

Bury Crandell 8-4-23

NENE Sec. 23-T1N-R69W

API #: 014-20714

Remediation Project #: 23816

Form 19 Deliverable

November 2022

Prepared by Tasman, Inc.



On behalf of Crestone Peak Resources Operating, LLC



FIELD NOTES AND PHOTO LOG

SITE NAME: Bury Crandall 8-4-23 WH							DATE: 11/7/2022	REM. PROJECT #: 23816	WEATHER: Sunny 40 (F)
SITE DIRECTIONS: CR 11 and Summit Blvd. S on Summit Blvd 0.3 mi, W on dirt access road 0.2 miles INTO							CLIENT: Crestone Peak Resources Operating LLC		
LEGALS AND LAT/LONG: 40.041311, -104.964864							TASMAN PERSONNEL: Sierra Kirylo & Dylan Miller		
SOIL TYPES: Well Graded Sand - SW							SURFACE GRADIENT: North		
SURROUNDING LAND USE: Cropland							CROP:		
SOIL SAMPLING							FACILITY INFRASTRUCTURE		
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	
							Above Ground Storage Tank (AST)		
11/7/2022 10:15	WH-B01@7'	23.5	HC Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel		
11/7/2022 10:17	WH-N01@5'	0.1	HC Staining	No Odor	Yes	N/A	Separator		
11/7/2022 10:19	WH-E01@6'	1.0	HC Staining	No Odor	Yes	N/A	Emission Control Device (ECD)		
11/7/2022 10:21	WH-S01@6'	21.9	HC Staining	Slight HC Od	Yes	Lab	Dump Line		
11/7/2022 10:24	FL-B01@6'	1.0	Organic Con	No Odor	Yes	Lab	Wellhead	1	
							Flowline	1	
							Method of Closure	Abandoned	
							Footage Removed		
							Footaged Abandoned in Place	95'	
							Other:		
							Soil Loads Removed		
							IMPACTED SOIL IDENTIFIED?		
							ESTIMATED VOLUME OF IMPACTS:		
							Date	Number	CY
							Total Removed	0	0
							Disposal Facility:		
							Groundwater Recovery		
							DATE GW ENCOUNTERED:	DEPTH:	
							GROUNDWATER IN CONTACT WITH IMPACTED SOIL?		
							LNAPL OR SHEEN OBSERVED ON GW?		
GROUNDWATER SAMPLING							Date	BBLS	
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?			
							Total Removed	0	
							Disposal Facility:		



Photographic Log

<p>WH-S01@6' X</p> <p>WH-B01@7' X</p>			<p>WH-N01@5' X</p> <p>Cement layer</p>		
Equipment ID:		Equipment Type:	Equipment ID:		Equipment Type:
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil sampling locations, facing south			Notes/Conditions: Soil screening location, facing north		

Photographic Log

 <p>WH-E01 @ 6' X</p>			 <p>FL-B01 @ 6' X</p>		
Equipment ID:		Equipment Type:	Equipment ID:		Equipment Type:
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil screening location, facing east			Notes/Conditions: Soil sampling location, facing south		



Photographic Log

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Surrounding area to the north			Notes/Conditions: Surrounding area to the south		



Photographic Log



Equipment ID:			Equipment Type:			Equipment ID:			Equipment Type:		
Material:		Volume:	Contents:			Material:		Volume:	Contents:		
Notes/Conditions: Surrounding area to the east						Notes/Conditions: Surrounding area to the west					

