

# **Madison 23-9**

NESW Sec. 9-T1S-R65W

API #: 001-09530

Remediation Project #: 24980

Wellhead and Flowline Decommissioning

October 2022

Prepared by Tasman, Inc.



On behalf of Extraction Oil and Gas, Inc.



## **FIELD NOTES AND PHOTO LOG**

<b>SITE NAME:</b> Madison 23-9							<b>DATE:</b> 10/25/2022	<b>REM. PROJECT #:</b> 24980	<b>WEATHER:</b> Cloudy 61(F)		
<b>SITE DIRECTIONS:</b> Powhatan Rd. & E. 152nd Ave., N. 0.37 mi., E. 0.34 mi., N. INTO							<b>CLIENT:</b> Extraction Oil & Gas INC				
<b>LEGALS AND LAT/LONG:</b> 39.978240, -104.672010							<b>TASMAN PERSONNEL:</b> Sierra Kirylo				
<b>SOIL TYPES:</b> Poorly Graded Sand - SP							<b>SURFACE GRADIENT:</b> North				
<b>SOIL SAMPLING</b>							<b>FACILITY INFRASTRUCTURE</b>				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT		Quantity		
							Above Ground Storage Tank (AST)				
10/25/2022 14:00	WH-B01@10'	0.2	Organic Cont	No Odor	Yes	Lab	Buried or Partially Buried Vessel				
10/25/2022 14:02	WH-N01@9'	0.5	Organic Cont	No Odor	Yes	N/A	Separator				
10/25/2022 14:04	WH-S01@9'	0.1	Organic Cont	No Odor	Yes	N/A	Emission Control Device (ECD)				
10/25/2022 14:06	WH-E01@9'	0.1	Organic Cont	No Odor	Yes	N/A	Dump Line				
10/25/2022 14:08	WH-W01@9'	0.0	Organic Cont	No Odor	Yes	N/A	Wellhead		1		
10/25/2022 14:15	SP-CS01	-	Organic Cont	No Odor	N/A	Lab	Flowline		1		
10/25/2022 14:20	SP-CS02	-	Organic Cont	No Odor	N/A	Lab	Method of Closure		Removal		
10/25/2022 14:25	SP-CS03	-	Organic Cont	No Odor	N/A	Lab	Footage Removed		2180		
10/25/2022 14:30	SP-CS04	-	Organic Cont	No Odor	N/A	Lab	Footaged Abandoned in Place				
10/25/2022 14:40	FL-B01@4'	0.3	No Staining	No Odor	Yes	Lab	Other:				
10/25/2022 14:50	FL-B02@3'	0.0	No Staining	Organic Odor	Yes	N/A	Soil Loads Removed				
10/25/2022 14:54	FL-B03@4'	0.0	No Staining	No Odor	Yes	N/A	IMPACTED SOIL IDENTIFIED?				
10/25/2022 14:58	FL-B04@4'	0.0	No Staining	No Odor	Yes	N/A	ESTIMATED VOLUME OF IMPACTS:				
10/25/2022 15:02	FL-B05@4'	0.0	No Staining	No Odor	Yes	N/A	Date	Number	CY		
10/25/2022 15:06	FL-B06@3'	0.0	No Staining	No Odor	Yes	N/A					
10/25/2022 15:10	FL-B07@4'	0.2	No Staining	No Odor	Yes	N/A					
10/25/2022 15:14	FL-B08@4'	0.0	No Staining	No Odor	Yes	N/A					
10/25/2022 15:18	FL-B09@4'	0.0	No Staining	No Odor	Yes	Lab					
10/25/2022 15:30	BG01@4'	0.0	No Staining	No Odor	Yes	Lab	Total Removed		0	0	
10/25/2022 15:35	BG01@10'	0.0	Organic Cont	No Odor	Yes	Lab	Disposal Facility:				
10/25/2022 15:40	BG02@4'	0.0	No Staining	No Odor	Yes	Lab	Groundwater Recovery				
10/25/2022 15:45	BG02@6'	0.3	No Staining	No Odor	Yes	Lab	DATE GW ENCOUNTERED:		DEPTH:		
10/25/2022 16:00	SP-CS05	-	No Staining	No Odor	N/A	Lab	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

							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
		Contents:				Contents:	
Notes/Conditions: Soil sampling and screening locations				Notes/Conditions: Soil screening and sampling locations			







## Photographic Log

											
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:					
Material:		Volume:		Contents:		Material:		Volume:		Contents:	
Notes/Conditions: Surface of excavation						Notes/Conditions: Background location to the east of the wellhead					



## Photographic Log

							
<b>Equipment ID:</b>		<b>Equipment Type:</b>		<b>Equipment ID:</b>		<b>Equipment Type:</b>	
<b>Material:</b>		<b>Volume:</b>		<b>Material:</b>		<b>Volume:</b>	
		<b>Contents:</b>				<b>Contents:</b>	
<b>Notes/Conditions:</b> Soil screening location				<b>Notes/Conditions:</b> Soil screening location			



