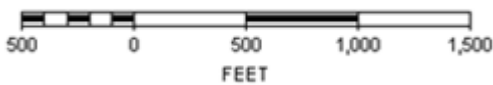


SCALE 1 : 9,000



LEGEND

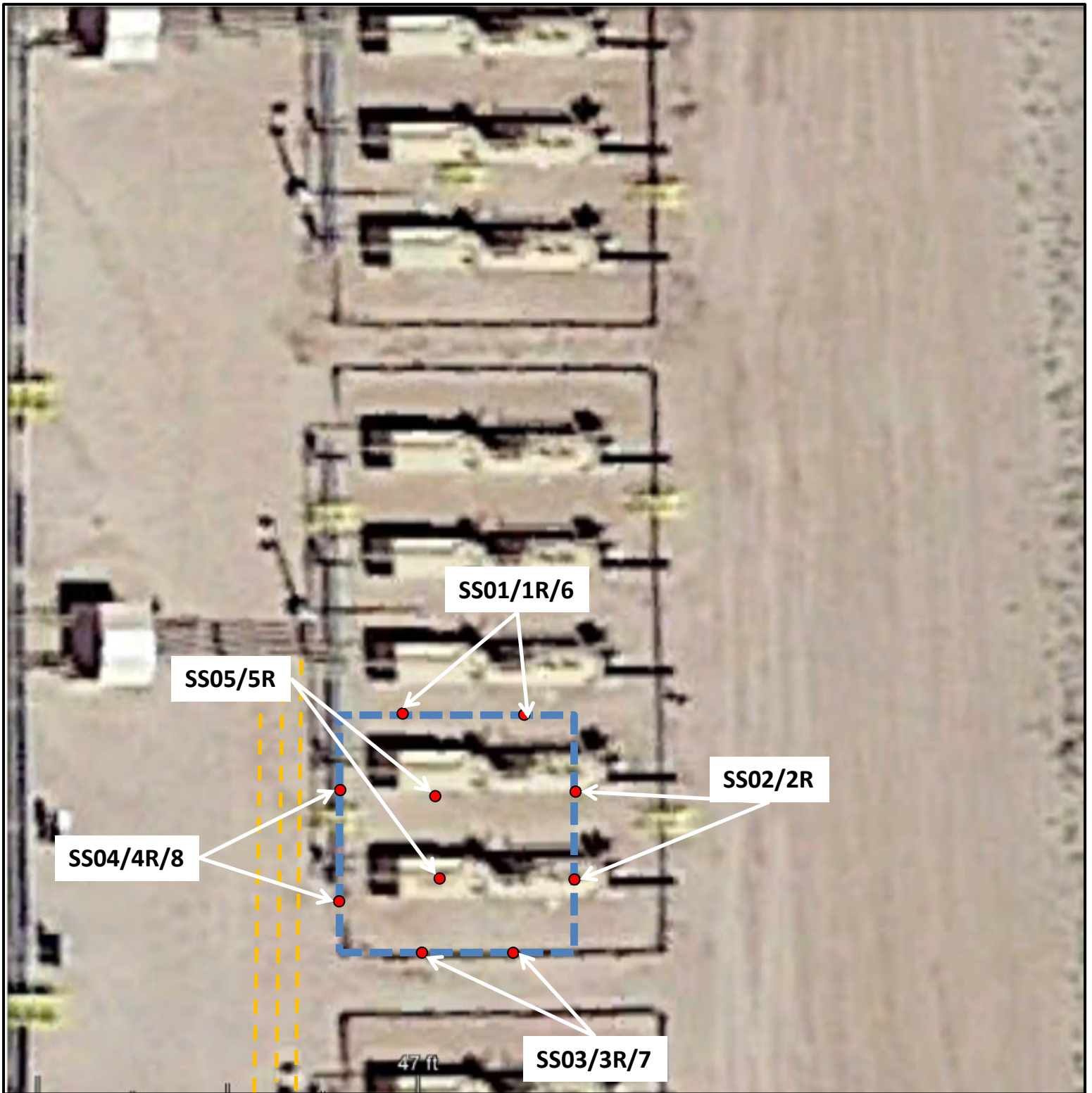
 Site Location

N



Figure 1
Location Site Map
May 27, 2020 LBK

**North Platte O-K-26HNB
Location ID: 432636
NENE, Sec 26, T5N, R63W, 6th PM
Weld County, Colorado**



Aerial photograph courtesy of Google Earth Pro

- LEGEND**
- ✕ Release Location
 - - - Release Footprint
 - Sample Location

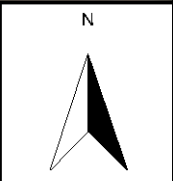


Figure 2
Site Map

September 9, 2020 LBK

**State North Platte CPF 42-26
Location ID: 432636
NENE, Sec 26, T5N, R63W, 6th PM
Weld County, Colorado**

**TABLE 1
SOIL ANALYTICAL RESULTS
STATE NORTH PLATTE CPF 42-26
WELD COUNTY, COLORADO
BONANZA CREEK ENERGY OPERATING COMPANY LLC.**

