

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
THOMPSON 13-33
WELD COUNTY, COLORADO
KERR-MCGEE OIL & GAS ONSHORE LP

Soil Sample ID	Depth (bgs)	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	DRO (mg/kg)	GRO (mg/kg)	ORO (mg/kg)	pH (su)	Specific Conductance (mmhos/cm)
E01@1'	1'	06/26/2017	0.482	<0.050	1.05	6.77	1150	194	440	8.20	0.106
N01@2'	2'	06/26/2017	0.018	<0.002	0.004	0.117	243	6.63	<100	8.33	0.0990
S01@2'	2'	06/26/2017	0.910	0.178	2.12	16.3	2320	757	718	8.54	0.0928
W01@3'	3'	06/26/2017	0.980	0.130	1.20	16.7	1240	464	445	8.24	0.0908
E02@1'	1'	06/28/2017	0.024	<0.002	0.007	0.033	<25.0	0.648	<100	8.71	0.104
S02@2'	2'	06/28/2017	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	8.83	0.0904
N02@1.5'	1.5'	06/29/2017	<0.002	<0.002	<0.002	<0.002	28.7	<0.200	<100	8.49	0.0720
S03@1.5'	1.5'	06/29/2017	<0.002	<0.002	<0.002	<0.002	25.9	<0.200	<100	8.56	0.143
W02@3'	3'	06/29/2017	<0.050	<0.050	<0.050	<0.050	<25.0	<5.00	<100	8.40	0.0927
COGCC Allowable Levels			0.17	85	100	175	500*	500*	500*	6-9	4

Notes: bgs - below ground surface
COGCC - Colorado Oil and Gas Conservation Commission
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter

NA - not analyzed/not available
ORO - oil range organics
su - standard units
TPH - total petroleum hydrocarbons
* - TPH standard applies to combined DRO-GRO-ORO
< - less than laboratory reporting limit
Bold indicates result exceeds allowable level.



TABLE 2
GROUNDWATER ANALYTICAL AND FIELD RESULTS
THOMPSON 13-33
WELD COUNTY, COLORADO
KERR-MCGEE OIL & GAS ONSHORE LP

Well Name	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth Water/ (Product Thickness) (ft bgs)
GW01	06/26/2017	1320	273	60.8	800	4.00
GW02	06/30/2017	16.4	<4.00	<4.00	38.0	4.00
COGCC Allowable Levels		5	1000	700	1400	

Notes: COGCC - Colorado Oil and Gas Conservation Commission
ft bgs - feet below ground surface
NA - not analyzed/not available
NM - not measured

µg/L - micrograms per liter
< - less than laboratory reporting limit
Bold indicates result exceeds allowable level.
Excavation groundwater depth is approximate.





June 27, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Thompson 13-33

Project Number - 014217143

Attached are your analytical results for KMG - Thompson 13-33 received by Origins Laboratory, Inc. June 26, 2017. This project is associated with Origins project number Y706342-01.

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	Y706342-01	Water	June 26, 2017 18:10	06/26/2017 19:23
W01@3'	Y706342-02	Soil	June 26, 2017 18:15	06/26/2017 19:23
N01@2'	Y706342-03	Soil	June 26, 2017 18:20	06/26/2017 19:23
E01@1'	Y706342-04	Soil	June 26, 2017 18:25	06/26/2017 19:23
S01@2'	Y706342-05	Soil	June 26, 2017 18:30	06/26/2017 19:23

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 7706342

Client: LT Environmental

Client Project ID: KMG-Thompson 13-33

Checklist Completed by: DL

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

Date/time completed: 6-27-17

Airbill #: NA

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

Cooler Number/Temperature: 1/1 °C 1/1 °C 1/1 °C 1/1 °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⁾ ?		X		Sampled Saturday
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		/		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		/		
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	/			pH
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/	X		Sample IDs on Jrs Needed to be swapped
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.				
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)		/		
Additional Comments (if any):	N→W, E→N, S→E, W→S adjustment made per Phone Conversation w/ D. Thomas on 8/20/17 @ 2045 JL 6/26			

⁽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: 6-26-17

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

GW01
6/26/2017 6:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706342-01 (Water)

BTEX by EPA 8260C

Benzene	1320	50.0	ug/L	50	B7F2601	06/26/2017	06/26/2017	
Toluene	273	4.00	"	4	"	"	06/26/2017	
Ethylbenzene	60.8	4.00	"	"	"	"	"	
Xylenes, total	800	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	90.4 %	84-121			"	"	"	
Surrogate: Toluene-d8	96.4 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.8 %	84-114			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

