			

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 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

Matrix Spike (B9D1603-MS2)	Source: Y904273-02			Prepared: 04/16/2019 Analyzed: 04/16/2019						
Diesel (C10-C28)	1160	50.0	mg/kg	1000	15.8	114	70-130			
Residual Range Organics (C28-C40)	1200	200	"	1000	18.4	119	70-130			
Surrogate: o-Terphenyl	61		"	50.0		122	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

Matrix Spike Dup (B9D1603-MSD1)	Source: Y904266-02				Prepared: 04/16/2019 Analyzed: 04/16/2019					
Diesel (C10-C28)	1130	50.0	mg/kg	1000	ND	113	70-130	10.3	35	
Residual Range Organics (C28-C40)	1190	200	"	1000	10.9	118	70-130	10.7	35	
Surrogate: o-Terphenyl	55		"	50.0		111	50-150			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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 B9D1603 - EPA 3580

Matrix Spike Dup (B9D1603-MSD2)	Source: Y904273-02			Prepared: 04/16/2019 Analyzed: 04/16/2019						
Diesel (C10-C28)	1110	50.0	mg/kg	1000	15.8	109	70-130	4.62	35	
Residual Range Organics (C28-C40)	1190	200	"	1000	18.4	117	70-130	1.64	35	
<i>Surrogate: o-Terphenyl</i>	<i>54</i>		<i>"</i>	<i>50.0</i>		<i>108</i>	<i>50-150</i>			

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Bob Cornez
 Project Number: [none]
 Project: KMG - Brown 32-35

Extractable Petroleum Hydrocarbons by 8015D - 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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Classical Chemistry Parameters - 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 B9D1608 - NO PREP

Duplicate (B9D1608-DUP1)

Source: Y904277-01

Prepared: 04/16/2019 Analyzed: 04/16/2019

pH	6.53		pH Units		6.75			3.31	25	
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Batch B9D1609 - NO PREP

Blank (B9D1609-BLK1)

Prepared: 04/16/2019 Analyzed: 04/16/2019

Specific Conductance (EC)	0.00170	0.00500	mmhos/cm							
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Duplicate (B9D1609-DUP1)

Source: Y904277-01

Prepared: 04/16/2019 Analyzed: 04/16/2019

Specific Conductance (EC)	0.215	0.00500	mmhos/cm		0.216			0.279	25	
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6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Brown 32-35

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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