Parameters		COGCC Table 910-1 Concentration Level	SS01	SS01R	SS02	SS02R	SS03	SS03R	SS04	SS04R	SS05	SS05R	SS06	SS07	SS08
Sample Date			6/16/2020	8/14/2020	6/16/2020	6/30/2020	6/16/2020	7/28/2020	6/16/2020	8/14/2020	6/16/2020	6/30/2020	8/14/2020	8/14/2020	8/14/2020
Sample Depth (feet)			5.5-6	8-10	5.5-6	7-8	5.5-6	7-8	5.5-6	8-10	6-6.5	8-9	1-3	1-3	1-3
BTEX	Benzene	0.17	<0.002	NA	<0.050	<0.002	<0.002	NA	<0.002	NA	<0.050	<0.002	<0.050	<0.050	<0.050
	Toluene	85	<0.002	NA	<0.050	<0.002	<0.002	NA	<0.002	NA	0.065	<0.002	<0.050	<0.050	<0.050
	Ethylbenzene	100	<0.002	NA	<0.050	<0.002	<0.002	NA	<0.002	NA	<0.050	<0.002	<0.050	<0.050	<0.050
	Total Xylenes	175	<0.002	NA	<0.050	<0.002	<0.002	NA	<0.002	NA	<0.050	<0.002	<0.050	<0.050	<0.050
TPH	DRO	--	<50	NA	<50	<50	<50	NA	<50	NA	<50	<50	<50	<50	<50
	GRO	--	<50	NA	<50	<50	<50	NA	<50	NA	<50	<50	<50	<50	<50
	Total	500	<50	NA	<50	<50	<50	NA	<50	NA	<50	<50	<50	<50	<50
Inorganics	EC (mmhos/cm)	<4	0.641	0.158	0.796	0.621	0.406	0.1700	0.595	0.648	0.567	0.110	0.130	0.0524	0.015
	SAR	<12	64.49	0.49	21.61	4.18	38.16	2.36	41.29	42.43	38.37	8.56	0.33	0.24	0.31
	pH (unitless)	6 - 9	9.44	9.60	7.99	7.77	9.52	8.64	9.34	9.14	8.50	9.27	7.46	7.99	7.99

Notes:

COGCC - Colorado Oil and Gas Conservation Commission

-- - no concentration level is available

BTEX - benzene, toluene, ethylbenzene, xylenes (total)

DRO - diesel range organics

GRO - gasoline range organics

TPH - total petroleum hydrocarbons

EC - electrical conductivity

mmhos/cm - millimhos per centimeter

SAR - sodium adsorption ratio

NA - not analyzed

All results are in mg/kg unless stated otherwise.



June 23, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver CO 80211

Project Name - SNP 42-26

Project Number - [none]

Attached are your analytical results for SNP 42-26 received by Origins Laboratory, Inc. June 16, 2020. This project is associated with Origins project number Y006277-01.

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: SNP 42-26

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01 (N) 5.5-6	Y006277-01	Soil	June 16, 2020 11:00	06/16/2020 13:37
SS02 (E) 5.5-6	Y006277-02	Soil	June 16, 2020 11:05	06/16/2020 13:37
SS03 (S) 5.5-6	Y006277-03	Soil	June 16, 2020 11:10	06/16/2020 13:37
SS04 (W) 5.5-6	Y006277-04	Soil	June 16, 2020 11:15	06/16/2020 13:37
SS05 (B) 6-6.5	Y006277-05	Soil	June 16, 2020 11:20	06/16/2020 13:37

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: SNP 42-26

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y006277

Client: Bonanza Creek

Client Project ID: SNP 42-26

Checklist Completed by: Dan Lee

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

Date/time completed: 6-16-20

Airbill #: NA

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

Cooler Number/Temperature: / 0.6 °C / _____ °C / _____ °C (Describe) _____ °C

Thermometer ID: 603

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"/>			<u>pH</u>
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCl, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) JM

Date/Time Reviewed 6-17-20

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: SNP 42-26

SS01 (N) 5.5-6
6/16/2020 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-01 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0F1611	KDK	06/16/2020	06/17/2020	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	102 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	94.7 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0F1612	KDK	06/16/2020	06/17/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	67.3 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.36		me/L	1	[none]		06/17/2020	06/19/2020	
Magnesium	0.29		"	"	"		"	"	
Sodium	58.58		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.44		pH Units	1	B0F1606	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS01 (N) 5.5-6

6/16/2020 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-01 (Soil)

SAR by 20B Saturated Paste

SAR	64.49			1	[none]		06/17/2020	06/19/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.641	0.00500	mmhos/cm	1	B0F1607	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS02 (E) 5.5-6

6/16/2020 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-02 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B0F1611	KDK	06/16/2020	06/17/2020	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.5 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.0 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0F1612	KDK	06/16/2020	06/17/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	69.0 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	16.52		me/L	1	[none]		06/17/2020	06/19/2020	
Magnesium	5.21		"	"	"		"	"	
Sodium	71.23		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.99		pH Units	1	B0F1606	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS02 (E) 5.5-6

6/16/2020 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-02 (Soil)

SAR by 20B Saturated Paste

SAR	21.61			1	[none]		06/17/2020	06/19/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.796	0.00507	mmhos/cm	1	B0F1607	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS03 (S) 5.5-6
6/16/2020 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-03 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0F1611	KDK	06/16/2020	06/17/2020	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	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	95.0 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0F1612	KDK	06/16/2020	06/17/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	66.8 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.63		me/L	1	[none]		06/17/2020	06/19/2020	
Magnesium	0.53		"	"	"		"	"	
Sodium	39.66		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.52		pH Units	1	B0F1606	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS03 (S) 5.5-6

6/16/2020 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-03 (Soil)

SAR by 20B Saturated Paste

SAR	38.16			1	[none]		06/17/2020	06/19/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.406	0.00508	mmhos/cm	1	B0F1607	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS04 (W) 5.5-6

6/16/2020 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-04 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0F1611	KDK	06/16/2020	06/17/2020	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	103 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	94.6 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0F1612	KDK	06/16/2020	06/17/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	64.6 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.39		me/L	1	[none]		06/17/2020	06/19/2020	
Magnesium	0.44		"	"	"		"	"	
Sodium	39.50		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.34		pH Units	1	B0F1606	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS04 (W) 5.5-6

6/16/2020 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-04 (Soil)

SAR by 20B Saturated Paste

SAR	41.29			1	[none]		06/17/2020	06/19/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.595	0.00500	mmhos/cm	1	B0F1607	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS05 (B) 6-6.5
6/16/2020 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-05 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B0F1611	KDK	06/16/2020	06/17/2020	U
Toluene	0.065	0.050	"	"	"	KDK	"	"	
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.7 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	96.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0F1612	KDK	06/16/2020	06/17/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	59.2 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	3.33		me/L	1	[none]		06/17/2020	06/19/2020	
Magnesium	0.91		"	"	"		"	"	
Sodium	55.87		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.50		pH Units	1	B0F1606	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

SS05 (B) 6-6.5

6/16/2020 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006277-05 (Soil)

SAR by 20B Saturated Paste

SAR	38.37			1	[none]		06/17/2020	06/19/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.567	0.00500	mmhos/cm	1	B0F1607	DJL	06/16/2020	06/16/2020	
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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: SNP 42-26

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 B0F1611 - EPA 5030 (soil)

Blank (B0F1611-BLK1)

Prepared: 06/16/2020 Analyzed: 06/16/2020

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	0.12		"	0.125		99.6	70-130			
Surrogate: Toluene-d8	0.14		"	0.125		112	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		113	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: SNP 42-26

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 B0F1611 - EPA 5030 (soil)

LCS (B0F1611-BS1)

Prepared: 06/16/2020 Analyzed: 06/16/2020

Benzene	0.093	0.002	mg/kg	0.100		92.9	70-130			
Toluene	0.116	0.002	"	0.100		116	70-130			
Ethylbenzene	0.109	0.002	"	0.100		109	70-130			
m,p-Xylene	0.221	0.004	"	0.200		110	70-130			
o-Xylene	0.111	0.002	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	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: SNP 42-26

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 B0F1611 - EPA 5030 (soil)

Matrix Spike (B0F1611-MS1)	Source: Y006273-01			Prepared: 06/16/2020 Analyzed: 06/16/2020						
Benzene	0.094	0.002	mg/kg	0.100	ND	93.9	70-130			
Toluene	0.115	0.002	"	0.100	ND	115	70-130			
Ethylbenzene	0.108	0.002	"	0.100	ND	108	70-130			
m,p-Xylene	0.220	0.004	"	0.200	0.008	106	70-130			
o-Xylene	0.111	0.002	"	0.100	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		107	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP 42-26

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 B0F1611 - EPA 5030 (soil)

Matrix Spike Dup (B0F1611-MSD1)	Source: Y006273-01			Prepared: 06/16/2020 Analyzed: 06/16/2020						
Benzene	0.102	0.002	mg/kg	0.100	ND	102	70-130	8.42	20	
Toluene	0.126	0.002	"	0.100	ND	126	70-130	9.04	20	
Ethylbenzene	0.108	0.002	"	0.100	ND	108	70-130	0.129	20	
m,p-Xylene	0.223	0.004	"	0.200	0.008	107	70-130	1.43	20	
o-Xylene	0.114	0.002	"	0.100	ND	114	70-130	2.13	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		94.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP 42-26

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 B0F1612 - EPA 3580										
Blank (B0F1612-BLK1)										
					Prepared: 06/16/2020 Analyzed: 06/17/2020					
Gasoline (C6-C10)	ND	25.0	mg/kg							U
Diesel (C10-C28)	ND	25.0	"							U
Surrogate: o-Terphenyl	16		"	25.0		65.5	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: SNP 42-26

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 B0F1612 - EPA 3580

LCS (B0F1612-BS1)

Prepared: 06/16/2020 Analyzed: 06/18/2020

Gasoline (C6-C10)	814	50.0	mg/kg	1000		81.4	70-130			
Diesel (C10-C28)	823	50.0	"	1000		82.3	70-130			
Surrogate: o-Terphenyl	39		"	50.0		78.2	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: SNP 42-26

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 B0F1612 - EPA 3580

Matrix Spike (B0F1612-MS1)	Source: Y006276-01			Prepared: 06/16/2020 Analyzed: 06/17/2020						
Gasoline (C6-C10)	848	50.0	mg/kg	1000	ND	84.8	70-130			
Diesel (C10-C28)	892	50.0	"	1000	ND	89.2	70-130			
Surrogate: o-Terphenyl	41		"	50.0		81.5	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: SNP 42-26

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 B0F1612 - EPA 3580

Matrix Spike Dup (B0F1612-MSD1)	Source: Y006276-01		Prepared: 06/16/2020 Analyzed: 06/17/2020							
Gasoline (C6-C10)	851	50.0	mg/kg	1000	ND	85.1	70-130	0.460	35	
Diesel (C10-C28)	907	50.0	"	1000	ND	90.7	70-130	1.69	35	
Surrogate: o-Terphenyl	40		"	50.0		80.9	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: SNP 42-26

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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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 B0F1606 - NO PREP

Duplicate (B0F1606-DUP1)

Source: Y006264-01

Prepared: 06/16/2020 Analyzed: 06/16/2020

pH	7.62		pH Units		7.82			2.59	25	
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Batch B0F1607 - NO PREP

Blank (B0F1607-BLK1)

Prepared: 06/16/2020 Analyzed: 06/16/2020

Specific Conductance (EC)	0.00490	0.00500	mmhos/cm							
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Duplicate (B0F1607-DUP1)

Source: Y006264-01

Prepared: 06/16/2020 Analyzed: 06/16/2020

Specific Conductance (EC)	0.224	0.00503	mmhos/cm		0.177			23.4	25	
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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: SNP 42-26

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.



July 08, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver CO 80211

Project Name - SNP 42-26

Project Number - [none]

Attached are your analytical results for SNP 42-26 received by Origins Laboratory, Inc. June 30, 2020. This project is associated with Origins project number Y006484-01.

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: SNP 42-26

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01 (N) 7-8'	Y006484-01	Soil	June 30, 2020 12:40	06/30/2020 16:40
SS02 (E) 7-8'	Y006484-02	Soil	June 30, 2020 12:45	06/30/2020 16:40
SS03 (S) 7-8'	Y006484-03	Soil	June 30, 2020 12:50	06/30/2020 16:40
SS04 (W) 7-8'	Y006484-04	Soil	June 30, 2020 12:55	06/30/2020 16:40
SS05 (B) 8-9'	Y006484-05	Soil	June 30, 2020 13:00	06/30/2020 16:40

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: SNP 42-26

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y006484

Client: BCEI

Client Project ID: SNP 42-26

Checklist Completed by: JG

Shipped Via: HD

Date/time completed: 6/30

(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 12.5 °C 1 °C 1 °C (Describe) °C

Thermometer ID: 9005

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>SDHC Dry</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽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)

Date/Time Reviewed: 7-1-20

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: SNP 42-26

SS01 (N) 7-8'

6/30/2020 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-01 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0G0102	KDK	07/01/2020	07/01/2020	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	107 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	102 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0G0103	TEM	07/01/2020	07/01/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	59.4 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	3.58		me/L	1	[none]		07/01/2020	07/06/2020	
Magnesium	0.73		"	"	"		"	"	
Sodium	29.42		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.79		pH Units	1	B0G0104	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS01 (N) 7-8'

6/30/2020 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-01 (Soil)

SAR by 20B Saturated Paste

SAR	20.05			1	[none]		07/01/2020	07/06/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.394	0.00500	mmhos/cm	1	B0G0105	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS02 (E) 7-8'

6/30/2020 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-02 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0G0102	KDK	07/01/2020	07/01/2020	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	110 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.9 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0G0103	TEM	07/01/2020	07/01/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	63.3 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	33.74		me/L	1	[none]		07/01/2020	07/06/2020	
Magnesium	7.06		"	"	"		"	"	
Sodium	18.90		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.77		pH Units	1	B0G0104	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS02 (E) 7-8'

6/30/2020 12:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-02 (Soil)

SAR by 20B Saturated Paste

SAR	4.18			1	[none]		07/01/2020	07/06/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.621	0.00500	mmhos/cm	1	B0G0105	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS03 (S) 7-8'

6/30/2020 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-03 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0G0102	KDK	07/01/2020	07/01/2020	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	108 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.6 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0G0103	TEM	07/01/2020	07/01/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	63.7 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	10.13		me/L	1	[none]		07/01/2020	07/06/2020	
Magnesium	2.38		"	"	"		"	"	
Sodium	58.04		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.29		pH Units	1	B0G0104	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS03 (S) 7-8'

6/30/2020 12:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-03 (Soil)

SAR by 20B Saturated Paste

SAR	23.21			1	[none]		07/01/2020	07/06/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.750	0.00500	mmhos/cm	1	B0G0105	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS04 (W) 7-8'

6/30/2020 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-04 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0G0102	KDK	07/01/2020	07/01/2020	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	108 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.8 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0G0103	TEM	07/01/2020	07/01/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	65.6 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	4.52		me/L	1	[none]		07/01/2020	07/06/2020	
Magnesium	1.06		"	"	"		"	"	
Sodium	45.35		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.67		pH Units	1	B0G0104	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS04 (W) 7-8'

6/30/2020 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-04 (Soil)

SAR by 20B Saturated Paste

SAR	27.16			1	[none]		07/01/2020	07/06/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.518	0.00502	mmhos/cm	1	B0G0105	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS05 (B) 8-9'

6/30/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-05 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B0G0102	KDK	07/01/2020	07/01/2020	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	108 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	99.5 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0G0103	TEM	07/01/2020	07/01/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	61.2 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	0.78		me/L	1	[none]		07/01/2020	07/06/2020	
Magnesium	0.37		"	"	"		"	"	
Sodium	6.48		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.27		pH Units	1	B0G0104	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

SS05 (B) 8-9'

6/30/2020 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006484-05 (Soil)

SAR by 20B Saturated Paste

SAR	8.56			1	[none]		07/01/2020	07/06/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.110	0.00500	mmhos/cm	1	B0G0105	DJL	07/01/2020	07/01/2020	
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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: SNP 42-26

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 B0G0102 - EPA 5030 (soil)

Blank (B0G0102-BLK1)

Prepared: 07/01/2020 Analyzed: 07/01/2020

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	0.14		"	0.125	109		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	99.7		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	98.4		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: SNP 42-26

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 B0G0102 - EPA 5030 (soil)

LCS (B0G0102-BS1)

Prepared: 07/01/2020 Analyzed: 07/01/2020

Benzene	0.047	0.002	mg/kg	0.0500		94.6	70-130			
Toluene	0.049	0.002	"	0.0500		97.8	70-130			
Ethylbenzene	0.051	0.002	"	0.0500		101	70-130			
m,p-Xylene	0.108	0.004	"	0.100		108	70-130			
o-Xylene	0.050	0.002	"	0.0500		99.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.9	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: SNP 42-26

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 B0G0102 - EPA 5030 (soil)

Matrix Spike (B0G0102-MS1)	Source: Y006484-01			Prepared: 07/01/2020 Analyzed: 07/02/2020						
Benzene	0.107	0.002	mg/kg	0.100	ND	107	70-130			
Toluene	0.099	0.002	"	0.100	ND	99.2	70-130			
Ethylbenzene	0.111	0.002	"	0.100	ND	111	70-130			
m,p-Xylene	0.229	0.004	"	0.200	ND	114	70-130			
o-Xylene	0.108	0.002	"	0.100	ND	108	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

Origins Laboratory, Inc.



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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP 42-26

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 B0G0102 - EPA 5030 (soil)

Matrix Spike Dup (B0G0102-MSD1)	Source: Y006484-01			Prepared: 07/01/2020 Analyzed: 07/01/2020						
Benzene	0.099	0.002	mg/kg	0.100	ND	99.2	70-130	7.53	20	
Toluene	0.094	0.002	"	0.100	ND	93.8	70-130	5.57	20	
Ethylbenzene	0.103	0.002	"	0.100	ND	103	70-130	7.13	20	
m,p-Xylene	0.217	0.004	"	0.200	ND	109	70-130	5.14	20	
o-Xylene	0.102	0.002	"	0.100	ND	102	70-130	4.97	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.7	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: SNP 42-26

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 B0G0103 - EPA 3580										
Blank (B0G0103-BLK1)										
					Prepared: 07/01/2020 Analyzed: 07/01/2020					
Gasoline (C6-C10)	ND	25.0	mg/kg							U
Diesel (C10-C28)	ND	25.0	"							U
Surrogate: o-Terphenyl	16		"	25.0		64.2	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: SNP 42-26

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 B0G0103 - EPA 3580

LCS (B0G0103-BS1)

Prepared: 07/01/2020 Analyzed: 07/01/2020

Gasoline (C6-C10)	831	50.0	mg/kg	1000		83.1	70-130			
Diesel (C10-C28)	891	50.0	"	1000		89.1	70-130			
Surrogate: o-Terphenyl	35		"	50.0		70.8	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: SNP 42-26

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 B0G0103 - EPA 3580

Matrix Spike (B0G0103-MS1)	Source: Y006484-01			Prepared: 07/01/2020 Analyzed: 07/01/2020						
Gasoline (C6-C10)	846	50.0	mg/kg	1000	ND	84.6	70-130			
Diesel (C10-C28)	908	50.0	"	1000	ND	90.8	70-130			
Surrogate: o-Terphenyl	36		"	50.0		72.6	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: SNP 42-26

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 B0G0103 - EPA 3580

Matrix Spike Dup (B0G0103-MSD1)	Source: Y006484-01			Prepared: 07/01/2020 Analyzed: 07/01/2020						
Gasoline (C6-C10)	851	50.0	mg/kg	1000	ND	85.1	70-130	0.590	35	
Diesel (C10-C28)	916	50.0	"	1000	ND	91.6	70-130	0.903	35	
Surrogate: o-Terphenyl	39		"	50.0		77.4	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: SNP 42-26

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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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 B0G0104 - NO PREP

Duplicate (B0G0104-DUP1)

Source: Y006484-01

Prepared: 07/01/2020 Analyzed: 07/01/2020

pH	8.71		pH Units		8.79			0.914	25	
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Batch B0G0105 - NO PREP

Blank (B0G0105-BLK1)

Prepared: 07/01/2020 Analyzed: 07/01/2020

Specific Conductance (EC)	0.00380	0.00500	mmhos/cm							
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Duplicate (B0G0105-DUP1)

Source: Y006484-01

Prepared: 07/01/2020 Analyzed: 07/01/2020

Specific Conductance (EC)	0.330	0.00500	mmhos/cm		0.394			17.7	25	
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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: SNP 42-26

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.

August 04, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver CO 80211

Project Name - SNP 42-26

Project Number - [none]

Attached are your analytical results for SNP 42-26 received by Origins Laboratory, Inc. July 28, 2020. This project is associated with Origins project number Y007410-01.

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



Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP 42-26

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01R	Y007410-01	Soil	July 28, 2020 8:00	07/28/2020 16:46
SS03R	Y007410-02	Soil	July 28, 2020 8:05	07/28/2020 16:46
SS04R	Y007410-03	Soil	July 28, 2020 8:10	07/28/2020 16:46

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: SNP 42-26

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 1007410

Client: BCEI

Client Project ID: SNP 42-26

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 7/29/20

Airbill #: N/A

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

Cooler Number/Temperature: 1 10.3 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: TC003

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

Date/Time Reviewed: 7/31/20

Origins Laboratory, Inc.

[Signature]

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

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP 42-26

SS01R

7/28/2020 8:00:00AM

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

Y007410-01 (Soil)

Metals (Saturated Paste Prep)

Calcium	3.74		me/L	1	[none]		07/30/2020	08/03/2020	
Magnesium	1.00		"	"	"		"	"	
Sodium	48.25		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.30		pH Units	1	B0G2904	DJL	07/29/2020	07/29/2020	
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SAR by 20B Saturated Paste

SAR	31.34			1	[none]		07/30/2020	08/03/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	1.64	0.00500	mmhos/cm	1	B0G2905	DJL	07/29/2020	07/29/2020	
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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: SNP 42-26

SS03R

7/28/2020 8:05:00AM

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

Y007410-02 (Soil)

Metals (Saturated Paste Prep)

Calcium	8.54		me/L	1	[none]		07/30/2020	08/03/2020	
Magnesium	1.61		"	"	"		"	"	
Sodium	5.32		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.64		pH Units	1	B0G2904	DJL	07/29/2020	07/29/2020	
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SAR by 20B Saturated Paste

SAR	2.36			1	[none]		07/30/2020	08/03/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.170	0.00500	mmhos/cm	1	B0G2905	DJL	07/29/2020	07/29/2020	
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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: SNP 42-26

SS04R

7/28/2020 8:10:00AM

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

Y007410-03 (Soil)

Metals (Saturated Paste Prep)

Calcium	21.10		me/L	1	[none]		07/30/2020	08/03/2020	
Magnesium	4.69		"	"	"		"	"	
Sodium	174.65		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	8.23		pH Units	1	B0G2904	DJL	07/29/2020	07/29/2020	
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SAR by 20B Saturated Paste

SAR	48.64			1	[none]		07/30/2020	08/03/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	2.04	0.00500	mmhos/cm	1	B0G2905	DJL	07/29/2020	07/29/2020	
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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: SNP 42-26

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0G2904 - NO PREP										
Duplicate (B0G2904-DUP1)		Source: Y007409-01			Prepared: 07/29/2020 Analyzed: 07/29/2020					
pH	7.96		pH Units		7.66			3.84	25	
Batch B0G2905 - NO PREP										
Blank (B0G2905-BLK1)					Prepared: 07/29/2020 Analyzed: 07/29/2020					
Specific Conductance (EC)	0.00430	0.00500	mmhos/cm							
Duplicate (B0G2905-DUP1)		Source: Y007409-01			Prepared: 07/29/2020 Analyzed: 07/29/2020					
Specific Conductance (EC)	0.0132	0.00501	mmhos/cm		0.0130			1.53	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: SNP 42-26

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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



August 26, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver CO 80211

Project Name - SNP CPF 42-26

Project Number - [none]

Attached are your analytical results for SNP CPF 42-26 received by Origins Laboratory, Inc. August 19, 2020. This project is associated with Origins project number Y008271-01.

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: SNP CPF 42-26

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01R (N) 8-10'	Y008271-01	Soil	August 14, 2020 9:00	08/19/2020 15:03
SS03R (S) 8-10'	Y008271-02	Soil	August 14, 2020 9:10	08/19/2020 15:03
SS04R (W) 8-10'	Y008271-03	Soil	August 14, 2020 9:20	08/19/2020 15:03

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: SNP CPF 42-26

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: YU08271

Client: Bonanza

Client Project ID: SNP CPF 42-26

Checklist Completed by: Jm

Shipped Via: HO

Date/time completed: 8-19-20

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

Airbill #: 172A

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

Cooler Number/Temperature: 110.7 °C / °C / °C (Describe)

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)

Date/Time Reviewed: 8-20-20

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: SNP CPF 42-26

SS01R (N) 8-10'

8/14/2020 9:00:00AM

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

Y008271-01 (Soil)

Metals (Saturated Paste Prep)

Calcium	2.17		me/L	1	[none]		08/20/2020	08/24/2020	
Magnesium	0.59		"	"	"		"	"	
Sodium	0.58		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.60		pH Units	1	BOH1907	DJL	08/19/2020	08/19/2020	
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SAR by 20B Saturated Paste

SAR	0.49			1	[none]		08/20/2020	08/24/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.158	0.00500	mmhos/cm	1	BOH1908	DJL	08/19/2020	08/19/2020	
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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: SNP CPF 42-26

SS03R (S) 8-10'

8/14/2020 9:10:00AM

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

Y008271-02 (Soil)

Metals (Saturated Paste Prep)

Calcium	3.07		me/L	1	[none]		08/20/2020	08/24/2020	
Magnesium	0.90		"	"	"		"	"	
Sodium	0.94		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.67		pH Units	1	BOH1907	DJL	08/19/2020	08/19/2020	
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SAR by 20B Saturated Paste

SAR	0.67			1	[none]		08/20/2020	08/24/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.163	0.00500	mmhos/cm	1	BOH1908	DJL	08/19/2020	08/19/2020	
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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: SNP CPF 42-26

SS04R (W) 8-10'

8/14/2020 9:20:00AM

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

Y008271-03 (Soil)

Metals (Saturated Paste Prep)

Calcium	3.06		me/L	1	[none]		08/20/2020	08/24/2020	
Magnesium	0.86		"	"	"		"	"	
Sodium	59.40		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	9.14		pH Units	1	BOH1907	DJL	08/19/2020	08/19/2020	
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SAR by 20B Saturated Paste

SAR	42.43			1	[none]		08/20/2020	08/24/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.648	0.00500	mmhos/cm	1	BOH1908	DJL	08/19/2020	08/19/2020	
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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: SNP CPF 42-26

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0H1907 - NO PREP										
Duplicate (B0H1907-DUP1)		Source: Y008272-01			Prepared: 08/19/2020 Analyzed: 08/19/2020					
pH	6.79		pH Units		6.77			0.295	25	
Batch B0H1908 - NO PREP										
Blank (B0H1908-BLK1)					Prepared: 08/19/2020 Analyzed: 08/19/2020					
Specific Conductance (EC)	0.00370	0.00500	mmhos/cm							
Duplicate (B0H1908-DUP1)		Source: Y008272-01			Prepared: 08/19/2020 Analyzed: 08/19/2020					
Specific Conductance (EC)	0.0174	0.00500	mmhos/cm		0.0188			7.73	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: SNP CPF 42-26

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

September 02, 2020

Bonanza Creek Energy, Inc.

Luke Kelly

410 17th St, Suite 1400

Denver CO 80211

Project Name - SNP CPF 42-26

Project Number - [none]

Attached are your analytical results for SNP CPF 42-26 received by Origins Laboratory, Inc. August 19, 2020. This project is associated with Origins project number Y008377-01.

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



Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS06(N)1-3'	Y008377-01	Soil	August 14, 2020 9:05	08/19/2020 15:03
SS07(S)1-3'	Y008377-02	Soil	August 14, 2020 9:15	08/19/2020 15:03
SS08(W)1-3'	Y008377-03	Soil	August 14, 2020 9:25	08/19/2020 15:03

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: SNP CPF 42-26

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y008377

Client: Bonanza

Client Project ID: SNP CPF 42-26

Checklist Completed by: KDK

Shipped Via: HD

Date/time completed: 08-26-2020

(UPS, FedEx, Hand Delivered, Pickup, etc.)

Airbill #: N/A

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

Cooler Number/Temperature: 1 10.7 °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⁾ ?	/			
Is there ice present (document if blue ice is used)	/			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			/	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			/	
Were all samples received intact ⁽¹⁾ ?	/			
Was adequate sample volume provided ⁽¹⁾ ?	/			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?			/	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	/			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	/			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	/			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	/			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			/	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			/	
Additional Comments (if any):				

⁽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)

Date/Time Reviewed: 8-27-20

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: SNP CPF 42-26

SS06(N)1-3'

8/14/2020 9:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008377-01 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B0H2611	KDK	08/26/2020	08/28/2020	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.5 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0H2606	TEM	08/26/2020	08/27/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	75.4 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	12.03		me/L	1	[none]		08/27/2020	08/31/2020	
Magnesium	3.19		"	"	"		"	"	
Sodium	0.92		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.46		pH Units	1	B0H2607	DJL	08/26/2020	08/26/2020	
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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: SNP CPF 42-26

SS06(N)1-3'

8/14/2020 9:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008377-01 (Soil)

SAR by 20B Saturated Paste

SAR	0.33			1	[none]		08/27/2020	08/31/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.130	0.00500	mmhos/cm	1	B0H2608	DJL	08/26/2020	08/27/2020	
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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: SNP CPF 42-26

SS07(S)1-3'

8/14/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008377-02 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B0H2611	KDK	08/26/2020	08/28/2020	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.3 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	98.9 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0H2606	TEM	08/26/2020	08/27/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	82.6 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	3.11		me/L	1	[none]		08/27/2020	08/31/2020	
Magnesium	0.75		"	"	"		"	"	
Sodium	0.33		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.99		pH Units	1	B0H2607	DJL	08/26/2020	08/26/2020	
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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: SNP CPF 42-26

SS07(S)1-3'

8/14/2020 9:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.
Y008377-02 (Soil)**

SAR by 20B Saturated Paste

SAR	0.24			1	[none]		08/27/2020	08/31/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0524	0.00500	mmhos/cm	1	B0H2608	DJL	08/26/2020	08/27/2020	
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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: SNP CPF 42-26

SS08(W)1-3'
8/14/2020 9:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008377-03 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B0H2611	KDK	08/26/2020	08/28/2020	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.6 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B0H2606	TEM	08/26/2020	08/27/2020	U
Diesel (C10-C28)	ND	50.0	"	"	"	TEM	"	"	U

Surrogate: o-Terphenyl	78.1 %	50-150			"	"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.44		me/L	1	[none]		08/27/2020	08/31/2020	
Magnesium	0.59		"	"	"		"	"	
Sodium	0.31		"	"	"		"	"	

pH in Soil by EPA 9045D

pH	7.99		pH Units	1	B0H2607	DJL	08/26/2020	08/26/2020	
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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: SNP CPF 42-26

SS08(W)1-3'

8/14/2020 9:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y008377-03 (Soil)

SAR by 20B Saturated Paste

SAR	0.31			1	[none]		08/27/2020	08/31/2020	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0146	0.00501	mmhos/cm	1	B0H2608	DJL	08/26/2020	08/27/2020	
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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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
Batch B0H2606 - EPA 3580										
Blank (B0H2606-BLK1)										
					Prepared: 08/26/2020 Analyzed: 08/26/2020					
Gasoline (C6-C10)	ND	25.0	mg/kg							U
Diesel (C10-C28)	ND	25.0	"							U
Surrogate: o-Terphenyl	17		"	25.0		69.8	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: SNP CPF 42-26

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 B0H2606 - EPA 3580

LCS (B0H2606-BS1)

Prepared: 08/26/2020 Analyzed: 08/26/2020

Gasoline (C6-C10)	826	50.0	mg/kg	1000		82.6	70-130			
Diesel (C10-C28)	992	50.0	"	1000		99.2	70-130			
Surrogate: o-Terphenyl	43		"	50.0		86.7	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: SNP CPF 42-26

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 B0H2606 - EPA 3580

Matrix Spike (B0H2606-MS1)	Source: Y008366-01			Prepared: 08/26/2020 Analyzed: 08/26/2020						
Gasoline (C6-C10)	768	50.0	mg/kg	1000	ND	76.8	70-130			
Diesel (C10-C28)	865	50.0	"	1000	15.0	85.0	70-130			
Surrogate: o-Terphenyl	38		"	50.0		75.3	50-150			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2606 - EPA 3580

Matrix Spike Dup (B0H2606-MSD1)	Source: Y008366-01			Prepared: 08/26/2020 Analyzed: 08/26/2020						
Gasoline (C6-C10)	779	50.0	mg/kg	1000	ND	77.9	70-130	1.42	35	
Diesel (C10-C28)	878	50.0	"	1000	15.0	86.3	70-130	1.40	35	
Surrogate: o-Terphenyl	36		"	50.0		72.7	50-150			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2611 - EPA 5030 (soil)

Blank (B0H2611-BLK1)

Prepared: 08/26/2020 Analyzed: 08/27/2020

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	0.14		"	0.125	109		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	98.9		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	100		70-130			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2611 - EPA 5030 (soil)

LCS (B0H2611-BS1)

Prepared: 08/26/2020 Analyzed: 08/27/2020

Benzene	0.083	0.002	mg/kg	0.100		83.0	70-130			
Toluene	0.078	0.002	"	0.100		77.9	70-130			
Ethylbenzene	0.077	0.002	"	0.100		77.1	70-130			
m,p-Xylene	0.153	0.004	"	0.200		76.4	70-130			
o-Xylene	0.077	0.002	"	0.100		76.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.8	70-130			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2611 - EPA 5030 (soil)

Matrix Spike (B0H2611-MS1)	Source: Y008371-01			Prepared: 08/26/2020 Analyzed: 08/27/2020						
Benzene	0.084	0.002	mg/kg	0.100	ND	83.5	70-130			
Toluene	0.079	0.002	"	0.100	ND	79.0	70-130			
Ethylbenzene	0.080	0.002	"	0.100	ND	80.4	70-130			
m,p-Xylene	0.158	0.004	"	0.200	ND	79.2	70-130			
o-Xylene	0.080	0.002	"	0.100	ND	79.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2611 - EPA 5030 (soil)

Matrix Spike Dup (B0H2611-MSD1)	Source: Y008371-01			Prepared: 08/26/2020 Analyzed: 08/27/2020						
Benzene	0.082	0.002	mg/kg	0.100	ND	82.3	70-130	1.47	20	
Toluene	0.077	0.002	"	0.100	ND	76.7	70-130	2.90	20	
Ethylbenzene	0.078	0.002	"	0.100	ND	78.3	70-130	2.62	20	
m,p-Xylene	0.155	0.004	"	0.200	ND	77.6	70-130	2.07	20	
o-Xylene	0.078	0.002	"	0.100	ND	78.2	70-130	1.87	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		102	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Luke Kelly

Project Number: [none]

Project: SNP CPF 42-26

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 B0H2607 - NO PREP

Duplicate (B0H2607-DUP1)

Source: Y008357-01

Prepared: 08/26/2020 Analyzed: 08/26/2020

pH	7.87		pH Units		8.09			2.76	25	
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Batch B0H2608 - NO PREP

Blank (B0H2608-BLK1)

Prepared: 08/26/2020 Analyzed: 08/27/2020

Specific Conductance (EC)	0.00260	0.00500	mmhos/cm							
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Duplicate (B0H2608-DUP1)

Source: Y008357-01

Prepared: 08/26/2020 Analyzed: 08/27/2020

Specific Conductance (EC)	0.0316	0.00506	mmhos/cm		0.0331			4.64	25	
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Bonanza Creek Energy, Inc.
410 17th St, Suite 1400
Denver CO 80211

Luke Kelly
Project Number: [none]
Project: SNP CPF 42-26

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.

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