

LEGEND

 Site Location



Figure 1
Location Site Map
September 9, 2020 LBK

Park U-4-9XRLC
API: 05-123-47956
SWSW Sec 34, T5N, R62W, 6th PM
Weld County, Colorado

SAMPLE ID @ DEPTH BELOW SURFACE
 SAMPLE DATE
 B: BENZENE (mg/kg)
 T: TOLUENE (mg/kg)
 E: ETHYLBENZENE (mg/kg)
 X: TOTAL XYLENES (mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS (mg/kg)
 pH: SCIENTIFIC UNITS
 <: INDICATES RESULT IS LESS THAN THE LABORATORY
 REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD
 mg/kg: MILLIGRAMS PER KILOGRAM

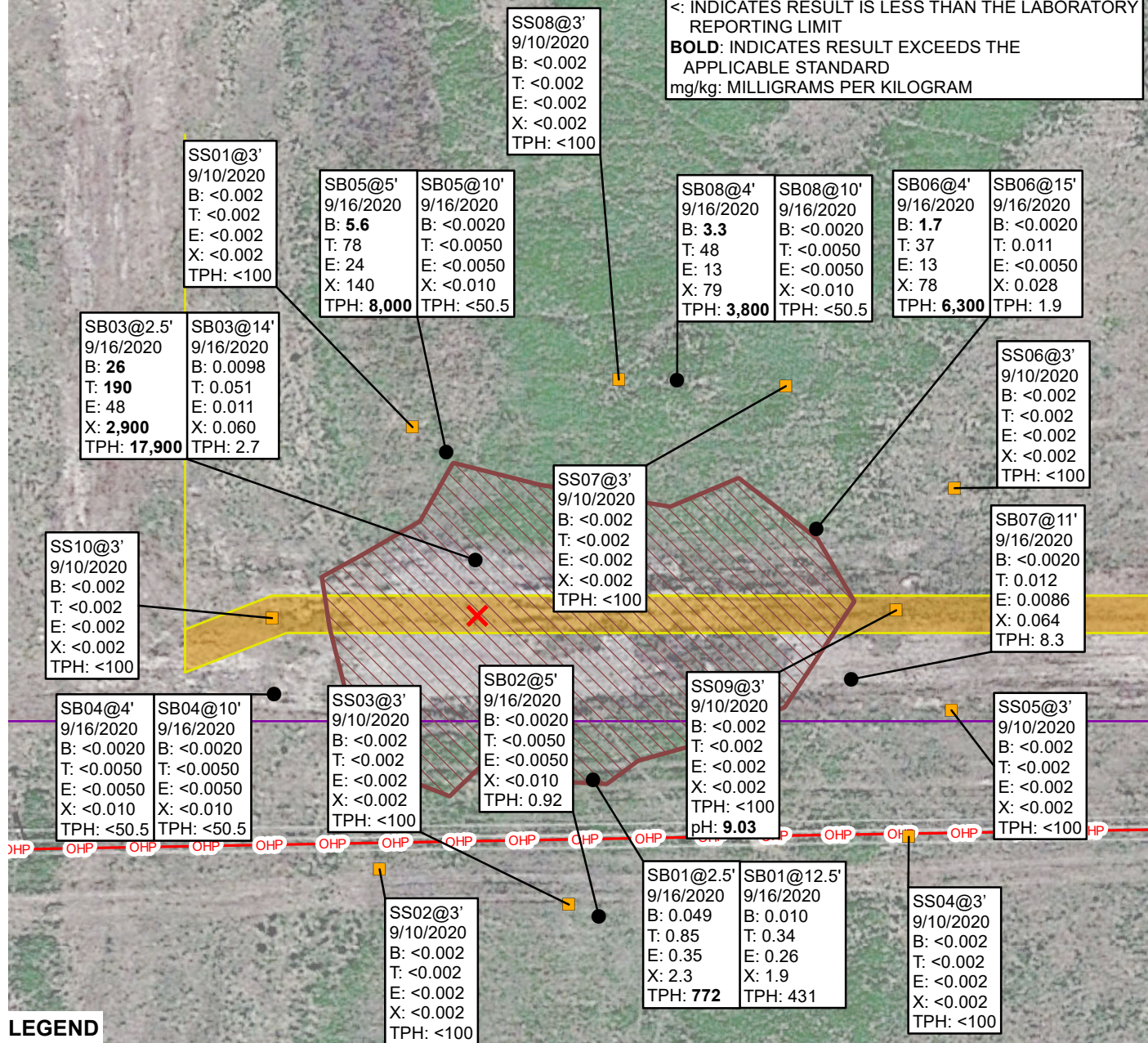


IMAGE COURTESY OF GOOGLE EARTH 2016

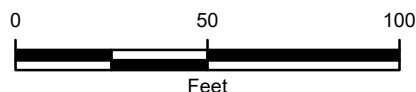
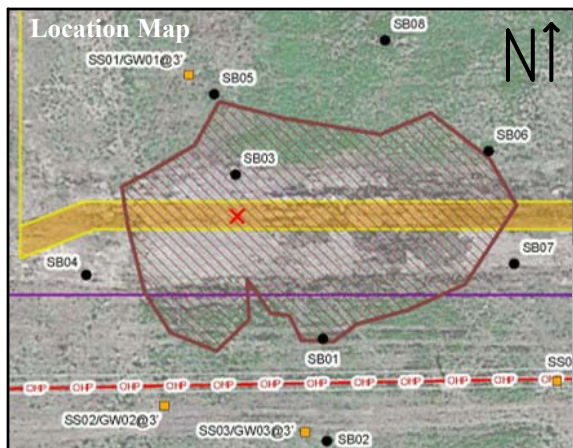


FIGURE 3
SOIL ANALYTICAL RESULTS
 PARK U-4-9XRLC
 SWSW SEC 34-T5N-R63W
 WELD COUNTY, COLORADO
 BONANZA CREEK ENERGY, INC.