FIGURES

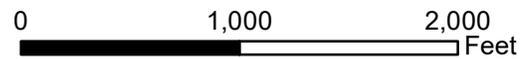
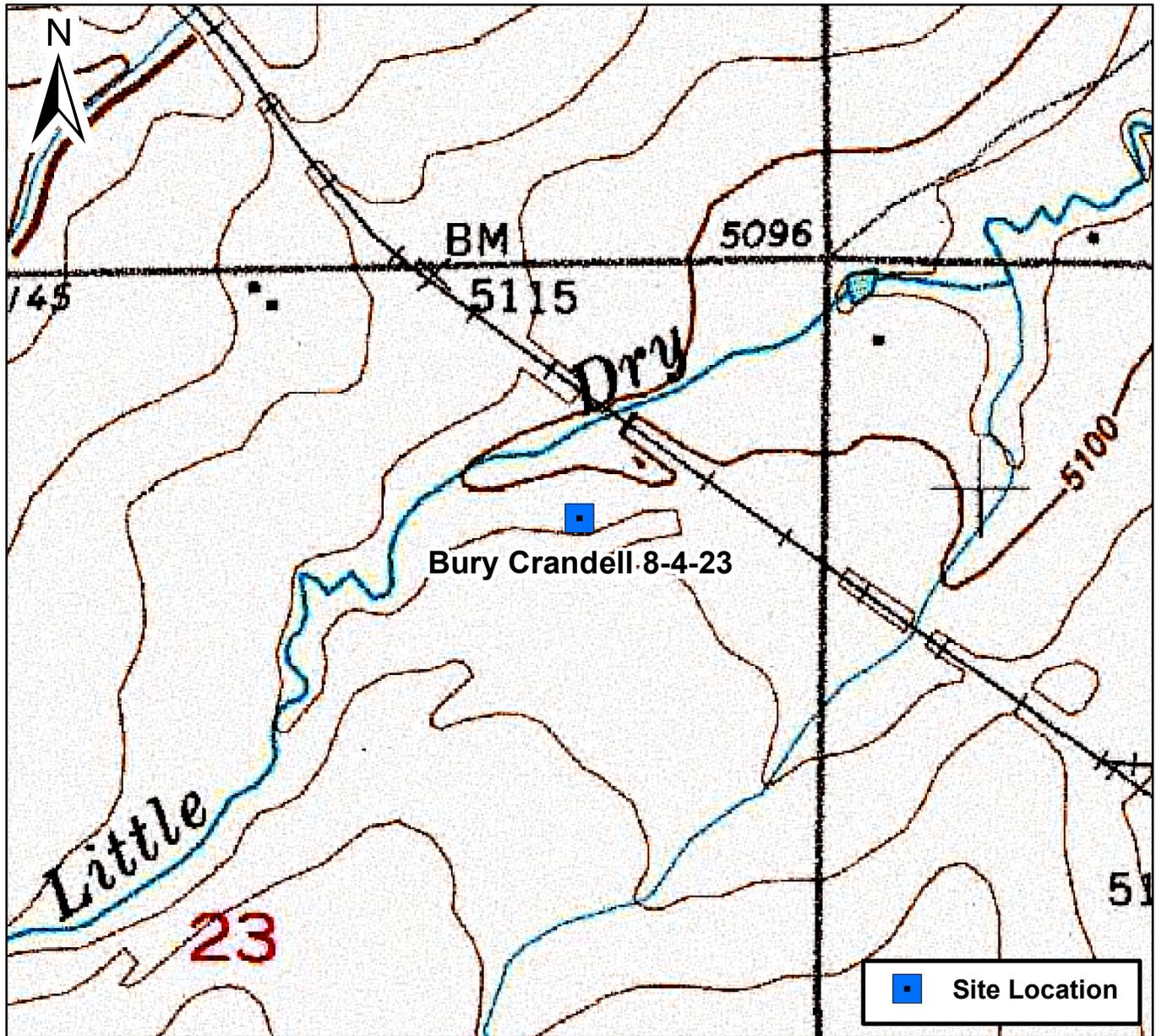


Figure 1
 Site Location Map
 Bury Crandell 8-4-23
 NENE Sec. 23-T1N-R68W
 Broomfield County, Colorado





Legend

-  Soil Sample Location (Collected via Trimble GPS)
-  Soil Sample Location - Lab Analyzed (Collected via Trimble GPS)
-  Excavation Extent (Collected via Trimble GPS)

Notes:
GPS - Global Positioning System



Imagery Source: Google Earth 2021

DATE:	November 2022
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



Tasman, Inc.
6855 W. 119th Ave
Broomfield, CO 80020

Crestone Peak Resources Operating, LLC
Bury Crandell 8-4-23
NENE Sec. 23-T1N-R68W
Broomfield County, Colorado

