



LEGEND

 Site Location



Figure 1
Site Location Map
August 9, 2018 LBK

**North Platte 41-28 Water Vault Removal
Facility ID: 332135
NENE, Sec 28, T5N, R63W, 6th PM
Weld County, Colorado**



Aerial photograph courtesy of Google Maps

LEGEND

● Soil Sample

N



Figure 2
Soil Sample Location Map
August 8, 2018 LBK

**North Platte 41-28 Water Vault Removal
Facility ID: 332135
NENE, Sec 28, T5N, R63W, 6th PM
Weld County, Colorado**

TABLE 1
SOIL ANALYTICAL RESULTS
NORTH PLATTE 41-28
WELD COUNTY, COLORADO
BONANZA CREEK ENERGY OPERATING COMPANY LLC.

Parameters		COGCC Table 910-1 Concentration Level	SS01	SS02
BTEX	Benzene	0.17	<0.002	<0.002
	Toluene	85	<0.002	<0.002
	Ethylbenzene	100	<0.002	<0.002
	Total Xylenes	175	<0.002	<0.002
TPH	DRO	--	<50	<50
	GRO	--	<50	<50
	Total	500	<50	<50
Inorganics	EC (mmhos/cm)	<4	0.116	0.114
	SAR	<12	1.90	1.40
	pH (unitless)	6 - 9	7.96	7.79

Notes:

-- - no concentration level is available

BOLD - analytical result exceeds the COGCC Table 910-1 Concentration Level

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

COGCC - Colorado Oil and Gas Conservation Commission

TPH - total petroleum hydrocarbons

DRO - diesel range organics

GRO - gasoline range organics

EC - electrical conductivity

mmhos/cm - millimhos per centimeter

SAR - sodium adsorption ratio

All results are in mg/kg unless stated otherwise.

July 24, 2018

Bonanza Creek Energy, Inc.

Brian Dodek

410 17th St, Suite 1400

Denver CO 80211

Project Name - North Platte 41-28-WV-Soil

Project Number - [none]

Attached are your analytical results for North Platte 41-28-WV-Soil received by Origins Laboratory, Inc. July 19, 2018. This project is associated with Origins project number Y807262-01.

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

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01	Y807262-01	Soil	July 17, 2018 16:05	07/19/2018 07:42
SS02	Y807262-02	Soil	July 17, 2018 16:00	07/19/2018 07:42

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.

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: North Platte 41-28-WV-Soil

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page 1 of 1

1907262



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: North Platte 41-28 - WV - Soil
 Project Number:
 Samples Collected By: Luke Kelly

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions			
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa	Canister #	Other	TPH (DIB)	TPH (GRO)		BTEX	PH	SAR
SS01	7/17/18	4:05	2	X				X							X		* Hold	1
SS02	7/17/18	4:00	2	X				X							X		* Hold	2
																		3
																		4
																		5
																		6
																		7
																		8
																		9
																		10

Relinquished By: [Signature] Date: 7/19/18 Time: 0742

Received By: [Signature] Date: 07-19-18 Time: 0742

Turnaround Time: Same Day 24 Hr 48 Hr ~~72 Hr~~

77 Date Results Needed

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: North Platte 41-28-WV-Soil

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y 907262

Client: Bonanza Creek Energy

Client Project ID: North Platte 41-28-WV-Soil

Checklist Completed by: Jan Lee

Shipped Via: HD

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

Date/time completed: 7-19-18

Airbill #: N/A

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

Cooler Number/Temperature: / 3.2 °C / _____ °C / _____ °C / _____ °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 8°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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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) [Signature] Date/Time Reviewed 7/20/18

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: North Platte 41-28-WV-Soil

SS01

7/17/2018 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y807262-01 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.002	mg/kg	1	B8G1901	07/19/2018	07/20/2018	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.9 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B8G1902	07/19/2018	07/20/2018	U
Diesel (C10-C28)	ND	50.0	"	"	"	"	"	U

Surrogate: o-Terphenyl	73.8 %	59-131			"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.52		me/L	1	'[none]'	07/20/2018	07/24/2018	
Magnesium	0.92		"	"	"	"	"	
Sodium	2.10		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	7.96		pH Units	1	B8G1907	07/19/2018	07/19/2018	
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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: North Platte 41-28-WV-Soil

SS01

7/17/2018 4:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y807262-01 (Soil)

SAR by 20B Saturated Paste

SAR	1.90			1	'[none]'	07/20/2018	07/24/2018	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.116	0.00500	mmhos/cm	1	B8G1908	07/19/2018	07/19/2018	
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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: North Platte 41-28-WV-Soil