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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB01 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 20' **DRILLED BY:** Vine Labs
DTW (ft bgs): 3' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

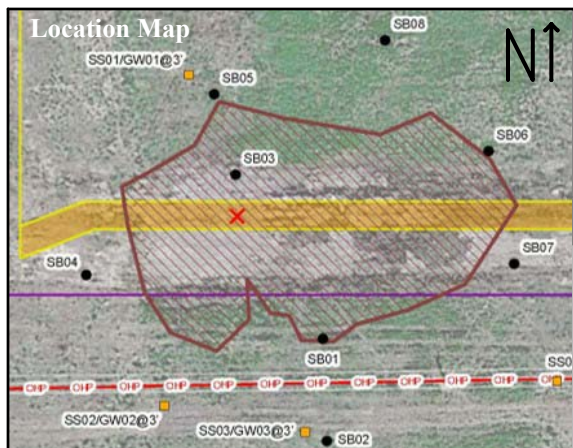
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
2,014		Dry	SB01 @2.5'	4/5	0	SM		0' - 1' - SILTY SAND, fine grained, light brown, dry, no staining, no odor	
1,730		Wet			5	SW		1' - 15' - SAND, brown, well graded, fine to coarse grained, some gravel at 5' bgs, trace gravel 5' to 15' bgs, wet at 3' bgs, yellow free product present at 3' to 5' bgs, odor at 3' to 5' bgs	
368			SB01 @12.5'	2.5/5	10				
235.8					15	SP		15' - 17.5' - SAND, poorly graded, fine grained, trace medium and coarse grains, wet, no staining, no odor	
765				4/5		SW		17.5' - 20' - SAND, well graded, fine to coarse grained, trace gravel, wet, no staining, no odor	
304				5/5					
750									
163					20				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB02 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 10' **DRILLED BY:** Vine Labs
DTW (ft bgs): 4' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

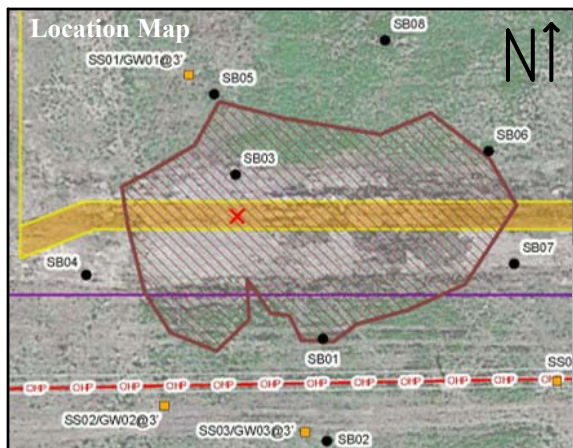
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
		Dry			0	SM		0' - 1.5' - SILTY SAND, fine grained, dark brown, some clay, trace roots, dry, no staining, no odor	
70.6				3/5		SW		1' - 10' - SAND, brown, well graded, fine to coarse grained, wet at 4' bgs, no staining, no odor	
27.8		Wet	SB02 @5'		5				
17.2				1/5	10				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB03 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 15' **DRILLED BY:** Vine Labs
DTW (ft bgs): 2' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

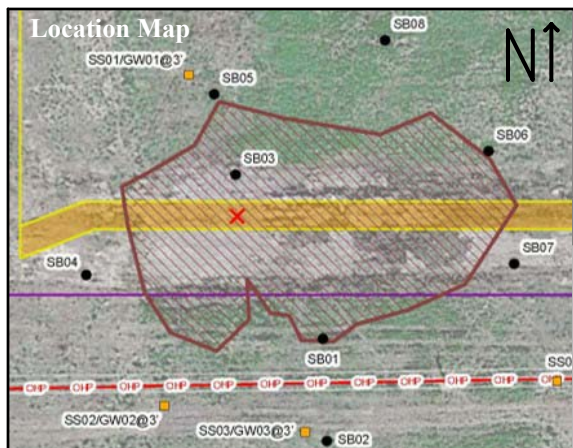
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
		Dry			0				
1,253		Wet		3/5		SM		0' - 2' - SILTY SAND, fine grained, dark brown, some clay, trace roots, dry to wet at 2' bgs, yellow free product and odor at 2' bgs	
1,062			SB03 @2.5'		5	SW		2' - 14' - SAND, brown, well graded, medium to coarse grained, trace gravel, wet, no staining, yellow free product and odor present at 2' to 5' bgs, drilled to 15' bgs but 14' to 15' interval was not recovered	
70				2/5					
237					10				
74.8				2/5					
50.6			SB03 @14'		15				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB04 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 10' **DRILLED BY:** Vine Labs
DTW (ft bgs): 5' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

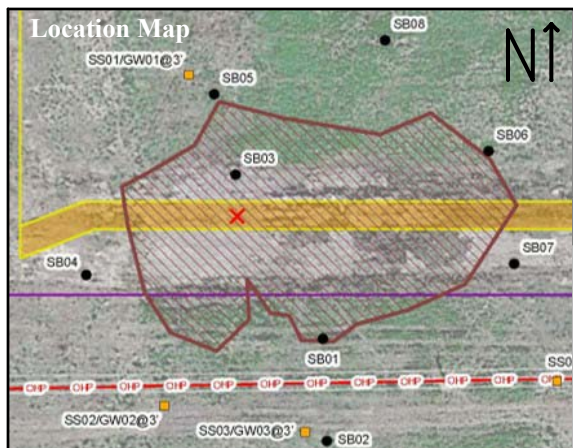
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
312		Dry			0	SM		0' - 1' - SILTY SAND, fine grained, dark brown, some clay, trace roots, dry, no staining, no odor	
50				3/5		SM		1' - 4' - SAND, brown, poorly graded, fine grained, trace gravel, dry to moist, no staining, no odor	
52.2		Moist	SB04 @4'			SW		4' - 10' - SAND, well graded, fine to coarse grained, trace gravel, moist to wet at 5' bgs, no staining, no odor	
35.2		Wet			5				
38				2/5					
32.5			SB04 @10'		10				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB05 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 10' **DRILLED BY:** Vine Labs
DTW (ft bgs): 5' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

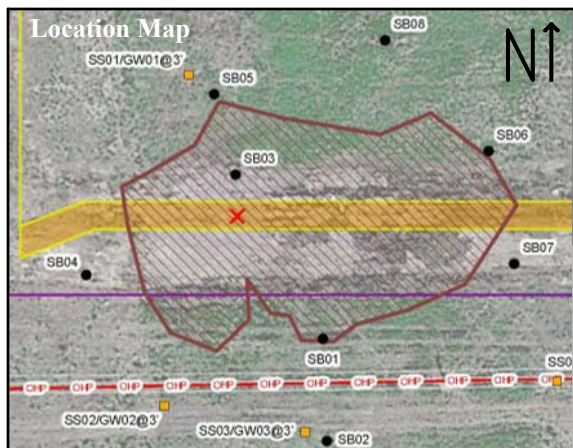
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
85.5		Dry		3/5	0	SM		0' - 2.5' - SILTY SAND, fine grained, dark brown, some clay, trace roots, dry, no staining, no odor	
1,605		Wet	SB05 @5'		5	SW		2.5' - 10' - SAND, brown, well graded, fine to coarse grained, trace gravel, dry to wet at 5', no staining, odor present at 2.5' to 5' bgs	
41.2			SB05 @10'	1.5/5	10				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB06 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 15' **DRILLED BY:** Vine Labs
DTW (ft bgs): 4' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

