

ANALYTICAL TABLE

TABLE 1
PIPELINE 38-0000-5854-4"
SOIL SAMPLE RESULTS SUMMARY TABLE
KERR-McGEE GATHERING, LLC

Sample ID	Date Sampled	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TVPH - GRO (mg/kg)	TEPH - DRO (mg/kg)	TEPH - ORO (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	500		
B01 @ 20	9/23/2015	20	<0.050	<0.050	<0.050	0.116	13.3	<50	<200
B02 @ 20	9/25/2015	20	0.366	3.29	6.84	69.8	1,820	460	<200
N01 @ 19	9/25/2015	19	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
W01 @ 19	9/25/2015	19	<0.002	<0.002	<0.002	<0.002	0.246	<50	<200
W02 @ 19	9/25/2015	19	<0.050	<0.050	<0.050	0.066	40.1	<50	<200
E01 @ 19	9/25/2015	19	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
E02 @ 19	9/25/2015	19	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200
S01 @ 19	9/25/2015	19	<0.002	<0.002	<0.002	<0.002	<0.200	<50	<200

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram.

bgs = Below ground surface.

BOLD = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

LABORATORY ANALYTICAL REPORT



September 24, 2015

Tasman Geosciences

Bob Cornez

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - 5854-4" Maintenance

Project Number - 88855826

Attached are your analytical results for KMG - 5854-4" Maintenance received by Origins Laboratory, Inc. September 23, 2015. This project is associated with Origins project number X509316-01.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 88855826

Project: KMG - 5854-4" Maintenance

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01 @ 20'	X509316-01	Soil	September 23, 2015 16:27	09/23/2015 18:02

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: 88855826
Project: KMG - 5854-4" Maintenance

ORIGINS

LABORATORY, INC

www.originslaboratory.com

X509310

page of

Tasman on behalf of
Client: Indurtek

Address: 6899 Pecos St

Denver CO 80525

Telephone Number: 303-720-409-8791

Email Address: clw@tasman-geo.com
rcorne@tasman-geo.com

Project Manager: Christine Wicks


Project Name: 5854-4" Maintenance

Project Number: 8885526

Samples Collected By: Eve Bugarin

888-8015
1060

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Continer #	Other			
BQ10201	9/23/15	1627	1	1					X			X	1	
												X	2	
													3	
													4	
													5	
													6	
													7	
													8	
													9	
													10	

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
Joe Curren	9/23/15	1802		9.23.15	1802	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

Temp Received: 7.4

Date Results Needed

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: 88855826
Project: KMG - 5854-4" Maintenance

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: **X509316**

Client: **Tasman**

Client Project ID: **5854-4" Maintenance**

Checklist Completed by: **gpc**

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

Date/time completed: **9/23/15 @ 2003**

Airbill #: _____

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

Cooler Number/Temperature: _____ / **7.4** °C _____ / _____ °C _____ / _____ °C _____ / _____ °C

Thermometer ID: **T003**

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		client had sampled two hours prior
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.

Gabriel Cornez
Reviewed by (Project Manager)

9/23/15
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: 88855826
Project: KMG - 5854-4" Maintenance

B01 @ 20'
9/23/2015 4:27:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509316-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5123008	09/23/2015	09/23/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl	79.2 %	59-131			"	"	"
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	13.3	5.00	mg/kg	25	5123007	09/23/2015	09/24/2015
Benzene	ND	0.050	"	"	"	"	"
Toluene	ND	0.050	"	"	"	"	"
Ethylbenzene	ND	0.050	"	"	"	"	"
Xylenes, total	0.116	0.050	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.5 %	70-130			"	"	"
Surrogate: Toluene-d8	95.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130			"	"	"

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 88855826
Project: KMG - 5854-4" Maintenance

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 5123007 - EPA 5030 (soil)

Blank (5123007-BLK1)

Prepared: 09/23/2015 Analyzed: 09/23/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	64.5		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	59.8		"	62.5		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	60.7		"	62.5		97.1	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: 88855826
Project: KMG - 5854-4" Maintenance