Soil Sample
Location Map

Figure
2

TABLES

TABLE 1
BURY CRANDELL 8-4-23
SOIL SAMPLE LOCATIONS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Date	PID Reading (ppm)	Visual Observation	Olfactory Observation	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
WH-B01@7'	11/07/2022	23.5	HC Staining	No Odor	40.041316	-104.964862	1.1	Y
WH-N01@5'	11/07/2022	0.1	HC Staining	No Odor	40.041325	-104.964869	1.1	N
WH-E01@6'	11/07/2022	1	HC Staining	No Odor	40.041319	-104.964849	1.1	N
WH-S01@6'	11/07/2022	21.9	HC Staining	Slight HC Odor	40.041303	-104.964852	1.1	Y
FL-B01@6'	11/07/2022	1	Organic Content	No Odor	40.041306	-104.964872	1.1	Y

Notes:

PID = Photoionization detector
 ppm = Parts per million
 HC = Hydrocarbon
 GPS = Global positioning system
 PDOP = Position dilution of precision
 NA = Not Applicable

TABLE 2
BURY CRANDELL 8-4-23
SOIL ANALYTICAL DATA - VOCs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾		0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
COGCC standards for soil (mg/kg) ⁽²⁾		1.2	490	5.8	58	2	500			30	27
FL-B01@6'	11/07/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	440	310	<0.0050	<0.0050
WH-B01@7'	11/07/2022	<0.0020	<0.0050	<0.0050	0.031	0.010	0.58	<50	<50	0.012	0.0068
WH-S01@6'	11/07/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from COGCC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

(2) Standards for soil are taken from COGCC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit

mg/kg = Milligrams per kilogram

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

1,2,4 - TMB = 1,2,4 - Trimethylbenzene

1,3,5 - TMB = 1,3,5 - Trimethylbenzene

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards

TABLE 3
BURY CRANDELL 8-4-23
SOIL ANALYTICAL DATA - PAHs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾		0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
COGCC standards for soil (mg/kg) ⁽²⁾		360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
FL-B01@6'	11/07/2022	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
WH-B01@7'	11/07/2022	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0119	0.0159	<0.00500
WH-S01@6'	11/07/2022	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from COGCC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

(2) Standards for soil are taken from COGCC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit

mg/kg = Milligrams per kilogram

Benzo(a)A = Benzo(a)anthracene

Benzo(b)F = Benzo(b)fluoranthene

Benzo(k)F = Benzo(k)fluoranthene

Benzo(a)P = Benzo(a)pyrene

D (a,h) A = Dibenz(a,h)anthracene

1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards

TABLE 4
BURY CRANDELL 8-4-23
SOIL ANALYTICAL DATA - METALS
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
COGCC standards for soil (mg/kg)⁽¹⁾		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
COGCC standards for soil (mg/kg)⁽²⁾		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
FL-B01@6'	11/07/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
WH-B01@7'	11/07/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
WH-S01@6'	11/07/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Notes:

(1) Standards for soil are taken from COGCC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

(2) Standards for soil are taken from COGCC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory minimum detection limit

mg/kg = Milligrams per kilogram

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards

Italics = Laboratory minimum detection limit exceeds the COGCC Table 915-1 standard

NA = Constituent not analyzed

Pending = Analytical results pending final laboratory reporting

* Result exceeded the COGCC Table 915-1 standard, but was within range of site-specific background concentrations

**TABLE 5
BURY CRANDELL 8-4-23**



**SOIL ANALYTICAL DATA - SOIL RECLAMATION
CRESTONE PEAK RESOURCES OPERATING, LLC**

Soil Sample Location	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
COGCC standards for soil (mg/kg) ⁽¹⁾		6 - 8.3	< 6	< 4	2
FL-B01@6'	11/07/2022	10.4	1.80	1.62	0.213
WH-B01@7'	11/07/2022	10.3	12.7	2.22	0.237
WH-S01@6'	11/07/2022	8.44	1.39	0.409	0.246

Notes:

(1) Standards for soil are taken from COGCC Table 915-1, effective January 15, 2021

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit

mmhos/cm = Millmhos per centimeter

mg/L = Milligrams per liter

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards

* Result exceeded the COGCC Table 915-1 standard, but was within background levels