## Photographic Log



FL-B04@4'  
X



FL-B05@4'  
X

Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Soil screening location				Notes/Conditions: Soil screening location			



## Photographic Log



Equipment ID:			Equipment Type:		
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil screening location			Notes/Conditions: Soil screening location		



## Photographic Log



FL-B08@4'

X



FL-B09@4'



X

Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
		Contents:				Contents:	
Notes/Conditions: Soil screening location				Notes/Conditions: Soil sampling location			





## Photographic Log

					
<b>Equipment ID:</b>			<b>Equipment Type:</b>		
<b>Material:</b>		<b>Volume:</b>	<b>Material:</b>		<b>Volume:</b>
<b>Contents:</b>			<b>Contents:</b>		
<b>Notes/Conditions:</b> Surroundings to the north at wellhead			<b>Notes/Conditions:</b> Surroundings to the east at wellhead		



## Photographic Log

<b>Equipment ID:</b>		<b>Equipment Type:</b>		<b>Equipment ID:</b>		<b>Equipment Type:</b>					
<b>Material:</b>		<b>Volume:</b>		<b>Contents:</b>		<b>Material:</b>		<b>Volume:</b>		<b>Contents:</b>	
<b>Notes/Conditions:</b> Surroundings to the south at wellhead						<b>Notes/Conditions:</b> Surroundings to the west at wellhead					

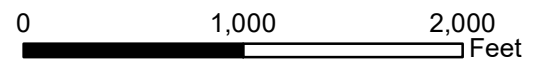
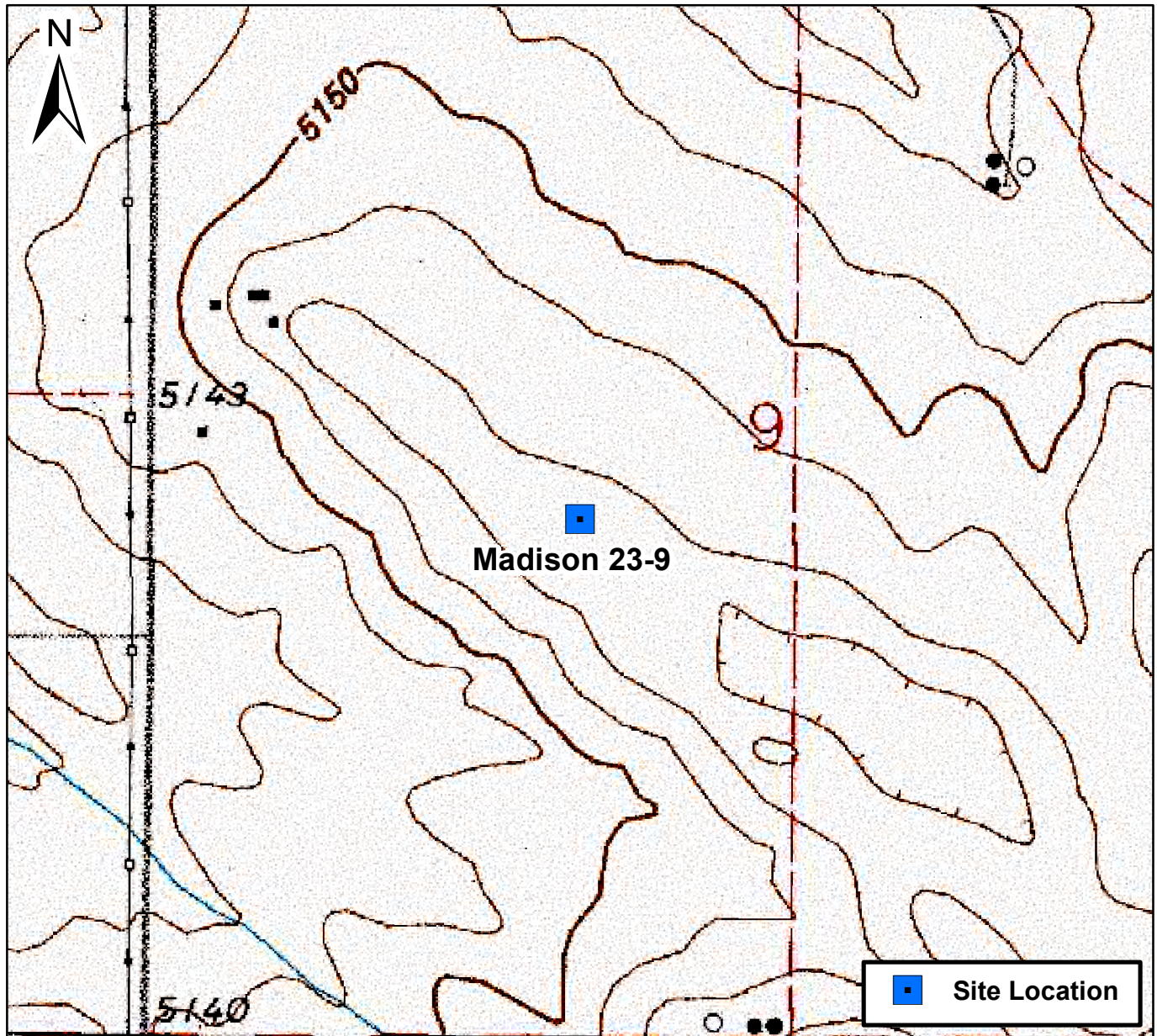