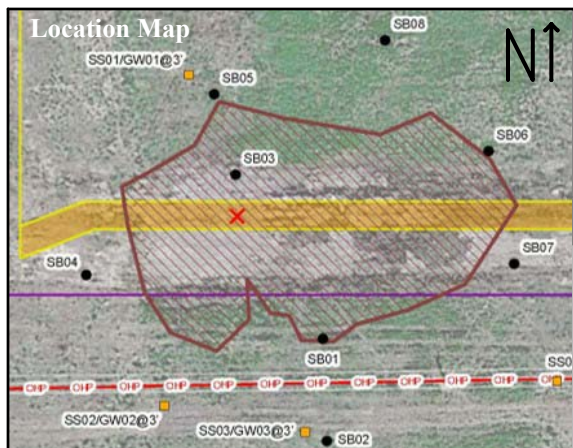
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
		Dry			0				
1,766				2.5/5		SM		0' - 1' - SILTY SAND, fine grained, dark brown, some clay, trace roots, dry, staining and odor present	
1,995						SP		1' - 4' - SAND, brown, poorly graded, fine grained, trace gravel, dry to wet at 4', no staining, odor present, yellow free product at 4' bgs	
2,078					5	SW		4' - 15' - SAND, well graded, fine to coarse grained, some gravel, no staining, odor present from 4' to 10' bgs	
395				2.5/5					
225					10				
59.1				1.5/5					
95.7					15				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB07 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 15' **DRILLED BY:** Vine Labs
DTW (ft bgs): 4' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

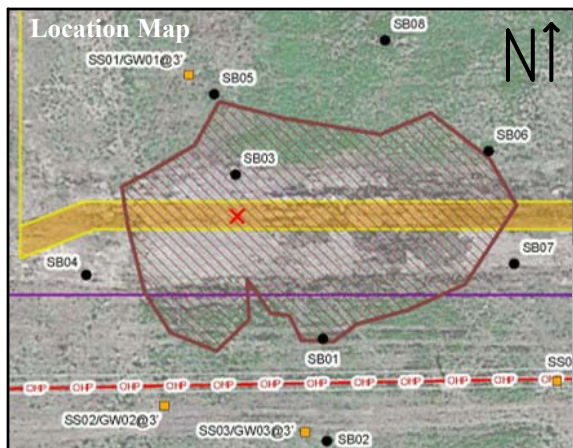
HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
437		Dry		3.5/5	0	SM		0' - 4' - SILTY SAND, fine grained, dark brown to brown, some clay, trace roots, trace gravel at 1' to 4' bgs, dry to moist at 1' bgs, no staining, no odor	
2,200		Moist							
2,020		Wet			5	SW		4' - 15' - SAND, brown, well graded, fine to coarse grained, some gravel, wet, no staining, odor present at 4' to 5' bgs, yellow free product at 4' to 5' bgs	
				0/5					
370			SB07 @11'		10				
				3.5/5					
370			SB07		15				



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BORING LOG/MONITORING WELL COMPLETION DIAGRAM

PROJECT NAME: Park U-4-9XRLC
PROJECT NO: 027320018 **LOGGED BY:** Jeremy Pike
BORING/WELL ID: SB08 **SAMPLE METHOD:** Continuous
COMPLETION DATE: 9/16/2020 **DRILL METHOD:** Geoprobe 6620DT
TD (ft bgs): 10' **DRILLED BY:** Vine Labs
DTW (ft bgs): 4' **DETECTOR:** MiniRAE 3000
SCREEN SLOT: NA **FILTER PACK:** NA
CASING LENGTH: NA **ANNULUS SEAL:** NA
SCREEN LENGTH: NA **SURFACE SEAL:** NA

HOLE DIAMETER: 3.25"

WELL DIAMETER: NA

CASING TYPE: NA

SCREEN TYPE: NA

PID (ppm)	Staining	Moisture Content	Sample ID	Recovery (ft/ft)	Depth (ft)	USCS	USCS Graphic	Lithology Description	Well Construction
176		Dry			0	SM		0' - 1.5' - SILTY SAND, fine grained, dark brown to brown, some clay, trace roots, dry, no staining, no odor	
		Moist		3/5		SP		1.5' - 4' - SAND, brown, poorly graded, fine grained, moist, no staining, odor present at 3' to 4' bgs	
1,170		Wet	SB08 @4'			SW		4' - 10' - SAND, brown, well graded, fine to coarse grained, trace gravel, no staining, no odor	
1,027					5				
25				3/5					
25			SB08 @10'		10				

TABLE 1
SOIL ANALYTICAL RESULTS

PARK U-4-9XRLC
WELD COUNTY, COLORADO
BONANZA CREEK ENERGY, INC.

Sample ID	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	pH	SAR (unitless)	EC (mmhos/cm)
POTHOLE SOIL SAMPLES											
SS01@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.70	2.78	0.0597
SS02@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.56	1.82	0.0400
SS03@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.08	2.06	0.0702
SS04@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.09	2.50	0.0436
SS05@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.28	1.81	0.0238
SS06@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.25	1.87	0.0319
SS07@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	7.90	2.02	0.0580
SS08@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.03	2.36	0.0516
SS09@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	9.03	6.09	0.149
SS10@3'	9/10/2020	<0.002	<0.002	<0.002	<0.002	<50.0	<50.0	<100	8.74	5.54	0.161
SOIL BORING SOIL SAMPLES											
SB01@2.5'	9/16/2020	0.049	0.85	0.35	2.3	72	700	772	--	--	--
SB01@12.5'	9/16/2020	0.010	0.34	0.26	1.9	91	340	431	--	--	--
SB02@5'	9/16/2020	<0.0020	<0.0050	<0.0050	<0.010	0.92	<50	0.92	--	--	--



TABLE 1
SOIL ANALYTICAL RESULTS

PARK U-4-9XRLC
WELD COUNTY, COLORADO
BONANZA CREEK ENERGY, INC.

Sample ID	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	pH	SAR (unitless)	EC (mmhos/cm)
SB03@2.5'	9/16/2020	26	190	48	2,900	5,900	12,000	17,900	--	--	--
SB03@14'	9/16/2020	0.0098	0.051	0.011	0.060	2.7	<50	2.7	--	--	--
SB04@4'	9/16/2020	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50.5	--	--	--
SB04@10'	9/16/2020	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50.5	--	--	--
SB05@5'	9/16/2020	5.6	78	24	140	3,300	4,700	8,000	--	--	--
SB05@10'	9/16/2020	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50.5	--	--	--
SB06@4'	9/16/2020	1.7	37	13	78	2,000	4,300	6,300	--	--	--
SB06@15'	9/16/2020	<0.0020	0.011	<0.0050	0.028	1.9	<50	1.9	--	--	--
SB07@11'	9/16/2020	<0.0020	0.012	0.0086	0.064	8.3	<50	8.3	--	--	--
SB08@4'	9/16/2020	3.3	48	13	79	2,100	1,700	3,800	--	--	--
SB08@10'	9/16/2020	<0.0020	<0.0050	<0.0050	<0.010	<0.50	<50	<50.5	--	--	--
COGCC Table 910-1 Concentration Level		0.17	85	100	175	--	--	500	6 to 9	12	4

Notes:

COGCC - Colorado Oil and Gas Conservation Commission
DRO - diesel range organics analyzed by EPA Method 8015 or 8015D
EC - electrical conductivity analyzed by EPA Modified Method 9050A
EPA - United States Environmental Protection Agency
GRO - gasoline range organics analyzed by EPA Method 8260B or 8260D
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter

SAR - sodium adsorption ratio by saturated paste method
TPH - total petroleum hydrocarbons, sum of GRO and DRO
-- - not applicable/not analyzed
< - indicates result is less than the stated laboratory method reporting limit
BOLD - indicates result exceeds the applicable COGCC Table 910-1 concentration level
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B or 8260D
pH analyzed by EPA method 9045D





September 21, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver

CO 80211

Project Name - Park 4-4-9 XRLC

Project Number - [none]

Attached are your analytical results for Park 4-4-9 XRLC received by Origins Laboratory, Inc. September 14, 2020. This project is associated with Origins project number Y009149-01.