LABORATORY ANALYTICAL DATA

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 14, 2022

Sam Vogt

Civitas Resources

650 Southgate Drive

Windsor, CO 80550

RE: Bury Crandall 8-4-23 WH

Work Order #2211106

Enclosed are the results of analyses for samples received by Summit Scientific on 11/07/22 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@7'	2211106-01	Soil	11/07/22 10:15	11/07/22 17:15
WH-S01@6'	2211106-02	Soil	11/07/22 10:21	11/07/22 17:15
FL-B01@6'	2211106-03	Soil	11/07/22 10:24	11/07/22 17:15

Summit Scientific

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

Summit Scientific

2211106

- 741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: Civitas / Tasman
Address: 6855 William Ave
City/State/Zip: Broomfield, CO 80020
Phone: 610-405-9018 Fax:
Sampler Name: SK, PM

Project Manager: Sam Hoyt Jacob Egan
E-Mail: shoyt@tasmanco.com jeons@ciroscience.com
Project Name: Billy Crandall 8-4-23 WH
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:								Special Instructions
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX	TMB's	TPH	PAHs	PH*	EC*	SAR*	
WH-B6107'	11/7/22	1715	2			X			X				X	X	X	X	X	X	
WH-S6106'	I	1621	2																
FL-B6106'	I	1624	2																

Relinquished by: <u>Jake Mv</u>	Date/Time: <u>11/7/22</u> <u>1715</u>	Received by: <u>Tasman Lockbox</u>	Date/Time: <u>11/7/22</u> <u>1715</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes: <u>Methods:</u> <u>* sat paste</u> <u>** hot paste</u>
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: <u>11/7/22</u> <u>1715</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11/7/22</u> <u>1715</u>	Sample Integrity: Temperature Upon Receipt: <u>9.0</u>	Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:			

S₂

Sample Receipt Checklist

S2 Work Order# 2211106

Client: Civitas/Asman Client Project ID: Burg Crandall 8:42B WH

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

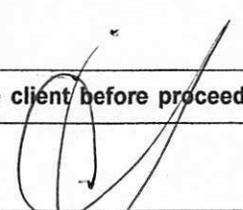
Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			NOTICE
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?		-		
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽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⁾ ?			✓	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	-
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

11.7.22
Date/Time



Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-B01@7'
2211106-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0243	11/09/22	11/09/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.031	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.012	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.0068	0.0050	"	"	"	"	"	"	
Naphthalene	0.010	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.58	0.50	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0241	11/09/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		71.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-B01@7'
2211106-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0259	11/10/22	11/11/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0119	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0159	0.00500	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	61.5 %	40-150			"	"	"	"	
Surrogate: Fluoranthene-d10	55.4 %	40-150			"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.237	0.0100	mg/L	1	BFK0236	11/09/22	11/10/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-B01@7'
2211106-01 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	96.4	0.0680	mg/L dry	1	BFK0246	11/09/22	11/11/22	EPA 6020B	
Magnesium	1.57	0.0680	"	"	"	"	"	"	
Sodium	458	0.0680	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.7	0.00100	units	1	BFK0338	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.6		%	1	BFK0283	11/10/22	11/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.22	0.0100	mmhos/cm	1	BFK0267	11/10/22	11/10/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **11/07/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	10.3		pH Units	1	BFK0266	11/10/22	11/10/22	EPA 9045D	

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-S01@6'
2211106-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0243	11/09/22	11/09/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		94.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0241	11/09/22	11/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		79.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-S01@6'
2211106-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0259	11/10/22	11/11/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.246	0.0100	mg/L	1	BFK0236	11/09/22	11/10/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

WH-S01@6'
2211106-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.8	0.0603	mg/L dry	1	BFK0246	11/09/22	11/11/22	EPA 6020B	
Magnesium	16.9	0.0603	"	"	"	"	"	"	
Sodium	38.4	0.0603	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.39	0.00100	units	1	BFK0338	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.9		%	1	BFK0283	11/10/22	11/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.409	0.0100	mmhos/cm	1	BFK0267	11/10/22	11/10/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **11/07/22 10:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.44		pH Units	1	BFK0266	11/10/22	11/10/22	EPA 9045D	

