

March 08, 2018

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Duane E Nelson 41-33

Project Number - [none]

Attached are your analytical results for KMG - Duane E Nelson 41-33 received by Origins Laboratory, Inc. March 07, 2018. This project is associated with Origins project number Y803130-01.

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 - Duane E Nelson 41-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@5'	Y803130-01	Soil	March 7, 2018 11:26	03/07/2018 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.

Bob Cornez
Project Number: [none]
Project: KMG - Duane E Nelson 41-33

[illegible]

Origins Laboratory, Inc.

Jeff Pellgrini

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 - Duane E Nelson 41-33

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y803130

Client: Tasman

Client Project ID: KMG - Duane E Nelson 41-33

Checklist Completed by: Don Lee

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

Date/time completed: 3-7-18

Airbill #: _____

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

Cooler Number/Temperature: 1 5.4 °C 1 °C 1 °C (Describe) _____

Thermometer ID: 6008

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pk
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<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) 2

Date/Time Reviewed 3-7-18

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 - Duane E Nelson 41-33

B01@5'
3/7/2018 11:26:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	-------

Origins Laboratory, Inc.
Y803130-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8C0704	03/07/2018	03/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 87.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8C0703	03/07/2018	03/07/2018	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 115 % 70-130 " " "
Surrogate: Toluene-d8 97.5 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 96.2 % 70-130 " " "

pH in Soil by EPA 9045D

pH	7.52		pH Units	1	B8C0705	03/07/2018	03/08/2018	
----	------	--	----------	---	---------	------------	------------	--

Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.223		mmhos/cm	"	B8C0706	03/07/2018	03/07/2018	
---------------------------	-------	--	----------	---	---------	------------	------------	--

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 - Duane E Nelson 41-33

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 B8C0703 - EPA 5030 (soil)										
Blank (B8C0703-BLK1)					Prepared: 03/07/2018 Analyzed: 03/07/2018					
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	73		ug/kg	62.5		117	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.7	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.

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: [none]
Project: KMG - Duane E Nelson 41-33

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 B8C0703 - EPA 5030 (soil)										
LCS (B8C0703-BS1)					Prepared: 03/07/2018 Analyzed: 03/07/2018					
Benzene	0.114	0.002	mg/kg	0.100		114	77.1-124			
Toluene	0.107	0.002	"	0.100		107	74.5-128			
Ethylbenzene	0.103	0.002	"	0.100		103	66.4-127			
m,p-Xylene	0.221	0.004	"	0.200		110	76.6-124			
o-Xylene	0.105	0.002	"	0.100		105	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		93.6	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 - Duane E Nelson 41-33

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 B8C0703 - EPA 5030 (soil)

Matrix Spike (B8C0703-MS1)		Source: Y803082-02			Prepared: 03/07/2018 Analyzed: 03/07/2018					
Benzene	0.116	0.002	mg/kg	0.100	ND	116	71.8-126			
Toluene	0.109	0.002	"	0.100	ND	109	65.1-130			
Ethylbenzene	0.110	0.002	"	0.100	0.0006	110	62.2-130			
m,p-Xylene	0.235	0.004	"	0.200	ND	118	46.5-137			
o-Xylene	0.110	0.002	"	0.100	0.0006	109	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	61		"	62.5		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.6	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 - Duane E Nelson 41-33

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 B8C0703 - EPA 5030 (soil)

Matrix Spike Dup (B8C0703-MSD1)		Source: Y803082-02			Prepared: 03/07/2018 Analyzed: 03/07/2018					
Benzene	0.113	0.002	mg/kg	0.100	ND	113	71.8-126	3.01	11.3	
Toluene	0.106	0.002	"	0.100	ND	106	65.1-130	3.02	15.4	
Ethylbenzene	0.105	0.002	"	0.100	0.0006	105	62.2-130	4.07	19.6	
m,p-Xylene	0.221	0.004	"	0.200	ND	111	46.5-137	6.06	19.2	
o-Xylene	0.104	0.002	"	0.100	0.0006	104	54.2-134	5.42	17.9	
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.4	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 - Duane E Nelson 41-33

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

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 B8C0704 - EPA 3550B

Blank (B8C0704-BLK1)

Prepared: 03/07/2018 Analyzed: 03/07/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	46		"	50.0		92.9	59-131			

LCS (B8C0704-BS1)

Prepared: 03/07/2018 Analyzed: 03/07/2018

Diesel (C10-C28)	1060	50.0	mg/kg	1000		106	64-121			
Residual Range Organics (C28-C40)	987	200	"	1000		98.7	58-124			
Surrogate: o-Terphenyl	54		"	50.0		108	59-131			

Matrix Spike (B8C0704-MS1)

Source: Y803082-02

Prepared: 03/07/2018 Analyzed: 03/07/2018

Diesel (C10-C28)	1040	50.0	mg/kg	1000	ND	104	53-125			
Residual Range Organics (C28-C40)	973	200	"	1000	12.6	96.1	47-133			
Surrogate: o-Terphenyl	51		"	50.0		103	59-131			

Matrix Spike Dup (B8C0704-MSD1)

Source: Y803082-02

Prepared: 03/07/2018 Analyzed: 03/07/2018

Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	53-125	1.94	20	
Residual Range Organics (C28-C40)	922	200	"	1000	12.6	90.9	47-133	5.53	20	
Surrogate: o-Terphenyl	50		"	50.0		101	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 - Duane E Nelson 41-33

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 B8C0705 - NO PREP										
Duplicate (B8C0705-DUP1)		Source: Y803082-01			Prepared: 03/07/2018 Analyzed: 03/08/2018					
pH	7.54		pH Units		7.24			4.06	25	
Batch B8C0706 - NO PREP										
Blank (B8C0706-BLK1)		Prepared: 03/07/2018 Analyzed: 03/07/2018								
Specific Conductance (EC)	0.00290		mmhos/cm							
Duplicate (B8C0706-DUP1)		Source: Y803082-01			Prepared: 03/07/2018 Analyzed: 03/07/2018					
Specific Conductance (EC)	0.0185		mmhos/cm		0.0148			22.2	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 - Duane E Nelson 41-33

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