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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@3'	Y009149-01	Soil	September 10, 2020 14:00	09/14/2020 08:25
SS02@3'	Y009149-02	Soil	September 10, 2020 14:05	09/14/2020 08:25
SS03@3'	Y009149-03	Soil	September 10, 2020 14:10	09/14/2020 08:25
SS04@3'	Y009149-04	Soil	September 10, 2020 14:15	09/14/2020 08:25
SS05@3'	Y009149-05	Soil	September 10, 2020 14:20	09/14/2020 08:25
SS06@3'	Y009149-06	Soil	September 10, 2020 14:23	09/14/2020 08:25
SS07@3'	Y009149-07	Soil	September 10, 2020 14:30	09/14/2020 08:25
SS08@3'	Y009149-08	Soil	September 10, 2020 14:35	09/14/2020 08:25
SS09@3'	Y009149-09	Soil	September 10, 2020 14:40	09/14/2020 08:25
SS010@3'	Y009149-10	Soil	September 10, 2020 14:45	09/14/2020 08:25

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

www.originslaboratory.com

page 1 of 1

ORIGINS
LABORATORY, INC

Y009149

Client: Bonanza Creek Energy
Address: 410 17th Street Suite 1700 Denver, CO 80202
Telephone Number: 720-315-8934
Email Address:

Project Manager: Luke Kelly
Project Name: Park 4-4-9 XRLC-Soil
Project Number:
Samples Collected By: Luke Kelly

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			Other
455 550203'	9/10/10	1400	2	X					X			X	1
550203'		1405										X	2
550303'		1410										X	3
550403'		1415										X	4
550503'		1420										X	5
550603'		1425										X	6
550703'		1430										X	7
550803'		1435										X	8
550903'		1440										X	9
550903'		1445										X	10
Relinquished By: 26 July	Date: 9/14/10	Time: 8:25		Received By: [Signature]				Date: 9/14/10			Time: 0825	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished By:	Date:	Time:		Received By:				Date:			Time:		

Date Results Needed

94

Origins Laboratory, Inc.

Jordan A. Merrill

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y009149

Client: Bonanza

Client Project ID: Park 4-4-9

Checklist Completed by: KPK

Shipped Via: HD

Date/time completed: 09.14.2020

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

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 84 °C _____ / _____ °C _____ / _____ °C (Describe) _____ °C

Thermometer ID: T003

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

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

Reviewed by: Jm (Project Manager)

9-15-20
Date/Time Reviewed

Origins Laboratory, Inc.

Jm

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS01@3'

9/10/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-01 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

87.8 %

70-130

"

"

"

Surrogate: Toluene-d8

103 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

63.7 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	2.65	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.93	"	"	"			"	"	
Sodium	4.21	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.70	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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Origins Laboratory, Inc.

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS01@3'

9/10/2020 2:00:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-01 (Soil)

SAR by 20B Saturated Paste

SAR	2.78		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0597	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS02@3'

9/10/2020 2:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y009149-02 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/15/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

90.2 %

70-130

"

"

"

Surrogate: Toluene-d8

103 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

66.4 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.50	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.23	"	"	"			"	"	
Sodium	2.13	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.56	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS02@3'

9/10/2020 2:05:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-02 (Soil)

SAR by 20B Saturated Paste

SAR	1.82		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0400	0.00507	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS03@3'

9/10/2020 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y009149-03 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

86.2 % 70-130

"

"

"

Surrogate: Toluene-d8

104 % 70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

101 % 70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

66.0 % 50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.84	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.40	"	"	"			"	"	
Sodium	2.62	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.08	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS03@3'

9/10/2020 2:10:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-03 (Soil)

SAR by 20B Saturated Paste

SAR	2.06		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0702	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS04@3'

9/10/2020 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-04 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

86.1 %

70-130

"

"

"

Surrogate: Toluene-d8

103 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

100 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

65.9 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	2.11	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.65	"	"	"			"	"	
Sodium	3.42	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.09	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS04@3'

9/10/2020 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-04 (Soil)

SAR by 20B Saturated Paste

SAR	2.50			1	[none]		09/14/2020	09/17/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0436	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS05@3'

9/10/2020 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-05 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

87.0 %

70-130

"

"

"

Surrogate: Toluene-d8

103 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

100 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

65.7 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.55	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.09	"	"	"			"	"	
Sodium	2.08	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.28	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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Origins Laboratory, Inc.

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS05@3'

9/10/2020 2:20:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-05 (Soil)

SAR by 20B Saturated Paste

SAR	1.81		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0238	0.00510	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS06@3'

9/10/2020 2:23:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-06 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

87.0 %

70-130

"

"

"

Surrogate: Toluene-d8

104 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

99.4 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

61.3 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.47		me/L	1	[none]		09/14/2020	09/17/2020	
Magnesium	1.03		"	"	"		"	"	
Sodium	2.09		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.25		pH Units	1	B011407	DJL	09/14/2020	09/14/2020	
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Origins Laboratory, Inc.