SS02

7/17/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y807262-02 (Soil)

BTEX by EPA 8260C

Benzene	ND	0.002	mg/kg	1	B8G1901	07/19/2018	07/20/2018	U
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.6 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"	

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

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B8G1902	07/19/2018	07/20/2018	U
Diesel (C10-C28)	ND	50.0	"	"	"	"	"	U

Surrogate: o-Terphenyl	76.3 %	59-131			"	"	"	
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Metals (Saturated Paste Prep)

Calcium	1.09		me/L	1	'[none]'	07/20/2018	07/24/2018	
Magnesium	0.57		"	"	"	"	"	
Sodium	1.28		"	"	"	"	"	

pH in Soil by EPA 9045D

pH	7.79		pH Units	1	B8G1907	07/19/2018	07/19/2018	
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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: North Platte 41-28-WV-Soil

SS02

7/17/2018 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y807262-02 (Soil)

SAR by 20B Saturated Paste

SAR	1.40			1	'[none]'	07/20/2018	07/24/2018	
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.114	0.00500	mmhos/cm	1	B8G1908	07/19/2018	07/19/2018	
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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

Blank (B8G1901-BLK1)

Prepared: 07/19/2018 Analyzed: 07/19/2018

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	61		ug/kg	62.5		97.2	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.8	70-130			

Origins Laboratory, Inc.



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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

Blank (B8G1901-BLK2)

Prepared: 07/19/2018 Analyzed: 07/19/2018

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	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.7	70-130			

Origins Laboratory, Inc.



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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

LCS (B8G1901-BS1)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Benzene	0.109	0.002	mg/kg	0.100		109	77.1-124			
Toluene	0.103	0.002	"	0.100		103	74.5-128			
Ethylbenzene	0.112	0.002	"	0.100		112	66.4-127			
m,p-Xylene	0.201	0.004	"	0.200		101	76.6-124			
o-Xylene	0.108	0.002	"	0.100		108	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	62.5		91.9	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

LCS (B8G1901-BS2)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Benzene	0.095	0.002	mg/kg	0.100		95.5	77.1-124			
Toluene	0.089	0.002	"	0.100		89.4	74.5-128			
Ethylbenzene	0.093	0.002	"	0.100		93.3	66.4-127			
m,p-Xylene	0.164	0.004	"	0.200		82.0	76.6-124			
o-Xylene	0.091	0.002	"	0.100		90.9	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		96.2	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	70-130			

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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

Matrix Spike (B8G1901-MS1)	Source: Y807241-01			Prepared: 07/19/2018 Analyzed: 07/19/2018						
Benzene	0.099	0.002	mg/kg	0.100	ND	98.8	71.8-126			
Toluene	0.092	0.002	"	0.100	ND	91.5	65.1-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	94.6	62.2-130			
m,p-Xylene	0.168	0.004	"	0.200	ND	84.2	46.5-137			
o-Xylene	0.093	0.002	"	0.100	ND	93.4	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.6	70-130			

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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

Matrix Spike (B8G1901-MS2)	Source: Y807241-02			Prepared: 07/19/2018 Analyzed: 07/20/2018						
Benzene	0.097	0.002	mg/kg	0.100	ND	97.4	71.8-126			
Toluene	0.090	0.002	"	0.100	ND	89.6	65.1-130			
Ethylbenzene	0.094	0.002	"	0.100	ND	94.5	62.2-130			
m,p-Xylene	0.166	0.004	"	0.200	ND	82.9	46.5-137			
o-Xylene	0.092	0.002	"	0.100	ND	91.8	54.2-134			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		96.1	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.2	70-130			

Origins Laboratory, Inc.



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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1901 - EPA 5030 (soil)

Matrix Spike Dup (B8G1901-MSD1)	Source: Y807241-01			Prepared: 07/19/2018 Analyzed: 07/19/2018						
Benzene	0.101	0.002	mg/kg	0.100	ND	101	71.8-126	2.58	11.3	
Toluene	0.095	0.002	"	0.100	ND	94.6	65.1-130	3.27	15.4	
Ethylbenzene	0.099	0.002	"	0.100	ND	99.1	62.2-130	4.61	19.6	
m,p-Xylene	0.174	0.004	"	0.200	ND	87.2	46.5-137	3.44	19.2	
o-Xylene	0.096	0.002	"	0.100	ND	95.5	54.2-134	2.18	17.9	
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		98.0	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.0	70-130			

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410 17th St, Suite 1400

Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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

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

Batch B8G1901 - EPA 5030 (soil)

Matrix Spike Dup (B8G1901-MSD2)	Source: Y807241-02			Prepared: 07/19/2018 Analyzed: 07/20/2018						
Benzene	0.100	0.002	mg/kg	0.100	ND	99.6	71.8-126	2.23	11.3	
Toluene	0.092	0.002	"	0.100	ND	92.4	65.1-130	3.05	15.4	
Ethylbenzene	0.096	0.002	"	0.100	ND	95.8	62.2-130	1.45	19.6	
m,p-Xylene	0.167	0.004	"	0.200	ND	83.6	46.5-137	0.733	19.2	
o-Xylene	0.094	0.002	"	0.100	ND	93.5	54.2-134	1.81	17.9	
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		96.4	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.8	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.8	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: North Platte 41-28-WV-Soil

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 B8G1902 - EPA 3580

Blank (B8G1902-BLK1)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Surrogate: o-Terphenyl	39		"	50.0		77.6	59-131			

Blank (B8G1902-BLK2)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Surrogate: o-Terphenyl	40		"	50.0		79.2	59-131			

LCS (B8G1902-BS1)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Gasoline (C6-C10)	920	50.0	mg/kg	1000		92.0	59-133			
Diesel (C10-C28)	754	50.0	"	1000		75.4	64-121			
Surrogate: o-Terphenyl	46		"	50.0		91.3	59-131			

LCS (B8G1902-BS2)

Prepared: 07/19/2018 Analyzed: 07/19/2018

Gasoline (C6-C10)	1040	50.0	mg/kg	1000		104	59-133			
Diesel (C10-C28)	812	50.0	"	1000		81.2	64-121			
Surrogate: o-Terphenyl	46		"	50.0		92.7	59-131			

Matrix Spike (B8G1902-MS1)

Source: Y807241-01

Prepared: 07/19/2018 Analyzed: 07/19/2018

Gasoline (C6-C10)	926	50.0	mg/kg	1000	ND	92.6	57-139			
Diesel (C10-C28)	765	50.0	"	1000	ND	76.5	53-125			

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Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1902 - EPA 3580										
Matrix Spike (B8G1902-MS1)		Source: Y807241-01			Prepared: 07/19/2018 Analyzed: 07/19/2018					
Surrogate: o-Terphenyl	45		mg/kg	50.0		90.2	59-131			
Matrix Spike (B8G1902-MS2)		Source: Y807241-02			Prepared: 07/19/2018 Analyzed: 07/19/2018					
Gasoline (C6-C10)	985	50.0	mg/kg	1000	ND	98.5	57-139			
Diesel (C10-C28)	777	50.0	"	1000	ND	77.7	53-125			
Surrogate: o-Terphenyl	46		"	50.0		91.0	59-131			
Matrix Spike Dup (B8G1902-MSD1)		Source: Y807241-01			Prepared: 07/19/2018 Analyzed: 07/19/2018					
Gasoline (C6-C10)	940	50.0	mg/kg	1000	ND	94.0	57-139	1.48	20	
Diesel (C10-C28)	780	50.0	"	1000	ND	78.0	53-125	1.94	20	
Surrogate: o-Terphenyl	45		"	50.0		89.0	59-131			
Matrix Spike Dup (B8G1902-MSD2)		Source: Y807241-02			Prepared: 07/19/2018 Analyzed: 07/19/2018					
Gasoline (C6-C10)	967	50.0	mg/kg	1000	ND	96.7	57-139	1.83	20	
Diesel (C10-C28)	775	50.0	"	1000	ND	77.5	53-125	0.255	20	
Surrogate: o-Terphenyl	43		"	50.0		86.2	59-131			

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Denver CO 80211

Brian Dodek

Project Number: [none]

Project: North Platte 41-28-WV-Soil

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 B8G1907 - NO PREP										
Duplicate (B8G1907-DUP1)		Source: Y807247-01			Prepared: 07/19/2018 Analyzed: 07/19/2018					
pH	7.22		pH Units		7.40			2.46	25	
Batch B8G1908 - NO PREP										
Blank (B8G1908-BLK1)		Prepared: 07/19/2018 Analyzed: 07/19/2018								
Specific Conductance (EC)	0.00300	0.00500	mmhos/cm							
Duplicate (B8G1908-DUP1)		Source: Y807247-01			Prepared: 07/19/2018 Analyzed: 07/19/2018					
Specific Conductance (EC)	0.0674	0.00500	mmhos/cm		0.0672			0.297	25	

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Bonanza Creek Energy, Inc.
410 17th St, Suite 1400
Denver CO 80211

Brian Dodek
Project Number: [none]
Project: North Platte 41-28-WV-Soil

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President