W01@3'
6/26/2017 6:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706342-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1240	25.0	mg/kg	1	B7F2605	06/26/2017	06/27/2017	
Residual Range Organics (C28-C40)	445	100	"	"	"	"	"	

Surrogate: *o*-Terphenyl 114 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	464	5.00	mg/kg	25	B7F2604	06/26/2017	06/27/2017	
Benzene	0.980	0.050	"	"	"	"	"	
Toluene	0.130	0.050	"	"	"	"	"	
Ethylbenzene	1.20	0.050	"	"	"	"	"	
Xylenes, total	16.7	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 96.2 % 70-130 " " "
 Surrogate: Toluene-d8 98.2 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 104 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.24		pH Units	1	B7F2606	"	06/27/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0908		mmhos/cm	"	B7F2607	"	06/27/2017	
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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

N01@2'
6/26/2017 6:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706342-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	243	25.0	mg/kg	1	B7F2605	06/26/2017	06/27/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 94.5 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	6.63	0.200	mg/kg	1	B7F2604	06/26/2017	06/27/2017	
Benzene	0.018	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	0.004	0.002	"	"	"	"	"	
Xylenes, total	0.117	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 105 % 70-130 " " "
 Surrogate: Toluene-d8 94.2 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 97.7 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.33		pH Units	1	B7F2606	"	06/27/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0990		mmhos/cm	"	B7F2607	"	06/27/2017	
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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

E01@1'
6/26/2017 6:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706342-04 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	1150	25.0	mg/kg	1	B7F2605	06/26/2017	06/27/2017	
Residual Range Organics (C28-C40)	440	100	"	"	"	"	"	

Surrogate: *o*-Terphenyl 109 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	194	5.00	mg/kg	25	B7F2604	06/26/2017	06/27/2017	
Benzene	0.482	0.050	"	"	"	"	"	
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	1.05	0.050	"	"	"	"	"	
Xylenes, total	6.77	0.050	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 102 % 70-130 " " "
 Surrogate: Toluene-d8 97.4 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 98.7 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.20		pH Units	1	B7F2606	"	06/27/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.106		mmhos/cm	"	B7F2607	"	06/27/2017	
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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

S01@2'
6/26/2017 6:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706342-05 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	2320	25.0	mg/kg	1	B7F2605	06/26/2017	06/27/2017	
Residual Range Organics (C28-C40)	718	100	"	"	"	"	"	
<i>Surrogate: o-Terphenyl</i>	134 %	59-131			"	"	"	S-DUP

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	757	50.0	mg/kg	250	B7F2604	06/26/2017	06/27/2017	
Benzene	0.910	0.050	"	25	"	"	06/27/2017	
Toluene	0.178	0.050	"	"	"	"	"	
Ethylbenzene	2.12	0.050	"	"	"	"	"	
Xylenes, total	16.3	0.050	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	97.5 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	107 %	70-130			"	"	"	

pH in Soil by EPA 9045D

pH	8.54		pH Units	1	B7F2606	"	06/27/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0928		mmhos/cm	"	B7F2607	"	06/27/2017	
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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2601 - EPA 5030B (Water)

Blank (B7F2601-BLK1)

Prepared: 06/26/2017 Analyzed: 06/26/2017

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	60		"	62.5		96.4	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.7	84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2601 - EPA 5030B (Water)

LCS (B7F2601-BS1)

Prepared: 06/26/2017 Analyzed: 06/26/2017

Benzene	51.0	1.00	ug/L	50.0		102	73.3-129			
Toluene	51.0	1.00	"	50.0		102	76.2-123			
Ethylbenzene	50.1	1.00	"	50.0		100	73.6-130			
m,p-Xylene	98.5	2.00	"	100		98.5	76.1-126			
o-Xylene	48.9	1.00	"	50.0		97.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.9	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.1	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	84-114			

Origins Laboratory, Inc.



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 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2601 - EPA 5030B (Water)

Matrix Spike (B7F2601-MS1)	Source: Y706315-01			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	52.5	1.00	ug/L	50.0	ND	105	74-130			
Toluene	51.8	1.00	"	50.0	ND	104	73-131			
Ethylbenzene	51.5	1.00	"	50.0	0.100	103	76-132			
m,p-Xylene	101	2.00	"	100	0.190	100	69-139			
o-Xylene	48.8	1.00	"	50.0	ND	97.7	74-131			
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.5	84-121			
Surrogate: Toluene-d8	60		"	62.5		96.4	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.0	84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2601 - EPA 5030B (Water)

Matrix Spike Dup (B7F2601-MSD1)	Source: Y706315-01			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	51.3	1.00	ug/L	50.0	ND	103	74-130	2.31	20	
Toluene	51.4	1.00	"	50.0	ND	103	73-131	0.813	20	
Ethylbenzene	51.4	1.00	"	50.0	0.100	103	76-132	0.195	20	
m,p-Xylene	99.2	2.00	"	100	0.190	99.0	69-139	1.32	20	
o-Xylene	49.5	1.00	"	50.0	ND	98.9	74-131	1.26	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.4	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.3	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.3	84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2604 - EPA 5030 (soil)										
Blank (B7F2604-BLK1)										
					Prepared: 06/26/2017 Analyzed: 06/26/2017					
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	68		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.2	70-130			

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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

Blank (B7F2604-BLK2)

Prepared: 06/26/2017 Analyzed: 06/26/2017

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	68		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.5	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

LCS (B7F2604-BS1)

Prepared: 06/26/2017 Analyzed: 06/26/2017

Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.113	0.002	"	0.100		113	74.5-128			
Ethylbenzene	0.103	0.002	"	0.100		103	66.4-127			
m,p-Xylene	0.204	0.004	"	0.200		102	76.6-124			
o-Xylene	0.103	0.002	"	0.100		103	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	59		"	62.5		93.8	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.5	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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

LCS (B7F2604-BS2)

Prepared: 06/26/2017 Analyzed: 06/26/2017

Benzene	0.103	0.002	mg/kg	0.100		103	77.1-124			
Toluene	0.100	0.002	"	0.100		100	74.5-128			
Ethylbenzene	0.098	0.002	"	0.100		97.8	66.4-127			
m,p-Xylene	0.188	0.004	"	0.200		93.9	76.6-124			
o-Xylene	0.092	0.002	"	0.100		91.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.9	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		93.8	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

Matrix Spike (B7F2604-MS1)	Source: Y706336-02			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	0.108	0.002	mg/kg	0.100	0.003	105	71.8-126			
Toluene	0.107	0.002	"	0.100	ND	107	65.1-130			
Ethylbenzene	0.096	0.002	"	0.100	ND	96.1	62.2-130			
m,p-Xylene	0.190	0.004	"	0.200	ND	95.2	46.5-137			
o-Xylene	0.097	0.002	"	0.100	ND	97.3	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		112	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.0	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.6	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

Matrix Spike (B7F2604-MS2)	Source: Y706339-02			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	0.096	0.002	mg/kg	0.100	ND	96.2	71.8-126			
Toluene	0.094	0.002	"	0.100	ND	94.0	65.1-130			
Ethylbenzene	0.090	0.002	"	0.100	ND	89.6	62.2-130			
m,p-Xylene	0.174	0.004	"	0.200	ND	86.9	46.5-137			
o-Xylene	0.089	0.002	"	0.100	ND	88.7	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		96.0	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.7	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

Matrix Spike Dup (B7F2604-MSD1)	Source: Y706336-02			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	0.109	0.002	mg/kg	0.100	0.003	106	71.8-126	1.13	11.3	
Toluene	0.107	0.002	"	0.100	ND	107	65.1-130	0.0187	15.4	
Ethylbenzene	0.095	0.002	"	0.100	ND	95.3	62.2-130	0.899	19.6	
m,p-Xylene	0.188	0.004	"	0.200	ND	94.1	46.5-137	1.23	19.2	
o-Xylene	0.097	0.002	"	0.100	ND	97.3	54.2-134	0.00	17.9	
Surrogate: 1,2-Dichloroethane-d4	70		ug/kg	62.5		112	70-130			
Surrogate: Toluene-d8	57		"	62.5		91.6	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2604 - EPA 5030 (soil)

Matrix Spike Dup (B7F2604-MSD2)	Source: Y706339-02			Prepared: 06/26/2017 Analyzed: 06/26/2017						
Benzene	0.092	0.002	mg/kg	0.100	ND	92.0	71.8-126	4.44	11.3	
Toluene	0.091	0.002	"	0.100	ND	90.9	65.1-130	3.35	15.4	
Ethylbenzene	0.085	0.002	"	0.100	ND	84.9	62.2-130	5.36	19.6	
m,p-Xylene	0.166	0.004	"	0.200	ND	83.2	46.5-137	4.36	19.2	
o-Xylene	0.084	0.002	"	0.100	ND	83.5	54.2-134	5.97	17.9	
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		98.4	70-130			
Surrogate: Toluene-d8	59		"	62.5		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.3	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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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 B7F2605 - EPA 3580

Blank (B7F2605-BLK1)

Prepared: 06/26/2017 Analyzed: 06/27/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	59		"	50.0		117	59-131			

Blank (B7F2605-BLK2)

Prepared: 06/26/2017 Analyzed: 06/27/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	50		"	50.0		100	59-131			

LCS (B7F2605-BS1)

Prepared: 06/26/2017 Analyzed: 06/26/2017

Diesel (C10-C28)	1070	50.0	mg/kg	1000		107	64-121			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	58-124			
Surrogate: o-Terphenyl	54		"	50.0		107	59-131			

LCS (B7F2605-BS2)

Prepared: 06/26/2017 Analyzed: 06/27/2017

Diesel (C10-C28)	1060	50.0	mg/kg	1000		106	64-121			
Residual Range Organics (C28-C40)	1010	200	"	1000		101	58-124			
Surrogate: o-Terphenyl	57		"	50.0		113	59-131			

Matrix Spike (B7F2605-MS1)

Source: Y706336-02

Prepared: 06/26/2017 Analyzed: 06/26/2017

Diesel (C10-C28)	1150	50.0	mg/kg	1000	ND	115	53-125			
Residual Range Organics (C28-C40)	1050	200	"	1000	12.9	104	47-133			

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LT Environmental, Inc.
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 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2605 - EPA 3580										
Matrix Spike (B7F2605-MS1)			Source: Y706336-02		Prepared: 06/26/2017 Analyzed: 06/26/2017					
Surrogate: o-Terphenyl	58		mg/kg	50.0		115	59-131			
Matrix Spike (B7F2605-MS2)			Source: Y706339-02		Prepared: 06/26/2017 Analyzed: 06/27/2017					
Diesel (C10-C28)	1060	50.0	mg/kg	1000	13.9	105	53-125			
Residual Range Organics (C28-C40)	999	200	"	1000	12.3	98.7	47-133			
Surrogate: o-Terphenyl	55		"	50.0		110	59-131			
Matrix Spike Dup (B7F2605-MSD1)			Source: Y706336-02		Prepared: 06/26/2017 Analyzed: 06/26/2017					
Diesel (C10-C28)	1150	50.0	mg/kg	1000	ND	115	53-125	0.698	20	
Residual Range Organics (C28-C40)	1060	200	"	1000	12.9	104	47-133	0.448	20	
Surrogate: o-Terphenyl	59		"	50.0		117	59-131			
Matrix Spike Dup (B7F2605-MSD2)			Source: Y706339-02		Prepared: 06/26/2017 Analyzed: 06/27/2017					
Diesel (C10-C28)	993	50.0	mg/kg	1000	13.9	97.9	53-125	6.69	20	
Residual Range Organics (C28-C40)	970	200	"	1000	12.3	95.7	47-133	2.99	20	
Surrogate: o-Terphenyl	55		"	50.0		110	59-131			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2606 - NO PREP										
Duplicate (B7F2606-DUP1)		Source: Y706338-01			Prepared: 06/26/2017 Analyzed: 06/27/2017					
pH	7.78		pH Units		7.87			1.15	25	
Batch B7F2607 - NO PREP										
Blank (B7F2607-BLK1)		Prepared: 06/26/2017 Analyzed: 06/27/2017								
Specific Conductance (EC)	0.00180		mmhos/cm							
Duplicate (B7F2607-DUP1)		Source: Y706338-01			Prepared: 06/26/2017 Analyzed: 06/27/2017					
Specific Conductance (EC)	0.287		mmhos/cm		0.285			0.769	25	

Origins Laboratory, Inc.



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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

Notes and Definitions

U Sample is Non-Detect.

S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.

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



June 29, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Thompson 13-33

Project Number - 014217143

Attached are your analytical results for KMG - Thompson 13-33 received by Origins Laboratory, Inc. June 28, 2017. This project is associated with Origins project number Y706369-01.

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02@2'	Y706369-01	Soil	June 28, 2017 15:50	06/28/2017 17:35
E02@1'	Y706369-02	Soil	June 28, 2017 15:55	06/28/2017 17:35

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4706269

Client: ITE

Client Project ID: KMG Thompson 13-33

Checklist Completed by: DLG

Shipped Via: HD

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

Date/time completed: 6-28-17 1741

Airbill #: NO

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

Cooler Number/Temperature: 1 51.3 °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"/>	<input checked="" type="checkbox"/>		<u>NO</u>
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"/>			<u>yes</u>
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]

6-28-17 1741
 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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

S02@2'
6/28/2017 3:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706369-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2803	06/28/2017	06/28/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 90.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2802	06/28/2017	06/28/2017	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 107 % 70-130 " " "
Surrogate: Toluene-d8 94.5 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 94.8 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.83		pH Units	1	B7F2804	06/28/2017	06/28/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0904		mmhos/cm	"	B7F2805	"	"	
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Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

E02@1'
6/28/2017 3:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706369-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2803	06/28/2017	06/28/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

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

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	0.648	0.200	mg/kg	1	B7F2802	06/28/2017	06/28/2017	
Benzene	0.024	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	0.007	0.002	"	"	"	"	"	
Xylenes, total	0.033	0.002	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4 104 % 70-130 " " "
Surrogate: Toluene-d8 93.5 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 95.1 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.71		pH Units	1	B7F2804	06/28/2017	06/28/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.104		mmhos/cm	"	B7F2805	"	"	
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Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2802 - EPA 5030 (soil)										
Blank (B7F2802-BLK1)										
					Prepared: 06/28/2017 Analyzed: 06/28/2017					
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	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.7	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.1	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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2802 - EPA 5030 (soil)

LCS (B7F2802-BS1)

Prepared: 06/28/2017 Analyzed: 06/28/2017

Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.102	0.002	"	0.100		102	74.5-128			
Ethylbenzene	0.099	0.002	"	0.100		98.6	66.4-127			
m,p-Xylene	0.191	0.004	"	0.200		95.6	76.6-124			
o-Xylene	0.095	0.002	"	0.100		95.1	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		98.2	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.4	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.0	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2802 - EPA 5030 (soil)

Matrix Spike (B7F2802-MS1)	Source: Y706366-01			Prepared: 06/28/2017 Analyzed: 06/28/2017						
Benzene	0.104	0.002	mg/kg	0.100	ND	104	71.8-126			
Toluene	0.101	0.002	"	0.100	ND	101	65.1-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	95.3	62.2-130			
m,p-Xylene	0.184	0.004	"	0.200	ND	91.8	46.5-137			
o-Xylene	0.092	0.002	"	0.100	ND	91.6	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	59		"	62.5		95.1	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.5	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2802 - EPA 5030 (soil)

Matrix Spike Dup (B7F2802-MSD1)	Source: Y706366-01			Prepared: 06/28/2017 Analyzed: 06/28/2017						
Benzene	0.101	0.002	mg/kg	0.100	ND	101	71.8-126	2.46	11.3	
Toluene	0.098	0.002	"	0.100	ND	97.8	65.1-130	2.96	15.4	
Ethylbenzene	0.090	0.002	"	0.100	ND	90.1	62.2-130	5.63	19.6	
m,p-Xylene	0.179	0.004	"	0.200	ND	89.3	46.5-137	2.77	19.2	
o-Xylene	0.088	0.002	"	0.100	ND	88.4	54.2-134	3.53	17.9	
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.2	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		93.5	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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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 B7F2803 - EPA 3550B

Blank (B7F2803-BLK1)

Prepared: 06/28/2017 Analyzed: 06/28/2017

Diesel (C10-C28)	110	50.0	mg/kg							A-01
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	62		"	50.0		123	59-131			

LCS (B7F2803-BS1)

Prepared: 06/28/2017 Analyzed: 06/28/2017

Diesel (C10-C28)	1130	50.0	mg/kg	1000		113	64-121			
Residual Range Organics (C28-C40)	1060	200	"	1000		106	58-124			
Surrogate: o-Terphenyl	59		"	50.0		118	59-131			

Matrix Spike (B7F2803-MS1)

Source: Y706366-01

Prepared: 06/28/2017 Analyzed: 06/28/2017

Diesel (C10-C28)	870	50.0	mg/kg	1000	14.6	85.5	53-125			
Residual Range Organics (C28-C40)	791	200	"	1000	11.5	78.0	47-133			
Surrogate: o-Terphenyl	45		"	50.0		90.7	59-131			

Matrix Spike Dup (B7F2803-MSD1)

Source: Y706366-01

Prepared: 06/28/2017 Analyzed: 06/28/2017

Diesel (C10-C28)	1050	50.0	mg/kg	1000	14.6	103	53-125	18.9	20	
Residual Range Organics (C28-C40)	970	200	"	1000	11.5	95.8	47-133	20.5	20	QR-02
Surrogate: o-Terphenyl	57		"	50.0		114	59-131			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2804 - NO PREP										
Duplicate (B7F2804-DUP1)		Source: Y706366-01			Prepared: 06/28/2017 Analyzed: 06/28/2017					
pH	8.55		pH Units		9.23			7.65	25	
Batch B7F2805 - NO PREP										
Blank (B7F2805-BLK1)		Prepared: 06/28/2017 Analyzed: 06/28/2017								
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B7F2805-DUP1)		Source: Y706366-01			Prepared: 06/28/2017 Analyzed: 06/28/2017					
Specific Conductance (EC)	0.0923		mmhos/cm		0.118			24.1	25	

Origins Laboratory, Inc.



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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

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.

A-01 The Method Blank for this batch was above the reporting limit for Diesel but the samples were well below the reporting limit so high bias was negligible.

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.

June 30, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Thompson 13-33

Project Number - 014217143

Attached are your analytical results for KMG - Thompson 13-33 received by Origins Laboratory, Inc. June 29, 2017. This project is associated with Origins project number Y706387-01.

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



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W02@3'	Y706387-01	Soil	June 29, 2017 14:05	06/29/2017 19:05
S03@1.5'	Y706387-02	Soil	June 29, 2017 14:10	06/29/2017 19:05
N02@1.5'	Y706387-03	Soil	June 29, 2017 14:15	06/29/2017 19:05

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.

Jen Pellegrini For Noelle Doyle Mathis, President

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

www.originslaboratory.com



page 1 of 1

710387

Client: LT Environmental
 Address: 4600 W 60th Ave
Arvada, CO 80003
 Telephone Number: 303 433 9788
 Email Address: bsulzberger@ltenv.com

Project Manager: Brian Sulzberger
 Project Name: Thompson 13-33
 Project Number: 014217143
 Samples Collected By: Daniel Thomas
WO # 89319581
ABX: Paul Schwarz

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #	Other	ESTEX	TPH	COLETOX		EC
WO2@31	06-29-17	1405	2	X				X				X	X	X	1	Run
SO3@1.5'	↓	1410	2	Y				Y				Y	Y	Y	2	Run
NO2@1.5'	↓	1415	2	X				X				X	Y	Y	3	Run
															4	
															5	
															6	
															7	
															8	
															9	
															10	
Relinquished By:	Date: 06-29-17	Time: 1805		Received By:	Date: 6-29-17	Time: 1805		Received By:	Date: 6-29-17	Time: 1805		Turnaround Time: 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"/>				

Temp Received: 17.7 Date Results Needed

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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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

Sample Receipt Checklist

Origins Work Order: Y166367 Client: LT
 Client Project ID: KMG Thompson 13-33
 Checklist Completed by: D.L.G. Shipped Via: HD
 Date/time completed: 6-29-17 1911 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: NA
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: _____ / 27.5 °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"/>		<i>sampled same Day</i>
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"/>			<i>pH</i>
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 6-29-17 1911

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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

W02@3'
6/29/2017 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706387-01 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B7F2902	06/29/2017	06/29/2017	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 97.1 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B7F2901	06/29/2017	06/29/2017	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 111 % 70-130 " " "
Surrogate: Toluene-d8 91.2 % 70-130 " " "
Surrogate: 4-Bromofluorobenzene 97.1 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.40		pH Units	1	B7F2908	06/29/2017	06/29/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0927		mmhos/cm	"	B7F2909	"	"	
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Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

S03@1.5'
6/29/2017 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706387-02 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	25.9	25.0	mg/kg	1	B7F2902	06/29/2017	06/29/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 92.8 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2901	06/29/2017	06/29/2017	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 123 % 70-130 " " "
 Surrogate: Toluene-d8 88.1 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 97.1 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.56		pH Units	1	B7F2908	06/29/2017	06/29/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.143		mmhos/cm	"	B7F2909	"	"	
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Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

N02@1.5'
6/29/2017 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706387-03 (Soil)

DRO/RRO by EPA8015C

Diesel (C10-C28)	28.7	25.0	mg/kg	1	B7F2902	06/29/2017	06/30/2017	
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: *o*-Terphenyl 94.4 % 59-131 " " "

GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B7F2901	06/29/2017	06/29/2017	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 114 % 70-130 " " "
 Surrogate: Toluene-d8 87.2 % 70-130 " " "
 Surrogate: 4-Bromofluorobenzene 98.4 % 70-130 " " "

pH in Soil by EPA 9045D

pH	8.49		pH Units	1	B7F2908	06/29/2017	06/29/2017	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0720		mmhos/cm	"	B7F2909	"	"	
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Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2901 - EPA 5030 (soil)										
Blank (B7F2901-BLK1)										
					Prepared: 06/29/2017 Analyzed: 06/29/2017					
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	70		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	57		"	62.5		91.2	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.5	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2901 - EPA 5030 (soil)

LCS (B7F2901-BS1)

Prepared: 06/29/2017 Analyzed: 06/29/2017

Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.109	0.002	"	0.100		109	74.5-128			
Ethylbenzene	0.101	0.002	"	0.100		101	66.4-127			
m,p-Xylene	0.203	0.004	"	0.200		102	76.6-124			
o-Xylene	0.102	0.002	"	0.100		102	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.8	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2901 - EPA 5030 (soil)

Matrix Spike (B7F2901-MS1)	Source: Y706348-01			Prepared: 06/29/2017 Analyzed: 06/29/2017						
Benzene	0.113	0.002	mg/kg	0.100	ND	113	71.8-126			
Toluene	0.115	0.002	"	0.100	ND	115	65.1-130			
Ethylbenzene	0.107	0.002	"	0.100	ND	107	62.2-130			
m,p-Xylene	0.213	0.004	"	0.200	ND	106	46.5-137			
o-Xylene	0.106	0.002	"	0.100	ND	106	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.1	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.8	70-130			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7F2901 - EPA 5030 (soil)

Matrix Spike Dup (B7F2901-MSD1)	Source: Y706348-01			Prepared: 06/29/2017 Analyzed: 06/29/2017						
Benzene	0.106	0.002	mg/kg	0.100	ND	106	71.8-126	6.86	11.3	
Toluene	0.106	0.002	"	0.100	ND	106	65.1-130	8.25	15.4	
Ethylbenzene	0.099	0.002	"	0.100	ND	99.0	62.2-130	7.95	19.6	
m,p-Xylene	0.196	0.004	"	0.200	ND	98.1	46.5-137	8.03	19.2	
o-Xylene	0.098	0.002	"	0.100	ND	97.9	54.2-134	8.04	17.9	
Surrogate: 1,2-Dichloroethane-d4	71		ug/kg	62.5		113	70-130			
Surrogate: Toluene-d8	57		"	62.5		91.3	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.4	70-130			

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LT Environmental, Inc.
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 Arvada CO 80003

Brian Sulzberger
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 Project: KMG - Thompson 13-33

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
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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 B7F2902 - EPA 3580

Blank (B7F2902-BLK1)

Prepared: 06/29/2017 Analyzed: 06/29/2017

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	61		"	50.0		122	59-131			

LCS (B7F2902-BS1)

Prepared: 06/29/2017 Analyzed: 06/29/2017

Diesel (C10-C28)	1090	50.0	mg/kg	1000		109	64-121			
Residual Range Organics (C28-C40)	1080	200	"	1000		108	58-124			
Surrogate: o-Terphenyl	56		"	50.0		112	59-131			

Matrix Spike (B7F2902-MS1)

Source: Y706368-01

Prepared: 06/29/2017 Analyzed: 06/29/2017

Diesel (C10-C28)	1180	50.0	mg/kg	1000	105	108	53-125			
Residual Range Organics (C28-C40)	1170	200	"	1000	61.9	110	47-133			
Surrogate: o-Terphenyl	56		"	50.0		111	59-131			

Matrix Spike Dup (B7F2902-MSD1)

Source: Y706368-01

Prepared: 06/29/2017 Analyzed: 06/29/2017

Diesel (C10-C28)	1070	50.0	mg/kg	1000	105	96.7	53-125	10.7	20	
Residual Range Organics (C28-C40)	1040	200	"	1000	61.9	98.2	47-133	11.7	20	
Surrogate: o-Terphenyl	52		"	50.0		104	59-131			

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 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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 B7F2908 - NO PREP										
Duplicate (B7F2908-DUP1)		Source: Y706381-01			Prepared: 06/29/2017 Analyzed: 06/29/2017					
pH	7.29		pH Units		6.83			6.52	25	
Batch B7F2909 - NO PREP										
Blank (B7F2909-BLK1)		Prepared: 06/29/2017 Analyzed: 06/29/2017								
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B7F2909-DUP1)		Source: Y706381-01			Prepared: 06/29/2017 Analyzed: 06/29/2017					
Specific Conductance (EC)	0.185		mmhos/cm		0.220			17.5	25	

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LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

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



July 05, 2017

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada CO 80003

Project Name - KMG - Thompson 13-33

Project Number - 014217143

Attached are your analytical results for KMG - Thompson 13-33 received by Origins Laboratory, Inc. June 30, 2017. This project is associated with Origins project number Y706404-01.

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

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW02	Y706404-01	Water	June 30, 2017 10:45	06/30/2017 16:35

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

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y706404

Client: LTE

Client Project ID: Mr Thompson 13-33

Checklist Completed by: [Signature]
 Date/time completed: 6-30-12 1740

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

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

Cooler Number/Temperature: 1 / 29.3 °C _____ / _____ °C _____ / _____ °C _____ / _____ °C

Thermometer ID: 7003

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"/>		<i>Samples same Day</i>
Is there ice present (document if blue ice is used)		<input checked="" type="checkbox"/>		
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)		<input checked="" type="checkbox"/>		
Additional Comments (if any):				

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

[Signature]
 Reviewed by (Project Manager)

7/3/12
 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.

LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

GW02
6/30/2017 10:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y706404-01 (Water)

BTEX by EPA 8260C

Benzene	16.4	4.00	ug/L	4	B7G0104	07/01/2017	07/01/2017	
Toluene	ND	4.00	"	"	"	"	"	U
Ethylbenzene	ND	4.00	"	"	"	"	"	U
Xylenes, total	38.0	4.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	84-114			"	"	"	

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7G0104 - EPA 5030B (Water)

Blank (B7G0104-BLK1)

Prepared: 07/01/2017 Analyzed: 07/01/2017

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	63		"	62.5		101	84-121			
Surrogate: Toluene-d8	60		"	62.5		96.0	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.7	84-114			

Origins Laboratory, Inc.



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LT Environmental, Inc.
 4600 West 60th Avenue
 Arvada CO 80003

Brian Sulzberger
 Project Number: 014217143
 Project: KMG - Thompson 13-33

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
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Batch B7G0104 - EPA 5030B (Water)

LCS (B7G0104-BS1)

Prepared: 07/01/2017 Analyzed: 07/01/2017

Benzene	50.9	1.00	ug/L	50.0		102	73.3-129			
Toluene	50.0	1.00	"	50.0		100	76.2-123			
Ethylbenzene	48.7	1.00	"	50.0		97.3	73.6-130			
m,p-Xylene	94.9	2.00	"	100		94.9	76.1-126			
o-Xylene	48.2	1.00	"	50.0		96.3	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.5	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.9	84-114			

Origins Laboratory, Inc.



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 Project: KMG - Thompson 13-33

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
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Batch B7G0104 - EPA 5030B (Water)

Matrix Spike (B7G0104-MS1)	Source: Y706393-01			Prepared: 07/01/2017 Analyzed: 07/01/2017						
Benzene	52.2	1.00	ug/L	50.0	ND	104	74-130			
Toluene	51.3	1.00	"	50.0	ND	103	73-131			
Ethylbenzene	50.0	1.00	"	50.0	ND	100	76-132			
m,p-Xylene	99.3	2.00	"	100	ND	99.3	69-139			
o-Xylene	49.3	1.00	"	50.0	ND	98.7	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.4	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.1	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.3	84-114			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B7G0104 - EPA 5030B (Water)

Matrix Spike Dup (B7G0104-MSD1)	Source: Y706393-01			Prepared: 07/01/2017 Analyzed: 07/01/2017						
Benzene	51.7	1.00	ug/L	50.0	ND	103	74-130	1.06	20	
Toluene	51.8	1.00	"	50.0	ND	104	73-131	0.951	20	
Ethylbenzene	50.4	1.00	"	50.0	ND	101	76-132	0.757	20	
m,p-Xylene	99.8	2.00	"	100	ND	99.8	69-139	0.442	20	
o-Xylene	49.7	1.00	"	50.0	ND	99.3	74-131	0.667	20	
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		95.1	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.5	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	84-114			

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Arvada CO 80003

Brian Sulzberger
Project Number: 014217143
Project: KMG - Thompson 13-33

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.



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