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 5123007 - EPA 5030 (soil)										
LCS (5123007-BS1)					Prepared: 09/23/2015 Analyzed: 09/23/2015					
Benzene	0.098	0.002	mg/kg	0.100		97.8	77.1-124			
Toluene	0.097	0.002	"	0.100		96.7	74.5-128			
Ethylbenzene	0.108	0.002	"	0.100		108	66.4-127			
m,p-Xylene	0.210	0.004	"	0.200		105	76.6-124			
o-Xylene	0.108	0.002	"	0.100		108	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	64.5		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	60.2		"	62.5		96.4	70-130			
Surrogate: 4-Bromofluorobenzene	63.6		"	62.5		102	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 88855826
Project: KMG - 5854-4" Maintenance

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 5123007 - EPA 5030 (soil)

Matrix Spike (5123007-MS1)		Source: X509303-01			Prepared: 09/23/2015 Analyzed: 09/23/2015					
Benzene	0.109	0.002	mg/kg	0.100	ND	109	71.8-126			
Toluene	0.108	0.002	"	0.100	ND	108	65.1-130			
Ethylbenzene	0.113	0.002	"	0.100	ND	113	62.2-130			
m,p-Xylene	0.230	0.004	"	0.200	ND	115	46.5-137			
o-Xylene	0.115	0.002	"	0.100	ND	115	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	66.6		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	61.2		"	62.5		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	64.6		"	62.5		103	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 88855826
Project: KMG - 5854-4" Maintenance

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 5123007 - EPA 5030 (soil)

Matrix Spike Dup (5123007-MSD1)		Source: X509303-01			Prepared: 09/23/2015 Analyzed: 09/23/2015					
Benzene	0.106	0.002	mg/kg	0.100	ND	106	71.8-126	2.67	11.3	
Toluene	0.103	0.002	"	0.100	ND	103	65.1-130	4.28	15.4	
Ethylbenzene	0.106	0.002	"	0.100	ND	106	62.2-130	6.83	19.6	
m,p-Xylene	0.215	0.004	"	0.200	ND	107	46.5-137	6.77	19.2	
o-Xylene	0.109	0.002	"	0.100	ND	109	54.2-134	5.13	17.9	
Surrogate: 1,2-Dichloroethane-d4	68.2		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	60.4		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	65.3		"	62.5		105	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Bob Cornez
Project Number: 88855826
Project: KMG - 5854-4" Maintenance

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 5123008 - EPA 3580

Blank (5123008-BLK1)

Prepared: 09/23/2015 Analyzed: 09/23/2015

Diesel (C10-C28)	ND	50	mg/kg							
Residual Range Organics (C28-C36)	ND	200	"							
Surrogate: o-Terphenyl	48		"	50.0		96.7	59-131			

LCS (5123008-BS1)

Prepared: 09/23/2015 Analyzed: 09/23/2015

Diesel (C10-C28)	900	50	mg/kg	1000		90.1	64-121			
Residual Range Organics (C28-C36)	990	200	"	1000		99.0	58-124			
Surrogate: o-Terphenyl	52		"	50.0		103	59-131			

Matrix Spike (5123008-MS1)

Source: X509303-01

Prepared: 09/23/2015 Analyzed: 09/23/2015

Diesel (C10-C28)	1000	50	mg/kg	1000	130	88.9	53-125			
Residual Range Organics (C28-C36)	790	200	"	1000	70	72.0	47-133			
Surrogate: o-Terphenyl	46		"	50.0		91.2	59-131			

Matrix Spike Dup (5123008-MSD1)

Source: X509303-01

Prepared: 09/23/2015 Analyzed: 09/23/2015

Diesel (C10-C28)	1000	50	mg/kg	1000	130	91.7	53-125	2.72	20	
Residual Range Organics (C28-C36)	950	200	"	1000	70	87.7	47-133	18.0	20	
Surrogate: o-Terphenyl	49		"	50.0		97.3	59-131			

Origins Laboratory, Inc.



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Tasman Geosciences

6899 Pecos Street, Unit C

Denver CO 80211

Bob Cornez

Project Number: 88855826

Project: KMG - 5854-4" Maintenance

Notes and Definitions

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.



September 27, 2015

Tasman Geosciences

Christine Wasko

6899 Pecos Street, Unit C

Denver

CO 80211

Project Name - KMG - Pipeline 5854-4"

Project Number - [none]

Attached are your analytical results for KMG - Pipeline 5854-4" received by Origins Laboratory, Inc. September 25, 2015. This project is associated with Origins project number X509342-01.

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



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B02 @ 20	X509342-01	Soil	September 25, 2015 9:20	09/25/2015 16:30
N01 @ 19	X509342-02	Soil	September 25, 2015 9:22	09/25/2015 16:30
W01 @ 19	X509342-03	Soil	September 25, 2015 9:24	09/25/2015 16:30
W02 @ 19	X509342-04	Soil	September 25, 2015 9:26	09/25/2015 16:30
E01 @ 19	X509342-05	Soil	September 25, 2015 9:28	09/25/2015 16:30
E02 @ 19	X509342-06	Soil	September 25, 2015 9:30	09/25/2015 16:30
S01 @ 19	X509342-07	Soil	September 25, 2015 9:32	09/25/2015 16:30

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

www.originslaboratory.com

page 1 of 1

X509342

ORIGINS
LABORATORY, INC

Client: Ape Industries/Tasman
Address:
Project Manager: C Wasko
Project Name: Pipeline 5854-4"
Project Number:
Samples Collected By: EWist Dillon-Herzog
Telephone Number: 312 694 5394
Email Address: c.wasko@tasman-geo.com

Fax: 303.265.9645 | Phone: 303.433.1322 | Denver, CO 80211 | 1725 Elk Place

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
B02 @ 20	9/25/15	920	1	X					X		BTEX 8240 4-KO 8240 ORO/DRO 8015	1
N01 @ 19		922										2
W01 @ 19		924										3
W02 @ 19		926										4
E01 @ 19		928										5
E02 @ 19		930										6
S01 @ 19		932										7
												8
												9
												10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
<u>[Signature]</u>	9/25/15	13:00	<u>[Signature]</u>	9.25.15	1630	Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

Date Results Needed

Origins Laboratory, Inc.

[Signature]

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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X5093412 Client: Tasman
Client Project ID: Pipeline 5854-4"
Checklist Completed by: Jess Smith Shipped Via: Pickup
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 9/25/15 Airbill #: NA
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)
Cooler Number/Temperature: 1 / 4.1 °C 1 °C 1 °C 1 °C
Thermometer ID: REGD

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) Jess Smith Date/Time Reviewed 9/25/15

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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

B02 @ 20
9/25/2015 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	460	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

<i>Surrogate: o-Terphenyl</i>	91.9 %	59-131			"	"	"
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	1820	50.0	mg/kg	250	5125013	09/25/2015	09/25/2015
Benzene	0.366	0.050	"	25	"	"	09/25/2015
Toluene	3.29	0.050	"	"	"	"	"
Ethylbenzene	6.84	0.050	"	"	"	"	"
Xylenes, total	69.8	0.498	"	250	"	"	09/25/2015

<i>Surrogate: 1,2-Dichloroethane-d4</i>	102 %	70-130			"	"	"
<i>Surrogate: Toluene-d8</i>	103 %	70-130			"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	109 %	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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

N01 @ 19
9/25/2015 9:22:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 69.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5125013	09/25/2015	09/25/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 108 % 70-130 " " "
Surrogate: Toluene-d8 96.9 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

W01 @ 19
9/25/2015 9:24:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 74.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	0.246	0.200	mg/kg	1	5125013	09/25/2015	09/25/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

W02 @ 19
9/25/2015 9:26:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

<i>Surrogate: o-Terphenyl</i>	81.9 %	59-131			"	"	"
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	40.1	5.00	mg/kg	25	5125013	09/25/2015	09/25/2015
Benzene	ND	0.050	"	"	"	"	"
Toluene	ND	0.050	"	"	"	"	"
Ethylbenzene	ND	0.050	"	"	"	"	"
Xylenes, total	0.066	0.050	"	"	"	"	"

<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.1 %	70-130			"	"	"
<i>Surrogate: Toluene-d8</i>	97.6 %	70-130			"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

E01 @ 19
9/25/2015 9:28:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 64.7 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5125013	09/25/2015	09/25/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 111 % 70-130 " " "
Surrogate: Toluene-d8 98.8 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

E02 @ 19
9/25/2015 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-06 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

<i>Surrogate: o-Terphenyl</i>	63.5 %	59-131			"	"	"
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GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5125013	09/25/2015	09/25/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

<i>Surrogate: 1,2-Dichloroethane-d4</i>	110 %	70-130			"	"	"
<i>Surrogate: Toluene-d8</i>	98.5 %	70-130			"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

S01 @ 19
9/25/2015 9:32:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X509342-07 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	50	mg/kg	1	5125012	09/25/2015	09/25/2015
Residual Range Organics (C28-C36)	ND	200	"	"	"	"	"

Surrogate: o-Terphenyl 75.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5125013	09/25/2015	09/25/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4 107 % 70-130 " " "

Surrogate: Toluene-d8 95.1 % 70-130 " " "

Surrogate: 4-Bromofluorobenzene 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

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

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 5125013 - EPA 5030 (soil)

Blank (5125013-BLK1)

Prepared: 09/25/2015 Analyzed: 09/25/2015

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Surrogate: 1,2-Dichloroethane-d4	66.2		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	58.6		"	62.5		93.7	70-130			
Surrogate: 4-Bromofluorobenzene	63.7		"	62.5		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.

Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

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 5125013 - EPA 5030 (soil)										
LCS (5125013-BS1)					Prepared: 09/25/2015 Analyzed: 09/25/2015					
Benzene	0.097	0.002	mg/kg	0.100		96.6	77.1-124			
Toluene	0.097	0.002	"	0.100		96.6	74.5-128			
Ethylbenzene	0.104	0.002	"	0.100		104	66.4-127			
m,p-Xylene	0.208	0.004	"	0.200		104	76.6-124			
o-Xylene	0.106	0.002	"	0.100		106	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	65.5		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	59.0		"	62.5		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	62.7		"	62.5		100	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

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 5125013 - EPA 5030 (soil)

Matrix Spike (5125013-MS1)		Source: X509328-01			Prepared: 09/25/2015 Analyzed: 09/25/2015					
Benzene	0.100	0.002	mg/kg	0.100	ND	100	71.8-126			
Toluene	0.100	0.002	"	0.100	ND	99.7	65.1-130			
Ethylbenzene	0.109	0.002	"	0.100	ND	109	62.2-130			
m,p-Xylene	0.214	0.004	"	0.200	ND	107	46.5-137			
o-Xylene	0.108	0.002	"	0.100	ND	108	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	66.1		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	60.2		"	62.5		96.3	70-130			
Surrogate: 4-Bromofluorobenzene	63.4		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

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 5125013 - EPA 5030 (soil)

Matrix Spike Dup (5125013-MSD1)		Source: X509328-01			Prepared: 09/25/2015 Analyzed: 09/25/2015					
Benzene	0.100	0.002	mg/kg	0.100	ND	99.8	71.8-126	0.679	11.3	
Toluene	0.098	0.002	"	0.100	ND	98.4	65.1-130	1.27	15.4	
Ethylbenzene	0.110	0.002	"	0.100	ND	110	62.2-130	0.110	19.6	
m,p-Xylene	0.216	0.004	"	0.200	ND	108	46.5-137	0.817	19.2	
o-Xylene	0.108	0.002	"	0.100	ND	108	54.2-134	0.704	17.9	
Surrogate: 1,2-Dichloroethane-d4	66.6		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	58.2		"	62.5		93.1	70-130			
Surrogate: 4-Bromofluorobenzene	62.9		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Tasman Geosciences
6899 Pecos Street, Unit C
Denver CO 80211

Christine Wasko
Project Number: [none]
Project: KMG - Pipeline 5854-4"

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 5125012 - EPA 3580

Blank (5125012-BLK1)

Prepared: 09/25/2015 Analyzed: 09/25/2015

Diesel (C10-C28) ND 50 mg/kg

Residual Range Organics (C28-C36) ND 200 "

Surrogate: o-Terphenyl

38

"

50.0

75.9

59-131

LCS (5125012-BS1)

Prepared: 09/25/2015 Analyzed: 09/25/2015

Diesel (C10-C28) 830 50 mg/kg

Residual Range Organics (C28-C36) 950 200 "

Surrogate: o-Terphenyl

47

"

50.0

93.2

59-131

Matrix Spike (5125012-MS1)

Source: X509328-01

Prepared: 09/25/2015 Analyzed: 09/25/2015

Diesel (C10-C28) 870 50 mg/kg

Residual Range Organics (C28-C36) 950 200 "

Surrogate: o-Terphenyl

44

"

50.0

88.9

59-131

Matrix Spike Dup (5125012-MSD1)

Source: X509328-01

Prepared: 09/25/2015 Analyzed: 09/25/2015

Diesel (C10-C28) 860 50 mg/kg

Residual Range Organics (C28-C36) 920 200 "

Surrogate: o-Terphenyl

44

"

50.0

88.7

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

Christine Wasko

Project Number: [none]

Project: KMG - Pipeline 5854-4"

Notes and Definitions

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