

LEGEND

 Site Location



Figure 1
Location Site Map
March 13, 2019 LBK

Pronghorn 12-9
Location ID: 332260
SWNW Sec 9, T4N, R61W, 6th PM
Weld County, Colorado



Aerial photograph courtesy of Google Earth Pro

LEGEND

- Sample Location
- — Excavation

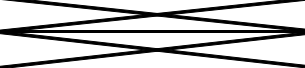


Figure 2
Site Map

March 13, 2019 LBK

Pronghorn 12-9
Facility ID: 332260
SWNW, Sec 9, T5N, R61W, 6th PM
Weld County, Colorado

BONANZA CREEK ENERGY OPERATING COMPANY LLC.

Parameters		COGCC Table 910-1 Concentration Level	SS01
Sample Date			3/20/2018
Sample Depth (feet)			6.5-7
BTEX	Benzene	0.17	<0.002
	Toluene	85	<0.002
	Ethylbenzene	100	<0.002
	Total Xylenes	175	<0.002
TPH	DRO	--	<50
	GRO	--	<50
	Total	500	<50
Inorganics	EC (mmhos/cm)	<4	0.0699
	SAR	<12	0.39
	pH (unitless)	6 - 9	9.17

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

All results are in mg/kg unless stated otherwise.



March 26, 2018

Bonanza Creek Energy, Inc.

Brian Dodek

410 17th St, Suite 1400

Denver

CO 80211

Project Name - Pronghorn 12-9

Project Number - [none]

Attached are your analytical results for Pronghorn 12-9 received by Origins Laboratory, Inc. March 21, 2018. This project is associated with Origins project number Y803336-01.

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

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01	Y803336-01	Soil	March 20, 2018 13:30	03/21/2018 08:00

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

www.originslaboratory.com

page 1 of 1

ORIGINS LABORATORY, INC

183336

Client: Bonanza Creek Energy

Address: 410 17th Street Suite 1700 Denver, CO 80202

Telephone Number: 720-225-6653

Email Address:

Project Manager: Brian Dodek/Luke Kelly

Project Name: Pronghorn 12-9

Project Number:

Samples Collected By: Luke Kelly

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #		
5507	3/20/18	1330	2	X				X			TPH (DRL-480) BTEX 5A12 PH	1
												2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By: Luke Kelly	Date: 3/21/18	Time: 8:00	Received By:	Date: 3/12/18	Time: 8:00	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>						
Relinquished By:	Date:	Time:	Received By:	Date: 3/12/18	Time: 8:00							

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

Origins Laboratory, Inc.

Jefe Pellegrini

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 7803336

Client: Bonanza Creek

Client Project ID: Pronghorn 12-9

Checklist Completed by: Dodek

Shipped Via: HD

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

Date/time completed: 3-21-12

Airbill #: NA

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

(Describe)

Cooler Number/Temperature: 10.3 °C 1 °C 1 °C 1 °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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>glt</u>
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 3/22/12

Origins Laboratory, Inc.

Jefe Pellegrini

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

SS01

3/20/2018 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y803336-01 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.002	mg/kg	1	B8C2201	03/22/2018	03/23/2018	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

125 %

70-130

"

"

"

Surrogate: Toluene-d8

94.6 %

70-130

"

"

"

Surrogate: 4-Bromofluorobenzene

101 %

70-130

"

"

"

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B8C2202	03/22/2018	03/23/2018	U
Diesel (C10-C28)	ND	50.0	"	"	"	"	"	U

Surrogate: o-Terphenyl

73.9 %

59-131

"

"

"

Metals (Saturated Paste Prep)

Calcium	1.61		me/L	1	'[none]'	03/22/2018	03/23/2018	
Magnesium	0.76		"	"	"	"	"	
Sodium	0.42		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	9.17		pH Units	1	B8C2203	03/22/2018	03/22/2018	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

SS01

3/20/2018 1:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y803336-01 (Soil)

SAR by 20B Saturated Paste

SAR	0.39			1	'[none]'	03/22/2018	03/23/2018	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0699		mmhos/cm	1	B8C2204	03/22/2018	03/22/2018	
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Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Blank (B8C2201-BLK1)

Prepared: 03/22/2018 Analyzed: 03/22/2018

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	69		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.4	70-130			

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Jen Pellegrini For Noelle Doyle Mathis, President

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Blank (B8C2201-BLK2)

Prepared: 03/22/2018 Analyzed: 03/22/2018

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	69		ug/kg	62.5	110	70-130				
Surrogate: Toluene-d8	61		"	62.5	97.6	70-130				
Surrogate: 4-Bromofluorobenzene	62		"	62.5	99.4	70-130				

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Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

LCS (B8C2201-BS1)

Prepared: 03/22/2018 Analyzed: 03/22/2018

Benzene	0.099	0.002	mg/kg	0.100		99.2	77.1-124			
Toluene	0.092	0.002	"	0.100		91.6	74.5-128			
Ethylbenzene	0.088	0.002	"	0.100		88.2	66.4-127			
m,p-Xylene	0.171	0.004	"	0.200		85.7	76.6-124			
o-Xylene	0.083	0.002	"	0.100		83.2	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.7	70-130			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

LCS (B8C2201-BS2)

Prepared: 03/22/2018 Analyzed: 03/22/2018

Benzene	0.108	0.002	mg/kg	0.100		108	77.1-124			
Toluene	0.099	0.002	"	0.100		98.8	74.5-128			
Ethylbenzene	0.095	0.002	"	0.100		95.3	66.4-127			
m,p-Xylene	0.187	0.004	"	0.200		93.4	76.6-124			
o-Xylene	0.091	0.002	"	0.100		90.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.7	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		94.1	70-130			

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Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Matrix Spike (B8C2201-MS1)		Source: Y803288-02			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Benzene	0.078	0.002	mg/kg	0.100	0.002	75.6	71.8-126			
Toluene	0.072	0.002	"	0.100	0.009	62.9	65.1-130			QM-07
Ethylbenzene	0.067	0.002	"	0.100	0.001	66.0	62.2-130			
m,p-Xylene	0.133	0.004	"	0.200	0.002	65.2	46.5-137			
o-Xylene	0.064	0.002	"	0.100	0.0004	63.5	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		111	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.2	70-130			

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Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Matrix Spike (B8C2201-MS2)		Source: Y803288-03			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Benzene	0.098	0.002	mg/kg	0.100	ND	98.1	71.8-126			
Toluene	0.095	0.002	"	0.100	0.0009	94.4	65.1-130			
Ethylbenzene	0.081	0.002	"	0.100	ND	81.4	62.2-130			
m,p-Xylene	0.158	0.004	"	0.200	ND	79.1	46.5-137			
o-Xylene	0.076	0.002	"	0.100	ND	76.4	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.7	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.6	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Matrix Spike Dup (B8C2201-MSD1)		Source: Y803288-02			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Benzene	0.101	0.002	mg/kg	0.100	0.002	99.0	71.8-126	26.1	11.3	QR-03
Toluene	0.093	0.002	"	0.100	0.009	83.9	65.1-130	25.3	15.4	QR-03
Ethylbenzene	0.089	0.002	"	0.100	0.001	87.3	62.2-130	27.2	19.6	QR-03
m,p-Xylene	0.173	0.004	"	0.200	0.002	85.4	46.5-137	26.5	19.2	QR-03
o-Xylene	0.085	0.002	"	0.100	0.0004	85.0	54.2-134	28.8	17.9	QR-03
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.2	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.6	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2201 - EPA 5030 (soil)

Matrix Spike Dup (B8C2201-MSD2)		Source: Y803288-03			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Benzene	0.092	0.002	mg/kg	0.100	ND	92.5	71.8-126	5.94	11.3	
Toluene	0.090	0.002	"	0.100	0.0009	88.7	65.1-130	6.21	15.4	
Ethylbenzene	0.074	0.002	"	0.100	ND	74.3	62.2-130	9.14	19.6	
m,p-Xylene	0.144	0.004	"	0.200	ND	72.0	46.5-137	9.38	19.2	
o-Xylene	0.069	0.002	"	0.100	ND	69.4	54.2-134	9.63	17.9	
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.0	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.9	70-130			

Origins Laboratory, Inc.



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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Extractable Petroleum Hydrocarbons by 8015C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8C2202 - EPA 3550B

Blank (B8C2202-BLK1)

Prepared: 03/22/2018 Analyzed: 03/22/2018

Gasoline (C6-C10)	ND	50.0	mg/kg							U
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Diesel (C10-C28)	ND	50.0	"							U
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Surrogate: o-Terphenyl	43		"	50.0		86.8	59-131			
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Blank (B8C2202-BLK2)

Prepared: 03/22/2018 Analyzed: 03/23/2018

Gasoline (C6-C10)	ND	50.0	mg/kg							U
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Diesel (C10-C28)	ND	50.0	"							U
------------------	----	------	---	--	--	--	--	--	--	---

Surrogate: o-Terphenyl	40		"	50.0		79.8	59-131			
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LCS (B8C2202-BS1)

Prepared: 03/22/2018 Analyzed: 03/22/2018

Gasoline (C6-C10)	957	50.0	mg/kg	1000		95.7	59-133			
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Diesel (C10-C28)	1030	50.0	"	1000		103	64-121			
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Surrogate: o-Terphenyl	47		"	50.0		94.4	59-131			
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LCS (B8C2202-BS2)

Prepared: 03/22/2018 Analyzed: 03/23/2018

Gasoline (C6-C10)	1010	50.0	mg/kg	1000		101	59-133			
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Diesel (C10-C28)	1050	50.0	"	1000		105	64-121			
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Surrogate: o-Terphenyl	48		"	50.0		96.8	59-131			
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Matrix Spike (B8C2202-MS1)

Source: Y803288-03

Prepared: 03/22/2018 Analyzed: 03/22/2018

Gasoline (C6-C10)	931	50.0	mg/kg	1000	ND	93.1	57-139			
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Diesel (C10-C28)	957	50.0	"	1000	ND	95.7	53-125			
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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

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8C2202 - EPA 3550B										
Matrix Spike (B8C2202-MS1)		Source: Y803288-03			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Surrogate: o-Terphenyl	47		mg/kg	50.0		93.2	59-131			
Matrix Spike (B8C2202-MS2)		Source: Y803288-02			Prepared: 03/22/2018 Analyzed: 03/23/2018					
Gasoline (C6-C10)	831	50.0	mg/kg	1000	ND	83.1	57-139			
Diesel (C10-C28)	878	50.0	"	1000	ND	87.8	53-125			
Surrogate: o-Terphenyl	40		"	50.0		79.7	59-131			
Matrix Spike Dup (B8C2202-MSD1)		Source: Y803288-03			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Gasoline (C6-C10)	936	50.0	mg/kg	1000	ND	93.6	57-139	0.549	20	
Diesel (C10-C28)	974	50.0	"	1000	ND	97.4	53-125	1.76	20	
Surrogate: o-Terphenyl	45		"	50.0		89.6	59-131			
Matrix Spike Dup (B8C2202-MSD2)		Source: Y803288-02			Prepared: 03/22/2018 Analyzed: 03/23/2018					
Gasoline (C6-C10)	798	50.0	mg/kg	1000	ND	79.8	57-139	4.12	20	
Diesel (C10-C28)	825	50.0	"	1000	ND	82.5	53-125	6.18	20	
Surrogate: o-Terphenyl	38		"	50.0		76.7	59-131			

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Bonanza Creek Energy, Inc.

410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

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 B8C2203 - NO PREP										
Duplicate (B8C2203-DUP1)		Source: Y803327-01			Prepared: 03/22/2018 Analyzed: 03/22/2018					
pH	9.33		pH Units		9.69			3.79	25	
Batch B8C2204 - NO PREP										
Blank (B8C2204-BLK1)		Prepared: 03/22/2018 Analyzed: 03/22/2018								
Specific Conductance (EC)	0.00290		mmhos/cm							
Duplicate (B8C2204-DUP1)		Source: Y803327-01			Prepared: 03/22/2018 Analyzed: 03/22/2018					
Specific Conductance (EC)	0.141		mmhos/cm		0.142			0.354	25	

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Denver CO 80211

Brian Dodek

Project Number: [none]

Project: Pronghorn 12-9

Notes and Definitions

U Sample is Non-Detect.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President