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

FL-B01@6'
2211106-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BFK0243	11/09/22	11/09/22	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	440	50		mg/kg	1	BFK0241	11/09/22	11/10/22	EPA 8015M	
C28-C36 (ORO)	310	50		"	"	"	"	"	"	

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		87.7 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

FL-B01@6'
2211106-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0259	11/10/22	11/11/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.213	0.0100	mg/L	1	BFK0236	11/09/22	11/10/22	EPA 6020B	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

FL-B01@6'
2211106-03 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1120	0.0577	mg/L dry	1	BFK0246	11/09/22	11/11/22	EPA 6020B	
Magnesium	74.8	0.0577	"	"	"	"	"	"	
Sodium	231	0.0577	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.80	0.00100	units	1	BFK0338	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BFK0283	11/10/22	11/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.62	0.0100	mmhos/cm	1	BFK0267	11/10/22	11/10/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **11/07/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	10.4		pH Units	1	BFK0266	11/10/22	11/10/22	EPA 9045D	

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFK0243 - EPA 5030 Soil MS

Blank (BFK0243-BLK1)

Prepared & Analyzed: 11/09/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0377		"	0.0400		94.2		50-150		
<i>Surrogate: Toluene-d8</i>	0.0438		"	0.0400		110		50-150		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404		"	0.0400		101		50-150		

LCS (BFK0243-BS1)

Prepared & Analyzed: 11/09/22

Benzene	0.0753	0.0020	mg/kg	0.0750		100		70-130		
Toluene	0.0731	0.0050	"	0.0750		97.4		70-130		
Ethylbenzene	0.0706	0.0050	"	0.0750		94.1		70-130		
m,p-Xylene	0.142	0.010	"	0.150		95.0		70-130		
o-Xylene	0.0742	0.0050	"	0.0750		98.9		70-130		
1,2,4-Trimethylbenzene	0.0806	0.0050	"	0.0750		107		70-130		
1,3,5-Trimethylbenzene	0.0785	0.0050	"	0.0750		105		70-130		
Naphthalene	0.0936	0.0038	"	0.0750		125		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0340		"	0.0400		85.0		50-150		
<i>Surrogate: Toluene-d8</i>	0.0440		"	0.0400		110		50-150		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0409		"	0.0400		102		50-150		

Matrix Spike (BFK0243-MS1)

Source: 2211084-01

Prepared & Analyzed: 11/09/22

Benzene	0.0723	0.0020	mg/kg	0.0750	ND	96.4		70-130		
Toluene	0.0665	0.0050	"	0.0750	ND	88.7		70-130		
Ethylbenzene	0.0740	0.0050	"	0.0750	ND	98.7		70-130		
m,p-Xylene	0.178	0.010	"	0.150	ND	119		70-130		
o-Xylene	0.0771	0.0050	"	0.0750	ND	103		70-130		
1,2,4-Trimethylbenzene	0.0838	0.0050	"	0.0750	ND	112		70-130		
1,3,5-Trimethylbenzene	0.0827	0.0050	"	0.0750	ND	110		70-130		
Naphthalene	0.0872	0.0038	"	0.0750	ND	116		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0318		"	0.0400		79.6		50-150		
<i>Surrogate: Toluene-d8</i>	0.0431		"	0.0400		108		50-150		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0400		"	0.0400		100		50-150		

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFK0243 - EPA 5030 Soil MS

Matrix Spike Dup (BFK0243-MSD1)	Source: 2211084-01			Prepared & Analyzed: 11/09/22						
Benzene	0.0896	0.0020	mg/kg	0.0750	ND	120	70-130	21.4	30	
Toluene	0.0794	0.0050	"	0.0750	ND	106	70-130	17.6	30	
Ethylbenzene	0.0926	0.0050	"	0.0750	ND	123	70-130	22.3	30	
m,p-Xylene	0.178	0.010	"	0.150	ND	119	70-130	0.118	30	
o-Xylene	0.0946	0.0050	"	0.0750	ND	126	70-130	20.4	30	
1,2,4-Trimethylbenzene	0.0975	0.0050	"	0.0750	ND	130	70-130	15.0	30	
1,3,5-Trimethylbenzene	0.0901	0.0050	"	0.0750	ND	120	70-130	8.54	30	
Naphthalene	0.0942	0.0038	"	0.0750	ND	126	70-130	7.81	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0255</i>		<i>"</i>	<i>0.0400</i>		<i>63.8</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0415</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0369</i>		<i>"</i>	<i>0.0400</i>		<i>92.2</i>	<i>50-150</i>			