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS06@3'

9/10/2020 2:23:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-06 (Soil)

SAR by 20B Saturated Paste

SAR	1.87		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0319	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS07@3'

9/10/2020 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y009149-07 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	87.3 %	70-130			"	"	"
Surrogate: Toluene-d8	104 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	63.9 %	50-150			"	"	"
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Metals (Saturated Paste Prep)

Calcium	1.91	me/L	1	[none]		09/14/2020	09/17/2020
Magnesium	1.54	"	"	"		"	"
Sodium	2.65	"	"	"		"	"

pH in Soil by EPA 9045D

pH	7.90	pH Units	1	B011407	DJL	09/14/2020	09/14/2020
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS07@3'

9/10/2020 2:30:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-07 (Soil)

SAR by 20B Saturated Paste

SAR	2.02		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0580	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS08@3'

9/10/2020 2:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y009149-08 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011405	KDK	09/14/2020	09/14/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

86.8 %

70-130

"

"

"

Surrogate: Toluene-d8

105 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

65.3 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	2.50	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.72	"	"	"			"	"	
Sodium	3.43	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.03	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS08@3'

9/10/2020 2:35:00PM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

Y009149-08 (Soil)

SAR by 20B Saturated Paste

SAR	2.36		1	[none]		09/14/2020	09/17/2020
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0516	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS09@3'

9/10/2020 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-09 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011505	KDK	09/15/2020	09/15/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

89.5 % 70-130

" " "

Surrogate: Toluene-d8

104 % 70-130

" " "

Surrogate: 4-Bromofluorobenzene

101 % 70-130

" " "

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

62.2 % 50-150

" " "

Metals (Saturated Paste Prep)

Calcium	2.11	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	2.76	"	"	"			"	"	
Sodium	9.50	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	9.03	pH Units	1	B011407	DJL		09/14/2020	09/14/2020	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS09@3'

9/10/2020 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-09 (Soil)

SAR by 20B Saturated Paste

SAR	6.09			1	[none]		09/14/2020	09/17/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.149	0.00502	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS010@3'

9/10/2020 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-10 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B011505	KDK	09/15/2020	09/15/2020	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

87.3 %

70-130

"

"

"

Surrogate: Toluene-d8

105 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

100 %

70-130

"

"

"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B011406	KDK	09/14/2020	09/14/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl

59.2 %

50-150

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.58	me/L	1	[none]			09/14/2020	09/17/2020	
Magnesium	1.92	"	"	"			"	"	
Sodium	7.32	"	"	"			"	"	

pH in Soil by EPA 9045D

pH	8.74	pH Units	1	B011407	DJL	09/14/2020	09/14/2020		
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

SS010@3'

9/10/2020 2:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009149-10 (Soil)

SAR by 20B Saturated Paste

SAR	5.54			1	[none]		09/14/2020	09/17/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.161	0.00500	mmhos/cm	1	B0I1408	DJL	09/14/2020	09/14/2020	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011405 - EPA 5030 (soil)

Blank (B011405-BLK1)

Prepared: 09/14/2020 Analyzed: 09/14/2020

Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125	86.1		70-130			
Surrogate: Toluene-d8	0.13		"	0.125	104		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	100		70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011405 - EPA 5030 (soil)

LCS (B011405-BS1)

Prepared: 09/14/2020 Analyzed: 09/14/2020

Benzene	0.054	0.002	mg/kg	0.0500		107	70-130			
Toluene	0.055	0.002	"	0.0500		110	70-130			
Ethylbenzene	0.059	0.002	"	0.0500		119	70-130			
m,p-Xylene	0.120	0.004	"	0.100		120	70-130			
o-Xylene	0.059	0.002	"	0.0500		118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.7	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011405 - EPA 5030 (soil)

Matrix Spike (B011405-MS1)		Source: Y009156-01			Prepared: 09/14/2020 Analyzed: 09/14/2020					
Benzene	0.045	0.002	mg/kg	0.0500	ND	89.2	70-130			
Toluene	0.045	0.002	"	0.0500	ND	90.8	70-130			
Ethylbenzene	0.048	0.002	"	0.0500	ND	95.6	70-130			
m,p-Xylene	0.097	0.004	"	0.100	ND	96.8	70-130			
o-Xylene	0.048	0.002	"	0.0500	ND	95.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		84.7	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011405 - EPA 5030 (soil)

Matrix Spike Dup (B011405-MSD1)		Source: Y009156-01			Prepared: 09/14/2020 Analyzed: 09/14/2020					
Benzene	0.041	0.002	mg/kg	0.0500	ND	82.8	70-130	7.45	20	
Toluene	0.042	0.002	"	0.0500	ND	84.7	70-130	6.97	20	
Ethylbenzene	0.045	0.002	"	0.0500	ND	89.4	70-130	6.71	20	
m,p-Xylene	0.090	0.004	"	0.100	ND	90.5	70-130	6.81	20	
o-Xylene	0.045	0.002	"	0.0500	ND	89.8	70-130	6.01	20	
Surrogate: 1,2-Dichloroethane-d4	0.10		"	0.125		83.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011406 - EPA 3580										
Blank (B011406-BLK1)					Prepared: 09/14/2020 Analyzed: 09/14/2020					
Gasoline (C6-C10)	ND	25.0	mg/kg							U
Diesel (C10-C28)	ND	25.0	"							U
Surrogate: o-Terphenyl	16		"	25.0		64.0	50-150			

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Extractable Petroleum Hydrocarbons by 8015D - 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 B011406 - EPA 3580

LCS (B011406-BS1)

Prepared: 09/14/2020 Analyzed: 09/14/2020

Gasoline (C6-C10)	780	50.0	mg/kg	1000		78.0	70-130			
Diesel (C10-C28)	913	50.0	"	1000		91.3	70-130			
Surrogate: o-Terphenyl	39		"	50.0		78.9	50-150			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Extractable Petroleum Hydrocarbons by 8015D - 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 B011406 - EPA 3580

Matrix Spike (B011406-MS1)		Source: Y009156-01			Prepared: 09/14/2020 Analyzed: 09/14/2020					
Gasoline (C6-C10)	737	50.0	mg/kg	1000	ND	73.7	70-130			
Diesel (C10-C28)	867	50.0	"	1000	ND	86.7	70-130			
Surrogate: o-Terphenyl	37		"	50.0		73.6	50-150			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Extractable Petroleum Hydrocarbons by 8015D - 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 B011406 - EPA 3580

Matrix Spike Dup (B011406-MSD1)		Source: Y009156-01			Prepared: 09/14/2020 Analyzed: 09/14/2020					
Gasoline (C6-C10)	734	50.0	mg/kg	1000	ND	73.4	70-130	0.360	35	
Diesel (C10-C28)	846	50.0	"	1000	ND	84.6	70-130	2.49	35	
Surrogate: o-Terphenyl	39		"	50.0		78.4	50-150			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Extractable Petroleum Hydrocarbons by 8015D - 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 B011505 - EPA 5030 (soil)

Blank (B011505-BLK1)

Prepared: 09/15/2020 Analyzed: 09/15/2020

Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125	104		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	94.3		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	107		70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011505 - EPA 5030 (soil)

LCS (B011505-BS1)

Prepared: 09/15/2020 Analyzed: 09/15/2020

Benzene	0.097	0.002	mg/kg	0.100		97.1	70-130			
Toluene	0.089	0.002	"	0.100		89.1	70-130			
Ethylbenzene	0.092	0.002	"	0.100		91.6	70-130			
m,p-Xylene	0.182	0.004	"	0.200		90.8	70-130			
o-Xylene	0.094	0.002	"	0.100		94.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		111	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011505 - EPA 5030 (soil)

Matrix Spike (B011505-MS1)		Source: Y009175-01			Prepared: 09/15/2020 Analyzed: 09/15/2020					
Benzene	0.095	0.002	mg/kg	0.100	ND	95.5	70-130			
Toluene	0.089	0.002	"	0.100	ND	89.4	70-130			
Ethylbenzene	0.091	0.002	"	0.100	ND	91.5	70-130			
m,p-Xylene	0.181	0.004	"	0.200	ND	90.7	70-130			
o-Xylene	0.095	0.002	"	0.100	ND	94.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.1	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		109	70-130			

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011505 - EPA 5030 (soil)

Matrix Spike Dup (B011505-MSD1)		Source: Y009175-01			Prepared: 09/15/2020 Analyzed: 09/15/2020					
Benzene	0.095	0.002	mg/kg	0.100	ND	95.1	70-130	0.399	20	
Toluene	0.091	0.002	"	0.100	ND	91.1	70-130	1.93	20	
Ethylbenzene	0.093	0.002	"	0.100	ND	92.6	70-130	1.28	20	
m,p-Xylene	0.182	0.004	"	0.200	ND	91.0	70-130	0.352	20	
o-Xylene	0.097	0.002	"	0.100	ND	96.9	70-130	2.34	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		109	70-130			

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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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Classical Chemistry Parameters - 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 B011407 - NO PREP

Duplicate (B011407-DUP1)

Source: Y009149-01

Prepared: 09/14/2020 Analyzed: 09/14/2020

pH	9.04	pH Units	8.70	3.83	25
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Batch B011408 - NO PREP

Blank (B011408-BLK1)

Prepared: 09/14/2020 Analyzed: 09/14/2020

Specific Conductance (EC)	0.00230	0.00500	mmhos/cm
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Duplicate (B011408-DUP1)

Source: Y009149-01

Prepared: 09/14/2020 Analyzed: 09/14/2020

Specific Conductance (EC)	0.0606	0.00505	mmhos/cm	0.0597	1.50	25
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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.

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 18, 2020

Jeremy Pike

LT Environmental, Inc.

4600 West 60th Avenue

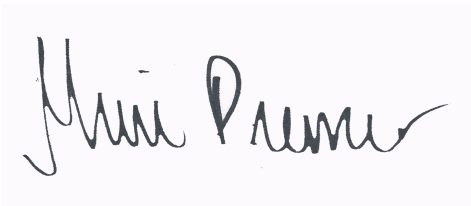
Arvada, CO 80003

RE: Park U-4-9XRLC

Work Order #2009185

Enclosed are the results of analyses for samples received by Summit Scientific on 09/16/20 18:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Park U-4-9XRLC

Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@2.5'	2009185-01	Soil	09/16/20 11:40	09/16/20 18:10
SB01@12.5'	2009185-02	Soil	09/16/20 11:50	09/16/20 18:10
SB02@5'	2009185-04	Soil	09/16/20 12:05	09/16/20 18:10
SB03@2.5'	2009185-05	Soil	09/16/20 12:55	09/16/20 18:10
SB03@14'	2009185-06	Soil	09/16/20 12:50	09/16/20 18:10
SB04@4'	2009185-07	Soil	09/16/20 13:20	09/16/20 18:10
SB04@10'	2009185-08	Soil	09/16/20 13:23	09/16/20 18:10
SB05@5'	2009185-09	Soil	09/16/20 13:45	09/16/20 18:10
SB05@10'	2009185-10	Soil	09/16/20 13:50	09/16/20 18:10
SB06@4'	2009185-11	Soil	09/16/20 14:20	09/16/20 18:10
SB06@15'	2009185-12	Soil	09/16/20 14:30	09/16/20 18:10
SB07@11'	2009185-13	Soil	09/16/20 15:15	09/16/20 18:10
SB08@4'	2009185-15	Soil	09/16/20 16:00	09/16/20 18:10
SB08@10'	2009185-16	Soil	09/16/20 16:05	09/16/20 18:10

Summit Scientific

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.

Summit Scientific

S₂

2009185.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 2

Client: LT Environmental, Inc.

Project Manager: Jeremy Pike

Address: 4600 West 60th Avenue

E-Mail: jpik@ltenv.com

City/State/Zip: Arvada, Colorado 80003

Phone: 303-433-9788

Project Name: Park U-4-9XRLC

Sampler Name:

Project Number: 034520034

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GBTEX	TPH-DRO							
1	SB01 @ 2.5'	9/16/20	1140	1			X			X				X	X						
2	SB01 @ 12.5'		1150	1			X			X				X	X						→ #8
3	SB01 @ 20'		1155	1			X														Hold
4	SB02 @ 5'		1205	1			X			X				X	X						
5	SB03 @ 2.5'		1255	1			X			X				X	X						
6	SB03 @ 14'		1250	1			X			X				X	X						
7	SB04 @ 4'		1320	1			X			X				X	X						
8	SB04 @ 10'		1323	1			X			X				X	X						
9	SB05 @ 5'		1345	1			X			X				X	X						
10	SB05 @ 10'		1350	1			X			X				X	X						
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)													
[Signature]		9/16/20 1810		[Signature]		09/16/2020 1810		Same Day _____ 72 hours _____													
Relinquished by:		Date/Time:		Received by:		Date/Time:		24 hours _____ Standard													
								48 hours <input checked="" type="checkbox"/>													
								Sample Integrity:													
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt:													
								S-1 Samples Intact: <input checked="" type="checkbox"/>													
								No													

Summit Scientific

S₂

2009185.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Page **2** of **2**

Client: LT Environmental, Inc.

Project Manager: Jeremy Pike

Address: 4600 West 60th Avenue

E-Mail: jpike@ltenv.com

City/State/Zip: Arvada, Colorado 80003

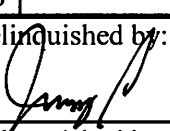
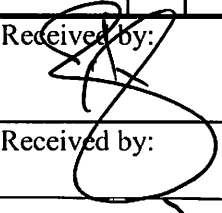

Phone: 303-433-9788

Project Name: Park U-4-9XRLC

Sampler Name: **JEREMY PIKE**

Project Number: 034520034

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GBTEX	TPH-DRO							
1	SB06 @ 4'	9/16/20	1420	1			X			X				X	X						
2	SB06 @ 15'		1430	1			X			X				X	X						
3	SB07 @ 4'						X			X				X	X						
4	SB07 @ 11'		1515	1			X			X				X	X						
5	SB07 @ 20'		1530				X			X				X	X						Hold
6	SB08 @ 4'		1600				X			X				X	X						
7	SB08 @ 10'	4	1605				X			X				X	X						
8																					
9																					
10																					

Relinquished by: 	Date/Time: 9/16/20 1610	Received by: 	Date/Time: 09/16/2020 1610	Turn Around Time (Check) Same Day ___ 72 hours ___ 24 hours ___ Standard 48 hours X Sample Integrity: Temperature Upon Receipt:  Samples Intact: Yes No
Relinquished by:	Date/Time:	Received by:	Date/Time:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	

Sample Receipt Checklist

S2 Work Order 2009185

Client: LT Environmental Client Project ID: Pack U-4-a XRLC

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (check all that apply): Air X Soil/Solid Water Other: _____
(Describe)

Temp (°C)	<u>5.1</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<u>X</u>			
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?			<u>X</u>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<u>X</u>			<u>48 hour AT</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<u>✓</u>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<u>X</u>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>X</u>	
Additional Comments (if any): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

128
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

09/16/2024
Date/Time



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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB01@2.5'
2009185-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.049	0.0020	mg/kg	1	2009205	09/17/20	09/17/20	EPA 8260B	
Toluene	0.85	0.050	"	10	"	"	"	"	
Ethylbenzene	0.35	0.0050	"	1	"	"	"	"	
Xylenes (total)	2.3	0.10	"	10	"	"	"	"	
Gasoline Range Hydrocarbons	72	0.50	"	1	"	"	"	"	

Date Sampled: **09/16/20 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		85.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		233 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	700	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		118 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB01@12.5'
2009185-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.010	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	0.34	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.26	0.0050	"	"	"	"	"	"	
Xylenes (total)	1.9	0.10	"	10	"	"	"	"	
Gasoline Range Hydrocarbons	91	5.0	"	"	"	"	"	"	

Date Sampled: **09/16/20 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>		85.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.4 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		280 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	340	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>		124 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB02@5'
2009185-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.92	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		135 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB03@2.5'
2009185-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	26	0.20	mg/kg	100	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	190	5.0	"	1000	"	"	"	"	
Ethylbenzene	48	0.50	"	100	"	"	"	"	
Xylenes (total)	2900	10	"	1000	"	"	"	"	
Gasoline Range Hydrocarbons	5900	50	"	100	"	"	"	"	

Date Sampled: **09/16/20 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		201 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	12000	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		384 %	30-150		"	"	"	"	S-02

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB03@14'
2009185-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.0098	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	0.051	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.011	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.060	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.7	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84.7 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>		132 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB04@4'
2009185-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		84.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		128 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB04@10'
2009185-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 13:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 13:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		82.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 13:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 13:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		123 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB05@5'
2009185-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	5.6	0.20	mg/kg	100	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	78	0.50	"	"	"	"	"	"	
Ethylbenzene	24	0.50	"	"	"	"	"	"	
Xylenes (total)	140	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3300	50	"	"	"	"	"	"	

Date Sampled: **09/16/20 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		95.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.4 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		180 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	4700	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		182 %	30-150		"	"	"	"	S-02

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB05@10'
2009185-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		127 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		122 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB06@4'
2009185-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	1.7	0.20	mg/kg	100	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	37	0.50	"	"	"	"	"	"	
Ethylbenzene	13	0.50	"	"	"	"	"	"	
Xylenes (total)	78	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2000	50	"	"	"	"	"	"	

Date Sampled: **09/16/20 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.0 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		154 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	4300	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		183 %	30-150		"	"	"	"	S-02

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB06@15'
2009185-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	0.011	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.028	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.9	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		140 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		129 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB07@11'
2009185-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	0.012	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0086	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.064	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.3	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		139 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		123 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB08@4'
2009185-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	3.3	0.20	mg/kg	100	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	48	0.50	"	"	"	"	"	"	
Ethylbenzene	13	0.50	"	"	"	"	"	"	
Xylenes (total)	79	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2100	50	"	"	"	"	"	"	

Date Sampled: **09/16/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84.3 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		150 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	1700	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 16:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		141 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

SB08@10'
2009185-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/16/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2009205	09/17/20	09/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/16/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		144 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/16/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2009206	"	09/18/20	EPA 8015M	

Date Sampled: **09/16/20 16:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		124 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 2009205 - EPA 5030 Soil MS

Blank (2009205-BLK1)

Prepared & Analyzed: 09/17/20

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0334		"	0.0400		83.6	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

LCS (2009205-BS1)

Prepared & Analyzed: 09/17/20

Benzene	0.0938	0.0020	mg/kg	0.100		93.8	70-130			
Toluene	0.0724	0.0050	"	0.100		72.4	70-130			
Ethylbenzene	0.0780	0.0050	"	0.100		78.0	70-130			
m,p-Xylene	0.156	0.010	"	0.200		78.1	70-130			
o-Xylene	0.0845	0.0050	"	0.100		84.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0340		"	0.0400		85.0	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0427		"	0.0400		107	21-167			

Matrix Spike (2009205-MS1)

Source: 2009185-07

Prepared & Analyzed: 09/17/20

Benzene	0.0952	0.0020	mg/kg	0.100	ND	95.2	70-130			
Toluene	0.0766	0.0050	"	0.100	ND	76.6	70-130			
Ethylbenzene	0.0792	0.0050	"	0.100	ND	79.2	70-130			
m,p-Xylene	0.156	0.010	"	0.200	ND	77.9	70-130			
o-Xylene	0.0846	0.0050	"	0.100	ND	84.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0349		"	0.0400		87.3	23-173			
Surrogate: Toluene-d8	0.0377		"	0.0400		94.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	21-167			

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 2009205 - EPA 5030 Soil MS

Matrix Spike Dup (2009205-MSD1)		Source: 2009185-07			Prepared & Analyzed: 09/17/20						
Benzene	0.0956	0.0020	mg/kg	0.100	ND	95.6	70-130	0.377	30		
Toluene	0.0801	0.0050	"	0.100	ND	80.1	70-130	4.40	30		
Ethylbenzene	0.0807	0.0050	"	0.100	ND	80.7	70-130	1.88	30		
m,p-Xylene	0.159	0.010	"	0.200	ND	79.7	70-130	2.32	30		
o-Xylene	0.0862	0.0050	"	0.100	ND	86.2	70-130	1.93	30		
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.8	23-173				
Surrogate: Toluene-d8	0.0377		"	0.0400		94.4	20-170				
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167				

Summit Scientific

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

Project: Park U-4-9XRLC
Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting			Spike	Source	%REC		RPD	
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 2009206 - EPA 3550A

Blank (2009206-BLK1)

Prepared & Analyzed: 09/17/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2009206-BS1)

Prepared & Analyzed: 09/17/20

C10-C28 (DRO) 547 50 mg/kg 500 109 70-130

Matrix Spike (2009206-MS1)

Source: 2009175-01

Prepared & Analyzed: 09/17/20

C10-C28 (DRO) 3640 50 mg/kg 500 5620 NR 70-130 QM-07

Matrix Spike Dup (2009206-MSD1)

Source: 2009175-01

Prepared & Analyzed: 09/17/20

C10-C28 (DRO) 6310 50 mg/kg 500 5620 139 70-130 53.7 20 QM-07

Summit Scientific

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

Project: Park U-4-9XRLC

Project Number: 034520034
Project Manager: Jeremy Pike

Reported:
09/18/20 16:41

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



September 21, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver

CO 80211

Project Name - Park 4-4-9 XRLC

Project Number - [none]

Attached are your analytical results for Park 4-4-9 XRLC received by Origins Laboratory, Inc. September 14, 2020. This project is associated with Origins project number Y009150-01.

