

TABLE 1
GROUNDWATER ANALYTICAL AND FIELD RESULTS
CAMP 13-19A
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 to Water/ (Product Thickness) (ft bgs)
COGCC Allowable Levels		5	560	700	1400	
GW01	12/10/2019	37.8	<4.00	4.44	<4.00	5.00

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





December 12, 2019

LT Environmental, Inc.

Brian Sulzberger

4600 West 60th Avenue

Arvada

CO 80003

Project Name - KMG - Camp 13-19A (Dumpline)

Project Number - 014219247

Attached are your analytical results for KMG - Camp 13-19A (Dumpline) received by Origins Laboratory, Inc. December 10, 2019. This project is associated with Origins project number Y912144-06.

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: 014219247

Project: KMG - Camp 13-19A (Dumpline)

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	Y912144-06	Water	December 10, 2019 8:05	12/10/2019 16:00

Origins Laboratory, Inc.



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




Brian Sulzberger
Project Number: 014219247
Project: KMG - Camp 13-19A (Dumpline)

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page 1 of 1

ORIGINS
LABORATORY, INC.

Client: LTE
Address: 4600 W. 60th Ave
Arvada, CO 80003
Telephone Number: 303-433-9788
Email Address: KING Team

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix		Analysis				Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Air Summ. #	Other	G BTEX+N	(OPE, DPE)	PH		EC
B01eS	12-10-19	0810	2	X				X				X	X	X	1
N01e4		0820	1	X				X				X			2
E01e4		0830	1	X				X				X			3
S01e4		0840	1	X				X				X			4
W01e4		0850	1	X				X				X			5
Gw01		0855	2	X				X						X	6
															7
															8
															9
															10
Relinquished By: 	Date: 12-10-19	Time: 1600	Received By: 	Date: 12-10-19	Time: 1600	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"/>									
Relinquished By: 	Date:	Time:	Received By:	Date:	Time:										

Date Results Needed

Temp Received-

Pa

Origins Laboratory, Inc.

Jeff Pellgrini

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

Brian Sulzberger
Project Number: 014219247
Project: KMG - Camp 13-19A (Dumpline)

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4912144

Client: LRE

Client Project ID: KMG - Camp 13-19A (Dumpline)

Checklist Completed by: D. Lee

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

Date/time completed: 12-10-19

Airbill #: N/A

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

Cooler Number/Temperature: ☒ / 4.1 °C ☐ / _____ °C ☐ / _____ °C ☐ / _____ °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>p4</u>
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 12-10-19

Origins Laboratory, Inc.

Jefe Pellegrini

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

Brian Sulzberger
Project Number: 014219247
Project: KMG - Camp 13-19A (Dumpline)

GW01

12/10/2019 8:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y912144-06 (Water)

BTEX by EPA 8260D

Benzene	37.8	4.00	ug/L	4	B9L0515	KDK	12/10/2019	12/11/2019	
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	4.44	4.00	"	"	"	KDK	"	"	
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	87.9 %	70-130			"	"	"
Surrogate: Toluene-d8	97.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	90.2 %	70-130			"	"	"

Origins Laboratory, Inc.



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4600 West 60th Avenue
Arvada CO 80003

Brian Sulzberger
Project Number: 014219247
Project: KMG - Camp 13-19A (Dumpline)

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9L0515 - EPA 5030B (Water)

Blank (B9L0515-BLK1)

Prepared: 12/05/2019 Analyzed: 12/10/2019

Benzene	ND	1.00	ug/L							U
Toluene	ND	1.00	"							U
Ethylbenzene	ND	1.00	"							U
Xylenes, total	ND	1.00	"							U
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5	90.6		70-130			
Surrogate: Toluene-d8	60		"	62.5	95.2		70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5	92.5		70-130			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9L0515 - EPA 5030B (Water)										
LCS (B9L0515-BS1)					Prepared: 12/05/2019 Analyzed: 12/10/2019					
Benzene	51.5	1.00	ug/L	50.0		103	70-130			
Toluene	48.6	1.00	"	50.0		97.2	70-130			
Ethylbenzene	48.0	1.00	"	50.0		95.9	70-130			
m,p-Xylene	93.6	2.00	"	100		93.6	70-130			
o-Xylene	48.0	1.00	"	50.0		96.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	54		"	62.5		87.1	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.3	70-130			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		92.0	70-130			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9L0515 - EPA 5030B (Water)

Matrix Spike (B9L0515-MS1)		Source: Y912055-07			Prepared: 12/05/2019 Analyzed: 12/10/2019					
Benzene	110	1.00	ug/L	50.0	ND	219	70-130			QM-07
Toluene	44.1	1.00	"	50.0	ND	88.2	70-130			
Ethylbenzene	42.6	1.00	"	50.0	ND	85.2	70-130			
m,p-Xylene	83.6	2.00	"	100	ND	83.6	70-130			
o-Xylene	48.6	1.00	"	50.0	ND	97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	53		"	62.5		85.0	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	58		"	62.5		92.3	70-130			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9L0515 - EPA 5030B (Water)

Matrix Spike Dup (B9L0515-MSD1)		Source: Y912055-07			Prepared: 12/05/2019 Analyzed: 12/10/2019					
Benzene	106	1.00	ug/L	50.0	ND	213	70-130	3.05	20	QM-07
Toluene	45.8	1.00	"	50.0	ND	91.5	70-130	3.74	20	
Ethylbenzene	43.8	1.00	"	50.0	ND	87.6	70-130	2.80	20	
m,p-Xylene	83.5	2.00	"	100	ND	83.5	70-130	0.0598	20	
o-Xylene	48.5	1.00	"	50.0	ND	97.0	70-130	0.185	20	
Surrogate: 1,2-Dichloroethane-d4	52		"	62.5		82.6	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.7	70-130			

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Notes and Definitions

U Sample is Non-Detect.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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