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFK0241 - EPA 3550A

Blank (BFK0241-BLK1)

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5		98.2	30-150				

LCS (BFK0241-BS1)

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	352	50	mg/kg	500		70.5	70-130				
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5		95.0	30-150				

Matrix Spike (BFK0241-MS1)

Source: 2211084-01

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	394	50	mg/kg	500	19.1	75.1	70-130				
Surrogate: <i>o</i> -Terphenyl	10.1		"	12.5		80.6	30-150				

Matrix Spike Dup (BFK0241-MSD1)

Source: 2211084-01

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	378	50	mg/kg	500	19.1	71.7	70-130	4.33	20		
Surrogate: <i>o</i> -Terphenyl	9.51		"	12.5		76.1	30-150				

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFK0259 - EPA 5030 Soil MS

Blank (BFK0259-BLK1)

Prepared & Analyzed: 11/10/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0404</i>		"	<i>0.0333</i>		<i>121</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0302</i>		"	<i>0.0333</i>		<i>90.5</i>		<i>40-150</i>		

LCS (BFK0259-BS1)

Prepared & Analyzed: 11/10/22

Acenaphthene	0.0418	0.00500	mg/kg	0.0333		125		31-137		
Anthracene	0.0377	0.00500	"	0.0333		113		30-120		
Benzo (a) anthracene	0.0336	0.00500	"	0.0333		101		30-120		
Benzo (a) pyrene	0.0400	0.00500	"	0.0333		120		30-120		
Benzo (b) fluoranthene	0.0398	0.00500	"	0.0333		119		30-120		
Benzo (k) fluoranthene	0.0398	0.00500	"	0.0333		119		30-120		
Chrysene	0.0329	0.00500	"	0.0333		98.8		30-120		
Dibenz (a,h) anthracene	0.0399	0.00500	"	0.0333		120		30-120		
Fluoranthene	0.0381	0.00500	"	0.0333		114		30-120		
Fluorene	0.0392	0.00500	"	0.0333		118		30-120		
Indeno (1,2,3-cd) pyrene	0.0380	0.00500	"	0.0333		114		30-120		
Pyrene	0.0354	0.00500	"	0.0333		106		35-142		
1-Methylnaphthalene	0.0348	0.00500	"	0.0333		104		35-142		
2-Methylnaphthalene	0.0340	0.00500	"	0.0333		102		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0348</i>		"	<i>0.0333</i>		<i>104</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0397</i>		"	<i>0.0333</i>		<i>119</i>		<i>40-150</i>		

Summit Scientific

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFK0259 - EPA 5030 Soil MS

Matrix Spike (BFK0259-MS1)	Source: 2211017-01			Prepared & Analyzed: 11/10/22								
Acenaphthene	0.0299	0.00500	mg/kg	0.0333	ND	89.6	31-137					
Anthracene	0.0298	0.00500	"	0.0333	ND	89.3	30-120					
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.3	30-120					
Benzo (a) pyrene	0.0267	0.00500	"	0.0333	0.00128	76.3	30-120					
Benzo (b) fluoranthene	0.0235	0.00500	"	0.0333	ND	70.6	30-120					
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.6	30-120					
Chrysene	0.0286	0.00500	"	0.0333	0.00307	76.6	30-120					
Dibenz (a,h) anthracene	0.0284	0.00500	"	0.0333	ND	85.3	30-120					
Fluoranthene	0.0393	0.00500	"	0.0333	ND	118	30-120					
Fluorene	0.0330	0.00500	"	0.0333	ND	99.0	30-120					
Indeno (1,2,3-cd) pyrene	0.0270	0.00500	"	0.0333	ND	80.9	30-120					
Pyrene	0.0329	0.00500	"	0.0333	0.00506	83.4	35-142					
1-Methylnaphthalene	0.428	0.00500	"	0.0333	0.163	795	15-130					QM-07
2-Methylnaphthalene	0.127	0.00500	"	0.0333	0.0269	300	15-130					QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0381		"	0.0333		114	40-150					
Surrogate: Fluoranthene-d10	0.0282		"	0.0333		84.7	40-150					