## Photographic Log

											
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:					
Material:		Volume:		Contents:		Material:		Volume:		Contents:	
Notes/Conditions: Background location to the north of the TB pad						Notes/Conditions:					



## FIGURES

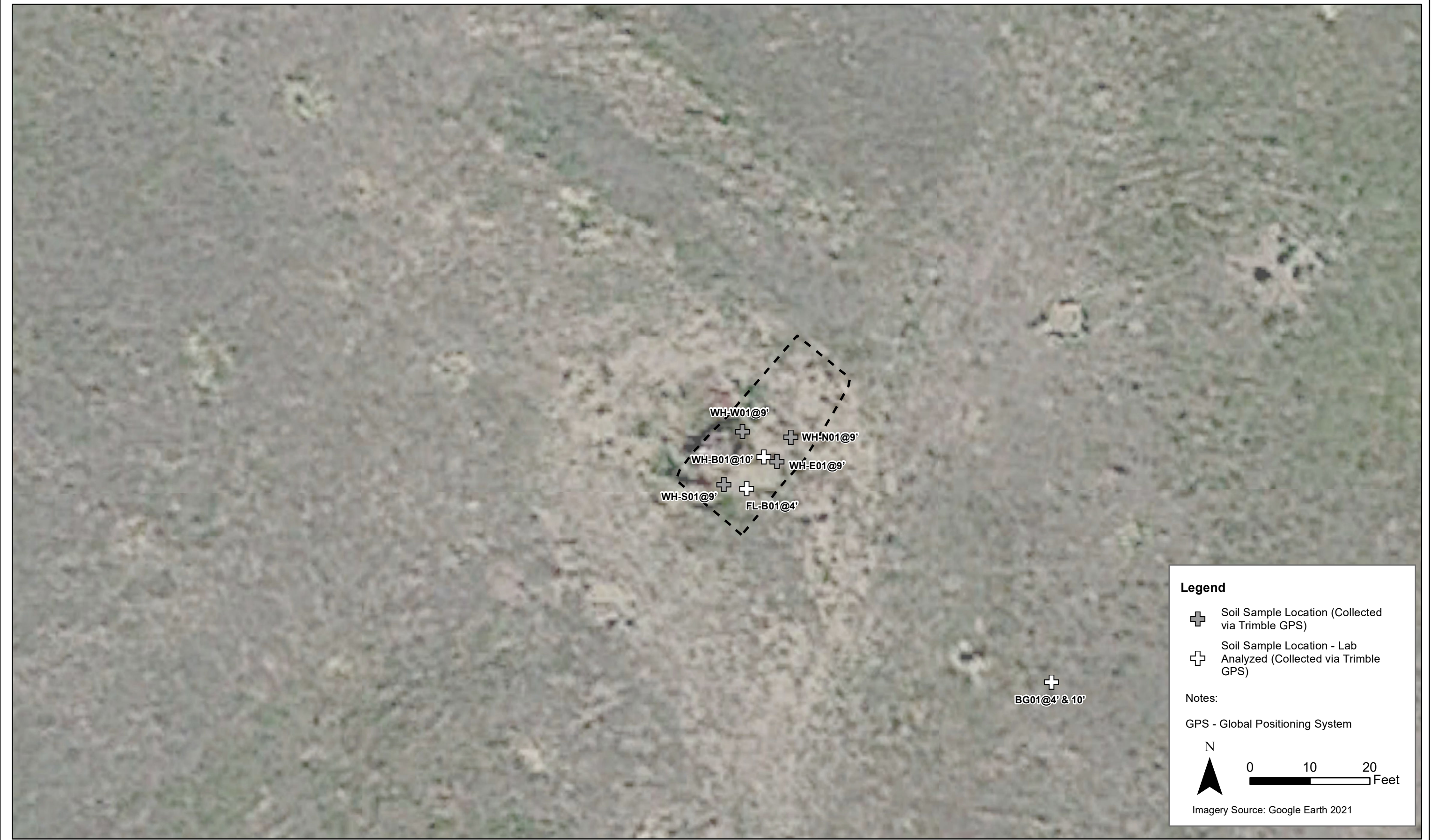


## Figure 1

Site Location Map  
Madison 23-9  
NESW Sec. 9-T1S-R65W  
Adams County, Colorado







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



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

**Extraction Oil & Gas, Inc.**  
**Madison 23-9**  
NESW Sec. 9-T1S-R65W  
Adams County, Colorado

Wellhead Soil Sample  
Location Map  
(10/25/2022)

Figure  
2A





DATE:  
November 2022

DESIGNED BY:  
S. Vogt

DRAWN BY:  
L. Reed



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

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**Madison 23-9**

NESW Sec. 9-T1S-R65W  
Adams County, Colorado

Flowline Soil Sample  
Location Map  
(10/25/2022)

**Figure**  
**2B**



# TABLES

**TABLE 1**  
**MADISON 23-9**  
**SOIL SAMPLE LOCATIONS**  
**EXTRACTION OIL GAS, INC.**



Soil Sample Location	Date	PID Reading (ppm)	Visual Observation	Olfactory Observation	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
WH-B01@10'	10/25/2022	0.2	Organic Cont	No Odor	39.97823342	-104.6720012	1.4	Y
WH-N01@9'	10/25/2022	0.5	Organic Cont	No Odor	39.97824233	-104.6719851	1.2	N
WH-S01@9'	10/25/2022	0.1	Organic Cont	No Odor	39.97822086	-104.672025	1.4	N
WH-E01@9'	10/25/2022	0.1	Organic Cont	No Odor	39.97823131	-104.6719933	1.1	N
WH-W01@9'	10/25/2022	0.0	Organic Cont	No Odor	39.97824499	-104.6720139	1.1	N
SP-CS01	10/25/2022	-	Organic Cont	No Odor	-	-	-	Y
SP-CS02	10/25/2022	-	Organic Cont	No Odor	-	-	-	Y
SP-CS03	10/25/2022	-	Organic Cont	No Odor	-	-	-	Y
SP-CS04	10/25/2022	-	Organic Cont	No Odor	-	-	-	Y
FL-B01@4'	10/25/2022	0.3	No Staining	No Odor	39.97821882	-104.6720114	0.9	Y
FL-B02@3'	10/25/2022	0.0	No Staining	Organic Odor	39.97737613	-104.6714129	1	N
FL-B03@4'	10/25/2022	0.0	No Staining	No Odor	39.97671145	-104.6711563	1	N
FL-B04@4'	10/25/2022	0.0	No Staining	No Odor	39.97616746	-104.6709337	1	N
FL-B05@4'	10/25/2022	0.0	No Staining	No Odor	39.97539895	-104.6706322	1	N
FL-B06@3'	10/25/2022	0.0	No Staining	No Odor	39.97451541	-104.6703412	1.1	N
FL-B07@4'	10/25/2022	0.2	No Staining	No Odor	39.97377344	-104.67008	1.1	N
FL-B08@4'	10/25/2022	0.0	No Staining	No Odor	39.97324874	-104.6698853	1.2	N
FL-B09@4'	10/25/2022	0.0	No Staining	No Odor	39.97255441	-104.6696275	1.2	Y
BG01@4'	10/25/2022	0.0	No Staining	No Odor	39.97812971	-104.6718304	0.9	Y
BG01@10'	10/25/2022	0.0	Organic Cont	No Odor	39.97812971	-104.6718304	0.9	Y
BG02@4'	10/25/2022	0.0	No Staining	No Odor	39.97271157	-104.6692055	1.1	Y
BG02@6'	10/25/2022	0.3	No Staining	No Odor	39.97271157	-104.6692055	1.1	Y
SP-CS05	10/25/2022	-	No Staining	No Odor	-	-	-	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**  
**MADISON 23-9**  
**SOIL ANALYTICAL DATA - VOCs**  
**EXTRACTION OIL GAS, INC.**

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) <sup>(1)</sup>		0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
COGCC standards for soil (mg/kg) <sup>(2)</sup>		1.2	490	5.8	58	2	500			30	27
FL-B01@4'	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<b>&lt;0.50</b>	<b>490</b>	<b>110</b>	<0.0050	<0.0050
FL-B09@4'	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	97	<50	<0.0050	<0.0050
SP-CS01	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS02	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS03	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS04	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS05	10/25/2022	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
WH-B01@10'	10/25/2022	<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**  
**MADISON 23-9**  
**SOIL ANALYTICAL DATA - PAHs**  
**EXTRACTION OIL GAS, INC.**

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) <sup>(1)</sup>		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) <sup>(2)</sup>		360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
FL-B01@4'	10/25/2022	<0.00500	0.00528	<b>0.0259</b>	0.0345	0.0130	0.0260	0.0309	<0.00500	0.0640	<0.00500	0.0198	<0.00500	<0.00500	0.0462
FL-B09@4'	10/25/2022	0.00655	0.0297	<b>0.0608</b>	0.0725	0.0276	0.0540	0.0751	0.00595	0.211	0.0108	0.0401	<0.00500	<0.00500	0.146
WH-B01@10'	10/25/2022	<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 = Dibenzo(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**  
**MADISON 23-9**  
**SOIL ANALYTICAL DATA - METALS**  
**EXTRACTION OIL GAS, INC.**

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) <sup>(1)</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
COGCC standards for soil (mg/kg) <sup>(2)</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
FL-B01@4'	10/25/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
FL-B09@4'	10/25/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
<b>BACKGROUND</b>											
BG01@10'	10/25/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
BG01@4'	10/25/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
BG02@4'	10/25/2022	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
BG02@6'	10/25/2022	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

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**  
**MADISON 23-9**  
**SOIL ANALYTICAL DATA - SOIL RECLAMATION**  
**EXTRACTION OIL GAS, INC.**

Soil Sample Location	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
<b>COGCC standards for soil (mg/kg) <sup>(1)</sup></b>		<b>6 - 8.3</b>	<b>&lt; 6</b>	<b>&lt; 4</b>	<b>2</b>
FL-B01@4'	10/25/2022	7.73	0.0859	3.06	0.146
FL-B09@4'	10/25/2022	7.74	0.105	2.64	0.117
WH-B01@10'	10/25/2022	8.49*	1.07	0.264	0.300
<b>BACKGROUND</b>					
BG01@10'	10/25/2022	8.57	2.86	0.317	0.335
BG01@4'	10/25/2022	7.62	0.137	0.202	0.0944
BG02@4'	10/25/2022	8.29	0.979	0.283	0.0891
BG02@6'	10/25/2022	8.37	1.01	0.405	0.112

**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 = Millimhos 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 03, 2022

Sam Vogt

Civitas Resources

650 Southgate Drive

Windsor, CO 80550

RE: Madison 23-9 WH

Work Order #2210452

Enclosed are the results of analyses for samples received by Summit Scientific on 10/25/22 17:45. 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: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@10'	2210452-01	Soil	10/25/22 14:00	10/25/22 17:45
SP-CS01	2210452-02	Soil	10/25/22 14:15	10/25/22 17:45
SP-CS02	2210452-03	Soil	10/25/22 14:20	10/25/22 17:45
SP-CS03	2210452-04	Soil	10/25/22 14:25	10/25/22 17:45
SP-CS04	2210452-05	Soil	10/25/22 14:30	10/25/22 17:45
FL-B01@4'	2210452-06	Soil	10/25/22 14:40	10/25/22 17:45
FL-B09@4'	2210452-07	Soil	10/25/22 15:18	10/25/22 17:45
BG01@4'	2210452-08	Soil	10/25/22 15:30	10/25/22 17:45
BG01@10'	2210452-09	Soil	10/25/22 15:35	10/25/22 17:45
BG02@4'	2210452-10	Soil	10/25/22 15:40	10/25/22 17:45
BG02@6'	2210452-11	Soil	10/25/22 15:45	10/25/22 17:45
SP-CS05	2210452-12	Soil	10/25/22 16:00	10/25/22 17:45

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

2210452.1

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

Page 1 of 2

Client: CIVITAS/Tasman  
Address: 6855 W. 119th St  
City/State/Zip: Broomfield, CO 80020  
Phone: 610-405-9078 Fax:   
Sampler Name: Sierra King

Project Manager: Sam Vogt, Jacob Evans  
E-Mail: SVogt@tasman-geo.com, j.evans@civiresources.com  
Project Name: MADISON 23-9 WH  
Project Number: AFE # 22344

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:								Special Instructions
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEXN	TMBS	TPH	PAHS	PH*	EC*	SAR*	Boron**	
WH-B01C10'	10-25-22	1400	2			X			X				X	X	X	X	X	X		
SP-CS01		1415	1										X	X	X					
SP-CS02		1420	1																	
SP-CS03		1425	1																	
SP-CS04		1430	1																	
FL-B01C4'		1440	2										X	X	X	X	X	X		
FL-B09C4'		1518	2										X	X	X	X	X	X		
BG01C4'		1530	1												X	X	X	X		
BG01C10'		1535	1																	
BG02C4'		1540	1																	

Relinquished by: <u>[Signature]</u>	Date/Time: <u>10/25/22 1715</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/25/22 1745</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: * Sat. paste ** hot water
Relinquished by: <u>Tasman LockBox</u>	Date/Time: <u>10/25/22 1745</u>	Received in Lab by: <u>[Signature]</u>	Date/Time: <u>10/25/22 1745</u>	Sample Integrity: Temperature Upon Receipt: <u>8.0</u>		
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>		



2210452.2

Page 2 of 2

Project Number: AFE#22344

[www.s2scientific.com](http://www.s2scientific.com)

S<sub>2</sub>

2/2  
Sample Receipt Checklist

S2 Work Order# 2210452

Client: Civitas Trasman Client Project ID: Madison 23-9 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? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace 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 (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian/Printed Name

Date/Time

10-25-22



Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**WH-B01@10'**  
**2210452-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**WH-B01@10'**  
**2210452-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0786	10/28/22	10/29/22	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: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.300</b>	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 14:00**

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: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**WH-B01@10'**  
**2210452-01 (Soil)**

**Summit Scientific**

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

Calcium	24.4	0.0563	mg/L dry	1	BFJ0779	10/27/22	10/28/22	EPA 6020B
Magnesium	13.9	0.0563	"	"	"	"	"	"
Sodium	26.8	0.0563	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.07	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.264	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

Date Sampled: **10/25/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**SP-CS01**  
**2210452-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		65.4 %	30-150		"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**SP-CS02**  
**2210452-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		49.9 %	30-150		"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**SP-CS03**  
**2210452-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		56.5 %	30-150		"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**SP-CS04**  
**2210452-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		69.1 %	30-150		"	"	"	"	

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B01@4'**  
**2210452-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	490	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	110	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B01@4'**  
**2210452-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0786	10/28/22	10/29/22	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.00528</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0259</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0260</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0345</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.0130</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0309</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0640</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0198</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0462</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.146</b>	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 14:40**

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

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B01@4'**  
**2210452-06 (Soil)**

**Summit Scientific**

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

Calcium	538	0.0535	mg/L dry	1	BFJ0779	10/27/22	10/28/22	EPA 6020B
Magnesium	151	0.0535	"	"	"	"	"	"
Sodium	8.75	0.0535	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0859	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.5		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.06	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

Date Sampled: **10/25/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B09@4'**  
**2210452-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	97	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		81.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B09@4'**  
**2210452-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00655	0.00500	mg/kg	1	BFJ0786	10/28/22	10/29/22	EPA 8270D SIM	
Anthracene	0.0297	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0608	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0540	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0725	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0276	0.00500	"	"	"	"	"	"	
Chrysene	0.0751	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	0.00595	0.00500	"	"	"	"	"	"	
Fluoranthene	0.211	0.00500	"	"	"	"	"	"	
Fluorene	0.0108	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0401	0.00500	"	"	"	"	"	"	
Pyrene	0.146	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		83.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.117	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	500	0.0584	mg/L dry	1	BFJ0779	10/27/22	10/28/22	EPA 6020B	

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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**FL-B09@4'**  
**2210452-07 (Soil)**

**Summit Scientific**

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

Magnesium	140	0.0584	mg/L dry	1	BFJ0779	10/27/22	10/28/22	EPA 6020B
Sodium	10.3	0.0584	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.105	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.7		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.64	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

Date Sampled: **10/25/22 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74		pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG01@4'**  
**2210452-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0944	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	188	0.0527	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	86.2	0.0527	"	"	"	"	"	"	
Sodium	9.05	0.0527	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.137	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.202	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

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Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG01@4'**  
**2210452-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/25/22 15:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>7.62</b>			pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG01@10'**  
**2210452-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.335	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.4	0.0535	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	7.66	0.0535	"	"	"	"	"	"	
Sodium	54.0	0.0535	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.86	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.4		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.317	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG01@10'**  
**2210452-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/25/22 15:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>8.57</b>			pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG02@4'**  
**2210452-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0891	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.7	0.0523	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	6.90	0.0523	"	"	"	"	"	"	
Sodium	25.4	0.0523	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.979	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.6		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.283	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

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Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG02@4'**  
**2210452-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/25/22 15:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>8.29</b>			pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG02@6'**  
**2210452-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.112	0.0100	mg/L	1	BFJ0712	10/26/22	10/27/22	EPA 6020B	

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

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.1	0.0548	mg/L dry	1	BFJ0779	10/27/22	10/29/22	EPA 6020B	
Magnesium	24.2	0.0548	"	"	"	"	"	"	
Sodium	31.0	0.0548	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.01	0.00100	units	1	BFJ0836	10/31/22	10/31/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.2		%	1	BFJ0716	10/26/22	10/26/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.405	0.0100	mmhos/cm	1	BFJ0817	10/28/22	10/28/22	EPA 120.1	

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

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Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**BG02@6'**  
**2210452-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/25/22 15:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>8.37</b>			pH Units	1	BFJ0816	10/28/22	10/28/22	EPA 9045D	

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Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**SP-CS05**  
**2210452-12 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/25/22 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFJ0727	10/26/22	10/28/22	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: **10/25/22 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/25/22 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0730	10/26/22	10/27/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/25/22 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		56.5 %	30-150		"	"	"	"	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch BFJ0727 - EPA 5030 Soil MS

##### Blank (BFJ0727-BLK1)

Prepared: 10/26/22 Analyzed: 10/28/22

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0356		"	0.0400		89.1	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	50-150			

##### LCS (BFJ0727-BS1)

Prepared: 10/26/22 Analyzed: 10/28/22

Benzene	0.0888	0.0020	mg/kg	0.100		88.8	70-130			
Toluene	0.0726	0.0050	"	0.100		72.6	70-130			
Ethylbenzene	0.0980	0.0050	"	0.100		98.0	70-130			
m,p-Xylene	0.196	0.010	"	0.200		97.9	70-130			
o-Xylene	0.0940	0.0050	"	0.100		94.0	70-130			
1,2,4-Trimethylbenzene	0.0950	0.0050	"	0.100		95.0	70-130			
1,3,5-Trimethylbenzene	0.0968	0.0050	"	0.100		96.8	70-130			
Naphthalene	0.112	0.0038	"	0.100		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0322		"	0.0400		80.6	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

##### Matrix Spike (BFJ0727-MS1)

Source: 2210403-04

Prepared: 10/26/22 Analyzed: 10/28/22

Benzene	0.0839	0.0020	mg/kg	0.100	ND	83.9	70-130			
Toluene	0.0829	0.0050	"	0.100	ND	82.9	70-130			
Ethylbenzene	0.0710	0.0050	"	0.100	ND	71.0	70-130			
m,p-Xylene	0.168	0.010	"	0.200	ND	84.0	70-130			
o-Xylene	0.0729	0.0050	"	0.100	ND	72.9	70-130			
1,2,4-Trimethylbenzene	0.0811	0.0050	"	0.100	ND	81.1	70-130			
1,3,5-Trimethylbenzene	0.0811	0.0050	"	0.100	ND	81.1	70-130			
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0520		"	0.0400		130	50-150			
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0400		108	50-150			

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650 Southgate Drive  
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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

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

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

**Batch BFJ0727 - EPA 5030 Soil MS**

Matrix Spike Dup (BFJ0727-MSD1)		Source: 2210403-04			Prepared: 10/26/22 Analyzed: 10/28/22					
Benzene	0.0736	0.0020	mg/kg	0.100	ND	73.6	70-130	13.1	30	
Toluene	0.0775	0.0050	"	0.100	ND	77.5	70-130	6.70	30	
Ethylbenzene	0.0759	0.0050	"	0.100	ND	75.9	70-130	6.74	30	
m,p-Xylene	0.150	0.010	"	0.200	ND	75.0	70-130	11.4	30	
o-Xylene	0.0790	0.0050	"	0.100	ND	79.0	70-130	8.14	30	
1,2,4-Trimethylbenzene	0.0813	0.0050	"	0.100	ND	81.3	70-130	0.222	30	
1,3,5-Trimethylbenzene	0.0783	0.0050	"	0.100	ND	78.3	70-130	3.50	30	
Naphthalene	0.101	0.0038	"	0.100	ND	101	70-130	2.32	30	
Surrogate: 1,2-Dichloroethane-d4		0.0381	"	0.0400		95.2	50-150			
Surrogate: Toluene-d8		0.0451	"	0.0400		113	50-150			
Surrogate: 4-Bromofluorobenzene		0.0407	"	0.0400		102	50-150			

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0730 - EPA 3550A**

**Blank (BFJ0730-BLK1)**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	8.20		"	12.5		65.6	30-150			

**LCS (BFJ0730-BS1)**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	510	50	mg/kg	500		102	70-130			
Surrogate: o-Terphenyl	8.65		"	12.5		69.2	30-150			

**Matrix Spike (BFJ0730-MS1)**

**Source: 2210403-04**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	443	50	mg/kg	500	27.9	83.1	70-130			
Surrogate: o-Terphenyl	8.04		"	12.5		64.3	30-150			

**Matrix Spike Dup (BFJ0730-MSD1)**

**Source: 2210403-04**

Prepared: 10/26/22 Analyzed: 10/27/22

C10-C28 (DRO)	483	50	mg/kg	500	27.9	91.1	70-130	8.66	20	
Surrogate: o-Terphenyl	9.29		"	12.5		74.3	30-150			

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650 Southgate Drive  
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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFJ0786 - EPA 5030 Soil MS

##### Blank (BFJ0786-BLK1)

Prepared & Analyzed: 10/28/22

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0235		"	0.0333		70.4	40-150			
Surrogate: Fluoranthene-d10	0.0296		"	0.0333		88.9	40-150			

##### LCS (BFJ0786-BS1)

Prepared & Analyzed: 10/28/22

Acenaphthene	0.0349	0.00500	mg/kg	0.0333		105	31-137			
Anthracene	0.0358	0.00500	"	0.0333		107	30-120			
Benzo (a) anthracene	0.0320	0.00500	"	0.0333		95.9	30-120			
Benzo (a) pyrene	0.0308	0.00500	"	0.0333		92.5	30-120			
Benzo (b) fluoranthene	0.0299	0.00500	"	0.0333		89.7	30-120			
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333		90.6	30-120			
Chrysene	0.0324	0.00500	"	0.0333		97.3	30-120			
Dibenz (a,h) anthracene	0.0285	0.00500	"	0.0333		85.6	30-120			
Fluoranthene	0.0336	0.00500	"	0.0333		101	30-120			
Fluorene	0.0342	0.00500	"	0.0333		103	30-120			
Indeno (1,2,3-cd) pyrene	0.0289	0.00500	"	0.0333		86.6	30-120			
Pyrene	0.0321	0.00500	"	0.0333		96.2	35-142			
1-Methylnaphthalene	0.0316	0.00500	"	0.0333		94.7	35-142			
2-Methylnaphthalene	0.0271	0.00500	"	0.0333		81.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0304		"	0.0333		91.1	40-150			
Surrogate: Fluoranthene-d10	0.0355		"	0.0333		107	40-150			

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Civitas Resources  
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Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFJ0786 - EPA 5030 Soil MS

Matrix Spike (BFJ0786-MS1)			Source: 2210442-01		Prepared & Analyzed: 10/28/22						
Acenaphthene	0.0225	0.00500	mg/kg	0.0333	ND	67.4	31-137				
Anthracene	0.0222	0.00500	"	0.0333	ND	66.7	30-120				
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.1	30-120				
Benzo (a) pyrene	0.0170	0.00500	"	0.0333	ND	51.0	30-120				
Benzo (b) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.4	30-120				
Benzo (k) fluoranthene	0.0173	0.00500	"	0.0333	ND	52.0	30-120				
Chrysene	0.0189	0.00500	"	0.0333	ND	56.7	30-120				
Dibenz (a,h) anthracene	0.0155	0.00500	"	0.0333	ND	46.5	30-120				
Fluoranthene	0.0220	0.00500	"	0.0333	ND	66.0	30-120				
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0158	0.00500	"	0.0333	ND	47.3	30-120				
Pyrene	0.0190	0.00500	"	0.0333	ND	56.8	35-142				
1-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	58.0	15-130				
2-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.9	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0174		"	0.0333		52.1	40-150				
Surrogate: Fluoranthene-d10	0.0222		"	0.0333		66.5	40-150				

Matrix Spike Dup (BFJ0786-MSD1)			Source: 2210442-01		Prepared & Analyzed: 10/28/22						
Acenaphthene	0.0224	0.00500	mg/kg	0.0333	ND	67.2	31-137	0.244	30		
Anthracene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	3.89	30		
Benzo (a) anthracene	0.0208	0.00500	"	0.0333	ND	62.3	30-120	10.5	30		
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	11.8	30		
Benzo (b) fluoranthene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	10.5	30		
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	10.2	30		
Chrysene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	9.53	30		
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	11.1	30		
Fluoranthene	0.0226	0.00500	"	0.0333	ND	67.9	30-120	2.84	30		
Fluorene	0.0224	0.00500	"	0.0333	ND	67.2	30-120	0.767	30		
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	11.7	30		
Pyrene	0.0201	0.00500	"	0.0333	ND	60.4	35-142	5.99	30		
1-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.8	15-130	6.37	50		
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.7	15-130	10.4	50		
Surrogate: 2-Methylnaphthalene-d10	0.0188		"	0.0333		56.3	40-150				
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		68.9	40-150				

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH  
Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

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

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

**Batch BFJ0712 - EPA 3050B**

**Blank (BFJ0712-BLK1)**

Prepared: 10/26/22 Analyzed: 10/27/22

Boron ND 0.0100 mg/L

**LCS (BFJ0712-BS1)**

Prepared: 10/26/22 Analyzed: 10/27/22

Boron 4.64 0.0100 mg/L 5.00 92.8 80-120

**Duplicate (BFJ0712-DUP1)**

**Source: 2210449-14**

Prepared: 10/26/22 Analyzed: 10/27/22

Boron 0.433 0.0100 mg/L 0.471 8.39 20

**Matrix Spike (BFJ0712-MS1)**

**Source: 2210449-14**

Prepared: 10/26/22 Analyzed: 10/27/22

Boron 4.44 0.0100 mg/L 5.00 0.471 79.3 75-125

**Matrix Spike Dup (BFJ0712-MSD1)**

**Source: 2210449-14**

Prepared: 10/26/22 Analyzed: 10/27/22

Boron 4.90 0.0100 mg/L 5.00 0.471 88.6 75-125 9.96 25

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

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

**Summit Scientific**

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

**Batch BFJ0779 - General Preparation**

**Blank (BFJ0779-BLK1)**

Prepared: 10/27/22 Analyzed: 10/28/22

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

**LCS (BFJ0779-BS1)**

Prepared: 10/27/22 Analyzed: 10/28/22

Calcium	5.79	0.0500	mg/L wet	5.00	116	70-130
Magnesium	5.56	0.0500	"	5.00	111	70-130
Sodium	5.29	0.0500	"	5.00	106	70-130

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**

11/03/22 09:29

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

**Summit Scientific**

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

**Batch BFJ0716 - General Preparation**

Duplicate (BFJ0716-DUP1)		Source: 2210452-01			Prepared & Analyzed: 10/26/22						
% Solids	89.8		%		88.9			1.10		20	

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

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

**Summit Scientific**

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

**Batch BFJ0817 - General Preparation**

**Blank (BFJ0817-BLK1)**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0817-BS1)**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.1 95-105

**Duplicate (BFJ0817-DUP1)**

**Source: 2210441-02**

Prepared & Analyzed: 10/28/22

Specific Conductance (EC) 0.358 0.0100 mmhos/cm 0.381 6.26 20

Summit Scientific

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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344

Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

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

**Summit Scientific**

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

**Batch BFJ0816 - General Preparation**

**LCS (BFJ0816-BS1)**

Prepared & Analyzed: 10/28/22

pH	9.18	pH Units	9.18	100	95-105
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**Duplicate (BFJ0816-DUP1)**

Source: 2210441-02

Prepared & Analyzed: 10/28/22

pH	8.22	pH Units	8.23	0.122	20
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Civitas Resources  
650 Southgate Drive  
Windsor CO, 80550

Project: Madison 23-9 WH

Project Number: AFE# 22344  
Project Manager: Sam Vogt

**Reported:**  
11/03/22 09:29

### Notes and Definitions

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