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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01@3'	Y009150-01	Water	September 10, 2020 13:00	09/14/2020 08:25
GW02@3'	Y009150-02	Water	September 10, 2020 13:10	09/14/2020 08:25
GW04@3'	Y009150-03	Water	September 10, 2020 13:35	09/14/2020 08:25
GW05@3'	Y009150-04	Water	September 10, 2020 13:50	09/14/2020 08:25
GW06@3'	Y009150-05	Water	September 10, 2020 14:00	09/14/2020 08:25
GW07@3'	Y009150-06	Water	September 10, 2020 14:10	09/14/2020 08:25
GW08@3'	Y009150-07	Water	September 10, 2020 14:20	09/14/2020 08:25
GW09@3'	Y009150-08	Water	September 10, 2020 14:40	09/14/2020 08:25
GW10@3'	Y009150-09	Water	September 10, 2020 15:00	09/14/2020 08:25
GW03@3'	Y009150-10	Water	September 10, 2020 13:20	09/14/2020 08:25

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

www.originslaboratory.com

Y009150

ORIGINS
LABORATORY, INC

page 1 of 1

Client: Bonanza Creek Energy
Address: 410 17th Street Suite 1700 Denver, CO 80202
Telephone Number: 720-315-8934
Email Address:

Project Manager: Luke Kelly
Project Name: Park 4-4-9 XRLC GW
Project Number:
Samples Collected By: Luke Kelly

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative					Matrix				Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #	Other			
GW01 @ 3'	9/10/20	1300	1	X				X					X	
GW02 @ 3'		1310	1											
GW04 @ 3'		1326 55	1											
GW05 @ 3'		1335 40	1											
GW06 @ 3'		1340 1400	1											
GW07 @ 3'		1400 1400	1											
GW08 @ 3'		1410 120	1											
GW09 @ 3'		1420 40	1											
GW10 @ 3'		1440 1500	1											
GW03 @ 3'		1520	1											
Relinquished By: <i>AL Noe</i>	Date: 9/14/20	Time: 8:20	Time: 8:20	Received By: <i>[Signature]</i>	Date: 9/14/20	Time: 0825	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By:	Date:	Time:	Time:	Received By:	Date:	Time:								

Date Results Needed

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

Origins Laboratory, Inc.

Jordan A. Merrill

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y009150

Client: Bonanza

Client Project ID: Park 4-4-9

Checklist Completed by: KDK

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

Date/time completed: 09-14-2020

Airbill #: N/A

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

Cooler Number/Temperature: 1, 8.4 °C / °C / °C (Describe) °C

Thermometer ID: T003

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

9-15-20
Date/Time Reviewed

Origins Laboratory, Inc.

Jm

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW01@3'

9/10/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-01 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130	"	"	"
Surrogate: Toluene-d8	101 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.3 %	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW02@3'

9/10/2020 1:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-02 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.1 %	70-130	"	"	"

Origins Laboratory, Inc.

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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW04@3'

9/10/2020 1:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-03 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	99.9 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.4 %	70-130	"	"	"

Origins Laboratory, Inc.

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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW05@3'

9/10/2020 1:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-04 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130	"	"	"
Surrogate: Toluene-d8	99.7 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	95.5 %	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW06@3'

9/10/2020 2:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-05 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

102 % 70-130

"

"

"

Surrogate: Toluene-d8

101 % 70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

95.3 % 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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW07@3'

9/10/2020 2:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-06 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130	"	"	"
Surrogate: Toluene-d8	99.0 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	95.8 %	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW08@3'

9/10/2020 2:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-07 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4

103 %

70-130

"

"

"

Surrogate: Toluene-d8

99.8 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

95.0 %

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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW09@3'

9/10/2020 2:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-08 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	98.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.3 %	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW10@3'

9/10/2020 3:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-09 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

GW03@3'

9/10/2020 1:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y009150-10 (Water)

BTEX by EPA 8260D

Benzene	ND	4.00	ug/L	4	B011402	KDK	09/14/2020	09/15/2020	U
Toluene	ND	4.00	"	"	"	KDK	"	"	U
Ethylbenzene	ND	4.00	"	"	"	KDK	"	"	U
Xylenes, total	ND	4.00	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	96.7 %	70-130	"	"	"

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011402 - EPA 5030B (Water)

Blank (B011402-BLK1)

Prepared: 09/14/2020 Analyzed: 09/15/2020

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		99.8	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.9	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011402 - EPA 5030B (Water)

LCS (B011402-BS1)

Prepared: 09/14/2020 Analyzed: 09/15/2020

Benzene	57.3	1.00	ug/L	50.0		115	70-130			
Toluene	54.7	1.00	"	50.0		109	70-130			
Ethylbenzene	56.2	1.00	"	50.0		112	70-130			
m,p-Xylene	109	2.00	"	100		109	70-130			
o-Xylene	50.6	1.00	"	50.0		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.8	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.3	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.

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011402 - EPA 5030B (Water)

Matrix Spike (B011402-MS1)		Source: Y009151-01			Prepared: 09/14/2020 Analyzed: 09/15/2020					
Benzene	1530	1.00	ug/L	50.0	1900	NR	70-130			QM-4X
Toluene	60.4	1.00	"	50.0	0.760	119	70-130			
Ethylbenzene	71.6	1.00	"	50.0	14.0	115	70-130			
m,p-Xylene	140	2.00	"	100	29.6	110	70-130			
o-Xylene	57.5	1.00	"	50.0	0.330	114	70-130			
Surrogate: 1,2-Dichloroethane-d4	52		"	62.5		82.9	70-130			
Surrogate: Toluene-d8	67		"	62.5		107	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.5	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

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 B011402 - EPA 5030B (Water)

Matrix Spike Dup (B011402-MSD1)		Source: Y009151-01			Prepared: 09/14/2020 Analyzed: 09/15/2020					
Benzene	1510	1.00	ug/L	50.0	1900	NR	70-130	1.48	20	QM-4X
Toluene	56.9	1.00	"	50.0	0.760	112	70-130	5.95	20	
Ethylbenzene	67.7	1.00	"	50.0	14.0	107	70-130	5.73	20	
m,p-Xylene	132	2.00	"	100	29.6	102	70-130	5.83	20	
o-Xylene	53.4	1.00	"	50.0	0.330	106	70-130	7.54	20	
Surrogate: 1,2-Dichloroethane-d4	52		"	62.5		82.6	70-130			
Surrogate: Toluene-d8	68		"	62.5		109	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.6	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: Park 4-4-9 XRLC

Notes and Definitions

U Sample is Non-Detect.

QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

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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