Matrix Spike Dup (BFK0259-MSD1)	Source: 2211017-01			Prepared & Analyzed: 11/10/22								
Acenaphthene	0.0373	0.00500	mg/kg	0.0333	ND	112	31-137	22.1	30			
Anthracene	0.0324	0.00500	"	0.0333	ND	97.1	30-120	8.42	30			
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	0.164	30			
Benzo (a) pyrene	0.0286	0.00500	"	0.0333	0.00128	82.1	30-120	7.03	30			
Benzo (b) fluoranthene	0.0257	0.00500	"	0.0333	ND	77.0	30-120	8.75	30			
Benzo (k) fluoranthene	0.0278	0.00500	"	0.0333	ND	83.4	30-120	8.44	30			
Chrysene	0.0285	0.00500	"	0.0333	0.00307	76.2	30-120	0.516	30			
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333	ND	84.8	30-120	0.590	30			
Fluoranthene	0.0387	0.00500	"	0.0333	ND	116	30-120	1.57	30			
Fluorene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	32.8	30			QR-02
Indeno (1,2,3-cd) pyrene	0.0277	0.00500	"	0.0333	ND	83.2	30-120	2.83	30			
Pyrene	0.0304	0.00500	"	0.0333	0.00506	76.1	35-142	7.70	30			
1-Methylnaphthalene	0.339	0.00500	"	0.0333	0.163	528	15-130	23.2	50			QM-07
2-Methylnaphthalene	0.120	0.00500	"	0.0333	0.0269	281	15-130	5.33	50			QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0315		"	0.0333		94.4	40-150					
Surrogate: Fluoranthene-d10	0.0288		"	0.0333		86.3	40-150					

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BFK0236 - EPA 3050B

Blank (BFK0236-BLK1)

Prepared & Analyzed: 11/09/22

Boron ND 0.0100 mg/L

LCS (BFK0236-BS1)

Prepared & Analyzed: 11/09/22

Boron 5.85 0.0100 mg/L 5.00 117 80-120

Matrix Spike (BFK0236-MS1)

Source: 2211104-01

Prepared & Analyzed: 11/09/22

Boron 5.97 0.0100 mg/L 5.00 0.311 113 75-125

Matrix Spike Dup (BFK0236-MSD1)

Source: 2211104-01

Prepared & Analyzed: 11/09/22

Boron 5.93 0.0100 mg/L 5.00 0.311 112 75-125 0.545 25

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Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFK0246 - General Preparation

Blank (BFK0246-BLK1)

Prepared: 11/09/22 Analyzed: 11/11/22

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BFK0246-BS1)

Prepared: 11/09/22 Analyzed: 11/11/22

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130				
Magnesium	5.08	0.0500	"	5.00	102	70-130				
Sodium	5.00	0.0500	"	5.00	100	70-130				

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Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BFK0283 - General Preparation

Duplicate (BFK0283-DUP1)	Source: 2211104-01	Prepared: 11/10/22	Analyzed: 11/11/22
% Solids	73.8	%	74.3
			0.623
			20

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFK0267 - General Preparation

Blank (BFK0267-BLK1)

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFK0267-BS1)

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 0.143 0.0100 mmhos/cm 0.150 95.5 95-105

Duplicate (BFK0267-DUP1)

Source: 2211084-01

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 1.09 0.0100 mmhos/cm 1.11 2.18 20

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Civitas Resources
650 Southgate Drive
Windsor CO, 80550

Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BFK0266 - General Preparation

LCS (BFK0266-BS1)

Prepared & Analyzed: 11/10/22

pH 9.00 pH Units 9.18 98.0 95-105

Duplicate (BFK0266-DUP1)

Source: 2211084-01

Prepared & Analyzed: 11/10/22

pH 8.04 pH Units 8.02 0.249 20

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Project: Bury Crandall 8-4-23 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
11/14/22 12:59

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference