

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**BARTEZ 21-17**  
**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)
SS01	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	8.00	0.0929
SS02	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	7.56	0.330
SS03	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	7.99	0.101
SS04	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	8.15	0.105
SS05	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	<b>9.19</b>	0.147
SS06	Surface	05/07/2018	<0.002	<0.002	<0.002	<0.002	<25.0	<0.200	<100	8.57	0.151
<b>COGCC Allowable Levels</b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500*</b>	<b>500*</b>	<b>500*</b>	<b>6-9</b>	<b>4</b>

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

\* - Standard applies to combined DRO-GRO-ORO

< - less than laboratory reporting limit

Bold indicates result exceeds allowable level



**TABLE 2**  
**SURFACE WATER ANALYTICAL AND FIELD RESULTS**  
**BARTEZ 21-17**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE LP**

<b>Sample Name</b>	<b>Date</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl-benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>
SW01	05/07/2018	3.71	33.5	9.50	65.0
SW02	05/07/2018	<1.00	6.18	1.24	8.54
SW03	05/07/2018	<1.00	3.18	<1.00	3.52
SW04	05/07/2018	<1.00	2.07	<1.00	2.37

Notes: NA - not analyzed/not available  
µg/L - micrograms per liter  
< - less than laboratory reporting limit





May 08, 2018

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

**Project Name - KMG - Bartz 21-17**

**Project Number - 014218100**

Attached are your analytical results for KMG - Bartz 21-17 received by Origins Laboratory, Inc. May 07, 2018. This project is associated with Origins project number Y805111-01.

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: 014218100  
Project: KMG - Bartz 21-17

### CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW01	Y805111-01	Water	May 7, 2018 15:25	05/07/2018 17:50
SW02	Y805111-02	Water	May 7, 2018 15:30	05/07/2018 17:50
SW03	Y805111-03	Water	May 7, 2018 15:35	05/07/2018 17:50
SW04	Y805111-04	Water	May 7, 2018 15:40	05/07/2018 17:50
SS01	Y805111-07	Soil	May 7, 2018 0:00	05/07/2018 17:50
SS02	Y805111-08	Soil	May 7, 2018 0:00	05/07/2018 17:50
SS03	Y805111-09	Soil	May 7, 2018 0:00	05/07/2018 17:50
SS04	Y805111-10	Soil	May 7, 2018 0:00	05/07/2018 17:50
SS05	Y805111-11	Soil	May 7, 2018 0:00	05/07/2018 17:50
SS06	Y805111-12	Soil	May 7, 2018 0:00	05/07/2018 17:50

Per the email from Andy on 05-08-18, data for samples AST01 and Inside Containment were not reported.

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.*

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

# ORIGINS

## LABORATORY, INC

### Y405111

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page 1 of 2

Client: LT Environmental  
4600 W 60<sup>th</sup> Ave  
 Address: Arvada CO 80003  
 Telephone Number: 303-433-9798  
 Email Address: Km6 group

Project Manager: B. Sulzberger  
 Project Name: Bartez 21-17  
 Project Number: 014218100  
 Samples Collected By: F.O.T  
App Contact: Phil Hamlin

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis			Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Sammler #	Other			
SW01	5/7/18	1525	3	✓				✓					BTEX	1
SW02		1530	1	✓				✓						2
SW03		1535	1	✓				✓						3
SW04		1540	1	✓				✓						4
Inside containment		1530	1	✓				✓						5
AST01	✓	1515	✓	✓				✓						6
														7
														8
														9
														10
Relinquished By: <u>John Bitt</u>	Date: <u>5/7/18</u>	Time: <u>1750</u>		Received By: <u>[Signature]</u>				Date: <u>5/7/18</u>	Time: <u>1750</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard				
Relinquished By:	Date:	Time:		Received By:				Date:	Time:					

Temp Received: 23.3

Date Results Needed

Origins Laboratory, Inc.

Jeff Pellipini

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Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

# ORIGINS

LABORATORY, INC

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Y85111

page 2 of 2

Client: LT Environmental  
 Address: 4600 W. 60<sup>th</sup> Ave  
Arvada, CO 80003  
 Telephone Number: 303-433-9788  
 Email Address: km6 group

Project Manager: B. Sulzberger  
 Project Name: Bartez al-17  
 Project Number: 014218100  
 Samples Collected By: F.D.T.  
APC contact: Phil Hamlin

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	As Summa #		
5501	5/7/18		2								GC/MS TPH PH EC	1
5502			2									2
5503			2									3
5504			2									4
5505			2									5
5506			2									6
B6			2									7
												8
												9
												10
Relinquished By: <u>John D. A.</u>	Date: <u>5/7/18</u>	Time: <u>1750</u>	Received By: <u>[Signature]</u>	Date: <u>5/7/18</u>	Time: <u>1750</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard						
Relinquished By: <u>[Signature]</u>	Date: <u>5/7/18</u>	Time: <u></u>	Received By: <u></u>	Date: <u></u>	Time: <u></u>							

Temp Received: 23.3

Date Results Needed

Origins Laboratory, Inc.

Jeff Pellipini

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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

## Sample Receipt Checklist

Origins Work Order: Y805111

Client: LTE

Client Project ID: KMG - Bartz 21-17

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 5/7/2018

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 23.3 °C 1 /     °C 1 /     °C 1 /     °C

Thermometer ID: T003

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

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

Reviewed by (Project Manager)

5/7/18  
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: 014218100  
Project: KMG - Bartz 21-17

## SW01

5/7/2018 3:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y805111-01 (Water)

### BTEX by EPA 8260C

Benzene	3.71	1.00	ug/L	1	B8E0704	05/07/2018	05/08/2018
Toluene	33.5	1.00	"	"	"	"	"
Ethylbenzene	9.50	1.00	"	"	"	"	"
Xylenes, total	65.0	1.00	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"
Surrogate: Toluene-d8	100 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"

Origins Laboratory, Inc.



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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

SW02

5/7/2018 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y805111-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B8E0704	05/07/2018	05/08/2018	U
Toluene	6.18	1.00	"	"	"	"	"	
Ethylbenzene	1.24	1.00	"	"	"	"	"	
Xylenes, total	8.54	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

SW03

5/7/2018 3:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
Y805111-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B8E0704	05/07/2018	05/08/2018	U
Toluene	3.18	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	3.52	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	101 %	84-121			"	"	"	
Surrogate: Toluene-d8	100 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

## SW04

5/7/2018 3:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y805111-04 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.00	ug/L	1	B8E0704	05/07/2018	05/08/2018	U
Toluene	2.07	1.00	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	U
Xylenes, total	2.37	1.00	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4	102 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.7 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	99.2 %	84-114			"	"	"	

Origins Laboratory, Inc.



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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

**SS01**  
**5/7/2018 12:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y805111-07 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 103 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 95.2 % 70-130 " " "  
Surrogate: Toluene-d8 95.4 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 98.4 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.00		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.0929		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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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: 014218100  
Project: KMG - Bartz 21-17

**SS02**  
**5/7/2018 12:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y805111-08 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 95.7 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 96.2 % 70-130 " " "  
Surrogate: Toluene-d8 96.2 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 97.9 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	7.56		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.330		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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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: 014218100  
Project: KMG - Bartz 21-17

## SS03

5/7/2018 12:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y805111-09 (Soil)

### DRO/RRO by EPA8015C

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 94.9 % 59-131 " " "

### GBTEX by EPA 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 97.3 % 70-130 " " "  
Surrogate: Toluene-d8 96.2 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 97.3 % 70-130 " " "

### pH in Soil by EPA 9045D

pH	7.99		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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### Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.101		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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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: 014218100  
Project: KMG - Bartz 21-17

**SS04**  
**5/7/2018 12:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y805111-10 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 95.4 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 95.7 % 70-130 " " "  
Surrogate: Toluene-d8 97.0 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 99.5 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.15		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.105		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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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: 014218100  
Project: KMG - Bartz 21-17

**SS05**  
**5/7/2018 12:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y805111-11 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 92.2 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 101 % 70-130 " " "  
Surrogate: Toluene-d8 97.0 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 100 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	9.19		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.147		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO 80003

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

**SS06**  
**5/7/2018 12:00:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**Y805111-12 (Soil)**

**DRO/RRO by EPA8015C**

Diesel (C10-C28)	ND	25.0	mg/kg	1	B8E0705	05/07/2018	05/07/2018	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl 99.3 % 59-131 " " "

**GBTEX by EPA 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0703	05/07/2018	05/07/2018	U
Benzene	ND	0.002	"	"	"	"	"	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4 101 % 70-130 " " "  
Surrogate: Toluene-d8 97.7 % 70-130 " " "  
Surrogate: 4-Bromofluorobenzene 101 % 70-130 " " "

**pH in Soil by EPA 9045D**

pH	8.57		pH Units	1	B8E0706	05/07/2018	05/07/2018	
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**Specific Conductance by Modified 9050A**

Specific Conductance (EC)	0.151		mmhos/cm	"	B8E0707	05/07/2018	05/08/2018	
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Arvada CO 80003

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

**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
<b>Batch B8E0703 - EPA 5030 (soil)</b>										
<b>Blank (B8E0703-BLK1)</b>					Prepared: 05/07/2018 Analyzed: 05/07/2018					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.3	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	70-130			

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Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Barteze 21-17

**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
<b>Batch B8E0703 - EPA 5030 (soil)</b>										
<b>LCS (B8E0703-BS1)</b>					Prepared: 05/07/2018 Analyzed: 05/07/2018					
Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.103	0.002	"	0.100		103	74.5-128			
Ethylbenzene	0.108	0.002	"	0.100		108	66.4-127			
m,p-Xylene	0.204	0.004	"	0.200		102	76.6-124			
o-Xylene	0.107	0.002	"	0.100		107	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Project Number: 014218100  
Project: KMG - Barte21-17

**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 B8E0703 - EPA 5030 (soil)**

Matrix Spike (B8E0703-MS2)		Source: Y805097-01			Prepared: 05/07/2018 Analyzed: 05/08/2018					
Benzene	0.083	0.002	mg/kg	0.100	ND	83.3	71.8-126			
Toluene	0.065	0.002	"	0.100	ND	65.1	65.1-130			
Ethylbenzene	0.069	0.002	"	0.100	ND	69.4	62.2-130			
m,p-Xylene	0.130	0.004	"	0.200	ND	65.0	46.5-137			
o-Xylene	0.070	0.002	"	0.100	ND	69.8	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	62.5		91.2	70-130			
Surrogate: Toluene-d8	51		"	62.5		81.5	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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Project: KMG - Barteze 21-17

**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 B8E0703 - EPA 5030 (soil)**

Matrix Spike Dup (B8E0703-MSD2)		Source: Y805097-01			Prepared: 05/07/2018 Analyzed: 05/07/2018					
Benzene	0.081	0.002	mg/kg	0.100	ND	81.4	71.8-126	2.26	11.3	
Toluene	0.075	0.002	"	0.100	ND	75.1	65.1-130	14.3	15.4	
Ethylbenzene	0.075	0.002	"	0.100	ND	75.4	62.2-130	8.37	19.6	
m,p-Xylene	0.141	0.004	"	0.200	ND	70.6	46.5-137	8.28	19.2	
o-Xylene	0.076	0.002	"	0.100	ND	75.9	54.2-134	8.46	17.9	
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.3	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Project: KMG - Bartz 21-17

**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 B8E0704 - EPA 5030B (Water)**

**Blank (B8E0704-BLK1)**

Prepared: 05/07/2018 Analyzed: 05/07/2018

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5	99.5	84-121				
Surrogate: Toluene-d8	63		"	62.5	101	85-115				
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.7	84-114				

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Jen Pellegrini For Noelle Doyle Mathis, President

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

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

**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 B8E0704 - EPA 5030B (Water)										
LCS (B8E0704-BS1)					Prepared: 05/07/2018 Analyzed: 05/07/2018					
Benzene	51.8	1.00	ug/L	50.0		104	73.3-129			
Toluene	48.6	1.00	"	50.0		97.2	76.2-123			
Ethylbenzene	49.5	1.00	"	50.0		99.0	73.6-130			
m,p-Xylene	99.5	2.00	"	100		99.5	76.1-126			
o-Xylene	51.0	1.00	"	50.0		102	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		93.0	84-121			
Surrogate: Toluene-d8	65		"	62.5		104	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.5	84-114			

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Project: KMG - Bartz 21-17

**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 B8E0704 - EPA 5030B (Water)**

Matrix Spike (B8E0704-MS1)		Source: Y805091-02			Prepared: 05/07/2018 Analyzed: 05/07/2018					
Benzene	58.8	1.00	ug/L	50.0	ND	118	74-130			
Toluene	55.0	1.00	"	50.0	ND	110	73-131			
Ethylbenzene	57.6	1.00	"	50.0	ND	115	76-132			
m,p-Xylene	114	2.00	"	100	0.260	114	69-139			
o-Xylene	57.4	1.00	"	50.0	ND	115	74-131			
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.9	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.2	84-114			

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Project: KMG - Bartz 21-17

**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 B8E0704 - EPA 5030B (Water)**

Matrix Spike Dup (B8E0704-MSD1)		Source: Y805091-02			Prepared: 05/07/2018 Analyzed: 05/07/2018					
Benzene	56.6	1.00	ug/L	50.0	ND	113	74-130	3.69	20	
Toluene	52.4	1.00	"	50.0	ND	105	73-131	4.90	20	
Ethylbenzene	54.3	1.00	"	50.0	ND	109	76-132	5.77	20	
m,p-Xylene	108	2.00	"	100	0.260	108	69-139	5.59	20	
o-Xylene	55.4	1.00	"	50.0	ND	111	74-131	3.51	20	
Surrogate: 1,2-Dichloroethane-d4	58		"	62.5		92.8	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.7	84-114			

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Arvada CO 80003

Brian Sulzberger  
Project Number: 014218100  
Project: KMG - Bartz 21-17

## 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 B8E0705 - EPA 3580

#### Blank (B8E0705-BLK1)

Prepared: 05/07/2018 Analyzed: 05/07/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	54		"	50.0		108	59-131			

#### LCS (B8E0705-BS1)

Prepared: 05/07/2018 Analyzed: 05/07/2018

Diesel (C10-C28)	1140	50.0	mg/kg	1000		114	64-121			
Residual Range Organics (C28-C40)	1050	200	"	1000		105	58-124			
Surrogate: o-Terphenyl	66		"	50.0		131	59-131			

#### Matrix Spike (B8E0705-MS1)

Source: Y805097-01

Prepared: 05/07/2018 Analyzed: 05/07/2018

Diesel (C10-C28)	1090	50.0	mg/kg	1000	ND	109	53-125			
Residual Range Organics (C28-C40)	1030	200	"	1000	10.7	101	47-133			
Surrogate: o-Terphenyl	63		"	50.0		127	59-131			

#### Matrix Spike Dup (B8E0705-MSD1)

Source: Y805097-01

Prepared: 05/07/2018 Analyzed: 05/07/2018

Diesel (C10-C28)	1070	50.0	mg/kg	1000	ND	107	53-125	2.05	20	
Residual Range Organics (C28-C40)	992	200	"	1000	10.7	98.2	47-133	3.33	20	
Surrogate: o-Terphenyl	63		"	50.0		126	59-131			

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Project Number: 014218100  
Project: KMG - Bartz 21-17

## 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 B8E0706 - EPA 1311										
Duplicate (B8E0706-DUP1)		Source: Y805097-01			Prepared: 05/07/2018 Analyzed: 05/07/2018					
pH	7.43		pH Units		7.29			1.90	25	
Batch B8E0707 - EPA 1311										
Blank (B8E0707-BLK1)		Prepared: 05/07/2018 Analyzed: 05/08/2018								
Specific Conductance (EC)	0.00210		mmhos/cm							
Duplicate (B8E0707-DUP1)		Source: Y805097-01			Prepared: 05/07/2018 Analyzed: 05/08/2018					
Specific Conductance (EC)	0.0871		mmhos/cm		0.0893			2.49	25	

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Project: KMG - Bartz 21-17

### 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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